

# Creating Together. Chemicals & Reagents.

2014 – 2016



# From Compassionship to Companionship.

Merck Millipore is a specialist and a real partner for you, the customer. As the experts for the experts, we know what really matters. We share a passion for analytics, and we speak your language. We're committed to developing solutions you can trust, and that works best when we all work together.





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The General Terms and Conditions are available on our Web site:  
<http://www.merckmillipore.com/conditions-of-sale>

# Worldwide Locally Yours.



Around the world – as supplier, advisor, and partner, we personally see to it that everything goes smoothly.

As a division of Merck KGaA, we're present at 154 locations in 67 countries around the world. We're local where you are, worldwide.

That means we speak your language. Literally. As locals, we understand your needs and the requirements of your market and regulatory context. We provide suitable quality and services to meet the demands of your situation.

It also means guaranteed availability. We're close by and quick to respond. So that whether you require a specific product, expert advice, or professional service, our local customer support team is always at hand to work closely with you and deliver swift, innovative solutions. You get the resources of a global supplier with the attention of a local partner.

Worldwide



[www.merckgroup.com/worldwide](http://www.merckgroup.com/worldwide)



QUALITY

# Quality Doesn't Happen by Chance.





### Quality

We test and certify all products in-house for batch-to-batch consistency, using state-of-the-art technology and methods, complying with international standards and requirements. But quality to us is more. As our customer, you also deserve the highest quality service, from delivery and advice to packaging that fits your needs – around the globe. And that’s what we offer every day.

### Regulations

In this business you’re faced with many ever-changing rules that can be tough to navigate in. We help point the way.

We supply proven safety with an unrivaled range of specifications, with declarations to international standards such as ISO, ACS, and Reag. Ph Eur. That means customized quality, the highest possible reliability, worldwide availability – a combination that makes a real difference in your work.

### Accreditation

Our calibration labs are accredited to DIN EN ISO/IEC 17025. We strictly follow all international guidelines and have traceability to NIST and PTB standards. We also produce calibration standards for ICP and conductivity calibration to ISO Guide 34, making us a recognized producer of certified reference materials (CRM).

### Quality to Meet Your Needs

Our quality grades are designed around your needs, whether they involve international regulations, bulk and small quantities, or unique applications.



## Quality Grades

Trademark	Products	Use	Norms	Additional Merck classification
EMSURE®	Acids, caustics, salts, solvents	For analysis in highly demanding and regulated markets, e.g. Pharma QC	ACS, ISO, Reag. Ph Eur	Up to 70 specified parameters
EMPARTA®	Acids, solvents	For analysis in routine application and classical analysis	ACS	Up to 15 specified parameters
EMPLURA®	Solvents	Preparative laboratory work, cleaning purposes, chemical production		
extra pure	Acids, caustics, salts	For preparative lab applications, cleaning purposes, industrial production		
For Synthesis	Organic compounds	Chemical synthesis; industrial-technical applications		

## Special Solvent Grades/Instrumental Analysis

Trademark	Products	Use	Norms	Additional Merck classification
SeccoSolv®	Dried solvents	Analysis or synthesis of water-sensitive substances; DNA/RNA synthesis		
LiChrosolv®	HPLC solvents	Liquid analytical chromatography (UV, fluorescence, MS detection)	ACS, Reag. Ph Eur	
Prepsolv®	Solvents for chromatography	Preparative chromatography		
SupraSolv®	Solvents for gas chromatography	Gas chromatography: GC-ECD and FID; GC-MS; GC headspace	ICH	
UniSolv®	Solvents for trace analysis	Gas chromatography; GC-ECD, FID and MS		
Uvasol®	Spectroscopy solvents	UV/IR spectroscopy, fluorescence spectroscopy	ACS, Reag. Ph Eur	
MagniSolv™	Solvents deuterated	Nuclear magnetic resonance spectroscopy (NMR)		

## Special Inorganic Reagent Grades/Instrumental Analysis

Trademark	Products	Use	Norms	Additional Merck classification
Ultrapur	High-purity acids, hydrogen peroxide	Highly sophisticated instrumental trace analysis, e.g. ICP		Specified parameters in ppt range
Suprapur®	High-purity acids, bases and salts	Instrumental trace analysis, e.g. AAS		Specified parameters in ppb range
Apura®	Karl Fischer reagents	Titration according to Karl Fischer method		
Certipur®	Reference materials	Calibration of instruments for trace analysis or water determination	ISO Guide 34	Directly traceable to NIST standards
Titripur®	Volumetric solutions	Sophisticated titration	ACS, Reag. Ph Eur	

► For information on abbreviations, please see the General Information section of this catalog.

A row of test tubes in a white rack. The tubes are arranged in a perspective line. The tube in the center is filled with a purple liquid, while the others are filled with a blue liquid. The background is a soft, out-of-focus light blue.

Providing You  
with the  
Perfect Grades  
for Your Creation.

SAFETY

# We're Dedicated to Your Safety!





## GHS – Hazard Pictograms and Examples for Associated Hazard Classes



Oxidizing liquids



Skin corrosion



Explosives



Flammable liquids



Skin irritation

CMR, STOT,  
aspiration hazardHazardous to the  
aquatic environment

Acute toxicity



Gases under pressure



Corrosive to metals

We're dedicated to keeping you, your lab, and the environment safe. We provide the information you need to be sure that you store, transport, handle, and dispose of substances safely. Safe packaging is also essential, and we provide the right substance in the right packaging. Environment- and user-friendly, our packaging fits with your processes and is tested to be safe over its entire life cycle.

### Be Sure about Compliance

We make it easy to comply with regulations such as GHS and REACH. The Globally Harmonized System (GHS) and the Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) work in different ways to promote safety. We help you stay compliant. Our reference materials are online, so you can find what you need quickly, and we post regular updates on any regulatory changes affecting you.

### GHS: A Common Language of Safety

GHS creates uniform worldwide requirements for classifying and labeling chemicals. Staying current with GHS is easy with Merck Millipore. You'll find every GHS update promptly included on our Safety Data Sheets and labels. We also offer GHS training webinars and a variety of printed materials on specific issues.

At the back of this catalog you'll see the new hazard and precautionary (H/P) statements compliant with GHS/CLP.

### REACH: Safety through Communication

Chemicals in amounts over one ton per year may only be produced in or imported into the EU if they are registered. This requires substantial data input – a big step toward greater transparency and safety.

At Merck Millipore, we are leveraging REACH into a business advantage for everyone in the supply chain. As we implement it, you'll have access to our complete portfolio.

## REACH/GHS

[www.merckmillipore.com/ghs](http://www.merckmillipore.com/ghs)  
[www.merckmillipore.com/reach](http://www.merckmillipore.com/reach)

# This Is How We Meet Your Safety Needs.

## Safety Data Sheets

We offer worldwide exhaustive Safety Data Sheets (SDS) in over 30 languages. They cover, e.g. melting point, boiling point and flash point, toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill/leak procedures.

## Product Safety Summaries

Product Safety Summaries are user-friendly guides that detail safe handling and management of chemicals, and support the information given in the Safety Data Sheets, such as:

- ▶ Chemical Identity
- ▶ Uses and Application
- ▶ Physical/Chemical Properties
- ▶ Health Effects
- ▶ Environmental Effects
- ▶ Exposure
- ▶ Risk Management Recommendations
- ▶ Disposal Consideration
- ▶ Storage

## Storage

Extensive online Storage Guidelines let you be sure you properly store the products you use.

## Transportation

We comply with all domestic and international regulations while shipping dangerous goods by land, sea and air. On our Web site we offer you a summary of how the particular hazards posed by the substances must be identifiable.

## Disposal

We're committed to sustainable practices, even after our products are used. Our comprehensive, straightforward online disposal guidelines simplify proper disposal.

**StoreCard – Mixed storage of chemicals**

**When the recommendations for mixed storage of chemicals of identical or very different regulations for separate and separate storage must also be followed.**

**The mixed storage rule indicates whether a product in a particular storage class may be stored together with an additional one. Whether such mixed storage together is permitted depends on the hazard class of the additional product. The hazard class of the additional product is indicated by the hazard class of the additional product.**

**Separate storage:** The separate storage rule indicates whether a product in a particular storage class may be stored together with an additional one. Whether such separate storage together is permitted depends on the hazard class of the additional product. The hazard class of the additional product is indicated by the hazard class of the additional product.

**Segregated storage:** The segregated storage rule indicates whether a product in a particular storage class may be stored together with an additional one. Whether such segregated storage together is permitted depends on the hazard class of the additional product. The hazard class of the additional product is indicated by the hazard class of the additional product.

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**Protection measures and rules of conduct:**

1. Safety instructions, which relate to the handling of chemicals, must be followed.
2. Chemicals must be stored strictly according to the compatibility plan.
3. The storage must also include preventive actions (e.g. spillage, safety, fire, etc.) in order to avoid the hazards of the chemicals.
4. There must be a clear labelling system (e.g. hazard labels, pictograms, etc.) in order to avoid confusion.
5. Storage must be carried out in a way that prevents damage to packaging and the escape of gases.
6. Storage must be carried out in a way that prevents damage to the environment (e.g. spillage, etc.).
7. Storage must be carried out in a way that prevents damage to the health of the personnel (e.g. spillage, etc.).
8. Storage must be carried out in a way that prevents damage to the environment (e.g. spillage, etc.).
9. Storage must be carried out in a way that prevents damage to the health of the personnel (e.g. spillage, etc.).
10. Storage must be carried out in a way that prevents damage to the environment (e.g. spillage, etc.).

**Special rules for the storage of small quantities:**

These regulations apply to storage rooms with a capacity of less than ten cubic metres. The storage plan for small quantities applies to storage rooms with a capacity of less than ten cubic metres. The storage plan for small quantities applies to storage rooms with a capacity of less than ten cubic metres.

**Example for a warehousing plan:**

Warehousing plan for small quantities (less than ten cubic metres) in accordance with the regulations of the Storage Ordinance (Stoffmengenverordnung) and the Storage Ordinance (Stoffmengenverordnung).

**Example for a safety instruction on the tank side:**

Safety instructions for the handling of chemicals in accordance with the regulations of the Storage Ordinance (Stoffmengenverordnung) and the Storage Ordinance (Stoffmengenverordnung).

StoreCard poster

## Examples for Product Safety Features



### Safebreak bottles

Merck has developed the Safebreak bottle, a solution that combines the stability benefits of glass with the safety benefits of PE. In case of a breakage any chemical content and glass splinters are reliably contained.

### SafetyCap

The SafetyCap is specially designed for products that generate excess pressure through chemical reactions.

### Hydrofluoric acid pouring aid

To prevent chemical burns we supply our hydrofluoric acid products in 500 ml bottles with an innovative and safe pouring aid, for drip-free pouring with drop-by-drop precision.

### Solvent withdrawal systems

For safe, no-spill, contamination-free withdrawal of chemicals.

### Safety carrier for bottles

For safe, easy transport with optimum bottle protection. Protect glass bottles and you.

## Safety



[www.merckmillipore.com/safety](http://www.merckmillipore.com/safety)

► Or head to General Information section for further details





# The Right Packaging for Your Requirements.

Good packaging is the finishing touch on a perfect product. That means effective protection, light, inert materials, zero risk of contamination, and less to dispose of.

Merck Millipore's safe, high-quality packaging protects you, your lab, and the environment throughout the product life cycle. Our strong track record in chemical packaging keeps you safe and makes sure the outstanding quality of our products stays that way. We offer a broad variety of pack sizes designed for your consumption levels and applications.

## The Right Materials

We use the appropriate materials in each case. For example, our HDPE packaging reduces costs for disposal (due to minimal packaging) and transportation (due to lower weight).



Just two out of a broad variety of pack sizes for your convenience.

## Passing the Test

We thoroughly test our packaging. Temperature load tests for glass bottles, fracture force tests for vials, impact resistance tests for cardboard – the list goes on. In fact, we're certified by the German Institute for Materials Research and Testing (BAM).

## Start Saving at the Source

Our solvents management system minimizes packaging waste. Our barrels and drums are inert to chemical contents, and their withdrawal systems and safety accessories keep solvents from posing a risk. Since minimal residual solvents are left after emptying, you have less waste overall to dispose of.

## Packaging



[www.merckmillipore.com/packaging](http://www.merckmillipore.com/packaging)  
[www.merckmillipore.com/safebreakbottle](http://www.merckmillipore.com/safebreakbottle)

# Meeting Our Responsibility to You and the World.

## Responsibility at Merck Millipore

Merck Millipore is inspired by helping people live healthier lives. Fundamental to this is our commitment to corporate responsibility, fully aligned with our mission and values. In this sense we work with customers, partners, and employees to create responsible, innovative solutions for solving today's challenges. We constantly strive to offer you the highest quality products with sustainability features that help you achieve your goals.

Our approach is based on three key pillars: Inspired People, Streamlined Operations, and Future-Forward Products and Services.

## Inspired People

We foster a workplace culture where employees are encouraged to contribute ideas, build on their talents, conduct business with integrity, and give back to their communities, to continue to truly advance health and well-being worldwide.

## Streamlined Operations

We are capturing efficiencies and reducing our greenhouse gas emissions, water use, and waste while engaging suppliers in our pursuit to minimize the environmental impacts of our operations and supply chain. We fulfill our responsibility to the environment through our global EHS policy, Responsible Care® guiding principles, and Merck's group-wide environmental management system per ISO 14001.



### Future-Forward Products and Services

We use our ingenuity and passion to discover and develop new products that meet your needs by designing products and packaging with lower impacts, offering product stewardship solutions, and beginning to employ green chemistry.

### What Does it Mean for You?

It means helping you reduce energy and water consumption while using our solutions in your daily lab work. It means developing less or non-toxic chemicals and reagents, designed for safe and economic handling. It means providing for product reuse, recycling and safe disposal, and more sustainable packaging. Of course, during the entire process chain and life cycle of our products, safety and compliance with regulatory standards and requirements comes first.

Our reuse and recycling programs provide only some actions of how we address your sustainability challenges. These programs include, for example, the  $\text{ech}_2\text{o}^{\text{TM}}$  Collection and Recycling program for lab water purification cartridges, stainless steel returnable barrels, and drums for solvents, offered as the EMD ReCycler<sup>TM</sup> program in North America, both aimed at reuse of chemical containers and packaging.

Creating sustainable solutions requires collaboration. Hence, we want to closely interact with you to better meet your needs – also in future. We are looking forward to a lively dialog – for creating together. Please don't hesitate to contact us.



For more information about Merck Millipore's Responsibility Program:

## Responsibility



[www.merckmillipore.com/responsibility](http://www.merckmillipore.com/responsibility)

► To contact the Merck Millipore Responsibility team:  
[responsibility@merckgroup.com](mailto:responsibility@merckgroup.com)

# The More You Know, the More You Can Do.

## The Information You Need

Looking for information designed around your needs? You've come to the right place at [www.merckmillipore.com](http://www.merckmillipore.com).

## Find It Fast

Our Web site's intuitive search takes you right where you want to go. Search by product name, number, or keyword. You'll see a drop-down list of options which take you to product pages. Under products you can download materials such as instructions, applications, technical information (including Certificates of Analysis and Safety Data Sheets), and brochures.

## You'll also find a variety of tools, like:

### Merck Millipore Application Finder

Need to do an analysis in HPLC, Microbiology, Karl Fischer titration, Photometry, or Reflectometry? Our Application Finder pinpoints answers for any challenge.  
[www.merckmillipore.com/applicationfinder](http://www.merckmillipore.com/applicationfinder)

### Mobile Apps

We offer numerous apps, including a Periodic Table of Elements app, the Milli-Q® Integral System app, and the ChromBook app. Browse, learn more about their features and download them. [www.merckmillipore.com/apps](http://www.merckmillipore.com/apps)

## Videos

Enjoy our exciting videos, which give a clear and descriptive presentation of applications, processes, and how to use our products.  
[www.merckmillipore.com/videos](http://www.merckmillipore.com/videos)

## Webcasts and Webinars

Learn about our products from the experts. Our webcasts and webinars are presented by Merck Millipore's product specialists and scientists, and provide information about how to get the best out of our products.  
[www.merckmillipore.com/webcasts](http://www.merckmillipore.com/webcasts)

## GHS/REACH

Two regulations, one very well prepared partner. We're ahead of the game on implementing this legislation. This area of our Web site keeps you updated on what's happening next and what steps we're taking.  
[www.merckmillipore.com/ghs](http://www.merckmillipore.com/ghs)

## Merck Millipore – Online and in Your Language!

## Online tools

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[www.merckmillipore.com](http://www.merckmillipore.com)  
[www.merckmillipore.com/apps](http://www.merckmillipore.com/apps)  
[www.merckmillipore.com/videos](http://www.merckmillipore.com/videos)





# There Is More to Safety than Meets the Eye

## Microbiological Testing Solutions by Merck Millipore.

We offer more than a complete range of high-quality microbiology testing solutions for the pharmaceutical, cosmetics, municipal water, beverages, and food industries. It's a comprehensive approach providing regulatory expertise, substantial service, and trust. For that one invaluable result: safe products. Our BioMonitoring solutions cover all monitoring and testing requirements in your industry.

### **Pharmaceutical: Experience Highest Quality Standards and Regulatory Compliance**

Effective quality assurance, constant quality control, and accurate results are key to manufacturing safe drugs. From sampling to final release, our complete solutions for environmental monitoring, traditional and rapid microbial detection, and sterility assurance help you meet the highest quality standards and regulatory demands.

### **Beverages: Benefit from Enhanced Safety, Improved Workflow and Earlier Product Release**

Our extensive range of ready-to-use and dehydrated culture media, our unique filtration and rapid microbial detection systems, as well as our complete range of environmental monitoring solutions ensure quick and reliable results when testing beverages or municipal water for quality and safety.

### **Food: Bank on Easy-to-Use, Reliable and Compliant Testing Solutions**

Trust our all-encompassing range of environmental monitoring products, truly convenient rapid microbial detection solutions, and highly consistent culture media, which are manufactured to the most stringent regulatory standards for maximum safety of your food products – and your brands.

More information



[www.merckmillipore.com/biomonitoring](http://www.merckmillipore.com/biomonitoring)



# Merck Millipore Is the Partner of Choice for Water Purification Systems and Related Services.

Merck Millipore is a trusted partner of laboratories everywhere. We offer a broad range of pure and ultrapure water purification systems and services that are the choice of scientists working in pharmaceutical, clinical, academic, industrial, research, and government laboratories – in both validated and non validated environments.

## Specialized Product Portfolio

Lab Water experts take the time to evaluate the unique requirements of our customers' labs and applications. Based on this important information, they can then recommend the optimal Merck Millipore Lab Water solution tailored to each customer's water quality, volume, and distribution requirements.

## Our Innovative Product Line Includes:

### Milli-Q® Integral Ultrapure Water Purification Systems

- ▶ Dual POD (point-of-delivery) concept saves space and increases convenience
- ▶ Lower running costs and water waste with exclusive Elix® technology

## Elix® Advantage Water Purification Systems

- ▶ Unique EDI (electrodeionization) self-regenerated module
- ▶ Ergonomic E-POD® dispenser for easy delivery of pure water
- ▶ Lower running costs and water waste

## Watercare Pact Service Portfolio

- ▶ Certified field service engineers
- ▶ Tailor-made service plans
- ▶ Genuine spare parts

More information

[www.merckmillipore.com/labwater](http://www.merckmillipore.com/labwater)

## Eau de Merck Millipore





# Here's What We Have for You.

Our products come with plenty of information. On these pages, we've provide help you find what you need to know.

**Acetonitrile**

CC#N

C<sub>2</sub>H<sub>3</sub>N  
CH<sub>3</sub>CN

■ CAS-No. 75-05-8 ■ EC-No. 200-835-2  
 ■ Refractive index 1.34 ■ Vapour pressure 97 hPa (20 °C) ■ Spec. density 0.786 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 37.5 (20 °C) ■ El. dipole moment 3.44 (20 °C) ■ Explosive limit 3.0 - 17 % (V) ■ Flash point 5 °C ■ Solub. in H<sub>2</sub>O (20 °C)

soluble ■ M = 41,05 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Saturation conc. 163 g/m<sup>3</sup> (20 °C) Air ■ Melting point -45.7 °C ■ Boiling point 81.6 °C (1013 hPa) ■ Ignition temp. 524 °C  
 ■ highly flammable, harmful, irritant ■ R 11-20/21/22-36 ■ S 16-36/37 ■ RTECS AL7700000 ■ WGK 2  
 ■ GHS: Flammable liquid, Acute toxicity, Eye irritation, Danger, H225, H302 + H312 + H332, H319, P211, P305 + P351 + P338

■ LC50 rat 27.3 mg/l  
 ■ LD50 oral rat 2730 - 3800 mg/kg ■ LD50 dermal rabbit 988 mg/kg  
 ■ EC-Index-No. 608-001-00-3 ■ LGK 3  
 ■ HS-No. 2926 90 95 ■ Disposal 1  
 ■ ADR-RID UN 1648 Acetonitril, 3, II ■ IMDG-Code UN 1648 ACETONITRILE, 3, II  
 ■ IATA-DGR UN 1648 ACETONITRILE, 3, II

**115500 Acetonitrile EMLURA®**

Specification

Purity (GC) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms  
 Acidity ..... ≤ 0.00016 meq/g  
 Density (d 20 °C/ 4 °C) ..... 0.782 - 0.783  
 Evaporation residue ..... ≤ 0.005 %

Water ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.15500.1000	Glass bottle	11	inquire
	Glass bottle	6 x 11	inquire/11
1.15500.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire/2.5 l
1.15500.6025	Drum stainl. st.	25 l	inquire
1.15500.9190	Steel barrel	190 l	inquire

Example of the information coming along with the product description in this catalog.

**1.06469.9050**      **50 kg**      **UN 1823**

**EMSURE® ACS, Reag. Ph Eur Sodium hydroxide pellets for analysis**

**Natriumhydroxid Hydroxide de sodium Sodio idrossido Sodio hidróxido Hidróxido de sódio Natriumhydroxide (max. 0.02% K)**

Index-No: 011-002-00-6

Merck KGaA, 64271 Darmstadt, Germany  
 Tel. +49(0)6151 72-2440  
 EMD Millipore Corp., 290 Concord Road, Billerica MA 01821, USA, Tel. +1-978-715-1335

Made in Germany

**NaOH**  
 M = 40.00 g/mol  
 Contains: CAS# 1310-73-2 Sodium Hydroxide

Specification:

Active (acidimetric NaOH) 99 - 100 %  
 Active (total alkalimetric) (calc. as NaOH) 99 - 100 %  
 Appearance of solution: pellets free  
 Carbonate (as Na<sub>2</sub>CO<sub>3</sub>) ≤ 1.0 %  
 Chloride (Cl) ≤ 0.0005 %  
 Phosphate (PO<sub>4</sub>) ≤ 0.001 %  
 Silicate (SiO<sub>2</sub>) ≤ 0.0005 %  
 Total nitrogen (N) ≤ 0.0005 %  
 Heavy metals (as Ag) ≤ 0.0005 %  
 Pb ≤ 0.0005 %  
 Al (Aluminium) ≤ 0.0005 %  
 Ca (Calcium) ≤ 0.0005 %  
 Fe (Iron) ≤ 0.0005 %  
 Mg (Magnesium) ≤ 0.0001 %  
 K (Potassium) ≤ 0.02 %  
 Ni (Nickel) ≤ 0.0005 %

**Danger.** May be corrosive to metals. Causes severe skin burns and eye damage. Wear protective gloves/protective clothing/eye protection/face protection. If SKIN IRRITATED: rinse mouth. Do NOT induce vomiting. If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If inhaled: If you feel unwell, immediately call a POISON CENTER or doctor/hospital. POISON: Intended for laboratory and manufacturing use only. Not for drug, food or household use. Store at +5°C to +30°C.

**Gefahr.** Kann gegenüber Metallen korrosiv sein. Verursacht schwere Verätzungen der Haut und schwere Augenschäden. Schutzhandschuhe/Schutzhemdung/Augenschutz/Gesichtsschutz tragen. BEI VERECHLÄNDEN: Mund ausspülen. KEIN Erbrechen herbeiführen. BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen. BEI INHALATION: Sofort GIFTINFORMATIONSCENTRUM oder Arzt anrufen. 1 Augen bei +5°C bis +30°C.

**Peligro.** Puede ser corrosivo para los metales. Provoca graves quemaduras e irritación ocular. Inducir vomito (cuando esté permitido). Usar guantes/ropa protectora/protector ocular/protector facial. EN CASO DE INGESTIÓN: Enjuagarse la boca. NO provocar el vómito. EN CASO DE CONTACTO CON LOS OJOS: Enjuagarse abundantemente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando. EN CASO DE inhalación: Si usted se siente mal, llame inmediatamente al CENTRO DE INFORMACIÓN TOXICOLÓGICA o al médico. 1. Almacenar entre +5°C y +30°C.

**Pericolo.** Può essere corrosivo per i metalli. Provoca gravi ustioni cutanee e gravi lesioni oculari. Inducere vomito (se consentito). Proteggere gli occhi il viso. IN CASO DI INGESTIONE: sciacquare la bocca. NON provocare il vomito. EN CASO DI CONTATTO CON GLI OCCHI: sciacquare abbondantemente con acqua durante vari minuti. Rimuovere le lenti di contatto, se presenti e facili da rimuovere. Continuare a sciacquare. EN CASO DI esposizione o di inalazione: Contattare immediatamente il CENTRO ANTIVELENI o un medico. (Conservare fra +5°C e +30°C).

**Perigo.** Podeser ser corrosivo para los metales. Provoca quemaduras graves en la piel y lesiones oculares graves. Usar guantes/ropa protectora/protector ocular/protector facial. EN CASO DE ingestión: Enjuagarse la boca. NO provocar el vómito. EN CASO DE CONTACTO CON LOS OJOS: Aclarar abundantemente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando. EN CASO DE exposición o inhalación: Contactar inmediatamente al CENTRO DE INFORMACIÓN TOXICOLÓGICA o al médico. 1. Almacenar entre +5°C y +30°C.

**Gevaar.** Kan bijdragen aan corrosie van metalen. Verursacht ernstige brandwonden en oogafschraaf. Beschermend handschoenen/beschermende kleding/ingeschermde gezichtsbescherming dragen. NA INSLUKKEN: de mond spoelen. GEBEN braken opwekken. BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten. contactlenzen verwijderen, indien mogelijk, bij het spoelen. NA inademing of bij onwel voelen: Contacteer het ANTICENTRUM of een arts raadplegen. 1 Bewaren bij +5°C tot +30°C.

IMO: SODIUM HYDROXIDE, SOLID

Example of a typical product label.

## Good to Know: About Your Certificate

You can find the Certificate of Analysis (CoA) you need online by entering the ten-digit order number and the individual batch number on your product's label.

### This Legend Guides You Through Both Our Product Information and Our Labels

Naturally, how much you order is dictated by your needs. But in many cases, we offer two different package units: single packages and box packages. Box packages are priced more competitively than single packages. You can

benefit from these quantity prices by ordering box quantities or multiples thereof. So your order might look like this: 6 x 1 l, 12 x 1 l, or 18 x 1 l. When placing your order, please be sure to quote the full order number with the total amount you want. A sample order looks like this: 1.00003.1000 6x 1l.

No.	Meaning	Description	More details
1	Item name		
2	Catalog number	Six-digit Merck catalog number	
3	Order number	Ten-digit Merck order number. The last four digits define the unit quantity.	
4	Grade/Application information		See Quality
5	Synonyms and abbreviations		
6	Structural formula	The structure of chiral products is given in the form of stereo formulas.	
7	CAS number	The internationally valid CAS (Chemical Abstracts Service) number is allocated to chemical substances by Chemical Abstracts Services based in Columbus, Ohio (US).	See the index list of CAS numbers
8	Empirical formulas		See the index list of empirical formulas
9	Molar mass		
10	Density		
11	Physical and chemical data		
12	Toxicological data		
13	WGK German classification of water pollution risk	nwg Non-water-polluting 1 Slightly water-polluting substances 2 Water-polluting substances 3 Highly water-polluting substances	
14	Hazardous properties		
15	H (hazard) and P (precautionary) statements		See H & P statements
16	Signal word		
17	R (risk) and S (safety) phrases		
18	Hazard pictograms		See Safety
19	EC index number	This is the index number of products mentioned in Appendix I of the Regulation 67/548/EC (a list of dangerous materials and preparations according to paragraph 4a of the Dangerous Goods Regulation).	
20	Disposal advice		See Disposal of Reagents and Chemical Waste
21	EC number	The EC number of a registered chemical substance is issued by the EC Commission.	
22	Transportation data		See Dangerous Goods Transport
23	Storage class (LGK)		See Safe Storage
24	HS code	This code is for the harmonized system of labeling and coding goods in international trade. Example: 1234 56 78, first six digits: HS international, last two digits: EU country-specific	
25	Product specifications	The quality of our reagents and chemicals is documented by the specifications, trademarks, or certificates of guarantee. Exhaustive functional tests play a key role in quality assurance.	
26	Content of one package		
27	Number of single packs		
28	Packaging material		See Packaging
29	RTECS		
30	EAN 13 bar code		
31	NFPA label	It indicates flammability, health, and reactivity based on categories NFPA developed. These categories are contradictory to US GHS and as such OSHA stated they cannot appear on a commercial label.	

# Find Your Way without Asking.

No matter what kind of information you start with, this catalog will help you find exactly what you want – and quickly! Search by special product categories, the A – Z alphabetical listing, or the index.

## Special Product Categories

Explore broad product ranges for various applications. These categories allow you to search within your specific application, such as Chromatography, Inorganic Reagents, Lab Water, or BioMonitoring.

## Alphabetical Listing

The A to Z product listing spans over 10,500 separate products and includes special features to make your search easier:

### Product Groups

Example: Nitrates. Beneath the individual product group named nitrates, you'll find a list of all nitrate products within the catalog, complete with individual information and a cross-reference to those products' pages. What's more, you can search at higher group levels, such as sulfur compounds. This allows you to pinpoint single products within subgroups, such as sulfides and disulfides, mercaptanes, and sulfonic acid and its derivatives.

## Cross-References in Case of Product Synonyms

Example: "DMSO" acronym. The DMSO entry lists the cross-reference to the page containing dimethyl sulfoxide product information.

## A – Z Arrangement Adhering to IUPAC Rules

Example: N,N-Dimethylethylenediamine found under "D." The first letter of the product name determines the alphabetical order.

## Short Code at the Top of Each Page

Example: Magnes. The first six letters of the first product are listed on the individual page. This helps you find your product by alphabetical order.

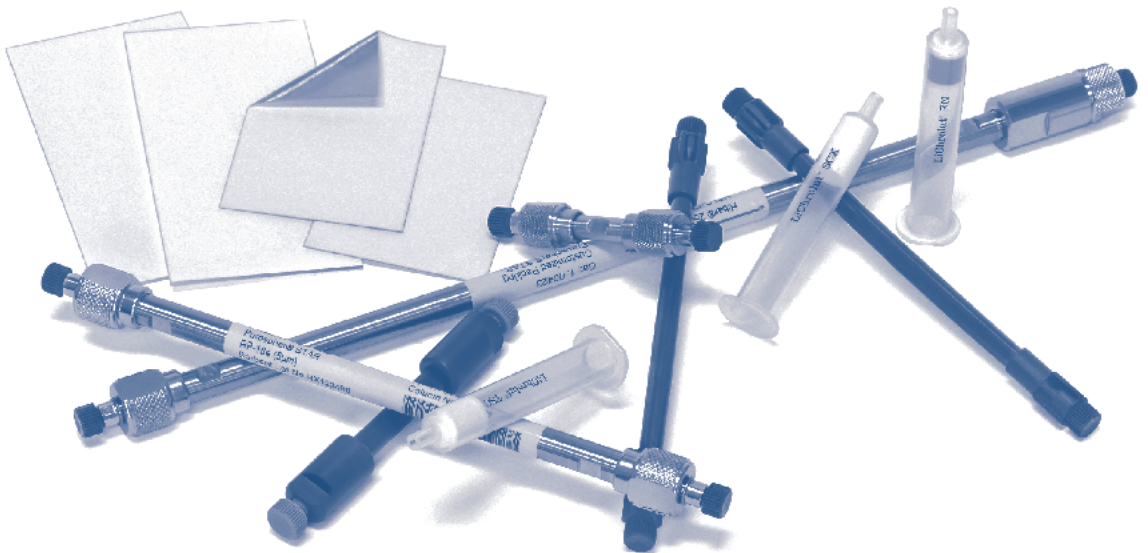
## Index

You can refer to our index using four distinct pieces of information:

- ▶ Empirical formulas or Hill formulas, such as  $C_2H_3N$  (acetonitrile)
- ▶ CAS registry numbers, such as 75-05-8 (acetonitrile)
- ▶ Merck catalog numbers, such as 100030 (acetonitrile, gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur)
- ▶ Keywords, such as "Solvents," for liquid chromatography (acetonitrile)

# Leading the Way for over a Century.

For over a century, we've been driving innovation in every aspect of analytical chromatography. Our latest milestones include launching monolithic Chromolith® HPLC columns, the SeQuant® ZIC®-HILIC technology, Purospher® STAR UHPLC columns, and HPTLC-MS Thin-Layer plates. So no matter what your requirements are, our products will lead you to your goal.



## More information



[www.merckmillipore.com/chromatography](http://www.merckmillipore.com/chromatography)

### Browse for:

- ▶ Applications
- ▶ Technical information
- ▶ Information about hot chromatography topics
- ▶ Education material

# Mobile Phases and Reagents for Chromatography

## Solvents for Analytical Chromatography, LiChrosolv®

Cat.No.	Designation	Ord.No.	Quantity	Price	
100020	Acetone for liquid chromatography LiChrosolv®	1.00020.1000	1 l	<a href="#">inquire</a>	
			6 x 1 l	<a href="#">inquire</a>	
		1.00020.2500	2.5 l	<a href="#">inquire</a>	
			4 x 2.5 l	<a href="#">inquire</a>	
		1.00020.4000	4 l	<a href="#">inquire</a>	
		1.00020.5000	5 l	<a href="#">inquire</a>	
			4 x 5 l	<a href="#">inquire</a>	
			10 l	<a href="#">inquire</a>	
100030	Acetonitrile gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur	1.00030.1000	1 l	<a href="#">inquire</a>	
			6 x 1 l	<a href="#">inquire</a>	
		1.00030.2500	2.5 l	<a href="#">inquire</a>	
			4 x 2.5 l	<a href="#">inquire</a>	
		1.00030.4000	4 l	<a href="#">inquire</a>	
		1.00030.5000	5 l	<a href="#">inquire</a>	
			4 x 5 l	<a href="#">inquire</a>	
			10 l	<a href="#">inquire</a>	
			30 l	<a href="#">inquire</a>	
			185 l	<a href="#">inquire</a>	
100029	Acetonitrile hypergrade for LC-MS LiChrosolv®	1.00029.1000	1 l	<a href="#">inquire</a>	
			6 x 1 l	<a href="#">inquire</a>	
		1.00029.2500	2.5 l	<a href="#">inquire</a>	
			4 x 2.5 l	<a href="#">inquire</a>	
			10 l	<a href="#">inquire</a>	
			30 l	<a href="#">inquire</a>	
114291	Acetonitrile isocratic grade for liquid chromatography LiChrosolv®	1.14291.1000	1 l	<a href="#">inquire</a>	
			6 x 1 l	<a href="#">inquire</a>	
		1.14291.2500	2.5 l	<a href="#">inquire</a>	
			4 x 2.5 l	<a href="#">inquire</a>	
		1.14291.4000	4 l	<a href="#">inquire</a>	
		1.14291.5000	5 l	<a href="#">inquire</a>	
			4 x 5 l	<a href="#">inquire</a>	
			10 l	<a href="#">inquire</a>	
			30 l	<a href="#">inquire</a>	
			185 l	<a href="#">inquire</a>	
480672	Acetonitrile with 0.05% (v:v) Trifluoroacetic acid LiChrosolv®	4.80672.2500	2.5 l	<a href="#">inquire</a>	
			4 x 2.5 l	<a href="#">inquire</a>	
480448	Acetonitrile with 0.1% (v:v) trifluoroacetic acid for liquid chromatography LiChrosolv®	4.80448.2500	2.5 l	<a href="#">inquire</a>	
			4.80448.4000	4 l	<a href="#">inquire</a>
			4.80448.9030	30 l	<a href="#">inquire</a>
			4.80448.9185	185 l	<a href="#">inquire</a>
101988	1-Butanol for liquid chromatography LiChrosolv®	1.01988.1000	1 l	<a href="#">inquire</a>	
			1.01988.2500	2.5 l	<a href="#">inquire</a>
101845	tert-Butyl methyl ether for liquid chromatography LiChrosolv®	1.01845.1000	1 l	<a href="#">inquire</a>	
				6 x 1 l	<a href="#">inquire</a>
			1.01845.2500	2.5 l	<a href="#">inquire</a>
				4 x 2.5 l	<a href="#">inquire</a>
			10 l	<a href="#">inquire</a>	
101692	1-Chlorobutane for liquid chromatography LiChrosolv®	1.01692.1000	1 l	<a href="#">inquire</a>	
102444	Chloroform for liquid chromatography LiChrosolv®	1.02444.1000	1 l	<a href="#">inquire</a>	
				6 x 1 l	<a href="#">inquire</a>
			1.02444.2500	2.5 l	<a href="#">inquire</a>
				4 x 2.5 l	<a href="#">inquire</a>
			4 l	<a href="#">inquire</a>	
102827	Cyclohexane for liquid chromatography LiChrosolv®	1.02827.1000	1 l	<a href="#">inquire</a>	
				6 x 1 l	<a href="#">inquire</a>
			1.02827.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>	
113713	1,2-Dichloroethane for liquid chromatography LiChrosolv®	1.13713.1000	1 l	<a href="#">inquire</a>	
106044	Dichloromethane for liquid chromatography LiChrosolv®	1.06044.1000	1 l	<a href="#">inquire</a>	
				6 x 1 l	<a href="#">inquire</a>
			1.06044.2500	2.5 l	<a href="#">inquire</a>
				4 x 2.5 l	<a href="#">inquire</a>
			1.06044.4000	4 l	<a href="#">inquire</a>
			1.06044.9010	10 l	<a href="#">inquire</a>
			30 l	<a href="#">inquire</a>	
			30 l	<a href="#">inquire</a>	
103132	1,4-Dioxane for liquid chromatography LiChrosolv®	1.03132.1000	1 l	<a href="#">inquire</a>	
			1.03132.2500	2.5 l	<a href="#">inquire</a>



# Mobile Phases and Reagents for Chromatography

## Solvents for Analytical Chromatography, LiChrosolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
111727	Ethanol gradient grade for liquid chromatography LiChrosolv®	1.11727.0500	500 ml	inquire
		1.11727.1000	1 l	inquire
			6 x 1 l	inquire
		1.11727.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.11727.4000	4 l	inquire
		1.11727.9030	30 l	inquire
100868	Ethyl acetate for liquid chromatography LiChrosolv®	1.00868.1000	1 l	inquire
			6 x 1 l	inquire
		1.00868.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00868.4000	4 l	inquire
		1.00868.9010	10 l	inquire
104390	n-Heptane for liquid chromatography LiChrosolv®	1.04390.1000	1 l	inquire
			6 x 1 l	inquire
		1.04390.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04390.9010	10 l	inquire
		1.04390.9030	30 l	inquire
104391	n-Hexane for liquid chromatography LiChrosolv®	1.04391.1000	1 l	inquire
			6 x 1 l	inquire
		1.04391.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04391.4000	4 l	inquire
				1.04391.5000
		1.04391.9010	10 l	inquire
		1.04391.9030	30 l	inquire
104335	Isohexane for liquid chromatography LiChrosolv®	1.04335.2500	2.5 l 4 x 2.5 l	inquire inquire
104717	Isooctane for liquid chromatography LiChrosolv®	1.04717.1000	1 l	inquire
			6 x 1 l	inquire
		1.04717.2500	2.5 l 4 x 2.5 l	inquire inquire
106018	Methanol for liquid chromatography LiChrosolv®	1.06018.1000	1 l	inquire
			6 x 1 l	inquire
		1.06018.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06018.4000	4 l	inquire
			5 l	inquire
			4 x 5 l	inquire
		1.06018.9010	10 l	inquire
		1.06018.9030	30 l	inquire
		1.06018.9185	185 l	inquire
106007	Methanol gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur	1.06007.1000	1 l	inquire
			6 x 1 l	inquire
		1.06007.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06007.4000	4 l	inquire
			5 l	inquire
			4 x 5 l	inquire
		1.06007.9010	10 l	inquire
		1.06007.9030	30 l	inquire
		1.06007.9185	185 l	inquire
106035	Methanol hypergrade for LC-MS LiChrosolv®	1.06035.1000	1 l	inquire
			6 x 1 l	inquire
		1.06035.2500	2.5 l 4 x 2.5 l	inquire inquire
101024	1-Propanol for liquid chromatography LiChrosolv®	1.01024.1000	1 l	inquire
			6 x 1 l	inquire
		1.01024.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01024.4000	4 l	inquire

# Mobile Phases and Reagents for Chromatography

## Solvents for Analytical Chromatography, LiChrosolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
101040	2-Propanol gradient grade for liquid chromatography LiChrosolv®	1.01040.1000	1 l	inquire
			6 x 1 l	inquire
		1.01040.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01040.4000	4 l	inquire
		1.01040.5000	5 l	inquire
			4 x 5 l	inquire
			10 l	inquire
	30 l	inquire		
108101	Tetrahydrofuran for liquid chromatography LiChrosolv®	1.08101.1000	1 l	inquire
			6 x 1 l	inquire
		1.08101.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.08101.4000	4 l	inquire
		1.08101.9010	10 l	inquire
	30 l	inquire		
108327	Toluene for liquid chromatography LiChrosolv®	1.08327.1000	1 l	inquire
		1.08327.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.08327.4000	4 l	inquire
115333	Water for chromatography LiChrosolv®	1.15333.1000	1 l	inquire
			6 x 1 l	inquire
		1.15333.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.15333.4000	4 l	inquire
		1.15333.9010	10 l	inquire
		1.15333.9030	30 l	inquire
480170	Water with 0.05% (v:v) trifluoroacetic acid for liquid chromatography LiChrosolv®	4.80170.2500	2.5 l	inquire
		4.80170.4000	4 l	inquire
480112	Water with 0.1% (v:v) trifluoroacetic acid for liquid chromatography LiChrosolv®	4.80112.2500	2.5 l	inquire
		4.80112.4000	4 l	inquire
		4.80112.9030	30 l	inquire

## Solvents, LiChrosolv® for LC-MS

Cat.No.	Designation	Ord.No.	Quantity	Price
100029	Acetonitrile hypergrade for LC-MS LiChrosolv®	1.00029.1000	1 l	inquire
			6 x 1 l	inquire
		1.00029.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00029.9010	10 l	inquire
		1.00029.9030	30 l	inquire
106035	Methanol hypergrade for LC-MS LiChrosolv®	1.06035.1000	1 l	inquire
			6 x 1 l	inquire
		1.06035.2500	2.5 l	inquire
			4 x 2.5 l	inquire
115333	Water for chromatography LiChrosolv®	1.15333.1000	1 l	inquire
			6 x 1 l	inquire
		1.15333.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.15333.4000	4 l	inquire
		1.15333.9010	10 l	inquire
		1.15333.9030	30 l	inquire
	185 l	inquire		

## Solvents, LiChrosolv® for Fast Chromatography®

Cat.No.	Designation	Ord.No.	Quantity	Price
100030	Acetonitrile gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur	1.00030.1000	1 l	inquire
			6 x 1 l	inquire
		1.00030.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00030.4000	4 l	inquire
		1.00030.5000	5 l	inquire
			4 x 5 l	inquire
		1.00030.9010	10 l	inquire
		1.00030.9030	30 l	inquire
		1.00030.9185	185 l	inquire

# Mobile Phases and Reagents for Chromatography

## Solvents, LiChrosolv® for Fast Chromatography®

Cat.No.	Designation	Ord.No.	Quantity	Price
100029	Acetonitrile hypergrade for LC-MS LiChrosolv®	1.00029.1000	1 l	inquire
			6 x 1 l	inquire
		1.00029.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00029.9010	10 l	inquire
		1.00029.9030	30 l	inquire
106007	Methanol gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur	1.06007.1000	1 l	inquire
			6 x 1 l	inquire
		1.06007.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06007.4000	4 l	inquire
		1.06007.5000	5 l	inquire
			4 x 5 l	inquire
		1.06007.9010	10 l	inquire
		1.06007.9030	30 l	inquire
		1.06007.9185	185 l	inquire
106035	Methanol hypergrade for LC-MS LiChrosolv®	1.06035.1000	1 l	inquire
			6 x 1 l	inquire
		1.06035.2500	2.5 l	inquire
			4 x 2.5 l	inquire
115333	Water for chromatography LiChrosolv®	1.15333.1000	1 l	inquire
			6 x 1 l	inquire
		1.15333.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.15333.4000	4 l	inquire
		1.15333.9010	10 l	inquire
		1.15333.9030	30 l	inquire
		1.15333.9185	185 l	inquire

## Solvents for Preparative Chromatography

Cat.No.	Designation	Ord.No.	Quantity	Price
113358	Acetonitrile for preparative chromatography Prepsolv®	1.13358.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.13358.9030	30 l	inquire
		1.13358.9185	185 l	inquire
113353	Ethyl acetate for preparative chromatography Prepsolv®	1.13353.9030	30 l	inquire
104394	n-Hexane for preparative chromatography Prepsolv®	1.04394.9030	30 l	inquire
113351	Methanol for preparative chromatography Prepsolv®	1.13351.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.13351.4000	4 l	inquire
		1.13351.9030	30 l	inquire
		1.13351.9185	185 l	inquire
113350	2-Propanol for preparative chromatography Prepsolv®	1.13350.2500	2.5 l	inquire
			4 x 2.5 l	inquire

## LiChropur® Reagents for Ion Pair Chromatography

Cat.No.	Designation	Ord.No.	Quantity	Price
118303	Butane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18303.0025	25 g	inquire
118313	Cetyl trimethylammonium hydrogen sulfate for ion pair chromatography LiChropur®	1.18313.0025	25 g	inquire
118308	Dodecane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18308.0025	25 g	inquire
118309	Dodecyl hydrogen sulfate sodium salt for ion pair chromatography LiChropur®	1.18309.0025	25 g	inquire
118306	Heptane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18306.0025	25 g	inquire
118305	Hexane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18305.0025	25 g	inquire
118307	Octane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18307.0025	25 g	inquire
118304	Pentane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18304.0025	25 g	inquire
119754	di-Potassium hydrogen phosphate trihydrate buffer substance for chromatography LiChropur®	1.19754.0250	250 g	inquire
119753	di-Sodium hydrogen phosphate dihydrate buffer substance for chromatography LiChropur®	1.19753.0250	250 g	inquire
118312	Tetra-n-butylammonium hydrogen sulfate for ion pair chromatography LiChropur®	1.18312.0025	25 g	inquire
118310	Tetramethylammonium hydrogen sulfate for ion pair chromatography LiChropur®	1.18310.0025	25 g	inquire

# Sample Preparation for Chromatography

## LiChrolut® Solid Phase Extraction

### LiChrolut® Accessories

Cat.No.	Designation	Ord.No.	Quantity	Price
102206	Adapter (PTFE) Luer inlet for solvent reservoir, for LiChrolut® columns of various sizes	1.02206.0001	10 units	<a href="#">inquire</a>
119874	Disposable PTFE liner for LiChrolut® vacuum manifold	1.19874.0001	100 units	<a href="#">inquire</a>
119902	Enrichment capillaries for large-volume samples	1.19902.0001	6 units	<a href="#">inquire</a>
119891	Frits (PTFE) for 3 ml glass columns, porosity 10 µm LiChrolut®	1.19891.0001	100 units	<a href="#">inquire</a>
119878	Glass columns (empty) 3 ml compatible with SPE robot systems LiChrolut®	1.19878.0001	54 units	<a href="#">inquire</a>
119852	LiChrolut® Drying unit for sample preparation	1.19852.0001	1 unit	<a href="#">inquire</a>
119851	Vacuum manifold for sample preparation LiChrolut®	1.19851.0001	1 unit	<a href="#">inquire</a>

### LiChrolut® Extraction columns, 1 ml volume Sorbent mass 100 mg

Cat.No.	Designation	Ord.No.	Quantity	Price
119855	LiChrolut® RP-18 (40 - 63 µm) 100 mg 1 ml standard PP-tubes 100 extraction tubes per package	1.19855.0001	100 units	<a href="#">inquire</a>

### LiChrolut® Extraction columns, 3 ml volume Sorbent mass 200 mg

Cat.No.	Designation	Ord.No.	Quantity	Price
119698	LiChrolut® CN 200 mg 3 ml standard PP-tubes 50 extraction tubes per package	1.19698.0001	50 units	<a href="#">inquire</a>
119693	LiChrolut® EN (40 - 120 µm) 200 mg 3 ml standard glass tubes 30 extraction tubes per package	1.19693.0001	30 units	<a href="#">inquire</a>
119870	LiChrolut® EN 200 mg 3 ml standard PP-tubes 30 extraction tubes per package	1.19870.0001	30 units	<a href="#">inquire</a>
102014	LiChrolut® RP-18 (40 - 63 µm) 200 mg 3 ml standard PP-tubes 50 extraction tubes per package	1.02014.0001	50 units	<a href="#">inquire</a>
119847	LiChrolut® RP-18 E (40 - 63 µm) 200 mg 3 ml standard PP-tubes 50 extraction tubes per package	1.19847.0001	50 units	<a href="#">inquire</a>
102016	LiChrolut® SCX (40 - 63 µm) 200 mg 3 ml standard PP-tubes 50 extraction tubes per package	1.02016.0001	50 units	<a href="#">inquire</a>
102021	LiChrolut® Si (25 - 40 µm) 200 mg 3 ml standard PP-tubes 50 extraction tubes per package	1.02021.0001	50 units	<a href="#">inquire</a>

### LiChrolut® Extraction columns, 3 ml volume Sorbent mass 300 mg

Cat.No.	Designation	Ord.No.	Quantity	Price
119767	LiChrolut® TSC (40 - 63 µm) 300 mg 3 ml standard PP-tubes 50 extraction tubes per package	1.19767.0001	50 units	<a href="#">inquire</a>

### LiChrolut® Extraction columns, 3 ml volume Sorbent mass 500 mg

Cat.No.	Designation	Ord.No.	Quantity	Price
102023	LiChrolut® RP-18 (40 - 63 µm) 500 mg 3 ml standard PP-tubes 50 extraction tubes per package	1.02023.0001	50 units	<a href="#">inquire</a>
119849	LiChrolut® RP-18 E (40 - 63 µm) 500 mg 3 ml standard PP-tubes 50 extraction tubes per package	1.19849.0001	50 units	<a href="#">inquire</a>
102022	LiChrolut® SCX (40 - 63 µm) 500 mg 3 ml standard PP-tubes 50 extraction tubes per package	1.02022.0001	50 units	<a href="#">inquire</a>
102024	LiChrolut® Si (40 - 63 µm) 500 mg 3 ml standard PP-tubes 50 extraction tubes per package	1.02024.0001	50 units	<a href="#">inquire</a>

### LiChrolut® Extraction columns, 6 ml volume Sorbent mass 2000 mg

Cat.No.	Designation	Ord.No.	Quantity	Price
119912	LiChrolut® EN (40 - 120 µm) 100 mg (bottom) LiChrolut® RP-18 (40 - 63 µm) 200 mg (top) 6 ml standard PP-tubes 30 extraction tubes per package sorbents separated by frits	1.19912.0001	30 units	<a href="#">inquire</a>
119941	LiChrolut® EN (40 - 120 µm) 200 mg 6 ml standard PP-tubes 30 extraction tubes per package	1.19941.0001	30 units	<a href="#">inquire</a>
119691	LiChrolut® EN (40 - 120 µm) 500 mg 6 ml standard PP-tubes 30 extraction tubes per package	1.19691.0001	30 units	<a href="#">inquire</a>

# Sample Preparation for Chromatography

## LiChrolut® Extraction columns, 6 ml volume Sorbent mass 2000 mg

Cat.No.	Designation	Ord.No.	Quantity	Price
119127	LiChrolut® Florisil® (150 – 250 µm) 1000 mg 6 ml standard PP-tubes 30 extraction columns per package	1.19127.0001	30 units	inquire
119687	LiChrolut® RP-18 (40–63 µm) 500 mg 6ml standard PP-tubes 30 extraction tubes per package	1.19687.0001	30 units	inquire
102122	LiChrolut® RP-18 (40 – 63 µm) 1000 mg 6 ml standard PP-tubes 30 extraction tubes per package	1.02122.0001	30 units	inquire
119686	LiChrolut® RP-18 (40 – 63 µm) 2000 mg 6 ml standard PP-tubes 30 extraction tubes per package	1.19686.0001	30 units	inquire

## LiChrolut® Sorbents

Cat.No.	Designation	Ord.No.	Quantity	Price
119853	LiChrolut® EN (40 – 120 µm) for solid phase extraction in environmental analysis	1.19853.0020	20 g	inquire

## LiChrospher® ADS Cartridges – Restricted Access Materials

### LiChrospher® ADS Stainless steel cartridges LiChroCART®

Cat.No.	Designation	Ord.No.	Quantity	Price
151194	Filter insert Inline 2 µm	1.51194.0001	10 units	inquire
151193	Inline Filtercartridge	1.51193.0001	1 set	inquire
151192	Inline filters ADS 5 gaskets with PEEK filter for LiChroCART® ADS LiChroCART®	1.51192.0001	5 units	inquire
150187	LiChroCART® 25-4 LiChrospher® RP-18 ADS HPLC cartridge set, contains 1 LiChroCART® 25-4 LiChrospher® RP-18 ADS 1 manu-CART®	1.50187.0001	1 set	inquire
150349	LiChrospher® RP-4 ADS 25µm	1.50349.0010	10 g	inquire
150380	LiChrospher® RP-4 ADS LiChroCART® 25-2 1 HPLC cartridge	1.50380.0001	1 unit	inquire
150381	LiChrospher® RP-4 ADS LiChroCART® 25-2 3 HPLC cartridges	1.50381.0001	3 units	inquire
150208	LiChrospher® RP-4 ADS LiChroCART® 25-4 3 HPLC cartridges	1.50208.0001	3 units	inquire
150206	LiChrospher® RP-4 ADS LiChroCART® 25-4 HPLC cartridge set, contains 1 LiChrospher® RP-4 ADS LiChroCART® 25-4 and 1 manu-CART®	1.50206.0001	1 set	inquire
150382	LiChrospher® RP-8 ADS LiChroCART® 25-2 1 HPLC cartridge	1.50382.0001	1 unit	inquire
150383	LiChrospher® RP-8 ADS LiChroCART® 25-2 3 HPLC cartridges	1.50383.0001	3 units	inquire
150209	LiChrospher® RP-8 ADS LiChroCART® 25-4 3 HPLC cartridges	1.50209.0001	3 units	inquire
150207	LiChrospher® RP-8 ADS LiChroCART® 25-4 HPLC cartridge set, contains 1 LiChrospher® RP-8 ADS LiChroCART® 25-4 and 1 manu-CART®	1.50207.0001	1 set	inquire
150385	LiChrospher® RP-18 ADS LiChroCART® 25-2 1 HPLC cartridge	1.50385.0001	1 unit	inquire
150386	LiChrospher® RP-18 ADS LiChroCART® 25-2 3 HPLC cartridges	1.50386.0001	3 units	inquire
150947	LiChrospher® RP-18 ADS LiChroCART® 25-4 3 HPLC cartridges	1.50947.0001	3 units	inquire
150210	LiChrospher® RP ADS LiChroCART® 25-4 HPLC-selectivity kit contains 1 LiChrospher® RP-4 ADS, 1 LiChrospher® RP-8 ADS, 1 LiChrospher® RP- 18 ADS, 1 manu-CART®	1.50210.0001	1 set	inquire

## Extrelut® Liquid-Liquid Extraction

### Extrelut® NT Accessories

Cat.No.	Designation	Ord.No.	Quantity	Price
115373	Exit cannulas for Extrelut® NT 1 and Extrelut® NT 3	1.15373.0001	100 units	inquire
115622	Extrelut® NT collection tubes with tapered bottom and screw cap normal capacity 15 ml for Extrelut® NT 1 and Extrelut® NT 3	1.15622.0001	30 units	inquire
114567	Replacement filter for Extrelut® NT 20 HDPE columns	1.14567.0001	50 units	inquire
114237	Spare filters for Extrelut® NT 3 prepacked glass columns	1.14237.0001	100 units	inquire
114236	Spare filters for Extrelut® NT1 prepacked glass columns	1.14236.0001	100 units	inquire

### Extrelut® NT Packing material

Cat.No.	Designation	Ord.No.	Quantity	Price
115092	Extrelut® NT packing material for the production of large extraction columns	1.15092.1000	1 kg	inquire
115093	Extrelut® NT Refill pack for column fillings Extrelut® NT 20	1.15093.0001	50 units	inquire



# Sample Preparation for Chromatography

## Extrelut® NT Pre-packed columns

Cat.No.	Designation	Ord.No.	Quantity	Price
115094	EXtrelut® NT 1 pre-packed columns for extraction of lipophilic compounds from aqueous solutions (0,1 - 1 ml sample)	1.15094.0001	100 units	inquire
115095	EXtrelut® NT 3 pre-packed columns for extraction of lipophilic compounds from aqueous solutions (1 - 3 ml sample)	1.15095.0001	50 units	inquire
115096	EXtrelut® NT 20 pre-packed columns for extraction of lipophilic compounds from aqueous solutions (20 ml sample)	1.15096.0001	25 units	inquire

## Ion Exchanger

### Ion Exchanger Amberjet®

Cat.No.	Designation	Ord.No.	Quantity	Price
105245	Ion exchanger Amberjet® 4200 (strongly basic anion exchanger), Cl <sup>-</sup> form	1.05245.0500	500 ml	inquire

### Ion Exchanger Amberlite®

Cat.No.	Designation	Ord.No.	Quantity	Price
115256	Adsorber resin Amberlite® XAD-4	1.15256.0500	500 ml	inquire
115131	Ion exchanger Amberlite® IR-120 (strongly acidic cation exchanger), H <sup>+</sup> form	1.15131.0500 1.15131.5000	500 ml 5 l	inquire inquire
115966	Ion exchanger Amberlite® IR-120 (strongly acidic cation exchanger, Na <sup>+</sup> form)	1.15966.0500	500 ml	inquire
115959	Ion exchanger Amberlite® IRA-67 (weakly basic anion exchanger), OH <sup>-</sup> form	1.15959.0500	500 g	inquire
112463	Ion exchanger Amberlite® IRA-402 (strongly basic anion exchanger), Cl <sup>-</sup> form	1.12463.0500	500 ml	inquire
115262	Ion exchanger Amberlite® IRA-410 (strongly basic anion exchanger type II) Cl <sup>-</sup> form	1.15262.0500	500 ml	inquire
115965	Ion exchanger Amberlite® IRN-150 (mixed-bed ion exchanger, strongly acid H <sup>+</sup> form and strongly basic OH <sup>-</sup> form)	1.15965.0500	500 ml	inquire
115127	Ion exchanger Amberlite® MB-3 mixed bed ion exchanger with colour indicator, strongly acidic H <sup>+</sup> form and strongly basic OH <sup>-</sup> form	1.15127.0500 1.15127.5000	500 ml 5 l	inquire inquire
115165	Ion exchanger Amberlite® MB-6113 mixed-bed ion exchanger with colour indicator, strongly acidic H <sup>+</sup> form and strongly basic OH <sup>-</sup> form	1.15165.0500	500 g	inquire

### Ion Exchanger Amberlyst®

Cat.No.	Designation	Ord.No.	Quantity	Price
115635	Ion exchanger Amberlyst® 15 (strongly acidic cation exchanger), H <sup>+</sup> form	1.15635.0500	500 ml	inquire

### Ion Exchanger Dowex®

Cat.No.	Designation	Ord.No.	Quantity	Price
105238	Ion exchanger Dowex® 50 WX 4 (strongly acidic cation exchanger), H <sup>+</sup> form	1.05238.0250	250 ml	inquire
105221	Ion exchanger Dowex® 50W-X8 (strongly acidic cation exchanger, H <sup>+</sup> form)	1.05221.0250	250 ml	inquire
105241	Ion exchanger Dowex® HCR-W2 (strongly acidic cation exchanger, H <sup>+</sup> form)	1.05241.0500	500 g	inquire
105242	Ion exchanger Dowex® 1-X8 (strongly basic anion exchanger), Cl <sup>-</sup> form	1.05242.0250	250 ml	inquire

### Ion Exchanger I-V

Cat.No.	Designation	Ord.No.	Quantity	Price
104765	Ion exchanger I (strongly acidic cation exchanger, H <sup>+</sup> -form) GR for analysis Reag. Ph Eur	1.04765.0500 1.04765.5000	500 g 5 kg	inquire inquire
104768	Ion exchanger II (weakly basic anion exchanger), OH <sup>-</sup> form GR for analysis	1.04768.0500 1.04768.5000	500 ml 5 l	inquire inquire
104767	Ion exchanger III (strongly basic anion exchanger, OH <sup>-</sup> form) GR for analysis	1.04767.0500 1.04767.5000	500 g 5 kg	inquire inquire
104835	Ion exchanger IV (weakly acidic cation exchanger) H <sup>+</sup> -form, GR for analysis	1.04835.0500 1.04835.5000	500 g 5 kg	inquire inquire
104836	Ion exchanger V (mixed bed exchanger) GR for analysis	1.04836.0500 1.04836.5000	500 g 5 kg	inquire inquire

# Sample Preparation for Chromatography

## Kieselguhr

Cat.No.	Designation	Ord.No.	Quantity	Price
107910	Kieselguhr purified and calcined GR for analysis Reag. Ph Eur	1.07910.0250	250 g	<a href="#">inquire</a>
		1.07910.1000	1 kg	<a href="#">inquire</a>
		1.07910.9025	25 kg	<a href="#">inquire</a>

## Kieselguhr Celite®

Cat.No.	Designation	Ord.No.	Quantity	Price
102686	Celite® 281	1.02686.1000	1 kg	<a href="#">inquire</a>
102692	Celite® 503	1.02692.1000	1 kg	<a href="#">inquire</a>
102693	Celite® 545 particle size 0.02-0.1 mm	1.02693.0250	250 g	<a href="#">inquire</a>
		1.02693.1000	1 kg	<a href="#">inquire</a>
		1.02693.9010	10 kg	<a href="#">inquire</a>
102688	Celite® Hyflo Supercel	1.02688.1000	1 kg	<a href="#">inquire</a>

# Thin Layer Chromatography

## Classical Silica TLC Plates (TLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
105534	Silica gel 60 F <sub>254</sub> TLC aluminium sheets 5 x 20 cm	1.05534.0001	100 units	<a href="#">inquire</a>
105802	TLC LuxPlate® Silica gel 60 F <sub>254</sub> 25 Glass plates 5 x 10 cm	1.05802.0001	25 units	<a href="#">inquire</a>
105805	TLC LuxPlate® Silica gel 60 F <sub>254</sub> 25 Glass plates 20 x 20 cm	1.05805.0001	25 units	<a href="#">inquire</a>
105804	TLC LuxPlate® Silica gel 60 F <sub>254</sub> 50 Glass plates 10 x 20 cm	1.05804.0001	50 units	<a href="#">inquire</a>
105801	TLC LuxPlate® Silica gel 60 F <sub>254</sub> 100 Glass plates 2.5 x 7.5 cm	1.05801.0001	100 units	<a href="#">inquire</a>
105553	TLC Silica gel 60 25 Aluminium sheets 20 x 20 cm	1.05553.0001	25 units	<a href="#">inquire</a>
105721	TLC Silica gel 60 25 Glass plates 20 x 20 cm	1.05721.0001	25 units	<a href="#">inquire</a>
105748	TLC Silica gel 60 25 Plastic sheets 20 x 20 cm	1.05748.0001	25 units	<a href="#">inquire</a>
116835	TLC Silica gel 60 50 Aluminium sheets 5 x 10 cm	1.16835.0001	50 units	<a href="#">inquire</a>
105626	TLC Silica gel 60 50 Glass plates 10 x 20 cm	1.05626.0001	50 units	<a href="#">inquire</a>
115326	TLC Silica gel 60 100 Glass plates 2.5 x 7.5 cm	1.15326.0001	100 units	<a href="#">inquire</a>
105724	TLC Silica gel 60 100 Glass plates 5 x 20 cm	1.05724.0001	100 units	<a href="#">inquire</a>
105562	TLC Silica gel 60 F <sub>254</sub> 1 Aluminium roll 500 x 20 cm	1.05562.0001	1 unit	<a href="#">inquire</a>
105749	TLC Silica gel 60 F <sub>254</sub> 1 Plastic roll 500 x 20 cm	1.05749.0001	1 unit	<a href="#">inquire</a>
105549	TLC Silica gel 60 F <sub>254</sub> 20 Aluminium sheets 5 x 7.5 cm	1.05549.0001	20 units	<a href="#">inquire</a>
105570	TLC Silica gel 60 F <sub>254</sub> 25 Aluminium sheets 10 x 20 cm	1.05570.0001	25 units	<a href="#">inquire</a>
105554	TLC Silica gel 60 F <sub>254</sub> 25 Aluminium sheets 20 x 20 cm	1.05554.0001	25 units	<a href="#">inquire</a>
105789	TLC Silica gel 60 F <sub>254</sub> 25 Glass plates 5 x 10 cm	1.05789.0001	25 units 10 x 25 units	<a href="#">inquire</a> <a href="#">inquire</a>
105808	TLC Silica gel 60 F <sub>254</sub> 25 Glass plates 5 x 20 cm	1.05808.0001	25 units	<a href="#">inquire</a>
105715	TLC Silica gel 60 F <sub>254</sub> 25 Glass plates 20 x 20 cm	1.05715.0001	25 units	<a href="#">inquire</a>
105735	TLC Silica gel 60 F <sub>254</sub> 25 Plastic sheets 20 x 20 cm	1.05735.0001	25 units	<a href="#">inquire</a>
116834	TLC Silica gel 60 F <sub>254</sub> 50 Aluminium sheets 5 x 10 cm	1.16834.0001	50 units	<a href="#">inquire</a>
105729	TLC Silica gel 60 F <sub>254</sub> 50 Glass plates 10 x 20 cm	1.05729.0001	50 units	<a href="#">inquire</a>
105750	TLC Silica gel 60 F <sub>254</sub> 50 Plastic sheets 4 x 8 cm	1.05750.0001	50 units	<a href="#">inquire</a>
116717	TLC Silica gel 60 F <sub>254</sub> 100 Aluminium sheets 10 x 10 cm	1.16717.0001	100 units	<a href="#">inquire</a>
115327	TLC Silica gel 60 F <sub>254</sub> 100 Glass plates 2.5 x 7.5 cm	1.15327.0001	100 units	<a href="#">inquire</a>
105794	TLC Silica gel 60 F <sub>254</sub> 100 Glass plates 2,5 x 7,5 cm	1.05794.0001	1 unit	<a href="#">inquire</a>
105714	TLC Silica gel 60 F <sub>254</sub> 100 Glass plates 5 x 20 cm	1.05714.0001	100 units	<a href="#">inquire</a>
105719	TLC Silica gel 60 F <sub>254</sub> 200 Glass plates 5 x 10 cm	1.05719.0001	200 units	<a href="#">inquire</a>
115341	TLC Silica gel 60 F <sub>254</sub> 500 Glass plates 2.5 x 7.5 cm	1.15341.0001	500 units	<a href="#">inquire</a>
105702	TLC Silica gel 60 F <sub>254</sub> GLP 25 Glass plates 10 x 20 cm	1.05702.0001	25 units	<a href="#">inquire</a>
100933	TLC silica gel 60 F <sub>254</sub> MS-grade 25 glass plates 20x20cm	1.00933.0001	25 units	<a href="#">inquire</a>
116487	TLC Silica gel 60 W 25 Aluminium sheets 20 x 20 cm	1.16487.0001	25 units	<a href="#">inquire</a>
116484	TLC Silica gel 60 W F <sub>254S</sub> 25 Aluminium sheets 20 x 20 cm	1.16484.0001	25 units	<a href="#">inquire</a>
116485	TLC Silica gel 60 W F <sub>254S</sub> 25 Glass plates 20 x 20 cm	1.16485.0001	25 units	<a href="#">inquire</a>
100384	TLC Silica gel 60G 25 Glassplates 20*20cm	1.00384.0001	25 plates	<a href="#">inquire</a>
100390	TLC Silica gel 60G F <sub>254</sub> 25 Glassplates 20*20cm	1.00390.0001	25 plates	<a href="#">inquire</a>

## High Performance Thin Layer Chromatography Plates (HPTLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
105631	HPTLC Silica gel 60 25 Glass plates 10 x 10 cm	1.05631.0001	25 units	<a href="#">inquire</a>
105641	HPTLC Silica gel 60 50 Glass plates 20 x 10 cm	1.05641.0001	50 units	<a href="#">inquire</a>
105633	HPTLC Silica gel 60 100 Glass plates 10 x 10 cm	1.05633.0001	100 units	<a href="#">inquire</a>
105548	HPTLC Silica gel 60 F <sub>254</sub> 25 Aluminium sheets 20 x 20 cm	1.05548.0001	25 units	<a href="#">inquire</a>
105642	HPTLC Silica gel 60 F <sub>254</sub> 50 Glass plates 20 x 10 cm	1.05642.0001	50 units	<a href="#">inquire</a>
105629	HPTLC Silica gel 60 F <sub>254</sub> 100 Glass plates 10 x 10 cm	1.05629.0001	100 units	<a href="#">inquire</a>
105628	HPTLC Silica gel 60 F <sub>254</sub> 25 Glass plates 10 x 10 cm	1.05628.0001	25 units	<a href="#">inquire</a>
105556	HPTLC Silica gel 60 F <sub>254</sub> 20 Aluminium sheets 5 x 7.5 cm	1.05556.0001	20 units	<a href="#">inquire</a>

## High Performance Thin Layer Chromatography Plates (HPTLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
111764	HPTLC Silica gel 60 F <sub>254</sub> AMD,extra thin 25 Glass plates 20 x 10 cm for AMD acc. to DIN 38407-F11	1.11764.0001	25 units	inquire
115696	HPTLC Silica gel 60 F <sub>254S</sub> 25 Glass plates 20 x 10 cm	1.15696.0001	25 units	inquire
105644	HPTLC Silica gel 60 Multiformat pre-scored to 5 x 5 cm 100 Glass plates 10 x 10 cm	1.05644.0001	100 units	inquire
115552	HPTLC Silica gel 60 WR F <sub>254S</sub> 25 Glass plates 20 x 10 cm	1.15552.0001	25 units	inquire
112363	HPTLC Silica gel 60 WRF <sub>254S</sub> AMD extra thin 25 Glass plates 20 x 10 cm for AMD acc. to DIN 38407-F11	1.12363.0001	25 units	inquire
113749	HPTLC Silica gel 60 with concentrating zone 20 x 2.5 cm 50 Glass plates 20 x 10 cm	1.13749.0001	50 units	inquire
105616	HPTLC Silica gel F <sub>254</sub> 25 Glass plates 5 x 10 cm	1.05616.0001	25 units	inquire
105547	HPTLC silica gel 60 25 Aluminium sheets 20 x 20 cm	1.05547.0001	25 units	inquire
116225	HPTLC Silica gel 60 RP-18 F <sub>254S</sub> 25 HPTLC glass plates 20x10cm	1.16225.0001	25 units	inquire
113326	HPTLC Silica gel 60 GLP 25 Glass plates 20 x 10 cm	1.13326.0001	25 units	inquire
100934	HPTLC silica gel 60 F <sub>254</sub> MS-grade 25 glass plates 20x10cm	1.00934.0001	1 unit	inquire
105649	HPTLC silica gel 60 F <sub>254</sub> Glass Plates 20 x 10 cm	1.05649.0001	25 units	inquire

## LiChrospher HPTLC Plates with Spherical Particles

Cat.No.	Designation	Ord.No.	Quantity	Price
105586	HPTLC LiChrospher® Silica gel 60 F <sub>254S</sub> 25 Aluminium sheets 20 x 20 cm	1.05586.0001	25 units	inquire
115445	HPTLC LiChrospher® Silica gel 60 F <sub>254S</sub> 25 Glass plates 20 x 10 cm	1.15445.0001	25 units	inquire
105646	HPTLC LiChrospher® Silica gel 60 RP-18 WF <sub>254S</sub> 25 Glassplates 20 x 10 cm	1.05646.0001	25 units	inquire
105647	HPTLC LiChrospher® Silica gel 60 WRF <sub>254S</sub> AMD extra thin 25 Glass plates 20 x 10 cm	1.05647.0001	25 units	inquire

## Preparative Layer Plates (PLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
105788	PLC Aluminium oxide 60 F <sub>254</sub> , 1.5 mm 12 Glass plates 20 x 20 cm	1.05788.0001	12 units	inquire
105726	PLC Aluminium oxide 150 F <sub>254</sub> , 1.5 mm 12 Glass plates 20 x 20 cm	1.05726.0001	12 units	inquire
105744	PLC Silica gel 60 F <sub>254</sub> , 0.5 mm 20 Glass plates 20 x 20 cm	1.05744.0001	20 units 5 x 20 units	inquire inquire
113895	PLC Silica gel 60 F <sub>254</sub> , 1 mm 15 Glass plates 20 x 20 cm	1.13895.0001	15 units	inquire
105717	PLC Silica gel 60 F <sub>254</sub> , 2 mm 12 Glass plates 20 x 20 cm	1.05717.0001	12 units 5 x 12 units	inquire inquire
105637	PLC Silica gel 60 F <sub>254+366</sub> , 2 mm 12 Glass plates 20 x 20 cm	1.05637.0001	12 units	inquire
105434	PLC Silica gel 60 RP-18 F <sub>254S</sub> , 1 mm 15 Glass plates 20 x 20 cm	1.05434.0001	15 units	inquire
113894	PLC Silica gel 60, 0.5 mm 20 Glass plates 20 x 20 cm	1.13894.0001	20 units	inquire
105745	PLC Silica gel 60, 2 mm 12 Glass plates 20 x 20 cm	1.05745.0001	12 units	inquire

## RP-modified Silica Plates (TLC and HPTLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
105547	HPTLC silica gel 60 25 Aluminium sheets 20 x 20 cm	1.05547.0001	25 units	inquire
105631	HPTLC Silica gel 60 25 Glass plates 10 x 10 cm	1.05631.0001	25 units	inquire
105641	HPTLC Silica gel 60 50 Glass plates 20 x 10 cm	1.05641.0001	50 units	inquire
105633	HPTLC Silica gel 60 100 Glass plates 10 x 10 cm	1.05633.0001	100 units	inquire
105556	HPTLC Silica gel 60 F <sub>254</sub> 20 Aluminium sheets 5 x 7.5 cm	1.05556.0001	20 units	inquire
105548	HPTLC Silica gel 60 F <sub>254</sub> 25 Aluminium sheets 20 x 20 cm	1.05548.0001	25 units	inquire
105628	HPTLC Silica gel 60 F <sub>254</sub> 25 Glass plates 10 x 10 cm	1.05628.0001	25 units	inquire
105642	HPTLC Silica gel 60 F <sub>254</sub> 50 Glass plates 20 x 10 cm	1.05642.0001	50 units	inquire
105629	HPTLC Silica gel 60 F <sub>254</sub> 100 Glass plates 10 x 10 cm	1.05629.0001	100 units	inquire
111764	HPTLC Silica gel 60 F <sub>254</sub> AMD,extra thin 25 Glass plates 20 x 10 cm for AMD acc. to DIN 38407-F11	1.11764.0001	25 units	inquire
100934	HPTLC silica gel 60 F <sub>254</sub> MS-grade 25 glass plates 20x10cm	1.00934.0001	1 unit	inquire
105644	HPTLC Silica gel 60 Multiformat pre-scored to 5 x 5 cm 100 Glass plates 10 x 10 cm	1.05644.0001	100 units	inquire

# Thin Layer Chromatography

## RP-modified Silica Plates (TLC and HPTLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
113726	HPTLC Silica gel 60 RP-2 F <sub>254S</sub> 25 Glass plates 10 x 10 cm	1.13726.0001	25 units	<a href="#">inquire</a>
105914	HPTLC Silica gel 60 RP-18 25 Glass plates 20 x 10 cm	1.05914.0001	25 units	<a href="#">inquire</a>
113724	HPTLC Silica gel 60 RP-18 F <sub>254S</sub> 25 Glass plates 10 x 10 cm	1.13724.0001	25 units	<a href="#">inquire</a>
114296	HPTLC Silica gel 60 RP-18 W 25 Glass plates 10 x 20 cm	1.14296.0001	25 units	<a href="#">inquire</a>
113124	HPTLC Silica gel 60 RP-18 WF <sub>254S</sub> 25 Glass plates 10 x 10 cm	1.13124.0001	25 units	<a href="#">inquire</a>
113749	HPTLC Silica gel 60 with concentrating zone 20 x 2.5 cm 50 Glass plates 20 x 10 cm	1.13749.0001	50 units	<a href="#">inquire</a>
115552	HPTLC Silica gel 60 WR F <sub>254S</sub> 25 Glass plates 20 x 10 cm	1.15552.0001	25 units	<a href="#">inquire</a>
112363	HPTLC Silica gel 60 WRF <sub>254S</sub> AMD extra thin 25 Glass plates 20 x 10 cm for AMD acc. to DIN 38407-F11	1.12363.0001	25 units	<a href="#">inquire</a>
105616	HPTLC Silica gel F <sub>254</sub> 25 Glass plates 5 x 10 cm	1.05616.0001	25 units	<a href="#">inquire</a>
113725	HPTLC Silica gel 60 RP-8 F <sub>254S</sub> 25 Glass plates 10 x 10 cm	1.13725.0001	25 units	<a href="#">inquire</a>
105746	TLC Silica gel 60 RP-2 25 Glass plates 20 x 20 cm	1.05746.0001	25 units	<a href="#">inquire</a>
105747	TLC Silica gel 60 RP-2 F <sub>254</sub> (silanized) 25 Glass plates 20*20cm	1.05747.0001	25 units	<a href="#">inquire</a>
115684	TLC Silica gel 60 RP-8 F <sub>254S</sub> 25 Glass plates 5 x 10 cm	1.15684.0001	25 units	<a href="#">inquire</a>
115388	TLC Silica gel 60 RP-8 F <sub>254S</sub> 25 Glass plates 20 x 20 cm	1.15388.0001	25 units	<a href="#">inquire</a>
115424	TLC Silica gel 60 RP-8 F <sub>254S</sub> 50 Glass plates 10 x 20 cm	1.15424.0001	50 units	<a href="#">inquire</a>
105560	TLC Silica gel 60 RP-18 F <sub>254S</sub> 20 Aluminium sheets 5 x 7.5 cm	1.05560.0001	20 units	<a href="#">inquire</a>
105559	TLC Silica gel 60 RP-18 F <sub>254S</sub> 20 Aluminium sheets 20 x 20 cm	1.05559.0001	20 units	<a href="#">inquire</a>
115685	TLC Silica gel 60 RP-18 F <sub>254S</sub> 25 Glass plates 5 x 10 cm	1.15685.0001	25 units	<a href="#">inquire</a>
115389	TLC Silica gel 60 RP-18 F <sub>254S</sub> 25 Glass plates 20 x 20 cm	1.15389.0001	25 units	<a href="#">inquire</a>
115683	TLC Silica gel 60 RP-18 F <sub>254S</sub> 50 Glass plates 5 x 20 cm	1.15683.0001	50 units	<a href="#">inquire</a>
115423	TLC Silica gel 60 RP-18 F <sub>254S</sub> 50 Glass plates 10 x 20 cm	1.15423.0001	50 units	<a href="#">inquire</a>

## CN-, Diol-, NH<sub>2</sub>- Modified Silica Plates (TLC and HPTLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
116464	HPTLC Silica gel 60 CN F <sub>254S</sub> 25 Glass plates 10 x 10 cm	1.16464.0001	25 units	<a href="#">inquire</a>
112668	HPTLC Silica gel 60 DIOL F <sub>254S</sub> 25 Glass plates 10 x 10 cm	1.12668.0001	25 units	<a href="#">inquire</a>
105636	HPTLC Silica gel 60 DIOL F <sub>254S</sub> 25 Glass plates 20 x 10 cm	1.05636.0001	25 units	<a href="#">inquire</a>
112572	HPTLC Silica gel 60 NH <sub>2</sub> 25 Glass plates 20 x 10 cm	1.12572.0001	25 units	<a href="#">inquire</a>
113192	HPTLC Silica gel 60 NH <sub>2</sub> F <sub>254S</sub> 25 Glass plates 20 x 10 cm	1.13192.0001	25 units	<a href="#">inquire</a>
115647	HPTLC Silica gel 60 NH <sub>2</sub> F <sub>254S</sub> 25 Glass plates 10 x 10 cm	1.15647.0001	25 units	<a href="#">inquire</a>
105533	TLC Silica gel 60 NH <sub>2</sub> F <sub>254S</sub> 20 Aluminium sheets 20 x 20 cm	1.05533.0001	20 units	<a href="#">inquire</a>

## Aluminium Oxide Plates (TLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
105713	TLC Aluminium oxide 60 F <sub>254</sub> , basic 25 Glass plates 20 x 20 cm	1.05713.0001	25 units	<a href="#">inquire</a>
105731	TLC Aluminium oxide 60 F <sub>254</sub> , basic 100 Glass plates 5 x 20 cm	1.05731.0001	100 units	<a href="#">inquire</a>
105550	TLC Aluminium oxide 60 F <sub>254</sub> , neutral 25 Aluminium sheets 20 x 20 cm	1.05550.0001	25 units	<a href="#">inquire</a>
105581	TLC Aluminium oxide 60 F <sub>254</sub> , neutral 25 Plastic sheets 20 x 20 cm	1.05581.0001	25 units	<a href="#">inquire</a>
105551	TLC Aluminium oxide 150 F <sub>254</sub> , neutral 25 Aluminium sheets 20 x 20 cm	1.05551.0001	25 units	<a href="#">inquire</a>

## Mixed Layer Plates (TLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
105568	TLC Kieselguhr F <sub>254</sub> 25 Aluminium sheets 20 x 20 cm	1.05568.0001	25 units	<a href="#">inquire</a>
105738	TLC Kieselguhr F <sub>254</sub> 25 Glassplates 20 x 20 cm	1.05738.0001	25 units	<a href="#">inquire</a>
105567	TLC Silica gel 60/kieselguhr F <sub>254</sub> 25 Aluminium sheets 20 x 20 cm	1.05567.0001	25 units	<a href="#">inquire</a>



## Cellulose Plates (TLC and HPTLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
116092	HPTLC Cellulose 25 Aluminium sheets 20 x 20 cm	1.16092.0001	25 units	inquire
105787	HPTLC Cellulose 25 Glass plates 10 x 10 cm	1.05787.0001	25 units	inquire
105786	HPTLC Cellulose 50 Glass plates 20 x 10 cm	1.05786.0001	50 units	inquire
115035	HPTLC Cellulose F 25 Glass plates 10 x 10 cm	1.15035.0001	25 units	inquire
115036	HPTLC Cellulose F 50 Glass plates 20 x 10 cm	1.15036.0001	50 units	inquire
105552	TLC Cellulose 25 Aluminium sheets 20 x 20 cm	1.05552.0001	25 units	inquire
105716	TLC Cellulose 25 Glass plates 20 x 20 cm	1.05716.0001	25 units	inquire
105577	TLC Cellulose 25 Plastic sheets 20 x 20 cm	1.05577.0001	25 units	inquire
105730	TLC Cellulose 50 Glass plates 10 x 20 cm	1.05730.0001	50 units	inquire
105632	TLC Cellulose 100 Glass plates 10 x 10 cm	1.05632.0001	100 units	inquire
105574	TLC Cellulose F 25 Aluminium sheets 20 x 20 cm	1.05574.0001	25 units	inquire
105718	TLC Cellulose F 25 Glass plates 20 x 20 cm	1.05718.0001	25 units	inquire
105565	TLC Cellulose F 25 Plastic sheets 20 x 20 cm	1.05565.0001	25 units	inquire
105728	TLC Cellulose F 50 Glass plates 10 x 20 cm	1.05728.0001	50 units	inquire

## PEI (Polyethylenimine) Cellulose Plates

Cat.No.	Designation	Ord.No.	Quantity	Price
105725	TLC PEI Cellulose F 25 Glass plates 20 x 20 cm	1.05725.0001	25 units	inquire
105579	TLC PEI Cellulose F 25 Plastic sheets 20 x 20 cm	1.05579.0001	25 units	inquire

## Concentrating Zone Plates (TLC, HPTLC and PLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
113187	HPTLC Silica gel 60 F <sub>254</sub> with concentrating zone 5 x 2.5 cm 25 Glass plates 5 x 10 cm	1.13187.0001	25 units	inquire
113727	HPTLC Silica gel 60 F <sub>254</sub> with concentrating zone 10 x 2.5 cm 25 Glass plates 10 x 10 cm	1.13727.0001	25 units	inquire
113728	HPTLC Silica gel 60 F <sub>254</sub> with concentrating zone 20 x 2.5 cm 50 Glass plates 20 x 10 cm	1.13728.0001	50 units	inquire
115498	HPTLC Silica gel 60 RP-18 F <sub>254S</sub> with concentrating zone 20 x 2.5 cm 25 Glass plates 20 x 10 cm	1.15498.0001	25 units	inquire
115037	HPTLC Silica gel 60 RP-18 with concentrating zone 20 x 2.5 cm 25 Glass plates 20 x 10 cm for PAH determination acc. to DIN 38409-H13	1.15037.0001	25 units	inquire
113748	HPTLC Silica gel 60 with concentrating zone 10 x 2.5 cm 25 Glass plates 10 x 10 cm	1.13748.0001	25 units	inquire
113794	PLC Silica gel 60 F <sub>254</sub> , 0.5 mm with concentrating zone 20 x 4 cm 20 Glass plates 20 x 20 cm	1.13794.0001	20 units	inquire
113792	PLC Silica gel 60 F <sub>254</sub> , 1 mm with concentrating zone 20 x 4 cm 15 Glass plates 20 x 20 cm	1.13792.0001	15 units	inquire
113793	PLC Silica gel 60 F <sub>254</sub> , 2 mm with concentrating zone 20 x 4 cm 12 Glass plates 20 x 20 cm	1.13793.0001	12 units	inquire
111846	TLC Silica gel 60 F <sub>254</sub> with concentrating zone 10 x 2.5 cm 50 Glass plates 10 x 20 cm	1.11846.0001	50 units	inquire
105583	TLC Silica gel 60 F <sub>254</sub> with concentrating zone 20 x 2.5 cm 25 Aluminium sheets 20 x 20 cm	1.05583.0001	25 units	inquire
111798	TLC Silica gel 60 F <sub>254</sub> with concentrating zone 20 x 2.5 cm 25 Glass plates 20 x 20 cm	1.11798.0001	25 units	inquire
111845	TLC Silica gel 60 with concentrating zone 2.5 x 20 cm 25 Glass plates 20 x 20 cm	1.11845.0001	25 units	inquire
111844	TLC Silica gel 60 with concentrating zone 10 x 2.5 cm 50 Glass plates 10 x 20 cm	1.11844.0001	50 units	inquire
105582	TLC Silica gel 60 with concentrating zone 20 x 2.5 cm 25 Aluminium sheets 20 x 20 cm	1.05582.0001	25 units	inquire

## HPTLC Premium Purity Plate

Cat.No.	Designation	Ord.No.	Quantity	Price
105648	HPTLC Silica gel 60 F <sub>254</sub> Premium Purity 50 Glass plates 20 x 10 cm	1.05648.0001	50 units	inquire

# Thin Layer Chromatography

## Multiformat Plates (TLC and HPTLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
105635	HPTLC Silica gel 60 F <sub>254</sub> Multiformat pre-scored to 5 x 5 cm ex Glass plates 10 x 10 cm	1.05635.0001	100 units	inquire
105620	TLC Silica gel 60 F <sub>254</sub> Multiformat prescored to 5 x 10 cm 25 Glass plates 20 x 20 cm,	1.05620.0001	25 units	inquire
105608	TLC Silica gel 60 F <sub>254</sub> Multiformat pre-scored to 5 x 20 cm 20 Glass plates 20 x 20 cm	1.05608.0001	80 units	inquire

## GLP Plates (TLC and HPTLC)

Cat.No.	Designation	Ord.No.	Quantity	Price
105564	HPTLC Silica gel 60 F <sub>254</sub> GLP 25 Glass plates 10 x 10 cm	1.05564.0001	25 units	inquire
105613	HPTLC Silica gel F <sub>254</sub> GLP 25 Glass plates 20 x 10 cm	1.05613.0001	25 units	inquire
105702	TLC Silica gel 60 F <sub>254</sub> GLP 25 Glass plates 10 x 20 cm	1.05702.0001	25 units	inquire
105566	TLC Silica gel 60 F <sub>254</sub> GLP 25 Glass plates 20 x 20 cm	1.05566.0001	25 units	inquire

## Plates for Peptid Analysis (ProteoChrom®)

Cat.No.	Designation	Ord.No.	Quantity	Price
105651	ProteoChrom® HPTLC cellulose plate for peptide analysis 10 x 10 cm	1.05651.0001	1 unit	inquire
105650	ProteoChrom® HPTLC silica gel 60 for peptid analysis 20 x 10 cm	1.05650.0001	1 unit	inquire
105655	ProteoChrom® Peptide Staining Kit For 25 stainings of HPTLC plates	1.05655.0001	1 set	inquire

## Sorbents for Preparation of TLC Plates

Cat.No.	Designation	Ord.No.	Quantity	Price
101092	Aluminium oxide 60 GF <sub>254</sub> neutral (type E) for thin-layer-chromatography	1.01092.0500	500 g	inquire
101090	Aluminium oxide 60 G neutral (type E) for thinlayer chromatography	1.01090.2500	2.5 kg	inquire
102330	Cellulose microcrystalline for thin-layer chromatography	1.02330.0500	500 g	inquire
107731	Silica gel 60 G for thin-layer chromatography	1.07731.1000 1.07731.5000 1.07731.9025	1 kg 5 kg 25 kg	inquire inquire inquire
107730	Silica gel 60 GF <sub>254</sub> for thin-layer chromatography	1.07730.0500 1.07730.1000 1.07730.5000 1.07730.9025	500 g 1 kg 5 kg 25 kg	inquire inquire inquire inquire
107736	Silica gel 60 H for thin-layer chromatography	1.07736.1000 1.07736.2500 1.07736.9025	1 kg 2.5 kg 25 kg	inquire inquire inquire
107739	Silica gel 60 HF <sub>254</sub> for thin-layer chromatography	1.07739.1000	1 kg	inquire
107741	Silica gel 60 HF <sub>254</sub> +366 for thin-layer chromatography	1.07741.1000	1 kg	inquire
107747	Silica gel 60 PF <sub>254</sub> for preparative thin layer chromatography	1.07747.1000 1.07747.2500	1 kg 2.5 kg	inquire inquire
107749	Silica gel 60 PF <sub>254</sub> containing gypsum for preparative layer chromatography	1.07749.1000 1.07749.2500 1.07749.9025	1 kg 2.5 kg 25 kg	inquire inquire inquire
107748	Silica gel 60 PF <sub>254</sub> +366 for preparative layer chromatography	1.07748.1000 1.07748.2500	1 kg 2.5 kg	inquire inquire
111678	TLC-Silica gel 60 GF <sub>254</sub> mean particle size 15 µm	1.11678.1000	1 kg	inquire
111695	TLC Silica gel 60 H mean particle size 15 µm	1.11695.1000	1 kg	inquire

## Spray Solutions, UV Lamp and Accessories

Cat.No.	Designation	Ord.No.	Quantity	Price
102035	Dragendorff's reagent spray solution for thin-layer chromatography	1.02035.0100	100 ml	inquire
110647	Glass bottles, 50 ml	1.10647.0001	6 units	inquire
100480	Molybdatophosphoric acid spray solution for thin-layer chromatography	1.00480.0100	100 ml	inquire
106705	Ninhydrin spray solution for thin-layer chromatography	1.06705.0100	100 ml	inquire
110646	Reagent bottles, 100 ml	1.10646.0001	6 units	inquire

## Spray Solutions, UV Lamp and Accessories

Cat.No.	Designation	Ord.No.	Quantity	Price
108541	Spray nozzles for TLC sprayer Contents: 6 units 5 units 0.8mm, 1 unit 1.25mm	1.08541.0001	6 units	inquire
108540	TLC sprayer	1.08540.0001	1 unit	inquire
112537	UV lamp 254 nm for thin-layer chromatography	1.12537.0001	1 unit	inquire
113203	UV lamp 366 nm for microbiology	1.13203.0001	1 unit	inquire

# Analytical HPLC

## LiChrosorb® - Irregular Silica Sorbents, HPLC Columns and HPLC Cartridges

### LiChrosorb® Sorbents

Cat.No.	Designation	Ord.No.	Quantity	Price
109332	LiChrosorb® RP-8 (5 µm)	1.09332.0010	10 g	inquire
109318	LiChrosorb® RP-8 (10 µm)	1.09318.0010 1.09318.0100	10 g 100 g	inquire inquire
109333	LiChrosorb® RP-18 (5 µm)	1.09333.0010	10 g	inquire
109334	LiChrosorb® RP-18 (10 µm)	1.09334.0010	10 g	inquire
109309	LiChrosorb® Si 100 (10 µm)	1.09309.0010	10 g	inquire

### LiChrosorb® Analytical Hibar® Columns and Analytical LiChroCART® HPLC Cartridges

#### LiChrosorb® RP-18 LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
151349	LiChrosorb® RP-18 (5 µm) LiChroCART® 125-4 HPLC cartridge	1.51349.0001	1 unit	inquire
151355	LiChrosorb® RP-18 (5 µm) LiChroCART® 250-4 HPLC cartridge	1.51355.0001	1 unit	inquire
151356	LiChrosorb® RP-18 (10 µm) LiChroCART® 250-4 HPLC cartridge	1.51356.0001	1 unit	inquire

#### LiChrosorb® RP-8 Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150432	LiChrosorb® RP-8 (5 µm) Hibar® RT 125-4 HPLC column	1.50432.0001	1 unit	inquire
150332	LiChrosorb® RP-8 (5 µm) Hibar® RT 250-4 HPLC column Superspher®	1.50332.0001	1 unit	inquire
150318	LiChrosorb® RP-8 (10 µm) Hibar® 250-4 HPLC column	1.50318.0001	1 unit	inquire
151903	LiChrosorb® RP-8 (5µm) Hibar® RT 250-4.6 HPLC column	1.51903.0001	1 unit	inquire

#### LiChrosorb® RP-8 LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
151345	LiChrosorb® RP-8 (5 µm) LiChroCART® 125-4 HPLC cartridge	1.51345.0001	1 unit	inquire
151353	LiChrosorb® RP-8 (5 µm) LiChroCART® 250-4 HPLC cartridge	1.51353.0001	1 unit	inquire
151354	LiChrosorb® RP-8 (10 µm) LiChroCART® 250-4 HPLC cartridge	1.51354.0001	1 unit	inquire

#### LiChrosorb® Si 60 Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150388	LiChrosorb® Si 60 (5 µm) Hibar® RT 250-4 HPLC column	1.50388.0001	1 unit	inquire

#### LiChrosorb® Si 60 LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
151343	LiChrosorb® Si 60 (5 µm) LiChroCART® 125-4 HPLC cartridge	1.51343.0001	1 unit	inquire
151351	LiChrosorb® Si 60 (5 µm) LiChroCART® 250-4 HPLC cartridge	1.51351.0001	1 unit	inquire

#### LiChrosorb® RP-18 Hibar® Columns and LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150433	LiChrosorb® RP-18 (5 µm) Hibar® RT 125-4 HPLC column	1.50433.0001	1 unit	inquire
150333	LiChrosorb® RP-18 (5 µm) Hibar® RT 250-4 HPLC column	1.50333.0001	1 unit	inquire
150334	LiChrosorb® RP-18 (10 µm) Hibar® RT 250-4 HPLC column	1.50334.0001	1 unit	inquire
151901	LiChrosorb® RP-18 (5µm) Hibar® RT 250-3 HPLC column	1.51901.0001	1 unit	inquire
151902	LiChrosorb® RP-18 (5µm) Hibar® RT 250-4.6 HPLC column	1.51902.0001	1 unit	inquire

## Superspher® - Spherical Silica Sorbents and HPLC Cartridges

## Superspher® Sorbents

Cat.No.	Designation	Ord.No.	Quantity	Price
119612	Superspher® 60 RP-8	1.19612.0010	10 g	inquire
119643	Superspher® 60 RP-select B	1.19643.0010	10 g	inquire
119613	Superspher® 100 RP-18	1.19613.0010	10 g	inquire
119618	Superspher® 100 RP-18 endcapped	1.19618.0010	10 g	inquire
151423	Superspher® 100 RP-18 endcapped EcoCART® 125-3 HPLC glass cartridge	1.51423.0001	1 unit	inquire

## Superspher® Analytical LiChroCART® Cartridges

## Superspher® RP-18 and RP-18 endcapped LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
151909	Superspher® 100 RP-18 endcapped (4µm) LiChroCART® 125-3 HPLC cartridge	1.51909.0001	1 unit	inquire
151910	Superspher® 100 RP-18 endcapped (4µm) LiChroCART® 250-3 HPLC cartridge	1.51910.0001	1 unit	inquire
116869	Superspher® 100 RP-18 endcapped LiChroCART® 25-4 HPLC cartridge	1.16869.0001	3 units	inquire
116855	Superspher® 100 RP-18 endcapped LiChroCART® 125-4 HPLC cartridge	1.16855.0001	1 unit	inquire
116858	Superspher® 100 RP-18 endcapped LiChroCART® 250-4 HPLC cartridge	1.16858.0001	1 unit	inquire
116039	Superspher® 100 RP-18 LiChroCART® 25-4 HPLC cartridge	1.16039.0001	3 units	inquire
150980	Superspher® 100 RP-18 LiChroCART® 75-4 HPLC cartridge	1.50980.0001	3 units	inquire
150792	Superspher® 100 RP-18 LiChroCART® 125-3 HPLC cartridge	1.50792.0001	1 unit	inquire
116051	Superspher® 100 RP-18 LiChroCART® 125-4 HPLC cartridge	1.16051.0001	1 unit	inquire
151299	Superspher® 100 RP-18 LiChroCART® 250-3 HPLC cartridge	1.51299.0001	1 unit	inquire
116056	Superspher® 100 RP-18 LiChroCART® 250-4 HPLC cartridge	1.16056.0001	1 unit	inquire
150198	Superspher® RP-18 endcapped LiChroCART® 125-2 HPLC cartridge	1.50198.0001	1 unit	inquire
150193	Superspher® RP-18 endcapped LiChroCART® 250-2 HPLC cartridge	1.50193.0001	1 unit	inquire
150204	Superspher® RP-18 LiChroCART® 10-2 HPLC guard column	1.50204.0001	3 units	inquire
150200	Superspher® RP-18 LiChroCART® 125-2 HPLC cartridge	1.50200.0001	1 unit	inquire

## Superspher® RP-8 and RP-8 endcapped LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
116854	Superspher® 60 RP-8 endcapped LiChroCART® 125-4 HPLC cartridge	1.16854.0001	1 unit	inquire
116857	Superspher® 60 RP-8 endcapped LiChroCART® 250-4 HPLC cartridge	1.16857.0001	1 unit	inquire
116052	Superspher® 60 RP-8 LiChroCART® 125-4 HPLC cartridge	1.16052.0001	1 unit	inquire
116010	Superspher® 60 RP-8 LiChroCART® 250-4 HPLC cartridge	1.16010.0001	1 unit	inquire

## Superspher® RP-select B LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150205	Superspher® 60 RP-select B LiChroCART® 10-2 HPLC guard column	1.50205.0001	3 units	inquire
150974	Superspher® 60 RP-select B LiChroCART® 75-4 HPLC cartridge	1.50974.0001	3 units	inquire
150197	Superspher® 60 RP-select B LiChroCART® 125-2 HPLC cartridge	1.50197.0001	1 unit	inquire
150791	Superspher® 60 RP-select B LiChroCART® 125-3 HPLC cartridge	1.50791.0001	1 unit	inquire
150975	Superspher® 60 RP-select B LiChroCART® 125-4 HPLC cartridge	1.50975.0001	1 unit	inquire
151308	Superspher® 60 RP-select B LiChroCART® 250-2 HPLC cartridge	1.51308.0001	1 unit	inquire
151288	Superspher® 60 RP-select B LiChroCART® 250-3 HPLC cartridge	1.51288.0001	1 unit	inquire
150973	Superspher® 60 RP-select B LiChroCART® 250-4 HPLC cartridge	1.50973.0001	1 unit	inquire

## Superspher® Si LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
116054	Superspher® Si 60 LiChroCART® 125-4 HPLC cartridge	1.16054.0001	1 unit	inquire
116009	Superspher® Si 60 LiChroCART® 250-4 HPLC cartridge	1.16009.0001	1 unit	inquire

# Analytical HPLC

## LiChrospher® - Spherical Silica Sorbents, HPLC Columns and HPLC Cartridges

### LiChrospher® Sorbents

Cat.No.	Designation	Ord.No.	Quantity	Price
119641	LiChrospher® 60 RP-select B (5 µm)	1.19641.0010	10 g	inquire
151233	LiChrospher® 60 RP-select B (5 µm) EcoCART® 125-3 HPLC glass cartridge	1.51233.0001	3 units	inquire
119642	LiChrospher® 60 RP-select B (10 µm)	1.19642.0010 1.19642.0100	10 g 100 g	inquire inquire
119638	LiChrospher® 100 CN (5 µm)	1.19638.0010	10 g	inquire
116152	LiChrospher® 100 DIOL (5 µm)	1.16152.0010	10 g	inquire
116178	LiChrospher® 100 NH <sub>2</sub> (5 µm)	1.16178.0010	10 g	inquire
116129	LiChrospher® 100 RP-8 (5 µm)	1.16129.0010	10 g	inquire
116139	LiChrospher® 100 RP-8 (10 µm)	1.16139.0010	10 g	inquire
119636	LiChrospher® 100 RP-8 endcapped (5 µm)	1.19636.0010	10 g	inquire
119632	LiChrospher® 100 RP-8 endcapped (10 µm)	1.19632.0010	10 g	inquire
116177	LiChrospher® 100 RP-18 (5 µm)	1.16177.0010	10 g	inquire
116105	LiChrospher® 100 RP-18 (10 µm)	1.16105.0010	10 g	inquire
119637	LiChrospher® 100 RP-18 endcapped (5 µm)	1.19637.0010	10 g	inquire
119633	LiChrospher® 100 RP-18 endcapped (10 µm)	1.19633.0010	10 g	inquire
119640	LiChrospher® Si 60 (5 µm)	1.19640.0010 1.19640.0100	10 g 100 g	inquire inquire

### LiChrospher® Analytical Hibar® Columns and Analytical LiChroCART® HPLC Cartridges

#### LiChrospher® ADS LiChroCART® Cartridges - Restricted Access Materials

Cat.No.	Designation	Ord.No.	Quantity	Price
150187	LiChroCART® 25-4 LiChrospher® RP-18 ADS HPLC cartridge set, contains 1 LiChroCART® 25-4 LiChrospher® RP-18 ADS 1 manu-CART®	1.50187.0001	1 set	inquire
150349	LiChrospher® RP-4 ADS 25µm	1.50349.0010	10 g	inquire
150380	LiChrospher® RP-4 ADS LiChroCART® 25-2 1 HPLC cartridge	1.50380.0001	1 unit	inquire
150381	LiChrospher® RP-4 ADS LiChroCART® 25-2 3 HPLC cartridges	1.50381.0001	3 units	inquire
150208	LiChrospher® RP-4 ADS LiChroCART® 25-4 3 HPLC cartridges	1.50208.0001	3 units	inquire
150206	LiChrospher® RP-4 ADS LiChroCART® 25-4 HPLC cartridge set, contains 1 LiChrospher® RP-4 ADS LiChroCART® 25-4 and 1 manu-CART®	1.50206.0001	1 set	inquire
150382	LiChrospher® RP-8 ADS LiChroCART® 25-2 1 HPLC cartridge	1.50382.0001	1 unit	inquire
150383	LiChrospher® RP-8 ADS LiChroCART® 25-2 3 HPLC cartridges	1.50383.0001	3 units	inquire
150209	LiChrospher® RP-8 ADS LiChroCART® 25-4 3 HPLC cartridges	1.50209.0001	3 units	inquire
150207	LiChrospher® RP-8 ADS LiChroCART® 25-4 HPLC cartridge set, contains 1 LiChrospher® RP-8 ADS LiChroCART® 25-4 and 1 manu-CART®	1.50207.0001	1 set	inquire
150385	LiChrospher® RP-18 ADS LiChroCART® 25-2 1 HPLC cartridge	1.50385.0001	1 unit	inquire
150386	LiChrospher® RP-18 ADS LiChroCART® 25-2 3 HPLC cartridges	1.50386.0001	3 units	inquire
150947	LiChrospher® RP-18 ADS LiChroCART® 25-4 3 HPLC cartridges	1.50947.0001	3 units	inquire
150210	LiChrospher® RP ADS LiChroCART® 25-4 HPLC-selectivity kit contains 1 LiChrospher® RP-4 ADS, 1 LiChrospher® RP-8 ADS, 1 LiChrospher® RP- 18 ADS, 1 manu-CART®	1.50210.0001	1 set	inquire

#### LiChrospher® CN LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150959	LiChrospher® 100 CN (5 µm) LiChroCART® 4-4 HPLC guard column	1.50959.0001	10 units	inquire
150825	LiChrospher® 100 CN (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50825.0001	1 unit	inquire
150892	LiChrospher® 100 CN (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50892.0001	1 unit	inquire
150845	LiChrospher® 100 CN (10 µm) LiChroCART® 250-4 HPLC cartridge	1.50845.0001	1 unit	inquire

#### LiChrospher® DIOL LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150960	LiChrospher® 100 DIOL (5 µm) LiChroCART® 4-4 HPLC guard column	1.50960.0001	10 units	inquire



## LiChrospher® DIOL LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150826	LiChrospher® 100 DIOL (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50826.0001	1 unit	inquire
150836	LiChrospher® 100 DIOL (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50836.0001	1 unit	inquire

LiChrospher® NH<sub>2</sub> LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150958	LiChrospher® 100 NH <sub>2</sub> (5 µm) LiChroCART® 4-4 HPLC guard column	1.50958.0001	10 units	inquire
150932	LiChrospher® 100 NH <sub>2</sub> (5 µm) LiChroCART® 25-4 HPLC cartridge	1.50932.0001	3 units	inquire
150824	LiChrospher® 100 NH <sub>2</sub> (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50824.0001	1 unit	inquire
150834	LiChrospher® 100 NH <sub>2</sub> (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50834.0001	1 unit	inquire
150844	LiChrospher® 100 NH <sub>2</sub> (10 µm) LiChroCART® 250-4 HPLC cartridge	1.50844.0001	1 unit	inquire
151905	LiChrospher® 100 NH <sub>2</sub> (5µm) Hibar® RT 150-4.6 HPLC column	1.51905.0001	1 unit	inquire
151904	LiChrospher® 100 NH <sub>2</sub> (5µm) Hibar® RT 250-4.6 HPLC column	1.51904.0001	1 unit	inquire

## LiChrospher® PAH LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150148	LiChrospher® PAH LiChroCART® 4-4 HPLC guard column	1.50148.0001	10 units	inquire
150156	LiChrospher® PAH LiChroCART® 250-3 HPLC cartridge	1.50156.0001	1 unit	inquire
150149	LiChrospher® PAH LiChroCART® 250-4 HPLC cartridge	1.50149.0001	1 unit	inquire

## LiChrospher® RP-18 and RP-18 endcapped LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150417	LiChroCART® 125-3 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50417.0001	1 unit	inquire
		1.50417.7079	unit	inquire
		1.50417.7093	unit	inquire
		1.50417.7185	unit	inquire
150419	LiChroCART® 125-4 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50419.0001	1 unit	inquire
		1.50419.7079	unit	inquire
		1.50419.7093	unit	inquire
		1.50419.7185	unit	inquire
150421	LiChroCART® 125-4,6 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50421.0001	1 unit	inquire
		1.50421.7079	unit	inquire
		1.50421.7093	unit	inquire
		1.50421.7185	unit	inquire
150422	LiChroCART® 150-4,6 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50422.0001	1 unit	inquire
		1.50422.7079	unit	inquire
		1.50422.7093	unit	inquire
		1.50422.7185	unit	inquire
150418	LiChroCART® 250-3 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50418.0001	1 unit	inquire
		1.50418.7079	unit	inquire
		1.50418.7093	unit	inquire
		1.50418.7185	unit	inquire
150420	LiChroCART® 250-4 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50420.0001	1 unit	inquire
		1.50420.7079	unit	inquire
		1.50420.7093	unit	inquire
		1.50420.7185	unit	inquire
150423	LiChroCART® 250-4,6 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50423.0001	1 unit	inquire
		1.50423.7079	unit	inquire
		1.50423.7093	unit	inquire
		1.50423.7185	unit	inquire
150957	LiChrospher® 100 RP-18 (5 µm) LiChroCART® 4-4 HPLC guard column	1.50957.0001	10 units	inquire
150931	LiChrospher® 100 RP-18 (5 µm) LiChroCART® 25-4 HPLC cartridge	1.50931.0001	3 units	inquire
150987	LiChrospher® 100 RP-18 (5 µm) LiChroCART® 75-4 HPLC cartridge	1.50987.0001	3 units	inquire
150159	LiChrospher® 100 RP-18 (5 µm) LiChroCART® 125-3 HPLC cartridge	1.50159.0001	1 unit	inquire
150823	LiChrospher® 100 RP-18 (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50823.0001	1 unit	inquire
150943	LiChrospher® 100 RP-18 (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50943.0001	3 units	inquire
150154	LiChrospher® 100 RP-18 (5 µm) LiChroCART® 250-3 HPLC cartridge	1.50154.0001	1 unit	inquire

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## LiChrospher® RP-18 and RP-18 endcapped LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150983	LiChrospher® 100 RP-18 (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50983.0001	3 units	<a href="#">inquire</a>
150833	LiChrospher® 100 RP-18 (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50833.0001	1 unit	<a href="#">inquire</a>
150843	LiChrospher® 100 RP-18 (10 µm) LiChroCART® 250-4 HPLC cartridge	1.50843.0001	1 unit	<a href="#">inquire</a>
150962	LiChrospher® 100 RP-18 endcapped (5 µm) LiChroCART® 4-4 HPLC guard column	1.50962.0001	10 units	<a href="#">inquire</a>
150936	LiChrospher® 100 RP-18 endcapped (5 µm) LiChroCART® 25-4 HPLC cartridge	1.50936.0001	3 units	<a href="#">inquire</a>
150828	LiChrospher® 100 RP-18 endcapped (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50828.0001	1 unit	<a href="#">inquire</a>
150734	LiChrospher® 100 RP-18 endcapped (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50734.0001	3 units	<a href="#">inquire</a>
150995	LiChrospher® 100 RP-18 endcapped (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50995.0001	3 units	<a href="#">inquire</a>
150838	LiChrospher® 100 RP-18 endcapped (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50838.0001	1 unit	<a href="#">inquire</a>
150848	LiChrospher® 100 RP-18 endcapped (10 µm) LiChroCART® 250-4 HPLC cartridge	1.50848.0001	1 unit	<a href="#">inquire</a>
151908	LiChrospher® 100 RP-18 endcapped (5µm) LiChroCART® 125-4.6 HPLC cartridge	1.51908.0001	1 unit	<a href="#">inquire</a>
150600	LiChrospher® RP-18 (5µm) LiChroCART® 100-4.6 HPLC cartridge	1.50600.0001	1 unit	<a href="#">inquire</a>
150601	LiChrospher® RP-18 (5µm) LiChroCART® 150-4.6 HPLC cartridge	1.50601.0001	1 unit	<a href="#">inquire</a>
150602	LiChrospher® RP-18 (5µm) LiChroCART® 250-4.6 HPLC cartridge	1.50602.0001	1 unit	<a href="#">inquire</a>
150603	LiChrospher® RP-18 endcapped (5µm) LiChroCART® 100-4.6 HPLC cartridge	1.50603.0001	1 unit	<a href="#">inquire</a>
150604	LiChrospher® RP-18 endcapped (5µm) LiChroCART® 150-4.6 HPLC cartridge	1.50604.0001	1 unit	<a href="#">inquire</a>
150605	LiChrospher® RP-18 endcapped (5µm) LiChroCART® 250-4.6 HPLC cartridge	1.50605.0001	1 unit	<a href="#">inquire</a>

## LiChrospher® RP-8 and RP-8 endcapped LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150956	LiChrospher® 100 RP-8 (5 µm) LiChroCART® 4-4 HPLC guard column	1.50956.0001	10 units	<a href="#">inquire</a>
150930	LiChrospher® 100 RP-8 (5 µm) LiChroCART® 25-4 HPLC cartridge	1.50930.0001	3 units	<a href="#">inquire</a>
150986	LiChrospher® 100 RP-8 (5 µm) LiChroCART® 75-4 HPLC cartridge	1.50986.0001	3 units	<a href="#">inquire</a>
150942	LiChrospher® 100 RP-8 (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50942.0001	3 units	<a href="#">inquire</a>
150822	LiChrospher® 100 RP-8 (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50822.0001	1 unit	<a href="#">inquire</a>
150832	LiChrospher® 100 RP-8 (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50832.0001	1 unit	<a href="#">inquire</a>
150982	LiChrospher® 100 RP-8 (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50982.0001	3 units	<a href="#">inquire</a>
150842	LiChrospher® 100 RP-8 (10 µm) LiChroCART® 250-4 HPLC cartridge	1.50842.0001	1 unit	<a href="#">inquire</a>
150961	LiChrospher® 100 RP-8 endcapped (5 µm) LiChroCART® 4-4 HPLC guard column	1.50961.0001	10 units	<a href="#">inquire</a>
150827	LiChrospher® 100 RP-8 endcapped (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50827.0001	1 unit	<a href="#">inquire</a>
150837	LiChrospher® 100 RP-8 endcapped (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50837.0001	1 unit	<a href="#">inquire</a>
150847	LiChrospher® 100 RP-8 endcapped (10 µm) LiChroCART® 250-4 HPLC cartridge	1.50847.0001	1 unit	<a href="#">inquire</a>
150634	LiChrospher® RP-8 (5µm) LiChroCART® 100-4.6 HPLC cartridge	1.50634.0001	1 unit	<a href="#">inquire</a>
150635	LiChrospher® RP-8 (5µm) LiChroCART® 150-4.6 HPLC cartridge	1.50635.0001	1 unit	<a href="#">inquire</a>
150636	LiChrospher® RP-8 (5µm) LiChroCART® 250-4.6 HPLC cartridge	1.50636.0001	1 unit	<a href="#">inquire</a>
150637	LiChrospher® RP-8 endcapped (5µm) LiChroCART® 100-4.6 HPLC cartridge	1.50637.0001	1 unit	<a href="#">inquire</a>
150638	LiChrospher® RP-8 endcapped (5µm) LiChroCART® 150-4.6 HPLC cartridge	1.50638.0001	1 unit	<a href="#">inquire</a>
150639	LiChrospher® RP-8 endcapped (5µm) LiChroCART® 250-4.6 HPLC cartridge	1.50639.0001	1 unit	<a href="#">inquire</a>

## LiChrospher® RP-select B Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150573	LiChrospher® RP-select B (5µm) Hibar® RT 100-4.6 HPLC column	1.50573.0001	1 unit	<a href="#">inquire</a>
150574	LiChrospher® RP-select B (5µm) Hibar® RT 150-4.6 HPLC column	1.50574.0001	1 unit	<a href="#">inquire</a>
150575	LiChrospher® RP-select B (5µm) Hibar® RT 250-4.6 HPLC column	1.50575.0001	1 unit	<a href="#">inquire</a>

## LiChrospher® RP-select B LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150417	LiChroCART® 125-3 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50417.0001	1 unit	inquire
		1.50417.7079	unit	inquire
		1.50417.7093	unit	inquire
		1.50417.7185	unit	inquire
150419	LiChroCART® 125-4 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50419.0001	1 unit	inquire
		1.50419.7079	unit	inquire
		1.50419.7093	unit	inquire
		1.50419.7185	unit	inquire
150421	LiChroCART® 125-4,6 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50421.0001	1 unit	inquire
		1.50421.7079	unit	inquire
		1.50421.7093	unit	inquire
		1.50421.7185	unit	inquire
150422	LiChroCART® 150-4,6 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50422.0001	1 unit	inquire
		1.50422.7079	unit	inquire
		1.50422.7093	unit	inquire
		1.50422.7185	unit	inquire
150418	LiChroCART® 250-3 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50418.0001	1 unit	inquire
		1.50418.7079	unit	inquire
		1.50418.7093	unit	inquire
		1.50418.7185	unit	inquire
150420	LiChroCART® 250-4 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50420.0001	1 unit	inquire
		1.50420.7079	unit	inquire
		1.50420.7093	unit	inquire
		1.50420.7185	unit	inquire
150423	LiChroCART® 250-4,6 Validation Kit customized packing 3 HPLC cartridges from 3 batches	1.50423.0001	1 unit	inquire
		1.50423.7079	unit	inquire
		1.50423.7093	unit	inquire
		1.50423.7185	unit	inquire
150829	LiChrospher® 60 RP-select (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50829.0001	1 unit	inquire
150155	LiChrospher® 60 RP-select (5 µm) LiChroCART® 250-3 HPLC cartridge	1.50155.0001	1 unit	inquire
150963	LiChrospher® 60 RP-select B (5 µm) LiChroCART® 4-4 HPLC guard column	1.50963.0001	10 units	inquire
150937	LiChrospher® 60 RP-select B (5 µm) LiChroCART® 25-4 HPLC cartridge	1.50937.0001	3 units	inquire
150993	LiChrospher® 60 RP-select B (5 µm) LiChroCART® 75-4 HPLC cartridge	1.50993.0001	3 units	inquire
150158	LiChrospher® 60 RP-Select B (5 µm) LiChroCART® 125-3 HPLC cartridge	1.50158.0001	1 unit	inquire
150981	LiChrospher® 60 RP-select B (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50981.0001	3 units	inquire
150839	LiChrospher® 60 RP-select B (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50839.0001	1 unit	inquire
150984	LiChrospher® 60 RP-select B (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50984.0001	3 units	inquire
150742	LiChrospher® 60 RP-select B (10 µm) LiChroCART® 250-4 HPLC cartridge	1.50742.0001	1 unit	inquire
150640	LiChrospher® RP-select B (5µm) LiChroCART® 100-4.6 HPLC cartridge	1.50640.0001	1 unit	inquire
150641	LiChrospher® RP-select B (5µm) LiChroCART® 150-4.6 HPLC cartridge	1.50641.0001	1 unit	inquire
150642	LiChrospher® RP-select B (5µm) LiChroCART® 250-4.6 HPLC cartridge	1.50642.0001	1 unit	inquire

## LiChrospher® Si Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150316	LiChrospher® Si 100 (5 µm) Hibar® RT 250-4 HPLC column	1.50316.0001	1 unit	inquire

## LiChrospher® Si LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150955	LiChrospher® Si 60 (5 µm) LiChroCART® 4-4 HPLC guard column	1.50955.0001	10 units	inquire
150928	LiChrospher® Si 60 (5 µm) LiChroCART® 25-4 HPLC cartridge	1.50928.0001	3 units	inquire
150820	LiChrospher® Si 60 (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50820.0001	1 unit	inquire
150830	LiChrospher® Si 60 (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50830.0001	1 unit	inquire
119629	LiChrospher® Si 60 (10 µm)	1.19629.0010	10 g	inquire
150840	LiChrospher® Si 60 (10 µm) LiChroCART® 250-4 HPLC cartridge	1.50840.0001	1 unit	inquire

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## LiChrospher® Wide Pore LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150140	LiChrospher® WP 300 RP-18 (5 µm) LiChroCART® 4-4 HPLC guard column	1.50140.0001	10 units	inquire
150137	LiChrospher® WP 300 RP-18 (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50137.0001	1 unit	inquire

## LiChrospher® RP-18 and RP-18 endcapped Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150477	LiChrospher® 100 RP-18 (5 µm) Hibar® RT 125-4 HPLC column	1.50477.0001	1 unit	inquire
150377	LiChrospher® 100 RP-18 (5 µm) Hibar® RT 250-4 HPLC column	1.50377.0001	1 unit	inquire
151907	LiChrospher® 100 RP-18 endcapped (5µm) Hibar® RT 125-2 HPLC column	1.51907.0001	1 unit	inquire
151906	LiChrospher® 100 RP-18 endcapped (5µm) Hibar® RT 125-4.6 HPLC column	1.51906.0001	1 unit	inquire
150545	LiChrospher® RP-18 (5µm) Hibar® RT 100-4.6 HPLC column	1.50545.0001	1 unit	inquire
150546	LiChrospher® RP-18 (5µm) Hibar® RT 150-4.6 HPLC column	1.50546.0001	1 unit	inquire
150547	LiChrospher® RP-18 (5µm) Hibar® RT 250-4.6 HPLC column	1.50547.0001	1 unit	inquire
150548	LiChrospher® RP-18 endcapped (5µm) Hibar® RT 100-4.6 HPLC column	1.50548.0001	1 unit	inquire
150549	LiChrospher® RP-18 endcapped (5µm) Hibar® RT 150-4.6 HPLC column	1.50549.0001	1 unit	inquire
150550	LiChrospher® RP-18 endcapped (5µm) Hibar® RT 250-4.6 HPLC column	1.50550.0001	1 unit	inquire

## LiChrospher® RP-8 and RP-8 endcapped Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150329	LiChrospher® 100 RP-8 (5 µm) Hibar® RT 250-4 HPLC column	1.50329.0001	1 unit	inquire
150578	LiChrospher® RP-8 (5µm) Hibar® RT 100-4.6 HPLC column	1.50578.0001	1 unit	inquire
150579	LiChrospher® RP-8 (5µm) Hibar® RT 150-4.6 HPLC column	1.50579.0001	1 unit	inquire
150580	LiChrospher® RP-8 (5µm) Hibar® RT 250-4.6 HPLC column	1.50580.0001	1 unit	inquire
150581	LiChrospher® RP-8 endcapped (5µm) Hibar® RT 100-4.6 HPLC column	1.50581.0001	1 unit	inquire
150582	LiChrospher® RP-8 endcapped (5µm) Hibar® RT 150-4.6 HPLC column	1.50582.0001	1 unit	inquire
150583	LiChrospher® RP-8 endcapped (5µm) Hibar® RT 250-4.6 HPLC column	1.50583.0001	1 unit	inquire

## LiChrospher® Semi Preparative LiChroCART® HPLC Cartridges

### LiChrospher® RP-18 and RP-18 endcapped LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150853	LiChrospher® 100 RP-18 (10 µm) LiChroCART® 250-10 HPLC cartridge	1.50853.0001	1 unit	inquire
150858	LiChrospher® 100 RP-18 endcapped (10 µm) LiChroCART® 250-10 HPLC cartridge	1.50858.0001	1 unit	inquire

### LiChrospher® Si LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150850	LiChrospher® Si 60 (10 µm) LiChroCART® 250-10 HPLC cartridge	1.50850.0001	1 unit	inquire

## Purospher® - Spherical Silica HPLC Cartridges

### Purospher® RP-18 and RP-18 endcapped Analytical LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150141	Purospher® RP-18 (5 µm) LiChroCART® 4-4 HPLC guard column	1.50141.0001	10 units	inquire
150142	Purospher® RP-18 (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50142.0001	1 unit	inquire
150144	Purospher® RP-18 (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50144.0001	1 unit	inquire
150799	Purospher® RP-18 endcapped (5 µm) LiChroCART® 125-3 HPLC cartridge	1.50799.0001	3 units	inquire
150798	Purospher® RP-18 endcapped (5 µm) LiChroCART® 125-3 HPLC cartridge	1.50798.0001	1 unit	inquire
150168	Purospher® RP-18 endcapped (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50168.0001	1 unit	inquire
151384	Purospher® RP-18 endcapped (5 µm) LiChroCART® 250-3 HPLC cartridge	1.51384.0001	1 unit	inquire
150169	Purospher® RP-18 endcapped (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50169.0001	1 unit	inquire
150167	Purospher® RP-18 endcapped (5µm) LiChroCART® 4-4 HPLC guard cartridge	1.50167.0001	10 units	inquire

## Purospher® - Spherical Silica HPLC Cartridges

## Purospher® RP-18 and RP-18 endcapped Analytical LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
151436	Purospher® RP-18 HC (5µm) LiChroCART® 250-4 HPLC cartridge	1.51436.0001	1 unit	inquire

## Purospher® STAR - Spherical Silica HPLC Columns and HPLC Cartridges

## Purospher® STAR Analytical LiChroCART® Cartridges

Purospher® STAR NH<sub>2</sub> LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150267	Purospher® STAR NH <sub>2</sub> (5 µm) LiChroCART® 4-4 HPLC guard cartridge	1.50267.0001	10 units	inquire
150244	Purospher STAR NH <sub>2</sub> (5 µm) LiChroCART® 125-4 HPLC cartridge Purospher®	1.50244.0001	1 unit	inquire
150247	Purospher® STAR NH <sub>2</sub> (5 µm) LiChroCART® 150-4.6 HPLC cartridge	1.50247.0001	1 unit	inquire
150245	Purospher® STAR NH <sub>2</sub> (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50245.0001	1 unit	inquire
150248	Purospher® STAR NH <sub>2</sub> (5 µm) LiChroCART® 250-4.6 HPLC cartridge	1.50248.0001	1 unit	inquire
151913	Purospher® STAR NH <sub>2</sub> (5µm) Hibar® RT 250-4.6 HPLC column	1.51913.0001	1 unit	inquire
151920	Purospher® STAR Phenyl (5µm) Hibar® RT 150-3 HPLC column	1.51920.0001	1 unit	inquire
151919	Purospher® STAR Phenyl (5µm) Hibar® RT 150-4.6 HPLC column	1.51919.0001	1 unit	inquire
151918	Purospher® STAR Phenyl (5µm) Hibar® RT 250-4.6 HPLC column	1.51918.0001	1 unit	inquire
151922	Purospher® STAR Phenyl (5µm) LiChroCART® 150-4.6 HPLC cartridge	1.51922.0001	1 unit	inquire
151921	Purospher® STAR Phenyl (5µm) LiChroCART® 250-4.6 HPLC cartridge	1.51921.0001	1 unit	inquire

## Purospher® STAR RP-18 endcapped Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150036	Purospher® STAR RP-18 endcapped (5 µm) Hibar® 125-4 HPLC column	1.50036.0001	1 unit	inquire
151455	Purospher® STAR RP-18 endcapped (5 µm) Hibar® 150-4.6 HPLC column	1.51455.0001	1 unit	inquire
151456	Purospher® STAR RP-18 endcapped (5 µm) Hibar® RT 250-4.6 HPLC column	1.51456.0001	1 unit	inquire
150648	Purospher® STAR RP-18 endcapped (2µm) Hibar® HR 100-2.1 UHPLC column	1.50648.0001	1 unit	inquire
150649	Purospher® STAR RP-18 endcapped (2µm) Hibar® HR 150-2.1 UHPLC column	1.50649.0001	1 unit	inquire
150653	Purospher® STAR RP-18 endcapped (3µm) Hibar® HR 100-2.1 UHPLC column	1.50653.0001	1 unit	inquire
150654	Purospher® STAR RP-18 endcapped (3µm) Hibar® HR 150-2.1 UHPLC column	1.50654.0001	1 unit	inquire
150393	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 50-3 HPLC column	1.50393.0001	1 unit	inquire
150428	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 50-4 HPLC column	1.50428.0001	1 unit	inquire
150469	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 100-4.6 HPLC column	1.50469.0001	1 unit	inquire
150431	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 125-4 HPLC column	1.50431.0001	1 unit	inquire
150414	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 150-3 HPLC column	1.50414.0001	1 unit	inquire
150470	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 150-4.6 HPLC column	1.50470.0001	1 unit	inquire
150427	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 250-3 HPLC column	1.50427.0001	1 unit	inquire
150468	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 250-4 HPLC column	1.50468.0001	1 unit	inquire
150471	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 250-4.6 HPLC column	1.50471.0001	1 unit	inquire
150037	Purospher® STAR RP-18 endcapped (5µm) Hibar® 250-4 HPLC column	1.50037.0001	1 unit	inquire
150593	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 50-2 HPLC column	1.50593.0001	1 unit	inquire
150607	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 50-3 HPLC column	1.50607.0001	1 unit	inquire
150621	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 50-4 HPLC column	1.50621.0001	1 unit	inquire
150595	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 100-2 HPLC column	1.50595.0001	1 unit	inquire
150612	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 100-3 HPLC column	1.50612.0001	1 unit	inquire
150622	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 100-4.6 HPLC column	1.50622.0001	1 unit	inquire
150596	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 125-2 HPLC column	1.50596.0001	1 unit	inquire
150615	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 125-3 HPLC column	1.50615.0001	1 unit	inquire
151914	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 125-4.6 HPLC column	1.51914.0001	1 unit	inquire
150617	Purospher® STAR RP-18 endcapped 5µm Hibar® RT 150-3 HPLC column	1.50617.0001	1 unit	inquire



# Analytical HPLC

## Purospher® STAR RP-18 endcapped Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150598	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 250-2 HPLC column	1.50598.0001	1 unit	inquire
150620	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 250-3 HPLC column	1.50620.0001	1 unit	inquire
151915	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 250-10 HPLC column	1.51915.0001	1 unit	inquire

## Purospher® STAR RP-18 endcapped LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150238	Purospher® STAR RP-18 endcapped (3 µm) LiChroCART® 30-2 HPLC cartridge	1.50238.0001	3 units	inquire
150237	Purospher® STAR RP-18 endcapped (3 µm) LiChroCART® 30-2 Cartridge kit 1 HPLC-cartridge and 1 cartridge holder	1.50237.0001	1 set	inquire
150225	Purospher® STAR RP-18 endcapped (3 µm) LiChroCART® 30-4 HPLC cartridge	1.50225.0001	3 units	inquire
150239	Purospher® STAR RP-18 endcapped (3 µm) LiChroCART® 30-4 Cartridge set 1 HPLC-cartridge and 1 cartridge holder	1.50239.0001	1 set	inquire
150241	Purospher® STAR RP-18 endcapped (3 µm) LiChroCART® 55-2 HPLC cartridge	1.50241.0001	3 units	inquire
150240	Purospher® STAR RP-18 endcapped (3 µm) LiChroCART® 55-2 Cartridge set 1 HPLC-cartridge and 1 cartridge holder	1.50240.0001	1 set	inquire
150231	Purospher® STAR RP-18 endcapped (3 µm) LiChroCART® 55-4 HPLC cartridge	1.50231.0001	3 units	inquire
150242	Purospher® STAR RP-18 endcapped (3 µm) LiChroCART® 55-4 Cartridge set 1 HPLC-cartridge and 1 cartridge holder	1.50242.0001	1 set	inquire
151460	Purospher® STAR RP-18 endcapped (3 µm) LiChroCART® 75-4 HPLC cartridge	1.51460.0001	1 unit	inquire
150250	Purospher® STAR RP-18 endcapped (5 µm) LiChroCART® 4-4 HPLC guard column	1.50250.0001	10 units	inquire
150255	Purospher® STAR RP-18 endcapped (5 µm) LiChroCART® 125-2 HPLC cartridge	1.50255.0001	1 unit	inquire
150253	Purospher® STAR RP-18 endcapped (5 µm) LiChroCART® 125-3 HPLC cartridge	1.50253.0001	1 unit	inquire
150251	Purospher® STAR RP-18 endcapped (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50251.0001	1 unit	inquire
150256	Purospher® STAR RP-18 endcapped (5 µm) LiChroCART® 250-2 HPLC cartridge	1.50256.0001	1 unit	inquire
150254	Purospher® STAR RP-18 endcapped (5 µm) LiChroCART® 250-3 HPLC cartridge	1.50254.0001	1 unit	inquire
150252	Purospher® STAR RP-18 endcapped (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50252.0001	1 unit	inquire
150623	Purospher® STAR RP-18 endcapped (5µm) LiChroCART® 100-2 HPLC cartridge	1.50623.0001	1 unit	inquire
150625	Purospher® STAR RP-18 endcapped (5µm) LiChroCART® 100-3 HPLC cartridge	1.50625.0001	1 unit	inquire
150624	Purospher® STAR RP-18 endcapped (5µm) LiChroCART® 150-2 HPLC cartridge	1.50624.0001	1 unit	inquire
150358	Purospher® STAR RP-18 endcapped (5µm) LiChroCART® 150-4.6 HPLC cartridge	1.50358.0001	1 unit	inquire
150359	Purospher® STAR RP-18 endcapped (5µm) LiChroCART® 250-4.6 HPLC cartridge	1.50359.0001	1 unit	inquire

## Purospher® STAR RP-8 endcapped LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150270	Purospher® STAR RP-8 endcapped (5 µm) LiChroCART® 4-4 HPLC guard column	1.50270.0001	10 units	inquire
150274	Purospher® STAR RP-8 endcapped (5 µm) LiChroCART® 125-2 HPLC cartridge	1.50274.0001	1 unit	inquire
150271	Purospher® STAR RP-8 endcapped (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50271.0001	1 unit	inquire
150275	Purospher® STAR RP-8 endcapped (5 µm) LiChroCART® 250-2 HPLC cartridge	1.50275.0001	1 unit	inquire
150273	Purospher® STAR RP-8 endcapped (5 µm) LiChroCART® 250-3 HPLC cartridge	1.50273.0001	1 unit	inquire
150272	Purospher® STAR RP-8 endcapped (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50272.0001	1 unit	inquire
150038	Purospher® STAR RP-8 endcapped (5µm) LiChroCART® 125-3 HPLC cartridge	1.50038.0001	1 unit	inquire
150031	Purospher® STAR RP-8 endcapped (5µm) LiChroCART® 150-4.6 HPLC cartridge	1.50031.0001	1 unit	inquire
150032	Purospher® STAR RP-8 endcapped (5µm) LiChroCART® 250-4.6 HPLC cartridge	1.50032.0001	1 unit	inquire

## Purospher® STAR RP-8 Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
151014	Purospher® STAR Phenyl (2µm) Hibar® HR 100-2.1 UHPLC column	1.51014.0001	1 unit	inquire
151453	Purospher® STAR RP-8 endcapped (5 µm) Hibar® 150-4.6 HPLC column	1.51453.0001	1 unit	inquire
150630	Purospher® STAR RP-8 endcapped (2µm) Hibar® HR 50-2.1 UHPLC column	1.50630.0001	1 unit	inquire
150629	Purospher® STAR RP-8 endcapped (2µm) Hibar® HR 100-2.1 UHPLC column	1.50629.0001	1 unit	inquire
151454	Purospher® STAR RP-8 endcapped (5µm) Hibar® 250-4.6 HPLC column	1.51454.0001	1 unit	inquire



## Purospher® STAR RP-8 Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
151917	Purospher® STAR RP-8 endcapped (5µm) Hibar® RT 100-4.6 HPLC column	1.51917.0001	1 unit	inquire
150033	Purospher® STAR RP-8 endcapped (5µm) Hibar® RT 125-4 HPLC column	1.50033.0001	1 unit	inquire
151916	Purospher® STAR RP-8 endcapped (5µm) Hibar® RT 125-4.6 HPLC column	1.51916.0001	1 unit	inquire
150035	Purospher® STAR RP-8 endcapped (5µm) Hibar® RT 250-4 HPLC column	1.50035.0001	1 unit	inquire

## Purospher® STAR Si LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150249	Purospher® STAR Si (5 µm) LiChroCART® 4-4 HPLC guard cartridge	1.50249.0001	10 pc	inquire
150268	Purospher® STAR Si (5 µm) LiChroCART® 125-4 HPLC cartridge	1.50268.0001	1 unit	inquire
150356	Purospher® STAR Si (5 µm) LiChroCART® 150-4.6 HPLC cartridge	1.50356.0001	1 unit	inquire
150269	Purospher® STAR Si (5 µm) LiChroCART® 250-4 HPLC cartridge	1.50269.0001	1 unit	inquire
150357	Purospher® STAR Si (5 µm) LiChroCART® 250-4.6 HPLC cartridge	1.50357.0001	1 unit	inquire
151911	Purospher® STAR Si (5µm) Hibar® RT 250-4.6 HPLC column	1.51911.0001	1 unit	inquire
151912	Purospher® STAR Si (5µm) Hibar® RT 250-10 HPLC column	1.51912.0001	1 unit	inquire

## Purospher® STAR RP-18 endcapped Hibar® UHPLC Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
151013	Purospher® STAR Phenyl (2µm) Hibar® HR 50-2.1 UHPLC column	1.51013.0001	1 unit	inquire
150645	Purospher® STAR RP-18 endcapped (2µm) Hibar® HR 30-2.1 UHPLC column	1.50645.0001	1 unit	inquire
150646	Purospher® STAR RP-18 endcapped (2µm) Hibar® HR 50-2.1 UHPLC column	1.50646.0001	1 unit	inquire
150647	Purospher® STAR RP-18 endcapped (2µm) Hibar® HR 75-2.1 UHPLC column	1.50647.0001	1 unit	inquire
150648	Purospher® STAR RP-18 endcapped (2µm) Hibar® HR 100-2.1 UHPLC column	1.50648.0001	1 unit	inquire
150649	Purospher® STAR RP-18 endcapped (2µm) Hibar® HR 150-2.1 UHPLC column	1.50649.0001	1 unit	inquire
150650	Purospher® STAR RP-18 endcapped (3µm) Hibar® HR 30-2.1 UHPLC column	1.50650.0001	1 unit	inquire
150651	Purospher® STAR RP-18 endcapped (3µm) Hibar® HR 50-2.1 UHPLC column	1.50651.0001	1 unit	inquire
150652	Purospher® STAR RP-18 endcapped (3µm) Hibar® HR 75-2.1 UHPLC column	1.50652.0001	1 unit	inquire
150653	Purospher® STAR RP-18 endcapped (3µm) Hibar® HR 100-2.1 UHPLC column	1.50653.0001	1 unit	inquire
150654	Purospher® STAR RP-18 endcapped (3µm) Hibar® HR 150-2.1 UHPLC column	1.50654.0001	1 unit	inquire
150655	Purospher® STAR RP-18 endcapped (3µm) Hibar® HR 250-2.1 UHPLC column	1.50655.0001	1 unit	inquire
150393	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 50-3 HPLC column	1.50393.0001	1 unit	inquire
150428	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 50-4 HPLC column	1.50428.0001	1 unit	inquire
150398	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 100-3 HPLC column	1.50398.0001	1 unit	inquire
150469	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 100-4.6 HPLC column	1.50469.0001	1 unit	inquire
150413	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 125-3 HPLC column	1.50413.0001	1 unit	inquire
150431	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 125-4 HPLC column	1.50431.0001	1 unit	inquire
150414	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 150-3 HPLC column	1.50414.0001	1 unit	inquire
150470	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 150-4.6 HPLC column	1.50470.0001	1 unit	inquire
150427	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 250-3 HPLC column	1.50427.0001	1 unit	inquire
150468	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 250-4 HPLC column	1.50468.0001	1 unit	inquire
150471	Purospher® STAR RP-18 endcapped (3µm) Hibar® RT 250-4.6 HPLC column	1.50471.0001	1 unit	inquire
150595	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 100-2 HPLC column	1.50595.0001	1 unit	inquire
150622	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 100-4.6 HPLC column	1.50622.0001	1 unit	inquire
150596	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 125-2 HPLC column	1.50596.0001	1 unit	inquire
150615	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 125-3 HPLC column	1.50615.0001	1 unit	inquire
150597	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 150-2 HPLC column	1.50597.0001	1 unit	inquire
150617	Purospher® STAR RP-18 endcapped 5µm Hibar® RT 150-3 HPLC column	1.50617.0001	1 unit	inquire
150598	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 250-2 HPLC column	1.50598.0001	1 unit	inquire
150620	Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 250-3 HPLC column	1.50620.0001	1 unit	inquire
150627	Purospher® STAR RP-18 endcapped (5µm) LiChroCART® 100-4.6 HPLC cartridge	1.50627.0001	1 unit	inquire

# Analytical HPLC

## Purospher® STAR RP-18 endcapped Hibar® UHPLC Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150626	Purospher® STAR RP-18 endcapped (5µm) LiChroCART® 150-3 HPLC cartridge	1.50626.0001	1 unit	inquire

## Purospher® STAR Semi Preparative LiChroCART® Cartridges

### Purospher® STAR RP-18 endcapped LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150257	Purospher® STAR RP-18 endcapped (5 µm) LiChroCART® 250-10 HPLC cartridge	1.50257.0001	1 unit	inquire

### Purospher® STAR RP-8 endcapped LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150276	Purospher® STAR RP-8 endcapped (5 µm) LiChroCART® 250-10 HPLC cartridge	1.50276.0001	1 unit	inquire

## SeQuant® ZIC®-HILIC spherical Silica and ZIC®-pHILIC polymeric bead Capillaries and Columns

### SeQuant® ZIC®-HILIC spherical Silica Capillaries

Cat.No.	Designation	Ord.No.	Quantity	Price
150489	SeQuant® ZIC®-HILIC (3.5µm,200Å) 30 x 0.3 mm capillary HPLC column	1.50489.0001	1 unit	inquire
150466	SeQuant® ZIC®-HILIC (3.5µm,200Å) 100 x 0.1 mm nano capillary HPLC column	1.50466.0001	1 unit	inquire
150479	SeQuant® ZIC®-HILIC (3.5µm,200Å) 150 x 0.3 mm capillary HPLC column	1.50479.0001	1 unit	inquire
150484	SeQuant® ZIC®-HILIC (5µm) 5 x 0.3 mm Guard (1 pc) guard column	1.50484.0001	1 unit	inquire
150492	SeQuant® ZIC®-HILIC (5µm) 5 x 0.3 mm Guard (5 pc) guard column	1.50492.0001	1 unit	inquire
150491	SeQuant® ZIC®-HILIC (5µm,200Å) 30 x 0.3 mm capillary HPLC column	1.50491.0001	1 unit	inquire
150465	SeQuant® ZIC®-HILIC (5µm,200Å) 150 x 0.075 mm nano capillary HPLC column	1.50465.0001	1 unit	inquire
150481	SeQuant® ZIC®-HILIC (5µm,200Å) 150 x 0.3 mm capillary HPLC column	1.50481.0001	1 unit	inquire
150664	ZIC®-cHILIC (5µm) 20 x 2.1 mm PEEK Guard Kit metal-free guard column (3 pc) with coupler (1 pc) SeQuant®	1.50664.0001	1 unit	inquire
150665	ZIC®-cHILIC Guard 5 x 0.3 mm capillary guard column (3 pc) SeQuant®	1.50665.0001	1 unit	inquire
150666	ZIC®-cHILIC Guard 5 x 1 mm capillary guard column (3 pc) SeQuant®	1.50666.0001	1 unit	inquire

### SeQuant® ZIC®-HILIC spherical Silica Analytical Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150487	SeQuant® ZIC®-HILIC (3.5µm,100Å) 150 x 1 mm capillary HPLC column	1.50487.0001	1 unit	inquire
150439	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 20 x 2.1 mm metal-free HPLC column	1.50439.0001	1 unit	inquire
150440	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 50 x 2.1 mm metal-free HPLC column	1.50440.0001	1 unit	inquire
150441	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 100 x 2.1 mm metal-free HPLC column	1.50441.0001	1 unit	inquire
150442	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 150 x 2.1 mm metal-free HPLC column	1.50442.0001	1 unit	inquire
150444	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 150 x 4.6 mm metal-free HPLC column	1.50444.0001	1 unit	inquire
150443	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 250 x 2.1 mm metal-free HPLC column	1.50443.0001	1 unit	inquire
150478	SeQuant® ZIC®-HILIC (3.5µm,200Å) 30 x 1 mm capillary HPLC column	1.50478.0001	1 unit	inquire
150480	SeQuant® ZIC®-HILIC (3.5µm,200Å) 150 x 1 mm capillary HPLC column	1.50480.0001	1 unit	inquire
150445	SeQuant® ZIC®-HILIC (3.5µm,200Å) PEEK 50 x 2.1 mm metal-free HPLC column	1.50445.0001	1 unit	inquire
150446	SeQuant® ZIC®-HILIC (3.5µm,200Å) PEEK 50 x 4.6 mm metal-free HPLC column	1.50446.0001	1 unit	inquire
150447	SeQuant® ZIC®-HILIC (3.5µm,200Å) PEEK 100 x 2.1 mm metal-free HPLC column	1.50447.0001	1 unit	inquire
150448	SeQuant® ZIC®-HILIC (3.5µm,200Å) PEEK 150 x 2.1 mm metal-free HPLC column	1.50448.0001	1 unit	inquire
150449	SeQuant® ZIC®-HILIC (3.5µm,200Å) PEEK 150 x 4.6 mm metal-free HPLC column	1.50449.0001	1 unit	inquire
150490	SeQuant® ZIC®-HILIC (5µm) 5 x 1 mm (5 pc) guard column	1.50490.0001	1 unit	inquire
150483	SeQuant® ZIC®-HILIC (5µm) 5 x 1mm Guard (1 pc) guard column	1.50483.0001	1 unit	inquire
150482	SeQuant® ZIC®-HILIC (5µm,200Å) 150 x 1 mm capillary HPLC column	1.50482.0001	1 unit	inquire
150450	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 50 x 2.1 mm metal-free HPLC column	1.50450.0001	1 unit	inquire
150451	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 50 x 4.6 mm metal-free HPLC column	1.50451.0001	1 unit	inquire

## SeQuant® ZIC®-HILIC spherical Silica Analytical Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150452	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 100 x 2.1 mm metal-free HPLC column	1.50452.0001	1 unit	inquire
150453	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 100 x 4.6 mm metal-free HPLC column	1.50453.0001	1 unit	inquire
150454	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 150 x 2.1 mm metal-free HPLC column	1.50454.0001	1 unit	inquire
150455	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 150 x 4.6 mm metal-free HPLC column	1.50455.0001	1 unit	inquire
150457	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 250 x 2.1 mm metal-free HPLC column	1.50457.0001	1 unit	inquire
150458	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 250 x 4.6 mm metal-free HPLC column	1.50458.0001	1 unit	inquire
150434	SeQuant® ZIC®-HILIC Guard Fitting PEEK 14 x 1 mm fitting guard column (5 pc)	1.50434.0001	1 unit	inquire
150436	SeQuant® ZIC®-HILIC Guard Kit PEEK 20 x 2.1 mm metal-free guard column (3 pc) with coupler	1.50436.0001	1 unit	inquire
150435	SeQuant® ZIC®-HILIC Guard PEEK 20 x 2.1 mm metal-free guard column	1.50435.0001	1 unit	inquire
150668	ZIC®-cHILIC (3µm,100Å) 150 x 0.1 mm nano capillary HPLC column SeQuant®	1.50668.0001	1 unit	inquire
150669	ZIC®-cHILIC (3µm,100Å) 150 x 0.3 mm capillary HPLC column SeQuant®	1.50669.0001	1 unit	inquire
150670	ZIC®-cHILIC (3µm,100Å) 150 x 1 mm capillary HPLC column SeQuant®	1.50670.0001	1 unit	inquire
150660	ZIC®-cHILIC (3µm,100Å) PEEK 100 x 4.6 mm metal-free HPLC column SeQuant®	1.50660.0001	1 unit	inquire
150656	ZIC®-cHILIC (3µm,100Å) 50 x 2.1 mm PEEK metal-free HPLC column SeQuant®	1.50656.0001	1 unit	inquire
150657	ZIC®-cHILIC (3µm,100Å) 100 x 2.1 mm PEEK metal-free HPLC column SeQuant®	1.50657.0001	1 unit	inquire
150659	ZIC®-cHILIC (3µm,100Å) PEEK 50 x 4.6 mm metal-free HPLC column SeQuant®	1.50659.0001	1 unit	inquire
150658	ZIC®-cHILIC (3µm,100Å) PEEK 150 x 2.1 mm metal-free HPLC column SeQuant®	1.50658.0001	1 unit	inquire
150661	ZIC®-cHILIC (3µm,100Å) PEEK 150 x 4.6 mm metal-free HPLC column SeQuant®	1.50661.0001	1 unit	inquire
150662	ZIC®-cHILIC (3µm,100Å) PEEK 250 x 4.6 mm metal-free HPLC column SeQuant®	1.50662.0001	1 unit	inquire
150665	ZIC®-cHILIC Guard 5 x 0.3 mm capillary guard column (3 pc) SeQuant®	1.50665.0001	1 unit	inquire
150666	ZIC®-cHILIC Guard 5 x 1 mm capillary guard column (3 pc) SeQuant®	1.50666.0001	1 unit	inquire

## SeQuant® ZIC®-HILIC spherical Silica Semi Preparative Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150495	SeQuant® ZIC®-HILIC (5µm,200Å) 50 x 10 mm threaded stainless steel HPLC column for semi-preparative HPLC	1.50495.0001	1 unit	inquire
150496	SeQuant® ZIC®-HILIC (5µm,200Å) 50 x 21.2 mm threaded stainless steel HPLC column for semi-preparative HPLC	1.50496.0001	1 unit	inquire
150493	SeQuant® ZIC®-HILIC (5µm,200Å) 150 x 10 mm threaded stainless steel HPLC column	1.50493.0001	1 unit	inquire
150497	SeQuant® ZIC®-HILIC (5µm,200Å) 150 x 21.2 mm threaded stainless steel HPLC column for semi-preparative HPLC	1.50497.0001	1 unit	inquire
150494	SeQuant® ZIC®-HILIC (5µm,200Å) 250 x 10 mm threaded stainless steel HPLC column for semi-preparative HPLC	1.50494.0001	1 unit	inquire
150456	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 150 x 7.5 mm metal-free HPLC column for semi-preparative HPLC	1.50456.0001	1 unit	inquire
150671	ZIC®-HILIC (5µm,200Å) 250 x 21.2 mm threaded stainless steel HPLC column SeQuant®	1.50671.0001	1 unit	inquire

## SeQuant® ZIC®-pHILIC polymeric bead Analytical Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150459	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 50 x 2.1 mm metal-free HPLC column	1.50459.0001	1 unit	inquire
150463	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 50 x 4.6 mm metal-free HPLC column	1.50463.0001	1 unit	inquire
150462	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 100 x 2.1 mm metal-free HPLC column	1.50462.0001	1 unit	inquire
150464	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 100 x 4.6 mm metal-free HPLC column	1.50464.0001	1 unit	inquire
150460	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 150 x 2.1 mm metal-free HPLC column	1.50460.0001	1 unit	inquire
150461	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 150 x 4.6 mm metal-free HPLC column	1.50461.0001	1 unit	inquire
150438	SeQuant® ZIC®-pHILIC Guard Kit PEEK 20 x 2.1 mm metal-free guard column (3 pc) with coupler	1.50438.0001	1 unit	inquire
150437	SeQuant® ZIC®-pHILIC Guard PEEK 20 x 2.1 mm metal-free guard column	1.50437.0001	1 unit	inquire

# Analytical HPLC

## Aluspher® - Spherical Alumina Analytical HPLC Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
151311	Aluspher® 100 RP-select B (5 µm) LiChroCART® 4-4 HPLC guard cartridge	1.51311.0001	10 units	inquire
151315	Aluspher® 100 RP-select B (5 µm) LiChroCART® 125-4 HPLC cartridge	1.51315.0001	1 unit	inquire
151318	Aluspher® 100 RP-select B (5 µm) LiChroCART® 250-4 HPLC cartridge	1.51318.0001	1 unit	inquire

## Chiral Phase Analytical HPLC Cartridges

### ChiraDex® LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
151333	ChiraDex® (5 µm) LiChroCART® 250-4 HPLC cartridge Chiradex®	1.51333.0001	1 unit	inquire
151000	CHIRADEX HR LICHROCARD 250-4 HPLC CARTRIDGE ChiraDex®	1.51000.0001	1 unit	inquire
150117	ChiraDex® LiChroCART® 4-4 HPLC guard cartridge	1.50117.0001	10 units	inquire

## Nucleosil® - Spherical Silica Analytical HPLC Cartridges

### Nucleosil® RP-8 LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
151402	LiChroCART® 125-4 Nucleosil® 5 C 8 HPLC cartridge	1.51402.0003	1 unit	inquire
151387	LiChroCART® 250-4 Nucleosil® 5 C 8 HPLC cartridge	1.51387.0003	1 unit	inquire

### Nucleosil® RP-18 LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
151324	LiChroCART® 4-4 Nucleosil® 5 C 18 HPLC guard column	1.51324.0003	10 units	inquire
151329	LiChroCART® 125-4 Nucleosil® 5 C 18 HPLC cartridge	1.51329.0003	1 unit	inquire
151388	LiChroCART® 250-4 Nucleosil® 5 C 18 HPLC cartridge	1.51388.0003	1 unit	inquire
151378	LiChroCART® 250-4 Nucleosil® 10 C 18 HPLC cartridge	1.51378.0003	1 unit	inquire

## Customized Packings: LiChrosorb®, Superspher®, LiChrospher®, Purospher® HPLC Columns and HPLC Cartridges

### Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
151196	Hibar® 30-4 HPLC column, customized packing, please specify packing material	1.51196.0001	1 unit	inquire
150013	Hibar® 100-4,6 HPLC column, customized packing, please specify packing material	1.50013.0001	1 unit	inquire
		1.50013.7004	unit	inquire
		1.50013.7052	unit	inquire
		1.50013.7076	unit	inquire
		1.50013.7081	unit	inquire
		1.50013.7109	unit	inquire
		1.50013.7130	unit	inquire
		1.50013.7138	unit	inquire
150181	Hibar® 125-4 HPLC column, customized packing, please specify packing material	1.50181.0001	1 unit	inquire
		1.50181.7054	unit	inquire
		1.50181.7059	unit	inquire
		1.50181.7071	unit	inquire
		1.50181.7076	unit	inquire
		1.50181.7078	unit	inquire
		1.50181.7080	unit	inquire
		1.50181.7087	unit	inquire
		1.50181.7088	unit	inquire
		1.50181.7092	unit	inquire
		1.50181.7093	unit	inquire
		1.50181.7109	unit	inquire
		1.50181.7116	unit	inquire
		1.50181.7140	unit	inquire
		1.50181.7141	unit	inquire
		1.50181.7174	unit	inquire

## Customized Packings: LiChrosorb<sup>®</sup>, Superspher<sup>®</sup>, LiChrospher<sup>®</sup>, Purospher<sup>®</sup> HPLC Columns and HPLC Cartridges

### Hibar<sup>®</sup> Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
150012	Hibar <sup>®</sup> 125–4,6 HPLC column, customized packing, please specify packing material	1.50012.0001	1 unit	inquire
		1.50012.7057	unit	inquire
		1.50012.7071	unit	inquire
		1.50012.7076	unit	inquire
		1.50012.7077	unit	inquire
		1.50012.7078	unit	inquire
		1.50012.7079	unit	inquire
		1.50012.7080	unit	inquire
		1.50012.7084	unit	inquire
		1.50012.7087	unit	inquire
		1.50012.7088	unit	inquire
		1.50012.7092	unit	inquire
		1.50012.7093	unit	inquire
		1.50012.7109	unit	inquire
		1.50012.7117	unit	inquire
		1.50012.7127	unit	inquire
		1.50012.7137	unit	inquire
		1.50012.7138	unit	inquire
		1.50012.7139	unit	inquire
		1.50012.7140	unit	inquire
1.50012.7174	unit	inquire		
1.50012.7184	unit	inquire		
150009	Hibar <sup>®</sup> 150–4,6 HPLC column, customized packing, please specify packing material	1.50009.0001	1 unit	inquire
		1.50009.7052	unit	inquire
		1.50009.7070	unit	inquire
		1.50009.7075	unit	inquire
		1.50009.7078	unit	inquire
		1.50009.7080	unit	inquire
		1.50009.7084	unit	inquire
		1.50009.7091	unit	inquire
		1.50009.7104	unit	inquire
		1.50009.7109	unit	inquire
		1.50009.7117	unit	inquire
		1.50009.7127	unit	inquire
		1.50009.7137	unit	inquire
		1.50009.7138	unit	inquire
		1.50009.7141	unit	inquire
		1.50009.7174	unit	inquire
		1.50009.7175	unit	inquire
1.50009.7177	unit	inquire		
1.50009.7220	unit	inquire		
100423	Hibar <sup>®</sup> 250–3 HPLC column, customized packing, please specify packing material	1.00423.0001	1 unit	inquire
		1.00423.7079	unit	inquire
		1.00423.7087	unit	inquire
		1.00423.7138	unit	inquire
150182	Hibar <sup>®</sup> 250–4 HPLC column, customized packing, please specify packing material	1.50182.0001	1 unit	inquire
		1.50182.7002	unit	inquire
		1.50182.7075	unit	inquire
		1.50182.7076	unit	inquire
		1.50182.7084	unit	inquire
		1.50182.7085	unit	inquire
		1.50182.7088	unit	inquire
		1.50182.7093	unit	inquire
		1.50182.7101	unit	inquire
		1.50182.7109	unit	inquire
		1.50182.7137	unit	inquire
		1.50182.7138	unit	inquire
		1.50182.7141	unit	inquire
		1.50182.7174	unit	inquire
1.50182.7177	unit	inquire		

# Analytical HPLC

## Customized Packings: LiChrosorb®, Superspher®, LiChrospher®, Purospher® HPLC Columns and HPLC Cartridges

### Hibar® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
100424	Hibar® 250–4,6 HPLC column, customized packing, please specify packing material	1.00424.0001	1 unit	inquire
		1.00424.7002	unit	inquire
		1.00424.7004	unit	inquire
		1.00424.7054	unit	inquire
		1.00424.7071	unit	inquire
		1.00424.7075	unit	inquire
		1.00424.7077	unit	inquire
		1.00424.7078	unit	inquire
		1.00424.7080	unit	inquire
		1.00424.7081	unit	inquire
		1.00424.7084	unit	inquire
		1.00424.7091	unit	inquire
		1.00424.7101	unit	inquire
		1.00424.7109	unit	inquire
		1.00424.7116	unit	inquire
		1.00424.7117	unit	inquire
		1.00424.7127	unit	inquire
		1.00424.7137	unit	inquire
		1.00424.7139	unit	inquire
		1.00424.7140	unit	inquire
1.00424.7141	unit	inquire		
1.00424.7220	unit	inquire		
150183	Hibar® 250–10 HPLC column, customized packing, please specify packing material	1.50183.0001	1 unit	inquire
		1.50183.7002	unit	inquire
		1.50183.7075	unit	inquire
		1.50183.7076	unit	inquire
		1.50183.7079	unit	inquire
		1.50183.7081	unit	inquire
		1.50183.7084	unit	inquire
		1.50183.7085	unit	inquire
		1.50183.7087	unit	inquire
		1.50183.7088	unit	inquire
		1.50183.7094	unit	inquire
		1.50183.7109	unit	inquire
		1.50183.7127	unit	inquire

### LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150173	LiChroCART® 4–4 HPLC cartridge, customized packing, please specify packing material	1.50173.0001	10 units	inquire
150201	LiChroCART® 10–2 HPLC cartridge, customized packing, please specify packing material	1.50201.0001	3 units	inquire
150178	LiChroCART® 10–10 HPLC cartridge, customized packing, please specify packing material	1.50178.0001	2 units	inquire
150172	LiChroCART® 25–4 HPLC cartridge, customized packing, please specify packing material	1.50172.0001	1 unit	inquire
		1.50172.7075	unit	inquire
		1.50172.7185	unit	inquire
150229	LiChroCART® 30–2 HPLC cartridge, customized packing, please specify packing material	1.50229.0001	1 unit	inquire
		1.50229.7194	unit	inquire
		1.50229.7220	unit	inquire
150233	LiChroCART® 30–3 HPLC cartridge, customized packing, please specify packing material	1.50233.0001	1 unit	inquire
		1.50233.7079	unit	inquire
		1.50233.7141	unit	inquire
150302	LiChroCART® 30–4 HPLC cartridge, customized packing, please specify packing material	1.50302.0001	1 unit	inquire
		1.50302.7075	unit	inquire
		1.50302.7076	unit	inquire
		1.50302.7078	unit	inquire
		1.50302.7079	unit	inquire
		1.50302.7082	unit	inquire
		1.50302.7084	unit	inquire
		1.50302.7138	unit	inquire
		1.50302.7185	unit	inquire
150234	LiChroCART® 55–2 HPLC cartridge, customized packing, please specify packing material	1.50234.0001	1 unit	inquire
		1.50234.7091	unit	inquire
		1.50234.7185	unit	inquire
		1.50234.7220	unit	inquire



## LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
150236	LiChroCART® 55-3 HPLC cartridge, customized packing, please specify packing material	1.50236.0001	1 unit	inquire
		1.50236.7084	unit	inquire
		1.50236.7091	unit	inquire
150228	LiChroCART® 55-4 HPLC cartridge, customized packing, please specify packing material	1.50228.0001	1 unit	inquire
		1.50228.7078	unit	inquire
		1.50228.7079	unit	inquire
		1.50228.7085	unit	inquire
		1.50228.7087	unit	inquire
		1.50228.7139	unit	inquire
		1.50228.7185	unit	inquire
150171	LiChroCART® 75-4 HPLC cartridge, customized packing, please specify packing material	1.50171.0001	1 unit	inquire
		1.50171.7071	unit	inquire
		1.50171.7085	unit	inquire
		1.50171.7109	unit	inquire
		1.50171.7127	unit	inquire
		1.50171.7131	unit	inquire
		1.50171.7185	unit	inquire
151449	LiChroCART® 75-10 HPLC cartridge, customized packing, please specify packing material	1.51449.0001	1 unit	inquire
151448	LiChroCART® 100-4.6 HPLC cartridge, customized packing, please specify packing material	1.51448.0001	1 unit	inquire
		1.51448.7052	unit	inquire
		1.51448.7081	unit	inquire
		1.51448.7088	unit	inquire
		1.51448.7109	unit	inquire
151445	LiChroCART® 100-10 HPLC cartridge, customized packing, please specify packing material	1.51445.0001	1 unit	inquire
150195	LiChroCART® 125-2 HPLC cartridge, customized packing, please specify packing material	1.50195.0001	1 unit	inquire
		1.50195.7075	unit	inquire
		1.50195.7079	unit	inquire
		1.50195.7093	unit	inquire
		1.50195.7109	unit	inquire
		1.50195.7116	unit	inquire
		1.50195.7139	unit	inquire
150175	LiChroCART® 125-3 HPLC cartridge, customized packing, please specify packing material	1.50175.0001	1 unit	inquire
		1.50175.7075	unit	inquire
		1.50175.7076	unit	inquire
		1.50175.7085	unit	inquire
		1.50175.7092	unit	inquire
		1.50175.7127	unit	inquire
		1.50175.7174	unit	inquire
150170	LiChroCART® 125-4 HPLC cartridge, customized packing, please specify packing material	1.50170.0001	1 unit	inquire
		1.50170.7077	unit	inquire
		1.50170.7084	unit	inquire
		1.50170.7131	unit	inquire
151442	LiChroCART® 125-4,6 HPLC cartridge, customized packing, please specify packing material	1.51442.0001	1 unit	inquire
		1.51442.7077	unit	inquire
		1.51442.7078	unit	inquire
		1.51442.7080	unit	inquire
		1.51442.7092	unit	inquire
		1.51442.7109	unit	inquire
		1.51442.7117	unit	inquire
151443	LiChroCART® 125-10 HPLC cartridge, customized packing, please specify packing material	1.51443.0001	1 unit	inquire
		1.51443.7054	unit	inquire
		1.51443.7085	unit	inquire
		1.51443.7087	unit	inquire

# Analytical HPLC

## LiChroCART® Cartridges

Cat.No.	Designation	Ord.No.	Quantity	Price
151432	LiChroCART® 150-4,6 HPLC cartridge, customized packing, please specify packing material	1.51432.0001	1 unit	<a href="#">inquire</a>
		1.51432.7080	unit	<a href="#">inquire</a>
		1.51432.7084	unit	<a href="#">inquire</a>
		1.51432.7091	unit	<a href="#">inquire</a>
		1.51432.7109	unit	<a href="#">inquire</a>
		1.51432.7117	unit	<a href="#">inquire</a>
		1.51432.7138	unit	<a href="#">inquire</a>
		1.51432.7141	unit	<a href="#">inquire</a>
151444	LiChroCART® 150-10 HPLC cartridge, customized packing, please specify packing material	1.51444.0001	1 unit	<a href="#">inquire</a>
		1.51444.7141	unit	<a href="#">inquire</a>
150190	LiChroCART® 250-2 HPLC cartridge, customized packing, please specify packing material	1.50190.0001	1 unit	<a href="#">inquire</a>
		1.50190.7075	unit	<a href="#">inquire</a>
		1.50190.7079	unit	<a href="#">inquire</a>
		1.50190.7085	unit	<a href="#">inquire</a>
		1.50190.7087	unit	<a href="#">inquire</a>
		1.50190.7109	unit	<a href="#">inquire</a>
		1.50190.7137	unit	<a href="#">inquire</a>
		1.50190.7175	unit	<a href="#">inquire</a>
		1.50190.7177	unit	<a href="#">inquire</a>
		1.50190.7184	unit	<a href="#">inquire</a>
150177	LiChroCART® 250-3 HPLC cartridge, customized packing, please specify packing material	1.50177.0001	1 unit	<a href="#">inquire</a>
		1.50177.7075	unit	<a href="#">inquire</a>
		1.50177.7076	unit	<a href="#">inquire</a>
		1.50177.7085	unit	<a href="#">inquire</a>
		1.50177.7087	unit	<a href="#">inquire</a>
		1.50177.7092	unit	<a href="#">inquire</a>
		1.50177.7109	unit	<a href="#">inquire</a>
		1.50177.7127	unit	<a href="#">inquire</a>
		1.50177.7139	unit	<a href="#">inquire</a>
		1.50177.7174	unit	<a href="#">inquire</a>
		1.50177.7177	unit	<a href="#">inquire</a>
		1.50177.7184	unit	<a href="#">inquire</a>
		150174	LiChroCART® 250-4 HPLC cartridge, customized packing, please specify packing material	1.50174.0001
1.50174.7184	unit			<a href="#">inquire</a>
151431	LiChroCART® 250-4.6 HPLC cartridge, customized packing, please specify packing material	1.51431.0001	1 unit	<a href="#">inquire</a>
		1.51431.7076	unit	<a href="#">inquire</a>
		1.51431.7077	unit	<a href="#">inquire</a>
		1.51431.7078	unit	<a href="#">inquire</a>
		1.51431.7080	unit	<a href="#">inquire</a>
		1.51431.7081	unit	<a href="#">inquire</a>
		1.51431.7084	unit	<a href="#">inquire</a>
		1.51431.7091	unit	<a href="#">inquire</a>
		1.51431.7109	unit	<a href="#">inquire</a>
		1.51431.7117	unit	<a href="#">inquire</a>
		1.51431.7127	unit	<a href="#">inquire</a>
150179	LiChroCART® 250-10 HPLC cartridge, customized packing, please specify packing material	1.50179.0001	1 unit	<a href="#">inquire</a>
		1.50179.7088	unit	<a href="#">inquire</a>
		1.50179.7091	unit	<a href="#">inquire</a>
		1.50179.7093	unit	<a href="#">inquire</a>
		1.50179.7109	unit	<a href="#">inquire</a>
		1.50179.7116	unit	<a href="#">inquire</a>
		1.50179.7117	unit	<a href="#">inquire</a>
		1.50179.7127	unit	<a href="#">inquire</a>

## Chromolith® - Monolithic Silica HPLC Capillaries and HPLC Columns

### Chromolith® Capillaries

#### Chromolith® RP-8 endcapped Capillaries

Cat.No.	Designation	Ord.No.	Quantity	Price
152031	Chromolith® CapRod® RP-8 endcapped 50-0.1 trap capillary column	1.52031.0001	1 unit	<a href="#">inquire</a>
150400	Chromolith® CapRod® RP-8 endcapped 150-0.1 capillary column	1.50400.0001	1 unit	<a href="#">inquire</a>

## Chromolith® RP-18 endcapped Capillaries

Cat.No.	Designation	Ord.No.	Quantity	Price
150426	Chromolith® CapRod® RP-18 endcapped 50-0.1 trap capillary column	1.50426.0001	1 unit	inquire
150409	Chromolith® CapRod® RP-18 endcapped 50-0.2 trap capillary column	1.50409.0001	1 unit	inquire
150403	Chromolith® CapRod® RP-18 endcapped 150-0.05 capillary column	1.50403.0001	1 unit	inquire
150402	Chromolith® CapRod® RP-18 endcapped 150-0.1 capillary column	1.50402.0001	1 unit	inquire
150405	Chromolith® CapRod® RP-18 endcapped 150-0.2 capillary column	1.50405.0001	1 unit	inquire
150424	Chromolith® CapRod® RP-18 endcapped 300-0.1 capillary column	1.50424.0001	1 unit	inquire
150404	Chromolith® CapRod® RP-18 endcapped HR 150-0.1 capillary column	1.50404.0001	1 unit	inquire
150407	Chromolith® CapRod® RP-18 endcapped HR 150-0.2 capillary column	1.50407.0001	1 unit	inquire

## Chromolith® Analytical Columns

## Chromolith® Si Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
151465	Chromolith® Performance Si 100-4.6 HPLC column	1.51465.0001	1 unit	inquire
152010	Chromolith® Si 5-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder)	1.52010.0001	1 unit	inquire
152011	Chromolith® Si 5-4.6 guard cartridges (3 pieces)	1.52011.0001	1 unit	inquire
153175	Chromolith® DIOL 5-4.6 guard cartridges (3 pieces)	1.53175.0001	1 unit	inquire

## Chromolith® RP-8 Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
151468	Chromolith® Performance RP-8 endcapped 100-4.6 HPLC column	1.51468.0001	1 unit	inquire
152012	Chromolith® RP-8 endcapped 5-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder)	1.52012.0001	1 unit	inquire
152013	Chromolith® RP-8 endcapped 5-4.6 guard cartridges (3 pieces)	1.52013.0001	1 unit	inquire
152050	Chromolith® CN 5-4.6 guard cartridges (3 pieces)	1.52050.0001	1 unit	inquire

## Chromolith® RP-18 endcapped Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
152032	Chromolith® 5-4.6 guard cartridge holder	1.52032.0001	1 unit	inquire
152033	Chromolith® 10-4.6 guard cartridge holder	1.52033.0001	1 unit	inquire
152007	Chromolith® FastGradient RP-18 endcapped 50-2 HPLC column	1.52007.0001	1 unit	inquire
152002	Chromolith® FastGradient RP-18 endcapped 50-3 HPLC column	1.52002.0001	1 unit	inquire
152026	Chromolith® Flash NH2 25-4.6 HPLC column	1.52026.0001	1 unit	inquire
152003	Chromolith® Flash RP-18 endcapped 25-3 HPLC column	1.52003.0001	1 unit	inquire
151463	Chromolith® Flash RP-18 endcapped 25-4.6 HPLC column	1.51463.0001	1 unit	inquire
152024	Chromolith® HighResolution RP-18 endcapped 5-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder)	1.52024.0001	1 unit	inquire
152025	Chromolith® HighResolution RP-18 endcapped 5-4.6 guard cartridges (3 pieces)	1.52025.0001	3 units	inquire
152020	Chromolith® HighResolution RP-18 endcapped 25-4.6 HPLC column	1.52020.0001	1 unit	inquire
152021	Chromolith® HighResolution RP-18 endcapped 50-4.6 HPLC column	1.52021.0001	1 unit	inquire
152022	Chromolith® HighResolution RP-18 endcapped 100-4.6 HPLC column	1.52022.0001	1 unit	inquire
152029	Chromolith® NH2 5-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder)	1.52029.0001	1 unit	inquire
152030	Chromolith® NH2 5-4.6 guard cartridges (3 pieces)	1.52030.0001	1 unit	inquire
152028	Chromolith® Performance NH2 100-4.6 HPLC column	1.52028.0001	1 unit	inquire
152006	Chromolith® Performance RP-18 endcapped 100-2 HPLC column	1.52006.0001	1 unit	inquire
152001	Chromolith® Performance RP-18 endcapped 100-3 HPLC column	1.52001.0001	1 unit	inquire
102129	Chromolith® Performance RP-18 endcapped 100-4.6 HPLC column	1.02129.0001	1 unit	inquire
151466	Chromolith® Performance RP-18 endcapped 100-4.6 HPLC columns Validation Kit (3 columns from 3 different batches)	1.51466.0001	3 units	inquire

# Analytical HPLC

## Chromolith® RP-18 endcapped Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
152008	Chromolith® RP-18 endcapped 5-2 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder)	1.52008.0001	1 unit	inquire
152004	Chromolith® RP-18 endcapped 5-3 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder)	1.52004.0001	1 unit	inquire
152005	Chromolith® RP-18 endcapped 5-3 guard cartridges (3 pieces)	1.52005.0001	1 unit	inquire
151470	Chromolith® RP-18 endcapped 5-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder)	1.51470.0001	1 unit	inquire
151451	Chromolith® RP-18 endcapped 5-4.6 guard cartridges (3 pieces)	1.51451.0001	3 units	inquire
151471	Chromolith® RP-18 endcapped 10-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder)	1.51471.0001	1 unit	inquire
151452	Chromolith® RP-18 endcapped 10-4.6 guard cartridges (3 pieces)	1.51452.0001	3 units	inquire
152027	Chromolith® SpeedROD NH2 50-4.6 HPLC column	1.52027.0001	1 unit	inquire
151450	Chromolith® SpeedROD RP-18 endcapped 50-4.6 HPLC column	1.51450.0001	1 unit	inquire
152050	Chromolith® CN 5-4.6 guard cartridges (3 pieces)	1.52050.0001	1 unit	inquire
152046	Chromolith® CN 25-4.6 HPLC column	1.52046.0001	1 unit	inquire
152047	Chromolith® CN 50-4.6 HPLC column	1.52047.0001	1 unit	inquire
152048	Chromolith® CN 100-4.6 HPLC column	1.52048.0001	1 unit	inquire
153175	Chromolith® DIOL 5-4.6 guard cartridges (3 pieces)	1.53175.0001	1 unit	inquire
153170	Chromolith® DIOL 25-4.6 HPLC column	1.53170.0001	1 unit	inquire
153171	Chromolith® DIOL 50-4.6 HPLC column	1.53171.0001	1 unit	inquire
153172	Chromolith® DIOL 100-4.6 HPLC column	1.53172.0001	1 unit	inquire

## Chromolith® Semi Preparative Columns

### Chromolith® Si Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
125260	Chromolith® Prep Si 10-25 guard cartridge	1.25260.0001	1 unit	inquire
125251	Chromolith® Prep Si 100-25 column	1.25251.0001	1 unit	inquire
152035	Chromolith® SemiPrep Si 10-10 guard cartridges (3 pieces)	1.52035.0001	1 unit	inquire
152015	Chromolith® SemiPrep Si 100-10 column	1.52015.0001	1 unit	inquire
153175	Chromolith® DIOL 5-4.6 guard cartridges (3 pieces)	1.53175.0001	1 unit	inquire

### Chromolith® RP-18 endcapped Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
152014	Chromolith® Flash RP-18 endcapped 25-2 HPLC column	1.52014.0001	1 unit	inquire
151463	Chromolith® Flash RP-18 endcapped 25-4.6 HPLC column	1.51463.0001	1 unit	inquire
125262	Chromolith® Prep 10-25 guard cartridge holder	1.25262.0001	1 unit	inquire
125261	Chromolith® Prep RP-18 endcapped 10-25 guard cartridge	1.25261.0001	1 unit	inquire
125252	Chromolith® Prep RP-18 endcapped 100-25 column	1.25252.0001	1 unit	inquire
152037	Chromolith® SemiPrep 10-10 guard cartridge holder	1.52037.0001	1 unit	inquire
152036	Chromolith® SemiPrep RP-18 endcapped 10-10 guard cartridges (3 pieces)	1.52036.0001	1 unit	inquire
152016	Chromolith® SemiPrep RP-18 endcapped 100-10 column	1.52016.0001	1 unit	inquire
152046	Chromolith® CN 25-4.6 HPLC column	1.52046.0001	1 unit	inquire
152047	Chromolith® CN 50-4.6 HPLC column	1.52047.0001	1 unit	inquire
152048	Chromolith® CN 100-4.6 HPLC column	1.52048.0001	1 unit	inquire
153170	Chromolith® DIOL 25-4.6 HPLC column	1.53170.0001	1 unit	inquire
153171	Chromolith® DIOL 50-4.6 HPLC column	1.53171.0001	1 unit	inquire
153172	Chromolith® DIOL 100-4.6 HPLC column	1.53172.0001	1 unit	inquire

## HPLC Accessories

## Accessories for Chromolith® Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
152032	Chromolith® 5-4.6 guard cartridge holder	1.52032.0001	1 unit	inquire
152033	Chromolith® 10-4.6 guard cartridge holder	1.52033.0001	1 unit	inquire
151467	Chromolith® column coupler for 10-32 female ports	1.51467.0001	1 unit	inquire
125259	Chromolith® Prep column coupler	1.25259.0001	1 unit	inquire
125256	Chromolith® Prep end cap set	1.25256.0001	1 set	inquire
125257	Chromolith® Prep frit set	1.25257.0001	1 set	inquire
125254	Chromolith® Prep sealing set	1.25254.0001	1 set	inquire
125255	Chromolith® Prep tool set	1.25255.0001	1 set	inquire
152009	Chromolith® RP-18 endcapped 5-3 guard cartridges (3 pieces)	1.52009.0001	1 unit	inquire

## Accessories for LiChroCART® Cartridges - Sealing elements

Cat.No.	Designation	Ord.No.	Quantity	Price
151496	Sealing element for 4.6 and 4 mm cartridges LiChroCART®	1.51496.0001	10 units	inquire

## Accessories for LiChroCART® Cartridges - Tools

Cat.No.	Designation	Ord.No.	Quantity	Price
115576	LiChroCART® Assembly tool for replacement of sealing rings	1.15576.0001	1 unit	inquire

## Accessories for LiChroCART® Cartridges - manu-CART®

Cat.No.	Designation	Ord.No.	Quantity	Price
151419	manu-CART® "10"-II cartridge holder for LiChroCART® 10 mm i.d. HPLC-cartridges	1.51419.0001	1 unit	inquire
150227	manu-CART® 30 mm cartridge holder for LiChroCART® 30-2, 30-3 and 30-4 mm HPLC-cartridges	1.50227.0001	1 unit	inquire
150226	manu-CART® 55 mm cartridge holder for LiChroCART® 55-2, 55-3 and 55-4 mm HPLC-cartridges	1.50226.0001	1 unit	inquire
150017	manu-CART® cartridge holder for LiChroCART® 25-4 HPLC cartridges	1.50017.0001	1 unit	inquire
150082	manu-CART® Coupling kit for LiChroCART® 25-4 HPLC- cartridges	1.50082.0001	1 unit	inquire
150083	manu-CART® Coupling unit for the coupling of two LiChroCART® HPLC cartridges	1.50083.0001	1 unit	inquire
151486	manu-CART® NT cartridge holder for LiChroCART® 2,3,4,4.6 mm i.d. HPLC cartridges	1.51486.0001	1 unit	inquire
151487	Pre-column holder for direct coupling of LiChroCART® 4-4 pre-columns with Hibar® RT columns	1.51487.0001	1 unit	inquire
151258	Pressure cone for manu-CART® cartridge holder (2 pieces)	1.51258.0001	2 units	inquire
151257	Split collets for manu-CART® cartridge holder (2 pieces)	1.51257.0001	4 units	inquire

## Accessories for Hibar® and LiChroCART® - Stainless steel capillaries

Cat.No.	Designation	Ord.No.	Quantity	Price
151213	Dead volume-free coupling unit for capillaries 1/16" or 0.5 mm OD Hibar®	1.51213.0001	1 set	inquire
151160	HPTLC silica gel 60 F <sub>254</sub> MS-grade for MALDI 20 Aluminum sheets 5x7,5cm	1.51160.0001	1 unit	inquire
151161	HPTLC silica gel 60 RP-18 F <sub>254S</sub> MS-grade 25 glass plates 20x10cm	1.51161.0001	1 unit	inquire
151214	Mounting set for capillary tubing 1/16" (ID 0.25 mm) Hibar®	1.51214.0001	1 set	inquire
151220	Replacement frits (Ø 10 mm) with PTFE sealing rings Hibar®	1.51220.0001	3 units	inquire
151236	Stainless steel capillaries (flexible) i.d. 0.2 mm, e.d. 0.5 mm, length 1000 mm	1.51236.0001	3 units	inquire
151218	Threaded plugs PVDF (20 pieces)	1.51218.0001	20 units	inquire

## Accessories for Hibar® and LiChroCART®

Cat.No.	Designation	Ord.No.	Quantity	Price
151252	Coupling unit (dead volume-free) for capillaries 1/16" or 0.5 mm	1.51252.0001	3 units	inquire
115545	Knurled nuts for capillary connections 0.2 mm i.d. 0.5 mm e.d. with PVDF double cones	1.15545.0001	4 units	inquire

# Analytical HPLC

## Accessories for Hibar® and LiChroCART®

Cat.No.	Designation	Ord.No.	Quantity	Price
151237	Knurled nuts with long bushing and PVDF cones for 6 port valves (Rheodyne)	1.51237.0001	1 set	inquire
116217	Pre-column holder for LiChroCART® cartridges 4-4 for capillary connection to Hibar® RT column	1.16217.0001	1 unit	inquire
151238	PVDF double cones for capillary connections 1/16" with knurled nut	1.51238.0001	10 units	inquire
115546	PVDF double cones for stainless steel capillary connections i.d. 0.2 mm, e.d. 0.5 mm	1.15546.0001	10 units	inquire

## Standard Samples for HPLC-System LiChroTest® Qualification

Cat.No.	Designation	Ord.No.	Quantity	Price
119163	Caffeine standard solution for HPLC system qualification Solution for gradient test; 20 mg/l caffeine in water 500 ml LiChroTest®	1.19163.0001	1 unit	inquire
119141	Lichrotest caffeine kit 5 mg/l for HPLC OQ/PQ LiChroTest®	1.19141.0001	1 unit	inquire
119143	Lichrotest caffeine kit 100mg/l for HPLC OQ/PQ LiChroTest®	1.19143.0001	1 unit	inquire
119144	Lichrotest caffeine kit 250mg/l for HPLC OQ/PQ LiChroTest®	1.19144.0001	1 unit	inquire
119145	Lichrotest caffeine kit 500mg/l for HPLC OQ/PQ LiChroTest®	1.19145.0001	1 unit	inquire
119142	Lichrotest caffeine kit 50mg/l for HPLC OQ/PQ LiChroTest®	1.19142.0001	1 unit	inquire
119157	Standard samples for HPLC system qualification Set 1 A: Precision and Linearity; Parabens in methanol/water (50:50) LiChroTest®	1.19157.0001	5 units	inquire
119165	Standard samples for HPLC system qualification Set 1: precision and linearity; Parabens in methanol / water (50:50) LiChroTest®	1.19165.0001	1 unit	inquire
119158	Standard samples for HPLC system qualification Set 2: Precision; 100 mg/l Methyl paraben in methanol / water (50:50) LiChroTest®	1.19158.0001	5 units	inquire
119159	Standard samples for HPLC system qualification Set 3: Separation; Parabens in methanol / water (50:50) LiChroTest®	1.19159.0001	5 units	inquire
119161	Standard samples for HPLC system qualification Set 7: Precision; 60 mg/l Methyl paraben in methanol LiChroTest®	1.19161.0001	1 unit	inquire
119162	Standard samples for HPLC system qualification Set 8: Linearity; Methyl parabens in methanol LiChroTest®	1.19162.0001	1 unit	inquire

## Ion Pair Reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
118303	Butane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18303.0025	25 g	inquire
118313	Cetyl trimethylammonium hydrogen sulfate for ion pair chromatography LiChropur®	1.18313.0025	25 g	inquire
118308	Dodecane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18308.0025	25 g	inquire
118309	Dodecyl hydrogen sulfate sodium salt for ion pair chromatography LiChropur®	1.18309.0025	25 g	inquire
118306	Heptane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18306.0025	25 g	inquire
118305	Hexane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18305.0025	25 g	inquire
118307	Octane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18307.0025	25 g	inquire
118304	Pentane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®	1.18304.0025	25 g	inquire
119754	di-Potassium hydrogen phosphate trihydrate buffer substance for chromatography LiChropur®	1.19754.0250	250 g	inquire
119753	di-Sodium hydrogen phosphate dihydrate buffer substance for chromatography LiChropur®	1.19753.0250	250 g	inquire
118312	Tetra-n-butylammonium hydrogen sulfate for ion pair chromatography LiChropur®	1.18312.0025	25 g	inquire
118310	Tetramethylammonium hydrogen sulfate for ion pair chromatography LiChropur®	1.18310.0025	25 g	inquire



# Preparative Liquid Chromatography Sorbents and Columns

## Aluminium oxide for Preparative Liquid Chromatography

Cat.No.	Designation	Ord.No.	Quantity	Price
101067	Aluminium oxide 60 active basic (activity I) particle size 0.063-0.200 mm (70-230 mesh ASTM) for column chromatography	1.01067.1000	1 kg	inquire
		1.01067.2000	2 kg	inquire
101078	Aluminium oxide 90 active acidic (0.063-0.200 mm) (activity stage I), for column chromatography	1.01078.1000	1 kg	inquire
		1.01078.2000	2 kg	inquire
		1.01078.9020	20 kg	inquire
101076	Aluminium oxide 90 active basic (0.063-0.200 mm) (activity stage I) for column chromatography	1.01076.1000	1 kg	inquire
		1.01076.2000	2 kg	inquire
		1.01076.9020	20 kg	inquire
101077	Aluminium oxide 90 active neutral (activity stage I) for column chromatography 0.063-0.200 mm (70 - 230 mesh ASTM)	1.01077.1000	1 kg	inquire
		1.01077.2000	2 kg	inquire
		1.01077.9020	20 kg	inquire
101097	Aluminium oxide 90 standardized for column chromatographic adsorption analysis acc. to Brockmann	1.01097.1000	1 kg	inquire
		1.01097.5000	5 kg	inquire
		1.01097.9050	50 kg	inquire
101061	Aluminium oxide 150 basic (0.063-0.200 mm)	1.01061.1000	1 kg	inquire
		1.01061.2000	2 kg	inquire

## Standardized Silica Gel for Preparative Chromatography

Cat.No.	Designation	Ord.No.	Quantity	Price
115111	Silica gel 60 (0.015-0.040 mm) for column chromatography	1.15111.1000	1 kg	inquire
		1.15111.2500	2.5 kg	inquire
		1.15111.9025	25 kg	inquire
109385	Silica gel 60 (0.040-0.063 mm) for column chromatography (230-400 mesh ASTM)	1.09385.1000	1 kg	inquire
		1.09385.2500	2.5 kg	inquire
		1.09385.5000	5 kg	inquire
		1.09385.9025	25 kg	inquire
115101	Silica gel 60 (0.063-0.100 mm) for column chromatography	1.15101.1000	1 kg	inquire
		1.15101.9025	25 kg	inquire
107734	Silica gel 60 (0.063-0.200 mm) for column chromatography (70-230 mesh ASTM)	1.07734.1000	1 kg	inquire
		1.07734.2500	2.5 kg	inquire
		1.07734.5000	5 kg	inquire
		1.07734.9025	25 kg	inquire
107733	Silica gel 60 (0.2-0.5 mm) for column chromatography	1.07733.0500	500 g	inquire
		1.07733.1000	1 kg	inquire
		1.07733.5000	5 kg	inquire
		1.07733.9025	25 kg	inquire
107754	Silica gel 60 extra pure for column chromatography 0.063 - 0.200 mm (70 - 230 mesh ASTM)	1.07754.0500	500 g	inquire
		1.07754.1000	1 kg	inquire
109389	Silica gel 60 (35-70 µm) for column chromatography	1.09389.1000	1 kg	inquire
		1.09389.5000	5 kg	inquire
		1.09389.9025	25 kg	inquire
110757	Silica gel 60 F <sub>254</sub> (0.063-0.200 mm) adjusted to 40% relative humidity, suitable for dry-column chromatography	1.10757.1000	1 kg	inquire
107729	Silica gel 60 (less than 0.063 mm) for column chromatography	1.07729.1000	1 kg	inquire
		1.07729.5000	5 kg	inquire
		1.07729.9025	25 kg	inquire
107719	Silica gel 60 silanized (0.063-0.200 mm) for column chromatography	1.07719.0250	250 g	inquire
		1.07719.1000	1 kg	inquire

## LiChroprep® - Irregular Silica Gels for HPLC

Cat.No.	Designation	Ord.No.	Quantity	Price
113959	LiChroprep® CN (40-63 µm) for liquid chromatography	1.13959.0250	250 g	inquire
113973	LiChroprep® DIOL (40-63 µm) for liquid chromatography	1.13973.0250	250 g	inquire
113974	LiChroprep® NH <sub>2</sub> (40-63 µm) for liquid chromatography	1.13974.0250	250 g	inquire
109362	LiChroprep® RP-8 (40-63 µm) for liquid chromatography	1.09362.0250	250 g	inquire
		1.09362.1000	1 kg	inquire
113901	LiChroprep® RP-18 (15-25 µm) for liquid chromatography	1.13901.0100	100 g	inquire
		1.13901.0500	500 g	inquire
		1.13901.9010	10 kg	inquire

# Preparative Liquid Chromatography Sorbents and Columns

## LiChroprep® - Irregular Silica Gels for HPLC

Cat.No.	Designation	Ord.No.	Quantity	Price
109303	LiChroprep® RP-18 (25–40 µm) for liquid chromatography	1.09303.0100	100 g	<a href="#">inquire</a>
		1.09303.0500	500 g	<a href="#">inquire</a>
		1.09303.5000	5 kg	<a href="#">inquire</a>
		1.09303.9025	25 kg	<a href="#">inquire</a>
113900	LiChroprep® RP-18 (40–63 µm) for liquid chromatography	1.13900.0250	250 g	<a href="#">inquire</a>
		1.13900.1000	1 kg	<a href="#">inquire</a>
		1.13900.9025	25 kg	<a href="#">inquire</a>
109336	LiChroprep® Si 60 (15–25 µm) for liquid chromatography	1.09336.1000	1 kg	<a href="#">inquire</a>
		1.09336.9025	25 kg	<a href="#">inquire</a>
109390	LiChroprep® Si 60 (25–40 µm) for liquid chromatography	1.09390.1000	1 kg	<a href="#">inquire</a>
113905	LiChroprep® Si 60 (40–63 µm) for liquid chromatography	1.13905.0250	250 g	<a href="#">inquire</a>
		1.13905.1000	1 kg	<a href="#">inquire</a>

## PharmPrep® - Pure High Performance Spherical Silica Gel

Cat.No.	Designation	Ord.No.	Quantity	Price
119995	PharmPrep® P 100 RP-18e, 10µm	1.19995.0010	10 g	<a href="#">inquire</a>
		1.19995.0100	100 g	<a href="#">inquire</a>
		1.19995.1000	1 kg	<a href="#">inquire</a>
119996	PharmPrep® P 100 RP-18e, 20µm	1.19996.0010	10 g	<a href="#">inquire</a>
		1.19996.0100	100 g	<a href="#">inquire</a>
		1.19996.1000	1 kg	<a href="#">inquire</a>
119681	PharmPrep® P Si100, 10µm	1.19681.0010	10 g	<a href="#">inquire</a>
		1.19681.0100	100 g	<a href="#">inquire</a>
		1.19681.1000	1 kg	<a href="#">inquire</a>
119682	PharmPrep® P Si100, 20µm	1.19682.0010	10 g	<a href="#">inquire</a>
		1.19682.0100	100 g	<a href="#">inquire</a>
		1.19682.1000	1 kg	<a href="#">inquire</a>

## Special Sorbents for Liquid Chromatography

Cat.No.	Designation	Ord.No.	Quantity	Price
102331	Cellulose microcrystalline for column chromatography	1.02331.0500	500 g	<a href="#">inquire</a>
		1.02331.2500	2.5 kg	<a href="#">inquire</a>
		1.02331.9025	25 kg	<a href="#">inquire</a>
112518	Florisil® (0.150–0.250 mm) for column chromatography	1.12518.0100	100 g	<a href="#">inquire</a>
		1.12518.1000	1 kg	<a href="#">inquire</a>
		1.12518.9025	25 kg	<a href="#">inquire</a>
112994	Florisil® (0.150–0.250 mm) for residue analysis	1.12994.0100	100 g	<a href="#">inquire</a>
		1.12994.1001	1 kg	<a href="#">inquire</a>

## Hibar® - Pre-Packed Stainless steel Columns, 25 mm I.D.

Cat.No.	Designation	Ord.No.	Quantity	Price
151484	Hibar® 250–25 LiChrospher® 60 RP-select B (5 µm)	1.51484.0001	1 unit	<a href="#">inquire</a>
151482	Hibar® 250–25 LiChrospher® 100 RP-8 (5 µm)	1.51482.0001	1 unit	<a href="#">inquire</a>
151483	Hibar® 250–25 LiChrospher® 100 RP-18 (5 µm)	1.51483.0001	1 unit	<a href="#">inquire</a>
151478	Hibar® 250–25 LiChrospher® 100 RP-18e 5 µm	1.51478.0001	1 unit	<a href="#">inquire</a>
151485	Hibar® 250–25 LiChrospher® Si 60 (5 µm)	1.51485.0001	1 unit	<a href="#">inquire</a>
120573	Hibar® 250–25 PharmPrep® P 100 RP-18E, 10 µm	1.20573.0001	1 unit	<a href="#">inquire</a>

## Hibar® - Customized Pre-Packed Stainless steel Columns, 25 mm and 50 mm I.D.

Cat.No.	Designation	Ord.No.	Quantity	Price
150323	Hibar® 30–25 customized packing	1.50323.0001	1 unit	<a href="#">inquire</a>
150016	Hibar® 125–25 customized packing	1.50016.0001	1 unit	<a href="#">inquire</a>
150004	Hibar® 250–25 customized packing	1.50004.0001	1 unit	<a href="#">inquire</a>
150092	Hibar® 250–50 customized packing for Si, CN, Diol, NH <sub>2</sub> materials	1.50092.0001	1 unit	<a href="#">inquire</a>
150099	Hibar® 250–50 customized packing for RP materials	1.50099.0001	1 unit	<a href="#">inquire</a>

# Preparative Liquid Chromatography Sorbents and Columns

## Hibar® - Customized Pre-Packed Stainless steel Columns, 25 mm and 50 mm I.D.

Cat.No.	Designation	Ord.No.	Quantity	Price
151934	Hibar® HR 30-2.1 customized packing HPLC column, please specify sorbent by sorbent Code	1.51934.0001	unit	inquire
151935	Hibar® HR 50-2.1 customized packing HPLC column, please specify sorbent by sorbent Code	1.51935.0001	unit	inquire
151936	Hibar® HR 100-2.1 customized packing HPLC column, please specify sorbent by sorbent Code	1.51936.0001	unit	inquire
151937	Hibar® HR 150-2.1 customized packing HPLC column, please specify sorbent by sorbent Code	1.51937.0001	unit	inquire
151938	Hibar® HR 250-2.1 customized packing HPLC column, please specify sorbent by sorbent Code	1.51938.0001	unit	inquire
151928	Hibar® RT 50-2 customized packing HPLC column, please specify sorbent by sorbent Code	1.51928.0001	unit	inquire
151923	Hibar® RT 50-3 customized packing HPLC column, please specify sorbent by sorbent Code	1.51923.0001	unit	inquire
151927	Hibar® RT 50-4 customized packing HPLC column, please specify sorbent by sorbent Code	1.51927.0001	unit	inquire
151929	Hibar® RT 100-2 customized packing HPLC column, please specify sorbent by sorbent Code	1.51929.0001	unit	inquire
151924	Hibar® RT 100-3 customized packing HPLC column, please specify sorbent by sorbent Code	1.51924.0001	unit	inquire
151930	Hibar® RT 125-2 customized packing HPLC column, please specify sorbent by sorbent Code	1.51930.0001	unit	inquire
151925	Hibar® RT 125-3 customized packing HPLC column, please specify sorbent by sorbent Code	1.51925.0001	unit	inquire
151931	Hibar® RT 150-2 customized packing HPLC column, please specify sorbent by sorbent Code	1.51931.0001	unit	inquire
151926	Hibar® RT 150-3 customized packing HPLC column, please specify sorbent by sorbent Code	1.51926.0001	unit	inquire
151932	Hibar® RT 250-2 customized packing HPLC column, please specify sorbent by sorbent Code	1.51932.0001	unit	inquire
151933	Hibar® RT 300-3.9 customized packing HPLC column, please specify sorbent by sorbent Code	1.51933.0001	unit	inquire
151939	LiChroCART® 100-2 customized packing HPLC cartridge, please specify sorbent by sorbent Code	1.51939.0001	unit	inquire
151941	LiChroCART® 100-3 customized packing HPLC cartridge, please specify sorbent by sorbent Code	1.51941.0001	unit	inquire
151940	LiChroCART® 150-2 customized packing HPLC cartridge, please specify sorbent by sorbent Code	1.51940.0001	unit	inquire
151942	LiChroCART® 150-3 customized packing HPLC cartridge, please specify sorbent by sorbent Code	1.51942.0001	unit	inquire
151943	LiChroCART® 300-3.9 customized packing HPLC cartridge, please specify sorbent by sorbent Code	1.51943.0001	unit	inquire

# Ion Chromatography

## SeQuant® Suppressors CARS™ and SAMS™

### Accessories for SeQuant® Suppressors CARS™ and SAMS™

Cat.No.	Designation	Ord.No.	Quantity	Price
150618	Pressure Relief Valve back-pressure guard valve 100 psi for SAMS™ suppressors SeQuant®	1.50618.0001	1 unit	inquire
150616	ULB™-P Regeneration Solution ultra-pure liquid ion-exchanger for CARS™ system SeQuant®	1.50616.0100	100 ml	inquire

### SeQuant® Suppressor CARS™

Cat.No.	Designation	Ord.No.	Quantity	Price
150614	CARS™ Cartridge Large high-capacity ion-exchanger (0.75L, 1.3meq) for CARS™ system SeQuant®	1.50614.0001	1 unit	inquire
150613	CARS™ Cartridge Small high-capacity ion-exchanger (0.5L, 0.9meq) for CARS™ system SeQuant®	1.50613.0001	1 unit	inquire
150611	CARS™ Complete System (230V,50/60Hz) continuous auto-regeneration system for SAMS™ suppressors SeQuant®	1.50611.0001	1 unit	inquire
150619	SAMS™ Installation Kit tubing (5 m) and fittings (6 ea) for CARS™ system SeQuant®	1.50619.0001	1 unit	inquire

### SeQuant® Suppressor SAMS™

Cat.No.	Designation	Ord.No.	Quantity	Price
150610	SAMS™ Gradient Suppressor with chemically regenerated membrane (200 cm) for anion chromatography SeQuant®	1.50610.0001	1 unit	inquire
150609	SAMS™ Standard Suppressor with chemically regenerated membrane (100 cm) for anion chromatography SeQuant®	1.50609.0001	1 unit	inquire

## Single - Cation/ Anion Standards

Cat.No.	Designation	Ord.No.	Quantity	Price
119812	Ammonium standard solution traceable to SRM from NIST NH <sub>4</sub> Cl in H <sub>2</sub> O 1000 mg/l NH <sub>4</sub> Certipur®	1.19812.0500	500 ml	inquire
119896	Bromide standard solution traceable to SRM from NIST NaBr in H <sub>2</sub> O 1000 mg/l Br Certipur®	1.19896.0500	500 ml	inquire
109871	Chloride standard 1000 mg Cl <sup>-</sup> (HCl in H <sub>2</sub> O) Titrisol®	1.09871.0001	1 amp	inquire
119897	Chloride standard solution traceable to SRM from NIST NaCl in H <sub>2</sub> O 1000 mg/l Cl Certipur®	1.19897.0500	500 ml	inquire
119780	Chromate standard solution traceable to SRM of NIST K <sub>2</sub> CrO <sub>4</sub> in H <sub>2</sub> O 1000 mg/l CrO <sub>4</sub> Certipur®	1.19780.0500	500 ml	inquire
119533	Cyanide standard solution traceable to SRM from NIST K <sub>2</sub> [Zn(CN) <sub>4</sub> ] in H <sub>2</sub> O 1000 mg/l CN Certipur®	1.19533.0500	500 ml	inquire
109869	Fluoride standard 1000 mg F (KF in H <sub>2</sub> O) Titrisol®	1.09869.0001	1 amp	inquire
119814	Fluoride standard solution traceable to SRM from NIST NaF in H <sub>2</sub> O 1000 mg/l F Certipur®	1.19814.0500	500 ml	inquire
119811	Nitrate standard solution traceable to SRM from NIST NaNO <sub>3</sub> in H <sub>2</sub> O 1000 mg/l NO <sub>3</sub> Certipur®	1.19811.0500	500 ml	inquire
109866	Nitrite standard 1000 mg NO <sub>2</sub> (NaNO <sub>2</sub> in H <sub>2</sub> O) Titrisol®	1.09866.0001	1 amp	inquire
119899	Nitrite standard solution traceable to SRM from NIST NaNO <sub>2</sub> in H <sub>2</sub> O 1000 mg/l NO <sub>2</sub> Certipur®	1.19899.0500	500 ml	inquire
109870	Phosphate standard 1000 mg PO <sub>4</sub> (H <sub>3</sub> PO <sub>4</sub> in H <sub>2</sub> O) Titrisol®	1.09870.0001	1 amp	inquire
119898	Phosphate standard solution traceable to SRM from NIST KH <sub>2</sub> PO <sub>4</sub> in H <sub>2</sub> O 1000 mg/l PO <sub>4</sub> Certipur®	1.19898.0500	500 ml	inquire
119507	Sodium standard solution traceable to SRM from NIST NaNO <sub>3</sub> in H <sub>2</sub> O 1000 mg/l Na Certipur®	1.19507.0500	500 ml	inquire
109872	Sulfate standard 1000 mg SO <sub>4</sub> (H <sub>2</sub> SO <sub>4</sub> in H <sub>2</sub> O) Titrisol®	1.09872.0001	1 amp	inquire
119813	Sulfate standard solution traceable to SRM from NIST Na <sub>2</sub> SO <sub>4</sub> in H <sub>2</sub> O 1000 mg/l SO <sub>4</sub> Certipur®	1.19813.0500	500 ml	inquire

## Multiple - Cation/ Anion Standards

Cat.No.	Designation	Ord.No.	Quantity	Price
111437	Anion multi-element standard I 1000 mg/l: F <sup>-</sup> , PO <sub>4</sub> <sup>3-</sup> , Br <sup>-</sup> in H <sub>2</sub> O Certipur®	1.11437.0500	500 ml	inquire

## Multiple - Cation/ Anion Standards

Cat.No.	Designation	Ord.No.	Quantity	Price
111448	Anion multi-element standard II 1000 mg/l: Cl <sup>-</sup> , NO <sub>3</sub> <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> in H <sub>2</sub> O Certipur®	1.11448.0500	500 ml	inquire
170398	IC Multi-element standard I F <sup>-</sup> = 100 mg/l, Cl <sup>-</sup> = 250 mg/l, NO <sub>3</sub> <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> = 500 mg/l, PO <sub>4</sub> <sup>3-</sup> = 1000 mg/l in H <sub>2</sub> O Certipur®	1.70398.0500	500 ml	inquire
109032	IC multi-element standard V F <sup>-</sup> = 10 mg/l, Br <sup>-</sup> = 10 mg/l, NO <sub>3</sub> <sup>-</sup> = 50 mg/l, PO <sub>4</sub> <sup>3-</sup> = 50 mg/l, Cl <sup>-</sup> = 100 mg/l, SO <sub>4</sub> <sup>2-</sup> = 200 mg/l in H <sub>2</sub> O Certipur®	1.09032.0100	100 ml	inquire
109036	IC multi-element standard VI NH <sub>4</sub> <sup>+</sup> = 10 mg/l, K = 50 mg/l, Na = 100 mg/l, Ca = 100 mg/l, Mg = 100 mg/l in 0,01 mol/l HNO <sub>3</sub> Certipur®	1.09036.0100	100 ml	inquire
110322	IC Multi-element standard VII 100 mg/l: NH <sub>4</sub> <sup>+</sup> , Ba, Ca, K, Li, Na, Mg, Mn, Sr in 0.001 mol/l HNO <sub>3</sub> Certipur®	1.10322.0100	100 ml	inquire

# Gas Chromatography

## High Purity Solvents SupraSolv® and UniSolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
100012	Acetone for gas chromatography ECD and FID SupraSolv®	1.00012.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.00012.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.00012.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
		1.00012.9030	30 l	<a href="#">inquire</a>
100017	Acetonitrile for gas chromatography ECD and FID SupraSolv®	1.00017.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.00017.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.00017.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
101995	tert-Butyl methyl ether for gas chromatography ECD and FID SupraSolv®	1.01995.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.01995.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
102432	Chloroform for gas chromatography ECD and FID SupraSolv®	1.02432.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.02432.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
102817	Cyclohexane for gas chromatography ECD and FID SupraSolv®	1.02817.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.02817.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.02817.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
		1.02817.9010	10 l	<a href="#">inquire</a>
100667	Cyclohexane for gas chromatography MS SupraSolv®	1.00667.1000	1 l	<a href="#">inquire</a>
		1.00667.2500	2.5 l	<a href="#">inquire</a>
106054	Dichloromethane for gas chromatography ECD and FID SupraSolv®	1.06054.1000	1 l	<a href="#">inquire</a>
		1.06054.2500	2.5 l	<a href="#">inquire</a>
		1.06054.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
		1.06054.9010	10 l	<a href="#">inquire</a>
110983	N,N-Dimethylformamide for gas chromatography ECD and FID SupraSolv®	1.10983.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.10983.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
102371	Ethanol for gas chromatography ECD and FID SupraSolv®	1.02371.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.02371.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.02371.4000	4 l	<a href="#">inquire</a>
110972	Ethyl acetate for gas chromatography ECD and FID SupraSolv®	1.10972.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.10972.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.10972.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
		1.10972.9010	10 l	<a href="#">inquire</a>
		1.10972.9030	30 l	<a href="#">inquire</a>
100789	Ethyl acetate for gas chromatography MS SupraSolv®	1.00789.1000	1 l	<a href="#">inquire</a>
		1.00789.2500	2.5 l	<a href="#">inquire</a>
104360	n-Heptane for gas chromatography ECD and FID SupraSolv®	1.04360.1000	1 l	<a href="#">inquire</a>
		1.04360.2500	2.5 l	<a href="#">inquire</a>
104371	n-Hexane for gas chromatography ECD and FID SupraSolv®	1.04371.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.04371.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.04371.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
		1.04371.9010	10 l	<a href="#">inquire</a>
		1.04371.9030	30 l	<a href="#">inquire</a>
104369	n-Hexane for organic trace analysis UniSolv®	1.04369.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.04369.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>



## High Purity Solvents SupraSolv® and UniSolv®

Cat.No.	Designation	Ord.No.	Quantity	Price			
104340	Isohexane for gas chromatography ECD and FID SupraSolv®	1.04340.2500	2.5 l	inquire			
			4 x 2.5 l	inquire			
115440	Isooctane for gas chromatography ECD and FID SupraSolv®	1.15440.1000	1 l	inquire			
			6 x 1 l	inquire			
			1.15440.2500	2.5 l	inquire		
			4 x 2.5 l	inquire			
			106011	Methanol for gas chromatography ECD and FID SupraSolv®	1.06011.1000	1 l	inquire
					1.06011.2500	2.5 l	inquire
4 x 2.5 l	inquire						
			4 l	inquire			
			100837	Methanol for gas chromatography MS SupraSolv®	1.00837.1000	1 l	inquire
1.00837.2500	2.5 l	inquire					
100882	n-Pentane for gas chromatography ECD and FID SupraSolv®	1.00882.1000	1 l	inquire			
			1.00882.2500	2.5 l	inquire		
			1.00882.4000	4 l	inquire		
107288	n-Pentane for organic trace analysis UniSolv®	1.07288.1000	1 l	inquire			
			6 x 1 l	inquire			
			1.07288.2500	2.5 l	inquire		
			4 x 2.5 l	inquire			
			101772	Petroleum benzene boiling range 40–60°C for gas chromatography ECD and FID SupraSolv®	1.01772.1000	1 l	inquire
					1.01772.2500	6 x 1 l	inquire
2.5 l	inquire						
			4 x 2.5 l	inquire			
			1.01772.4000	4 l	inquire		
			4 x 4 l	inquire			
			10 l	inquire			
			1.01772.9010	30 l	inquire		
			1.01772.9030				
116740	Petroleum benzene boiling range 40–60°C for organic trace analysis UniSolv®	1.16740.1000	1 l	inquire			
			6 x 1 l	inquire			
			1.16740.2500	2.5 l	inquire		
			4 x 2.5 l	inquire			
			100998	2-Propanol for gas chromatography ECD and FID SupraSolv®	1.00998.1000	1 l	inquire
					1.00998.2500	2.5 l	inquire
			4 x 2.5 l	inquire			
			108389	Toluene for gas chromatography ECD and FID SupraSolv®	1.08389.1000	1 l	inquire
					1.08389.2500	2.5 l	inquire
1.08389.4000	4 l	inquire					
			10 l	inquire			
			108388	Toluene for organic trace analysis UniSolv®	1.08388.1000	1 l	inquire
1.08388.2500	2.5 l	inquire					

## Sorbents for GC Packed Columns

Cat.No.	Designation	Ord.No.	Quantity	Price
109631	Charcoal activated for gas chromatography 0.3–0.5 mm (35–50 mesh ASTM)	1.09631.0100	100 g	inquire
			1.09631.0500	500 g
109624	Charcoal activated for gas chromatography 0.5–1 mm (18–35 mesh ASTM)	1.09624.0100	100 g	inquire
			1.09624.0500	500 g

## Liquid stationary phases for GC column

Cat.No.	Designation	Ord.No.	Quantity	Price
109669	Dinonyl phthalate for gas chromatography	1.09669.0100	100 ml	inquire
109678	Dimethyl sulfoxide for gas chromatography	1.09678.0100	100 ml	inquire
109726	Polyethylene glycol 400 for gas chromatography	1.09726.0100	100 ml	inquire
109727	Polyethylene glycol 4000 for gas chromatography	1.09727.0100	100 g	inquire
109729	Polyethylene glycol 1000 for gas chromatography	1.09729.0100	100 g	inquire
109762	Silicon oil 550 for gas chromatography	1.09762.0100	100 ml	inquire
112298	Triton® X-100 for gas chromatography	1.12298.0101	100 ml	inquire
		1.12298.1001	1 l	inquire

# Gas Chromatography

## Derivatisation Reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
109649	N,O-Bis(trimethylsilyl)acetamide for gas chromatography	1.09649.0010	10 ml	<a href="#">inquire</a>
		1.09649.0025	25 ml	<a href="#">inquire</a>
110255	Bis(trimethylsilyl)trifluoroacetamide for gas chromatography	1.10255.0005	5 ml	<a href="#">inquire</a>
		1.10255.0025	25 ml	<a href="#">inquire</a>
102333	Chlorotrimethylsilane for gas chromatography	1.02333.0100	100 ml	<a href="#">inquire</a>
		1.02333.0250	250 ml	<a href="#">inquire</a>
112186	1,1,1,3,3,3-Hexamethyldisilazane for gas chromatography	1.12186.0025	25 ml	<a href="#">inquire</a>
		1.12186.0100	100 ml	<a href="#">inquire</a>
111805	2,2,2-Trifluoro-N-methyl-N-(trimethylsilyl)acetamide for gas chromatography	1.11805.0005	5 ml	<a href="#">inquire</a>
109771	N-(Trimethylsilyl)imidazole for gas chromatography	1.09771.0005	5 ml	<a href="#">inquire</a>

## Acylation reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
112513	Trifluoroacetic anhydride for gas chromatography	1.12513.0010	10 ml	<a href="#">inquire</a>
111805	2,2,2-Trifluoro-N-methyl-N-(trimethylsilyl)acetamide for gas chromatography	1.11805.0005	5 ml	<a href="#">inquire</a>

## Reference Substances

Cat.No.	Designation	Ord.No.	Quantity	Price
109646	Benzene reference substance for gas chromatography	1.09646.0005	5 ml	<a href="#">inquire</a>
109656	D-Camphor reference substance for gas chromatography	1.09656.0005	5 g	<a href="#">inquire</a>
109662	Cyclopentane reference substance for gas chromatography	1.09662.0005	5 ml	<a href="#">inquire</a>
109603	n-Decane reference substance for gas chromatography	1.09603.0005	5 ml	<a href="#">inquire</a>
109658	n-Dodecane reference substance for gas chromatography	1.09658.0005	5 ml	<a href="#">inquire</a>
109635	Ethylbenzene reference substance for gas chromatography	1.09635.0005	5 ml	<a href="#">inquire</a>
109709	Ethyl methyl ketone reference substance for gas chromatography	1.09709.0005	5 ml	<a href="#">inquire</a>
109604	n-Heptadecane reference substance for gas chromatography	1.09604.0005	5 ml	<a href="#">inquire</a>
109686	n-Heptane reference substance for gas chromatography	1.09686.0005	5 ml	<a href="#">inquire</a>
109605	n-Hexadecane reference substance for gas chromatography	1.09605.0005	5 ml	<a href="#">inquire</a>
109687	n-Hexane reference substance for gas chromatography	1.09687.0005	5 ml	<a href="#">inquire</a>
109637	Methyl decanoate reference substance for gas chromatography	1.09637.0005	5 ml	<a href="#">inquire</a>
109693	Methyl laurate reference substance for gas chromatography	1.09693.0005	5 ml	<a href="#">inquire</a>
109754	Methyl margarate reference substance for gas chromatography	1.09754.0005	5 ml	<a href="#">inquire</a>
109736	Methyl myristate reference substance for gas chromatography	1.09736.0005	5 ml	<a href="#">inquire</a>
109633	Methyl octanoate reference substance for gas chromatography	1.09633.0005	5 ml	<a href="#">inquire</a>
109743	Methyl oleate reference substance for gas chromatography	1.09743.0005	5 ml	<a href="#">inquire</a>
109602	Methyl stearate reference substance for gas-chromatography	1.09602.0005	5 g	<a href="#">inquire</a>
109606	n-Octadecane reference substance for gas chromatography	1.09606.0005	5 ml	<a href="#">inquire</a>
109716	n-Octane reference substance for gas chromatography	1.09716.0005	5 ml	<a href="#">inquire</a>
109607	n-Pentadecane reference substance for gas chromatography	1.09607.0005	5 ml	<a href="#">inquire</a>
109719	n-Pentane reference substance for gas chromatography	1.09719.0005	5 ml	<a href="#">inquire</a>
109608	n-Tetradecane reference substance for gas chromatography	1.09608.0005	5 ml	<a href="#">inquire</a>
109768	Toluene reference substance for gas chromatography	1.09768.0005	5 ml	<a href="#">inquire</a>
109609	n-Tridecane reference substance for gas chromatography	1.09609.0005	5 ml	<a href="#">inquire</a>
109794	n-Undecane reference substance for gas chromatography	1.09794.0005	5 ml	<a href="#">inquire</a>
109797	m-Xylene reference substance for gas chromatography	1.09797.0005	5 ml	<a href="#">inquire</a>
109798	o-Xylene reference substance for gas chromatography	1.09798.0005	5 ml	<a href="#">inquire</a>
109799	p-Xylene reference substance for gas chromatography	1.09799.0005	5 ml	<a href="#">inquire</a>

## Fractogel® EMD – Stationary Phases for Ion Exchange Chromatography

Cat.No.	Designation	Ord.No.	Quantity	Price
150502	Fractogel® AEX Screening Kit	1.50502.0001	1 set	inquire
150503	Fractogel® CEX Screening Kit	1.50503.0001	1 set	inquire
110317	Fractogel® EMD BioSEC (S) for size exclusion chromatography (SEC), suspension in 20% ethanol and 150 mM NaCl (20–40 µm)	1.10317.0150	150 ml	inquire
		1.10317.0250	250 ml	inquire
		1.10317.5000	5 l	inquire
116886	Fractogel® EMD COO <sup>-</sup> (M) weak cation exchanger, suspension in 20% ethanol and 150 mM NaCl (40–90 µm)	1.16886.0010	10 ml	inquire
		1.16886.0100	100 ml	inquire
		1.16886.0500	500 ml	inquire
		1.16886.5000	5 l	inquire
116883	Fractogel® EMD DEAE (M) weak anion exchanger, suspension in 20% ethanol and 150 mM NaCl (40–90 µm)	1.16883.0010	10 ml	inquire
		1.16883.0100	100 ml	inquire
		1.16883.0500	500 ml	inquire
		1.16883.5000	5 l	inquire
116884	Fractogel® EMD DMAE (M) weak anion exchanger, suspension in 20% ethanol and 150 mM NaCl (40–90 µm)	1.16884.0010	10 ml	inquire
		1.16884.0100	100 ml	inquire
		1.16884.0500	500 ml	inquire
		1.16884.5000	5 l	inquire
114894	Fractogel® EMD SE Hicap (M) strong cation exchanger, suspension in 20% ethanol and 150 mM NaCl (40–90 µm)	1.14894.0010	10 ml	inquire
		1.14894.0100	100 ml	inquire
		1.14894.0500	500 ml	inquire
		1.14894.5000	5 l	inquire
116890	Fractogel® EMD SO <sub>3</sub> <sup>-</sup> (S) strong cation exchanger, suspension in 20% ethanol and 150 mM NaCl (20–40 µm)	1.16890.0010	10 ml	inquire
		1.16890.0100	100 ml	inquire
		1.16890.0500	500 ml	inquire
116882	Fractogel® EMD SO <sub>3</sub> <sup>-</sup> (M) strong cation exchanger, suspension in 20% ethanol and 150 mM NaCl (40–90 µm)	1.16882.0010	10 ml	inquire
		1.16882.0100	100 ml	inquire
		1.16882.0500	500 ml	inquire
		1.16882.5000	5 l	inquire
116887	Fractogel® EMD TMAE (S) strong anion exchanger, suspension in 20% ethanol and 150 mM NaCl (20–40 µm)	1.16887.0010	10 ml	inquire
		1.16887.0100	100 ml	inquire
		1.16887.0500	500 ml	inquire
110316	Fractogel® EMD TMAE Hicap (M) strong anion exchanger, suspension in 20% ethanol and 150 mM NaCl (40–90 µm)	1.10316.0010	10 ml	inquire
		1.10316.0100	100 ml	inquire
		1.10316.0500	500 ml	inquire
		1.10316.5000	5 l	inquire
116881	Fractogel® EMD TMAE (M) strong anion exchanger, suspension in 20% ethanol and 150 mM NaCl (40–90 µm)	1.16881.0010	10 ml	inquire
		1.16881.0100	100 ml	inquire
		1.16881.0500	500 ml	inquire
		1.16881.5000	5 l	inquire

## Eshmun® – for Ion Exchange Chromatography

Cat.No.	Designation	Ord.No.	Quantity	Price
120078	ESHMUNO® S	1.20078.0010	10 ml	inquire
		1.20078.0100	100 ml	inquire
		1.20078.0500	500 ml	inquire
		1.20078.5000	5 l	inquire
120083	ESHMUNO® CPX	1.20083.0010	10 ml	inquire
		1.20083.0100	100 ml	inquire
		1.20083.0500	500 ml	inquire
		1.20083.5000	5 l	inquire
120087	ESHMUNO® HCX	1.20087.0010	10 ml	inquire
		1.20087.0100	100 ml	inquire
		1.20087.0500	500 ml	inquire
		1.20087.5000	5 l	inquire
120079	ESHMUNO® Q	1.20079.0010	10 ml	inquire
		1.20079.0100	100 ml	inquire
		1.20079.0500	500 ml	inquire
		1.20079.5000	5 l	inquire
120568	ESHMUNO® Screening Kit	1.20568.0001	1 sa	inquire

# Biochromatography

## Fractogel® EMD - Stationary Phases for Hydrophobic Interaction Chromatography (HIC)

Cat.No.	Designation	Ord.No.	Quantity	Price
116197	Fractogel® EMD Phenyl (S) for hydrophobic interaction chromatography, suspension in 20% ethanol and 150 mM NaCl (20-40 µm)	1.16197.0010	10 ml	<a href="#">inquire</a>
		1.16197.0100	100 ml	<a href="#">inquire</a>
		1.16197.0500	500 ml	<a href="#">inquire</a>
110085	Fractogel® EMD Propyl (S) for hydrophobic interaction chromatography, suspension in 20% ethanol and 150 mM NaCl (20-40 µm)	1.10085.0010	10 ml	<a href="#">inquire</a>
		1.10085.0100	100 ml	<a href="#">inquire</a>
		1.10085.0500	500 ml	<a href="#">inquire</a>

## Fractogel® EMD - Stationary Phases for Affinity Chromatography

Cat.No.	Designation	Ord.No.	Quantity	Price
110338	Fractogel® EMD Chelate (M) for metal affinity chromatography (IMAC), suspension in 20% ethanol and 150 mM NaCl 40-90 µm	1.10338.0010	10 ml	<a href="#">inquire</a>
		1.10338.0250	250 ml	<a href="#">inquire</a>
		1.10338.0500	500 ml	<a href="#">inquire</a>
		1.10338.5000	5 l	<a href="#">inquire</a>

## Prepacked Columns and HTS Devices

Cat.No.	Designation	Ord.No.	Quantity	Price
120568	ESHMUNO® Screening Kit	1.20568.0001	1 sa	<a href="#">inquire</a>
150502	Fractogel® AEX Screening Kit	1.50502.0001	1 set	<a href="#">inquire</a>
150503	Fractogel® CEX Screening Kit	1.50503.0001	1 set	<a href="#">inquire</a>
125064	MiniChrom Column Eshmuno® S, 1 ml 8 x 20mm	1.25064.0001	1 unit	<a href="#">inquire</a>
125073	MiniChrom Column Eshmuno® S, 5 ml 8 x 100mm	1.25073.0001	1 unit	<a href="#">inquire</a>
125066	MiniChrom Column Eshmuno® HCX, 1 ml 8 x 20mm	1.25066.0001	1 unit	<a href="#">inquire</a>
125075	MiniChrom Column Eshmuno® HCX, 5 ml 8 x 100mm	1.25075.0001	1 unit	<a href="#">inquire</a>
125065	MiniChrom Column Eshmuno® Q, 1 ml 8 x 20mm	1.25065.0001	1 unit	<a href="#">inquire</a>
125074	MiniChrom Column Eshmuno® Q, 5 ml 8 x 100mm	1.25074.0001	1 unit	<a href="#">inquire</a>
125083	MiniChrom Column Fractogel® Chelate (M), 5 ml 8 x 100mm	1.25083.0001	1 unit	<a href="#">inquire</a>
125063	MiniChrom Column Fractogel® Chelat (M), 1 ml 8 x 20mm	1.25063.0001	1 unit	<a href="#">inquire</a>
125062	MiniChrom Column Fractogel® COO (M), 1 ml 8 x 20mm	1.25062.0001	1 unit	<a href="#">inquire</a>
125082	MiniChrom Column Fractogel® COO (M), 5 ml 8 x 100mm	1.25082.0001	1 unit	<a href="#">inquire</a>
125058	MiniChrom Column Fractogel® DEAE (M), 1 ml 8 x 20mm	1.25058.0001	1 unit	<a href="#">inquire</a>
125079	MiniChrom Column Fractogel® DEAE (M), 5 ml 8 x 100mm	1.25079.0001	1 unit	<a href="#">inquire</a>
125059	MiniChrom Column Fractogel® DMAE (M), 1 ml 8 x 20mm	1.25059.0001	1 unit	<a href="#">inquire</a>
125080	MiniChrom Column Fractogel® DMAE (M), 5 ml 8 x 100mm	1.25080.0001	1 unit	<a href="#">inquire</a>
125060	MiniChrom Column Fractogel® SE Hicap (M), 1 ml 8 x 20mm	1.25060.0001	1 unit	<a href="#">inquire</a>
125081	MiniChrom Column Fractogel® SE Hicap (M), 5 ml 8 x 100mm	1.25081.0001	1 unit	<a href="#">inquire</a>
125061	MiniChrom Column Fractogel® SO3 (M), 1 ml 8 x 20mm	1.25061.0001	1 unit	<a href="#">inquire</a>
125072	MiniChrom Column Fractogel® SO3 (M), 5 ml 8 x 100mm	1.25072.0001	1 unit	<a href="#">inquire</a>
125057	MiniChrom Column Fractogel® TMAE (S), 1 ml 8 x 20mm	1.25057.0001	1 unit	<a href="#">inquire</a>
125071	MiniChrom Column Fractogel® TMAE (S), 5 ml 8 x 100mm	1.25071.0001	1 unit	<a href="#">inquire</a>
125055	MiniChrom Column Fractogel® TMAE Hicap (M), 1 ml 8 x 20 mm	1.25055.0001	1 unit	<a href="#">inquire</a>
125070	MiniChrom Column Fractogel® TMAE Hicap (M), 5 ml 8 x 100mm	1.25070.0001	1 unit	<a href="#">inquire</a>
125054	MiniChrom Column Fractogel® TMAE (M), 1 ml 8 x 20 mm	1.25054.0001	1 unit	<a href="#">inquire</a>
125069	MiniChrom Column Fractogel® TMAE (M), 5 ml 8 x 100 mm	1.25069.0001	1 unit	<a href="#">inquire</a>
125056	MiniChrom Column Fractogel® TMAE Medcap (M), 1 ml 8 x 20mm	1.25056.0001	1 unit	<a href="#">inquire</a>
125078	MiniChrom Column Fractogel® TMAE Medcap (M), 5 ml 8 x 100mm	1.25078.0001	1 unit	<a href="#">inquire</a>
125068	MiniChrom Column ProSep® G , 1 ml 8 x 20 mm	1.25068.0001	1 unit	<a href="#">inquire</a>
125077	MiniChrom Column ProSep® G, 5 ml 8 x 100mm	1.25077.0001	1 unit	<a href="#">inquire</a>
125076	MiniChrom Column ProSep® Ultra Plus, 5 ml 8 x 100mm	1.25076.0001	1 unit	<a href="#">inquire</a>
125067	MiniChrom ProSep® Ultra Plus, 1 ml 8 x 20mm	1.25067.0001	1 unit	<a href="#">inquire</a>
125132	RoboColumn Eshmuno® S, 0.2 ml 5 x 10 mm	1.25132.0001	1 unit	<a href="#">inquire</a>
125140	RoboColumn Eshmuno® S, 0.6 ml 5 x 30 mm	1.25140.0001	1 unit	<a href="#">inquire</a>
125134	RoboColumn Eshmuno® HCX, 0.2 ml 5 x 10 mm	1.25134.0001	1 unit	<a href="#">inquire</a>

## Prepacked Columns and HTS Devices

Cat.No.	Designation	Ord.No.	Quantity	Price
125142	RoboColumn Eshmuno® HCX, 0.6 ml 5 x 30 mm	1.25142.0001	1 unit	inquire
125133	RoboColumn Eshmuno® Q, 0.2 ml 5 x 10 mm	1.25133.0001	1 unit	inquire
125141	RoboColumn Eshmuno® Q, 0.6 ml 5 x 30 mm	1.25141.0001	1 unit	inquire
125090	RoboColumn Fractogel® SO3 (M), 0.2 ml 5 x 10 mm	1.25090.0001	1 unit	inquire
125139	RoboColumn Fractogel® SO3 (M), 0.6 ml 5 x 30 mm	1.25139.0001	1 unit	inquire
125086	RoboColumn Fractogel® TMAE (S), 0.2 ml 5 x 10 mm	1.25086.0001	1 unit	inquire
125138	RoboColumn Fractogel® TMAE (S), 0.6 ml 5 x 30 mm	1.25138.0001	1 unit	inquire
125085	RoboColumn Fractogel® TMAE Hicap (M), 0.2 ml 5 x 10 mm	1.25085.0001	1 unit	inquire
125137	RoboColumn Fractogel® TMAE Hicap (M), 0.6 ml 5 x 30 mm	1.25137.0001	1 unit	inquire
125084	RoboColumn Fractogel® TMAE (M), 0.2 ml 5 x 10 mm	1.25084.0001	1 unit	inquire
125136	RoboColumn Fractogel® TMAE (M), 0.6 ml 5 x 30 mm	1.25136.0001	1 unit	inquire
125135	RoboColumn ProSep® Ultra Plus, 0.2 ml 5 x 10 mm	1.25135.0001	1 unit	inquire
125143	RoboColumn ProSep® Ultra Plus, 0.6 ml 5 x 30 mm	1.25143.0001	1 unit	inquire

# Take Your Lab to the Sample – Spectroquant® Move 100 Mobile Colorimeter.

Spectroquant® Move 100 is a portable colorimeter with over 100 pre-programmed and 35 user-defined tests. Together with our Spectroquant® test kits, Quality Certificate documentation and Spectroquant® Verification Standard, it's all you need for rapid, reliable water analysis on the spot. The Data Transfer module even transmits your results to your PC or printer.




More information

[www.merckmillipore.com/test-kits](http://www.merckmillipore.com/test-kits)



With ready-to-use tests and test systems from Merck Millipore, you can trust your results. Our broad product range covers everything from water analysis to checking production processes to measuring special food parameters.





## Acid Capacity

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
101758	Acid Capacity Cell Test to pH 4.3 (total alkalinity) Spectroquant® Method: photometric	0.40 - 8.00 mmol/l 20 - 400 mg/l CaCO <sub>3</sub>	 ■ GHS: Warning ■ LGK 3 ■ Store at +15°C to +25°C.	1.01758.0001	120 tests	inquire








## Alkalinity

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
111109	Alkalinity Test MColorTest™ Acid capacity to pH 8.2 and pH 4.3 Method: titrimetric with titration pipette	Measuring range with 1 full pipette: 0.1 - 10 mmol/l Graduation of the titration pipette: 0.1 mmol/l 200 determinations at 8.5 mmol/l	  ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.11109.0001	200 tests	inquire

## Aluminium






















Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110015	Aluminium Test MQuant™ Method: colorimetric with test strips and reagents	10 - 25 - 50 - 100 - 250 mg/l Al	  ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.10015.0001	100 strips	inquire
118386	Aluminium Test MColorTest™ Method: colorimetric with color-disk comparator	0.10 - 0.20 - 0.35 - 0.50 - 0.75 - 1 - 2 - 3 - 6 mg/l Al	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18386.0001	150 tests	inquire
118452	Aluminium Test Refill pack MColorTest™ for 118386, 114777		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18452.0002	150 tests	inquire
114413	Aluminium Test MColorTest™ Method: colorimetric with color card and comparator block with short test tubes	0.07 - 0.12 - 0.20 - 0.35 - 0.50 - 0.65 - 0.80 mg/l Al	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14413.0001	185 tests	inquire
100594	Aluminium Cell Test Spectroquant® Method: photometric	0.02 - 0.50 mg/l Al	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00594.0001	25 tests	inquire
114825	Aluminium Test Spectroquant® Method: photometric	0.020 - 1.20 mg/l Al	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14825.0001	350 tests	inquire

## Ammonium




Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110024	Ammonium Test MQuant™ Method: colorimetric with test strips and reagent	10 - 30 - 60 - 100 - 200 - 400 mg/l NH <sub>4</sub> <sup>+</sup>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.10024.0001	100 strips	inquire
111117	Ammonium Test MColorTest™ Method: colorimetric, acc. to Nebler, with color card and sliding comparator	0.5 - 1 - 2 - 3 - 5 - 7 - 10 mg/l NH <sub>4</sub> <sup>+</sup>	    ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.	1.11117.0001	150 tests	inquire
114657	Ammonium Test in freshwater and seawater MColorTest™ Method: colorimetric with color card	0.5 - 1 - 2 - 3 - 5 - 10 mg/l NH <sub>4</sub> <sup>+</sup>	  ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.14657.0001	50 tests	inquire

# Analytical Test Kits









## Ammonium

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
108024	Ammonium Test MColorTest™ Method: colorimetric, indophenol blue, with colour card and sliding comparator	0.2 - 0.4 - 0.6 - 1 - 2 - 3 - 5 mg/l NH <sub>4</sub> <sup>+</sup>	  ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.08024.0001	50 tests	<a href="#">inquire</a>
114750	Ammonium Test MColorTest™ Method: colorimetric with color-disk comparator	0.2 - 0.5 - 0.8 - 1.3 - 2.0 - 3.0 - 4.5 - 6.0 - 8.0 mg/l NH <sub>4</sub> <sup>+</sup>	  ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.14750.0002	200 tests	<a href="#">inquire</a>
114423	Ammonium Test MColorTest™ Method: colorimetric, indophenol blue, with color card and comparator block with short test tubes	0.2-0.5-0.8-1.2-1.6-2-3-5-8 mg/l NH <sub>4</sub> <sup>+</sup> 0.16-0.4-0.6-0.9-1.2-1.6-2.3-3.9-6.2 mg/l NH <sub>4</sub> -N	  ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.14423.0002	200 tests	<a href="#">inquire</a>
114400	Ammonium Test MColorTest™ Method: colorimetric, acc. to Nebler, with colour card and comparator block with long test tubes	0.05 - 0.10 - 0.15 - 0.2 - 0.3 - 0.4 - 0.5 - 0.6 - 0.8 mg/l NH <sub>4</sub> <sup>+</sup> 0.04 - 0.08 - 0.12 - 0.16 - 0.23 - 0.31 - 0.39 - 0.47 - 0.62 mg/l NH <sub>4</sub> -N	   ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.	1.14400.0001	100 tests	<a href="#">inquire</a>
114428	Ammonium Test MColorTest™ Method: colorimetric, indophenol blue, with colour card and comparator block with long test tubes	0.025 - 0.050 - 0.075 - 0.10 - 0.15 - 0.20 - 0.25 - 0.30 - 0.40 mg/l NH <sub>4</sub> <sup>+</sup> 0.02 - 0.04 - 0.06 - 0.08 - 0.12 - 0.16 - 0.19 - 0.23 - 0.31 mg/l NH <sub>4</sub> -N	  ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.14428.0002	70 tests	<a href="#">inquire</a>
116977	Ammonium Test Reflectoquant® Method: reflectometric with test strips and reagents	20 - 180 mg/l NH <sub>4</sub> <sup>+</sup>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.16977.0001	50 strips	<a href="#">inquire</a>
116899	Ammonium Test Reflectoquant® Method: reflectometric with test strips and reagents	5.0 - 20.0 mg/l NH <sub>4</sub> <sup>+</sup>	  ■ GHS: Danger ■ LGK 8 B ■ Store at +2°C to +8°C.	1.16899.0001	50 strips	<a href="#">inquire</a>
116892	Ammonium Test Reflectoquant® Method: reflectometric with test strips and reagents	0.2 - 7.0 mg/l NH <sub>4</sub> <sup>+</sup>	 ■ GHS: Danger ■ LGK 8BL ■ Store at +2°C to +8°C.	1.16892.0001	50 strips	<a href="#">inquire</a>
114739	Ammonium Cell Test Spectroquant® method: photometric	0.010 - 2.000 mg/l NH <sub>4</sub> -N 0.01 - 2.58 mg/l NH <sub>4</sub> <sup>+</sup>	 ■ GHS: Warning ■ LGK 8 B ■ Store at +15°C to +25°C.	1.14739.0001	25 tests	<a href="#">inquire</a>
114558	Ammonium Cell Test Spectroquant® Method: photometric	0.20 - 8.00 mg/l NH <sub>4</sub> -N 0.26 - 10.30 mg/l NH <sub>4</sub> <sup>+</sup>	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14558.0001	25 tests	<a href="#">inquire</a>
114544	Ammonium Cell Test Spectroquant® Method: photometric	0.5 - 16.0 mg/l NH <sub>4</sub> -N 0.6 - 20.6 mg/l NH <sub>4</sub> <sup>+</sup>	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14544.0001	25 tests	<a href="#">inquire</a>
114559	Ammonium Cell Test Spectroquant® Method: photometric	4.0 - 80.0 mg/l NH <sub>4</sub> -N 5.2 - 103.0 mg/l NH <sub>4</sub> <sup>+</sup>	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14559.0001	25 tests	<a href="#">inquire</a>
114752	Ammonium Test Spectroquant® Method: photometric	0.010 - 3.00 mg/l NH <sub>4</sub> -N 0.013 - 3.86 mg/l NH <sub>4</sub> <sup>+</sup>	  ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.14752.0001 1.14752.0002	500 tests 250 tests	<a href="#">inquire</a> <a href="#">inquire</a>









## Ammonium

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
100683	Ammonium Test Spectroquant® Method: photometric	2.0 – 150 mg/l NH <sub>4</sub> -N 2.6 – 193 mg/l NH <sub>4</sub> <sup>+</sup>	 ■ GHS: Warning ■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.00683.0001	100 tests	inquire
118455	Ammonium Test Refill pack MColorTest™ for 114750, 114423		 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.18455.0002	200 tests	inquire

## AOX

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
100675	AOX Cell Test Spectroquant® Method: photometric	0.05 – 2.50 mg/l	 ■ GHS: Danger ■ LGK 6.1C ■ Store at +15°C to +25°C.   	1.00675.0001	25 tests	inquire
100677	AOX Sample Preparation Set Spectroquant®	25 Tests	 ■ GHS: Danger ■ LGK 5.1 B ■ Store at +15°C to +25°C.   	1.00677.0001	25 tests	inquire
100678	AOX Enrichment Set Spectroquant®			1.00678.0001	1 set	inquire
100680	AOX Standard Spectroquant® 8-16 quality tests	0.2 – 2.0 mg/l	■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.00680.0001	8-16 tests	inquire

## Arsenic

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
117917	Arsenic Test MQuant™ Method: colorimetric with test strips and reagents	0.02 – 0.05 – 0.1 – 0.2 – 0.5 mg/l As 0.1 – 0.5 – 1.0 – 1.7 – 3.0 mg/l As	 ■ GHS: Warning ■ LGK 10 – 13 ■ Store at +15°C to +25°C. 	1.17917.0001	100 strips	inquire
117927	Arsenic Test MQuant™ Method: colorimetric with test strips and reagent	0.005 – 0.010 – 0.025 – 0.05 – 0.10 – 0.25 – 0.50 mg/l As	 ■ GHS: Warning ■ LGK 10 – 13 ■ Store at +15°C to +25°C. 	1.17927.0001	100 strips	inquire
101747	Arsenic Test Spectroquant® Method: photometric	0.001 – 0.100 mg/l As	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.   	1.01747.0001	30 tests	inquire

# Analytical Test Kits


## Arsenic

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
173501	Absorption tube for arsenic Spectroquant® with ground joint NS 29			1.73501.0001	1 unit	inquire




## Ascorbic Acid

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110023	Ascorbic Acid Test MQuant™ Method: colorimetric with test strips	50 - 100 - 200 - 300 - 500 - 700 - 1000 - 2000 mg/l	■ Store at +15°C to +25°C.	1.10023.0001	100 strips	inquire
116981	Ascorbic Acid Test Reflectoquant® Method: reflectometric with test strips	25 - 450 mg/l	■ Store at +15°C to +25°C.	1.16981.0001	50 strips	inquire
117963	Ascorbic Acid Test RQeasy® Reflectoquant® Method: reflectometric	25 - 450 mg/l	■ Store at +15°C to +25°C.	1.17963.0001	50 strips	inquire



## BOD

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
100687	BOD Cell Test Spectroquant® Method: photometric	0.5 - 3000 mg/l	 ■ GHS: Danger ■ LGK 8BL ■ Store at +15°C to +25°C.	1.00687.0001	50 tests	inquire
100688	BOD Nutrient-Salt Mixture Spectroquant® (with allyl thiourea) for 12 x 1l nutrient-salt solution		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00688.0001	1 set	inquire
100718	BOD Standard Spectroquant® (analogous to EN 1899) for 10 x 1l standard solution	210 ± 20 mg/l	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00718.0001	1 set	inquire









## Boron

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114839	Boron Test Spectroquant® Method: photometric	0.050 - 0.800 mg/l B	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.  	1.14839.0001	60 tests	inquire
100826	Boron Cell Test Spectroquant® Method: photometric	0.05 - 2.00 mg/l B	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00826.0001	25 tests	inquire











## Bromine

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
100605	Bromine Test Spectroquant® Method: photometric, DPD	0.020 - 10.00 mg/l Br <sub>2</sub>	 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C. 	1.00605.0001	200 tests	inquire

## Cadmium



Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114834	Cadmium Cell Test Spectroquant® Method: photometric	0.025 - 1.000 mg/l Cd	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>   	1.14834.0001	25 tests	inquire
101745	Cadmium Test Spectroquant® Method: photometric	0.002 - 0.500 mg/l Cd	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>   	1.01745.0001	55 tests	inquire

## Calcium















Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110083	Calcium Test MQuant™ Method: colorimetric with test strips and reagents	10 - 25 - 50 - 100 mg/l Ca <sup>2+</sup>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 5.1B ■ Store at +2°C to +8°C.</li> </ul> 	1.10083.0001	60 strips	inquire
111110	Calcium Test MColortest™ Method: titrimetric with titration pipette	Measuring range with 1 full pipette: 2 - 200 mg/l Ca Graduation of the titration pipette: 1 division $\Delta$ 2 mg/l Ca 170 determinations at 200 mg/l Ca	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B ■ Store at +15°C to +25°C.</li> </ul>	1.11110.0001	170 tests	inquire
116125	Calcium Test Reflectoquant® Method: reflectometric with test strips	5 - 125 mg/l Ca	<ul style="list-style-type: none"> <li>■ Store at +2°C to +8°C.</li> </ul>	1.16125.0001	50 strips	inquire
116993	Calcium Test Reflectoquant® Method: reflectometric with test strips and reagents	2.5 - 45.0 mg/l Ca	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 5.1B ■ Store at +15°C to +25°C.</li> </ul> 	1.16993.0001	50 strips	inquire
100858	Calcium Cell Test Spectroquant® Method: photometric	10 - 250 mg/l Ca 14 - 350 mg/l CaO 25 - 624 mg/l CaCO <sub>3</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.00858.0001	25 tests	inquire
114815	Calcium Test Spectroquant® Method: photometric	5 - 160 mg/l Ca 7 - 224 mg/l CaO 12 - 400 mg/l CaCO <sub>3</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>  	1.14815.0001	100 tests	inquire
100049	Calcium Test Spectroquant® Method: photometric	0.20 - 4.00 mg/l Ca	 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 8 B ■ Store at +15°C to +25°C.</li> </ul>	1.00049.0001	100 tests	inquire

# Analytical Test Kits

## Carbonate Hardness




















Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110648	Carbonate Hardness Test MQuant™ Method: colorimetric with test strips	4 - 8 - 12 - 16 - 24°d	■ Store at +15°C to +25°C.	1.10648.0001	100 strips	inquire
114653	Carbonate Hardness Test in freshwater and seawater MColorTest™ Method: titrimetric with dropping bottle	Graduation: 1 drop $\Delta$ 1.25 °e 50 determinations at 12.5 °e	■ LGK 8B ■ Store at +15°C to +25°C.	1.14653.0001	50 tests	inquire
111103	Carbonate Hardness Test MColorTest™ Acid capacity to pH 4.3 (ANC) Method: titrimetric with dropping bottle	Graduation: 1 drop $\Delta$ 1.25 °e (ANC: 0.36 mmol/l) 100 determinations at 12.5 °e (ANC: 3.6 mmol/l)	 ■ GHS: Warning ■ LGK 3 ■ Store at +15°C to +25°C.	1.11103.0001	100 tests	inquire
108048	Carbonate Hardness Test MColorTest™ Acid capacity to pH 4.3 ("SBV", ANC) Method: titrimetric with titration pipette	Measuring range with 1 full pipette: 0.25 - 25 °e (ANC: 0.1 - 7.2 mmol/l) Graduation of the titration pipette: 0.25 °e (ANC: 0.1 mmol/l) 300 determinations at 12.5 °e (ANC: 3.6 mmol/l)	 ■ GHS: Warning ■ LGK 3 ■ Store at +15°C to +25°C.	1.08048.0001	300 tests	inquire

## Chloride

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110079	Chloride Test MQuant™ Method: colorimetric with test strips (5 reaction zones)	500 - 1000 - 1500 - 2000 - $\geq$ 3000 mg/l Cl <sup>-</sup>	■ Store at +2°C to +8°C.	1.10079.0001	100 strips	inquire
111132	Chloride Test MColorTest™ Method: titrimetric with dropping bottle	Measuring range: 25 - $\geq$ 150 mg/l Cl <sup>-</sup> Graduation: 1 drop $\Delta$ 25 mg/l Cl <sup>-</sup> 100 determinations at 150 mg/l Cl <sup>-</sup>	 ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.  	1.11132.0001	100 tests	inquire
111106	Chloride Test MColorTest™ Method: titrimetric with titration pipette	Measuring range with 1 full pipette: 2 - 200 mg/l Cl <sup>-</sup> Graduation of the titration pipette: 2 mg/l Cl <sup>-</sup> 200 determinations at 170 mg/l Cl <sup>-</sup>	 ■ GHS: Danger ■ LGK 6.1C ■ Store at +15°C to +25°C.  	1.11106.0001	200 tests	inquire
114753	Chloride Test MColorTest™ Method: colorimetric with color-disk comparator	3 - 6 - 10 - 18 - 30 - 60 - 100 - 180 - 300 mg/l Cl <sup>-</sup>	 ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.   	1.14753.0001	200 tests	inquire
114401	Chloride Test MColorTest™ Method: colorimetric with color card and comparator block with short test tubes	5 - 10 - 20 - 40 - 75 - 150 - 300 mg/l Cl <sup>-</sup>	 ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.   	1.14401.0001	400 tests	inquire



## Chloride





















Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
118322	Chloride Test Refill pack MColorTest™ for 114753, 114401		 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1A ■ Store at +15°C to +25°C.</li> </ul>   	1.18322.0002	200 tests	inquire
114730	Chloride Cell Test Spectroquant® Method: photometric	5 - 125 mg/l Cl <sup>-</sup>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1C ■ Store at +15°C to +25°C.</li> </ul>   	1.14730.0001	25 tests	inquire
114897	Chloride Test Spectroquant® Method: photometric	2.5 - 250 mg/l Cl <sup>-</sup>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1B ■ Store at +15°C to +25°C.</li> </ul>   	1.14897.0001 1.14897.0002	100 tests 175 tests	inquire inquire
101804	Chloride Cell Test Spectroquant® Method: photometric	0.5 - 15.0 mg/l Cl <sup>-</sup>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1C ■ Store at +15°C to +25°C.</li> </ul>  	1.01804.0001	25 tests	inquire
101807	Chloride Test Spectroquant® Method: photometric	0,10 - 5,00 mg/l Cl <sup>-</sup>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1C ■ Store at +15°C to +25°C.</li> </ul>   	1.01807.0001	100 tests	inquire

## Chlorine






Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
117924	Chlorine Test MQuant™ Method: colorimetric with test strips	0 - 25 - 50 - 100 - 200 - 500 mg/l Cl <sub>2</sub>	<ul style="list-style-type: none"> <li>■ Store at +2°C to +8°C.</li> </ul>	1.17924.0001	100 strips	inquire
117925	Chlorine Test MQuant™ Method: colorimetric with test strips	0 - 0.5 - 1 - 2 - 5 - 10 - 20 mg/l Cl <sub>2</sub>	<ul style="list-style-type: none"> <li>■ Store at +2°C to +8°C.</li> </ul>	1.17925.0001	75 strips	inquire
114670	Chlorine Test in freshwater and seawater MColorTest™ Method: colorimetric with color card	0.10 - 0.25 - 0.5 - 1.0 - 2.0 mg/l Cl <sub>2</sub>	<ul style="list-style-type: none"> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.14670.0001	100 tests	inquire

# Analytical Test Kits


## Chlorine

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114976	Chlorine Test MColorTest™  (free chlorine) Method: colorimetric, DPD, with color-disk comparator	0.25 - 0.50 - 0.75 - 1 - 2 - 4 - 8 - 10 - 15 mg/l Cl <sub>2</sub>	  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.14976.0001	1000 tests	<a href="#">inquire</a>
114977	Chlorine Test Refill pack MColorTest™ for 114976, 114434		  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.14977.0002	1000 tests	<a href="#">inquire</a>
114826	Chlorine Test MColorTest™  (free and total chlorine) Method: colorimetric, DPD, with colour-disk comparator	0.25 - 0.50 - 0.75 - 1 - 2 - 4 - 7 - 10 - 15 mg/l Cl <sub>2</sub> Number of determinations: 400 free Cl <sub>2</sub> + 400 total Cl <sub>2</sub>	  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.14826.0001	400/400 t	<a href="#">inquire</a>
118326	Chlorine Test Refill pack MColorTest™ for 114826	Number of determinations: 400 free Cl <sub>2</sub> + 400 total Cl <sub>2</sub>	  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.18326.0002	400 tests	<a href="#">inquire</a>
114978	Chlorine Test MColorTest™  (free chlorine) with liquid reagent Method: colorimetric, DPD, with colour-disk comparator	0.1 - 0.2 - 0.3 - 0.4 - 0.6 - 0.8 - 1.0 - 1.5 - 2.0 mg/l Cl <sub>2</sub>	 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.14978.0001	560 tests	<a href="#">inquire</a>
114979	Chlorine Test Refill pack MColorTest™ for 114978		 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.14979.0002	600 tests	<a href="#">inquire</a>
114801	Chlorine Test MColorTest™  (free and total chlorine) with liquid reagent Method: colorimetric, DPD, with color-disk comparator	0.1 - 0.2 - 0.3 - 0.4 - 0.6 - 0.8 - 1.0 - 1.5 - 2.0 mg/l Cl <sub>2</sub> Number of determinations: 400 free Cl <sub>2</sub> + 400 total Cl <sub>2</sub>	 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.14801.0001	400 tests	<a href="#">inquire</a>
114803	Chlorine Test Refill pack MColorTest™ for 114801	Number of determinations: 400 free Cl <sub>2</sub> + 400 total Cl <sub>2</sub>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.14803.0002	400 tests	<a href="#">inquire</a>
114434	Chlorine Test MColorTest™  (free chlorine) Method: colorimetric, DPD, with color card and comparator block with long test tubes	0.010 - 0.025 - 0.045 - 0.06 - 0.08 - 0.10 - 0.15 - 0.20 - 0.30 mg/l Cl <sub>2</sub>	  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.14434.0001	400 tests	<a href="#">inquire</a>
116896	Chlorine Test Reflectoquant® Method: reflectometric with test strips and reagent	0.5 - 10.0 mg/l Cl <sub>2</sub>	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.16896.0001	50 strips	<a href="#">inquire</a>
100595	Chlorine Cell Test Spectroquant® (free chlorine) Method: photometric, DPD	0.03 - 6.00 mg/l Cl <sub>2</sub>	  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.00595.0001	200 tests	<a href="#">inquire</a>
100598	Chlorine Test Spectroquant® (free chlorine) Method: photometric, DPD	0.010 - 6.00 mg/l Cl <sub>2</sub>	  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.00598.0001 1.00598.0002	1200 tests 200 tests	<a href="#">inquire</a> <a href="#">inquire</a>
100602	Chlorine Test Spectroquant® (total chlorine) Method: photometric, DPD	0.010 - 6.00 mg/l Cl <sub>2</sub>	  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.00602.0001 1.00602.0002	200 tests 1200 tests	<a href="#">inquire</a> <a href="#">inquire</a>

## Chlorine




Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
100597	Chlorine Cell Test Spectroquant® (free and total chlorine) Method: photometric, DPD	0.03 – 6.00 mg/l Cl <sub>2</sub> Number of determinations: 100 free Cl <sub>2</sub> + 100 total Cl <sub>2</sub>	  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.00597.0001	200 tests	inquire
100599	Chlorine Test Spectroquant® (free and total chlorine) Method: photometric, DPD	0.010 – 6.00 mg/l Cl <sub>2</sub> Number of determinations: 100 free Cl <sub>2</sub> + 100 total Cl <sub>2</sub>	  ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.	1.00599.0001	200 tests	inquire
100086	Chlorine reagent Cl <sub>2</sub> -1 (liquid) Spectroquant® for chlorine test (DPD) 0.010 – 6.00 mg/l Cl <sub>2</sub> free chlorine: Cl <sub>2</sub> -1 and Cl <sub>2</sub> -2 total chlorine: Cl <sub>2</sub> -1, Cl <sub>2</sub> -2, and Cl <sub>2</sub> -3		■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.00086.0001	200 tests	inquire
100087	Chlorine reagent Cl <sub>2</sub> -2 (liquid) Spectroquant® for chlorine test (DPD) 0.010 – 6.00 mg/l Cl <sub>2</sub> free chlorine: Cl <sub>2</sub> -1 and Cl <sub>2</sub> -2 total chlorine: Cl <sub>2</sub> -1, Cl <sub>2</sub> -2, and Cl <sub>2</sub> -3	400 Tests	 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319 ■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.00087.0001	400 tests	inquire
100088	Chlorine reagent Cl <sub>2</sub> -3 (liquid) Spectroquant® for chlorine test (DPD) 0.010 – 6.00 mg/l Cl <sub>2</sub> free chlorine: Cl <sub>2</sub> -1 and Cl <sub>2</sub> -2 total chlorine: Cl <sub>2</sub> -1, Cl <sub>2</sub> -2, and Cl <sub>2</sub> -3	600 Tests	■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.00088.0001	600 tests	inquire
100089	Cells and accessories for the photometric chlorine determination Spectroquant® for liquid reagents 100086, 100087, 100088	25 Units	■ Store at +15°C to +25°C.	1.00089.0001	25 units	inquire
119254	Chlorine Powder Packs for photometers of other manufacturers for 10-ml samples Spectroquant® (free chlorine) Method: photometric, DPD	0 – 2.00 mg/l Cl <sub>2</sub>	■ LGK 10 – 13	1.19254.0001	100 tests	inquire
119256	Chlorine Powder Packs for photometers of other manufacturers for 25-ml samples Spectroquant® (free chlorine) Method: photometric, DPD	0 – 10.00 mg/l Cl <sub>2</sub>	■ LGK 10 – 13	1.19256.0001	100 tests	inquire
119257	Chlorine Powder Packs for photometers of other manufacturers for 10-ml samples Spectroquant® (total chlorine) Method: photometric, DPD	0 – 2.00 mg/l Cl <sub>2</sub>	■ LGK 10 – 13	1.19257.0001	100 tests	inquire
119258	Chlorine Powder Packs for photometers of other manufacturers for 25-ml samples Spectroquant® (total chlorine) Method: photometric, DPD	0 – 10.00 mg/l Cl <sub>2</sub>	■ LGK 10 – 13	1.19258.0001	100 tests	inquire

## Chlorine and pH









Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
111160	Chlorine and pH Test MColorstest™ (free chlorine, DPD) Method: colorimetric with color card and sliding comparator	0.10 – 0.20 – 0.30 – 0.40 – 0.50 – 0.75 – 1.0 – 1.5 mg/l Cl <sub>2</sub> pH: 6.5 – 6.8 – 7.0 – 7.2 – 7.4 – 7.6 – 7.9	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.11160.0001	150 tests	inquire

# Analytical Test Kits


## Chlorine and pH

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
111174	Chlorine and pH Test MColorTest™ (free chlorine, total chlorine, and pH) Method: colorimetric with color-matching vessel	0.1 - 0.3 - 0.6 - 1.0 - 1.5 mg/l Cl <sub>2</sub> pH: 6.8 - 7.1 - 7.4 - 7.6 - 7.8	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.11174.0001	200 tests	<a href="#">inquire</a>
111157	Chlorine and pH Test Refill pack Reagents for chlorine (Cl <sub>2</sub> -1, Cl <sub>2</sub> -2, Cl <sub>2</sub> -3) MColorTest™ for 111174		 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.11157.0001	200 tests	<a href="#">inquire</a>
111143	Chlorine and pH Test Refill pack Reagent pH-1 MColorTest™ for 111174		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11143.0001	400 tests	<a href="#">inquire</a>
111113	Chlorine Test MColorTest™ Reagent Cl <sub>2</sub> -1	2000 determinations of free chlorine (with 1.11113.0001 and 1.11114.0001) and total chlorine (additionally required: 1.11115.0001)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11113.0001	2000 tests	<a href="#">inquire</a>
111114	Chlorine Test MColorTest™ Reagent Cl <sub>2</sub> -2	2000 determinations of free chlorine (with 1.11113.0001 and 1.11114.0001) and total chlorine (additionally required: 1.11115.0001)	 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314 ■ LGK 8B ■ Store at +15°C to +25°C.	1.11114.0001	2000 tests	<a href="#">inquire</a>
111115	Chlorine Test MColorTest™ Reagent Cl <sub>2</sub> -3 (potassium iodide tablets)	2000 determinations of free chlorine (with 1.11113.0001 and 1.11114.0001) and total chlorine (additionally required: 1.11115.0001)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11115.0001	2000 tests	<a href="#">inquire</a>
111116	pH Test MColorTest™ Phenol red solution	1500 pH determinations	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11116.0001	1000 tests	<a href="#">inquire</a>




## Chlorine Dioxide

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
118756	Chlorine Dioxide Test MColorTest™ Method: colorimetric, DPD, with colour-disk comparator	0.5 - 0.9 - 1.4 - 1.9 - 3.8 - 7.5 - 13 - 19 - 28 mg/l ClO <sub>2</sub>	 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C. 	1.18756.0001	300 tests	<a href="#">inquire</a>
118757	Chlorine Dioxide Test Refill pack MColorTest™ for 118756, 118754		 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C. 	1.18757.0002	300 tests	<a href="#">inquire</a>
118754	Chlorine Dioxide Test MColorTest™ Method: colorimetric, DPD, with color card and comparator block with long test tubes	0.020 - 0.050 - 0.075 - 0.10 - 0.15 - 0.20 - 0.30 - 0.40 - 0.55 mg/l ClO <sub>2</sub>	 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C. 	1.18754.0001	300 tests	<a href="#">inquire</a>
100608	Chlorine Dioxide Test Spectroquant® Method: photometric, DPD	0.020 - 10.00 mg/l ClO <sub>2</sub>	 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C. 	1.00608.0001	200 tests	<a href="#">inquire</a>

## Chromate

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110012	Chromate Test MQuant™ Method: colorimetric with test strips and reagent	3 - 10 - 30 - 100 mg/l CrO <sub>4</sub>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.10012.0001	100 strips	<a href="#">inquire</a>










## Chromate

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114756	Chromate Test MColorTest™ Method: colorimetric with colour-disk comparator	0.10 - 0.20 - 0.35 - 0.6 - 1.0 - 1.8 - 3.0 - 6.0 - 10 mg/l Cr 0.22 - 0.45 - 0.8 - 1.3 - 2.2 - 4.0 - 6.7 - 13 - 22 mg/l CrO <sub>4</sub> <sup>2-</sup>	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14756.0001	300 tests	inquire
114441	Chromate Test MColorTest™ Method: colorimetric with colour card and comparator block with short test tubes	0.10 - 0.20 - 0.30 - 0.45 - 0.6 - 0.8 - 1.0 - 1.3 - 1.6 mg/l Cr 0.22 - 0.45 - 0.67 - 1.0 - 1.3 - 1.8 - 2.2 - 2.9 - 3.6 mg/l CrO <sub>4</sub> <sup>2-</sup>	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14441.0001	300 tests	inquire
114402	Chromate Test MColorTest™ Method: colorimetric with color card and comparator block with long test tubes	0.005 - 0.01 - 0.02 - 0.03 - 0.04 - 0.05 - 0.06 - 0.08 - 0.10 mg/l Cr 0.011 - 0.022 - 0.045 - 0.07 - 0.09 - 0.11 - 0.13 - 0.18 - 0.22 mg/l CrO <sub>4</sub> <sup>2-</sup>	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14402.0001	150 tests	inquire
118456	Chromate Test Refill pack MColorTest™ for 114756, 114441, 114402		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18456.0002	300 tests	inquire
114552	Chromate Cell Test Spectroquant® (chromium VI and total chromium) Method: photometric	0.05 - 2.00 mg/l Cr 0.11 - 4.46 mg/l CrO <sub>4</sub>	 ■ GHS: Danger  ■ LGK 5.1 B ■ Store at  +15°C to +25°C.	1.14552.0001	25 tests	inquire
114758	Chromate Test Spectroquant® (chromium VI) Method: photometric	0.010 - 3.00 mg/l Cr 0.02 - 6.69 mg/l CrO <sub>4</sub>	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14758.0001	250 tests	inquire

## Cobalt

























Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110002	Cobalt Test MQuant™ Method: colorimetric with test strips	10 - 30 - 100 - 300 - 1000 mg/l Co <sup>2+</sup>	■ Store at +15°C to +25°C.	1.10002.0001	100 strips	inquire

## COD


















Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114560	COD Cell Test Spectroquant® Method: photometric	4.0 - 40.0 mg/l	 ■ GHS: Danger  ■ LGK 6.1B ■ Store at  +15°C to +25°C.	1.14560.0001	25 tests	inquire
114540	COD Cell Test Spectroquant® Method: photometric	10 - 150 mg/l	 ■ GHS: Danger  ■ LGK 6.1 D ■ Store at  +15°C to +25°C.	1.14540.0001	25 tests	inquire
114895	COD Cell Test Spectroquant® Method: photometric	15 - 300 mg/l	 ■ GHS: Danger  ■ LGK 6.1B ■ Store at  +15°C to +25°C.	1.14895.0001	25 tests	inquire

# Analytical Test Kits

## COD













Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114690	COD Cell Test Spectroquant® Method: photometric	50 - 500 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 B ■ Store at +15°C to +25°C.</li> </ul>  	1.14690.0001	25 tests	<a href="#">inquire</a>
114541	COD Cell Test Spectroquant® Method: photometric	25 - 1500 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul>  	1.14541.0001	25 tests	<a href="#">inquire</a>
114691	COD Cell Test Spectroquant® Method: photometric	300 - 3500 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul>  	1.14691.0001	25 tests	<a href="#">inquire</a>
114555	COD Cell Test Spectroquant® Method: photometric	500 - 10000 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul>  	1.14555.0001	25 tests	<a href="#">inquire</a>
118750	COD Cell Test for photometers of other manufacturers Spectroquant® Method: photometric	0 - 40 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8 B ■ Store at +15°C to +25°C.</li> </ul>  	1.18750.0001	25 tests	<a href="#">inquire</a>
118751	COD Cell Test for photometers of other manufacturers Spectroquant® Method: photometric	0 - 150 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8BL ■ Store at +15°C to +25°C.</li> </ul>  	1.18751.0001	25 tests	<a href="#">inquire</a>
118752	COD Cell Test for photometers of other manufacturers Spectroquant® Method: photometric	0 - 1500 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul>  	1.18752.0001	25 tests	<a href="#">inquire</a>
118753	COD Cell Test for photometers of other manufacturers Spectroquant® Method: photometric	0 - 15000 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul>  	1.18753.0001	25 tests	<a href="#">inquire</a>







COD						
Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114538	COD solution A Spectroquant® for measuring range 4.0 - 40.0; 10 - 150 and 100 - 1500 mg/l; 0.30 ml per determination		 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 2, Oral, H300;  Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 1, Dermal, H310; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411  ■ LGK 6.1B	1.14538.0065	65 ml	inquire
114679	COD solution A Spectroquant® for measuring range 500 - 10000 mg/l; 2.20 ml per determination		 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302;  Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1A, H314; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412  ■ LGK 6.1B	1.14679.0495	495 ml	inquire
114539	COD solution B Spectroquant® for measuring range 100 - 1500 mg/l; 2.30 ml per determination		 ■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1A, H314; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350;  Reproductive toxicity, Category 1B, H360FD; Chronic aquatic toxicity, Category 3, H412  ■ LGK 6.1B	1.14539.0495	495 ml	inquire
114680	COD solution B Spectroquant® for measuring range 500 - 10000 mg/l; 1.80 ml per determination		 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314;  Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350;  Reproductive toxicity, Category 1B, H360FD; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412  ■ LGK 6.1 D	1.14680.0495	495 ml	inquire
114681	COD solution B Spectroquant® for measuring range 4.0 - 40.0 mg/l; 2.85 ml per determination		 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314  ■ LGK 8B	1.14681.0495	495 ml	inquire
114682	COD solution B Spectroquant® for measuring range 10 - 150 mg/l; 2.85 ml per determination		 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314  ■ LGK 8 B	1.14682.0495	495 ml	inquire

# Analytical Test Kits

## COD

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
101796	COD Cell Test Spectroquant® Method: photometric	5.0 - 80.0 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1B ■ Store at +15°C to +25°C.</li> </ul>  	1.01796.0001	25 tests	<a href="#">inquire</a>
101797	COD Cell Test Spectroquant® Method: photometric	5000 - 90000 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul>  	1.01797.0001	25 tests	<a href="#">inquire</a>
117058	COD Cell Test for seawater / high chloride contents Spectroquant® Method: photometric	5.0 - 60.0 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1B ■ Store at +15°C to +25°C.</li> </ul>  	1.17058.0001	25 tests	<a href="#">inquire</a>
117059	COD Cell Test for seawater / high chloride contents Spectroquant® Method: photometric	50 - 3000 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1B ■ Store at +15°C to +25°C.</li> </ul>  	1.17059.0001	25 tests	<a href="#">inquire</a>

## COD (Hg-free)

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
109772	COD Cell Test (Hg-free) Spectroquant® Method: photometric	10 - 150 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8 B ■ Store at +15°C to +25°C.</li> </ul>	1.09772.0001	25 tests	<a href="#">inquire</a>
109773	COD Cell Test (Hg-free) Spectroquant® Method: photometric	100 - 1500 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1B ■ Store at +15°C to +25°C.</li> </ul>  	1.09773.0001	25 tests	<a href="#">inquire</a>





## Color

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114421	Color Test MColoritest™ Method: colorimetric with color card and comparator block with long test tubes	5 - 10 - 20 - 30 - 40 - 50 - 70 - 100 - 150 Hazen	<ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.14421.0001	1 set	<a href="#">inquire</a>













## Copper

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110003	Copper Test MQuant™ Method: colorimetric with test strips	10 - 30 - 100 - 300 mg/l Cu	<ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.10003.0001	100 strips	<a href="#">inquire</a>

## Copper




Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114651	Copper Test in freshwater and seawater MColortest™ Method: colorimetric with colour card	0.15 - 0.30 - 0.45 - 0.6 - 0.8 - 1.2 - 1.6 mg/l Cu	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14651.0001	50 tests	inquire
114765	Copper Test MColortest™ Method: colorimetric with color-disk comparator	0.3 - 0.6 - 1.0 - 1.5 - 2 - 3 - 5 - 7 - 10 mg/l Cu	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14765.0001	125 tests	inquire
114418	Copper Test MColortest™ Method: colorimetric with color card and comparator block with short test tubes	0.3 - 0.6 - 1.0 - 1.5 - 2.0 - 2.5 - 3 - 4 - 5 mg/l Cu	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14418.0001	125 tests	inquire
114414	Copper Test MColortest™ Method: colorimetric with color card and comparator block with long test tubes	0.05 - 0.08 - 0.12 - 0.16 - 0.20 - 0.25 - 0.3 - 0.4 - 0.5 mg/l Cu	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14414.0001	125 tests	inquire
114553	Copper Cell Test Spectroquant® Method: photometric	0.05 - 8.00 mg/l Cu	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14553.0001	25 tests	inquire
114767	Copper Test Spectroquant® Method: photometric	0.02 - 6.00 mg/l Cu	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14767.0001	250 tests	inquire
118459	Copper Test Refill pack MColortest™ for 114765, 114418, 114414		 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18459.0002	125 tests	inquire

## Cyanide

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110044	Cyanide Test MQuant™ Method: colorimetric with test strips and reagents	1 - 3 - 10 - 30 mg/l CN <sup>-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.  	1.10044.0001	100 strips	inquire
114798	Cyanide Test MColortest™ Method: colorimetric with colour-disk comparator	0.03 - 0.07 - 0.13 - 0.2 - 0.3 - 0.5 - 1 - 2 - 5 mg/l CN <sup>-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.14798.0001	200 tests	inquire
114429	Cyanide Test MColortest™ Method: colorimetric with color card and comparator block with short test tubes	0.03 - 0.06 - 0.10 - 0.15 - 0.2 - 0.3 - 0.4 - 0.5 - 0.7 mg/l CN <sup>-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.14429.0001	200 tests	inquire
114417	Cyanide Test MColortest™ Method: colorimetric with color card and comparator block with long test tubes	0.002 - 0.004 - 0.007 - 0.010 - 0.013 - 0.016 - 0.020 - 0.025 - 0.030 mg/l CN <sup>-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.14417.0001	65 tests	inquire
118457	Cyanide Test Refill pack MColortest™ for 114798, 114429, 114417		 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.18457.0002	200 tests	inquire
114561	Cyanide Cell Test Spectroquant® (free and readily liberated cyanide) Method: photometric	0.010 - 0.500 mg/l CN <sup>-</sup>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.14561.0001	25 tests	inquire

# Analytical Test Kits





## Cyanide

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
109701	Cyanide Test Spectroquant® (free and readily liberated cyanide) Method: photometric	0.002 - 0.500 mg/l CN <sup>-</sup>	 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.09701.0001	100 tests	inquire
114800	Cyanide Test Spectroquant® (free cyanide) Method: photometric	0.002 - 0.500 mg/l CN <sup>-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.14800.0001	200 tests	inquire





## Cyanuric Acid

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
119253	Cyanuric Acid Test Spectroquant® Method: photometric	2 - 160 mg/l	■ LGK 10 - 13	1.19253.0001	100 tests	inquire

## Fluoride

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114598	Fluoride Test Spectroquant® Method: photometric	0.10 - 20.0 mg/l F <sup>-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.14598.0001 1.14598.0002	100 tests 250 tests	inquire inquire
118771	Fluoride Test MColorTest™ Method: colorimetric with color card	0 - 0.15 - 0.3 - 0.5 - 0.8 mg/l F <sup>-</sup>	 ■ GHS: Warning ■ LGK 8 B ■ Store at +15°C to +25°C.	1.18771.0001	100 tests	inquire
100809	Fluoride Cell Test Spectroquant® Method: photometric	0.10 - 1.80 mg/l F <sup>-</sup>	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00809.0001	1 unit	inquire
100822	Fluoride Test Spectroquant® Method: photometric, SPADNS	0.02 - 2.00 mg/l F <sup>-</sup>	 ■ GHS: Warning ■ LGK 8B ■ Store at +15°C to +25°C.	1.00822.0250	1 kg	inquire



## Formaldehyde

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110036	Formaldehyde Test MQuant™ Method: colorimetric with test strips and reagent	10 - 20 - 40 - 60 - 100 mg/l HCHO	 ■ GHS: Danger ■ LGK 8B ■ Store at +2°C to +8°C.	1.10036.0001	100 strips	inquire
108028	Formaldehyde Test MColorTest™ Method: colorimetric with color card and sliding comparator	0.1 - 0.25 - 0.4 - 0.6 - 0.8 - 1.0 - 1.5 mg/l HCHO	■ LGK 8B ■ Store at +15°C to +25°C.	1.08028.0001	100 tests	inquire
116989	Formaldehyde Test Reflectoquant® Method: reflectometric with test strips and reagent	1.0 - 45.0 mg/l HCHO	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.16989.0001	50 strips	inquire
114500	Formaldehyde Cell Test Spectroquant® Method: photometric	0.10 - 8.00 mg/l HCHO	 ■ GHS: Danger ■ LGK 8BL ■ Store at +15°C to +25°C.	1.14500.0001	25 tests	inquire
114678	Formaldehyde Test Spectroquant® Method: photometric	0.02 - 8.00 mg/l HCHO	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.14678.0001	100 tests	inquire



## Free Fatty Acids

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
117046	Free Fatty Acids MQuant™ Method: colorimetric with test strips	0.5 – 1 – 2 – 3 mg/g KOH	■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.17046.0001	100 strips	inquire

## Free Sulfurous Acid

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
116137	Free Sulfurous Acid Reflectoquant® Method: reflectometric with test strips and reagents	1.0 – 30.0 mg/l SO <sub>2</sub>	 ■ GHS: Danger  ■ LGK 3 ■ Store at +2°C to +8°C.	1.16137.0001	50 tests	inquire




## Fritest® (see also Oxifrit Test®)

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110652	Fritest® Method: colorimetric, alkali colour count principle	Reagents and accessories for evaluating the degree of deterioration of vegetable fats used in deep-frying in kitchens and bakeries	 ■ GHS: Warning ■ LGK 8BL ■ Store at +15°C to +25°C.	1.10652.0001	60 tests	inquire
110651	Fritest® Refill pack for 110652		 ■ GHS: Warning ■ LGK 8BL ■ Store at +15°C to +25°C.	1.10651.0001	30 tests	inquire

## Glucose

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
117866	Glucose Test MQuant™ Method: colorimetric with test strips	10 – 25 – 50 – 100 – 250 – 500 mg/l Glucose	■ Store at +2°C to +8°C.	1.17866.0001	50 strips	inquire
116720	Glucose Test Reflectoquant® Method: reflectometric with test strips	1 – 100 mg/l	■ Store at +2°C to +8°C.	1.16720.0001	50 strips	inquire

## Gold







Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114821	Gold Test Spectroquant® Method: photometric	0.5 – 12.0 mg/l Au	 ■ GHS: Danger  ■ LGK 5.1 B ■ Store at +15°C to +25°C. 	1.14821.0002	75 tests	inquire

## Hydrazine

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
108017	Hydrazine Test MColorTest™ Method: colorimetric with color-matching vessel	0.10 – 0.25 – 0.5 – 1.0 mg/l N <sub>2</sub> H <sub>4</sub> Also required: Aquamerck® Colour-matching vessel Hydrazine, Cat. No. 1.08018.0001	■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.08017.0001	100 tests	inquire
108018	Color-matching vessel Hydrazine MColorTest™ for 108017	0.1 – 0.25 – 0.5 – 1.0 mg/l N <sub>2</sub> H <sub>4</sub>	■ Store at +15°C to +25°C.	1.08018.0001	1 unit	inquire
109711	Hydrazine Test Spectroquant® Method: photometric	0.005 – 2.00 mg/l N <sub>2</sub> H <sub>4</sub>	■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.09711.0001	100 tests	inquire

# Analytical Test Kits



## Hydrogen Peroxide (see also Peroxide)

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114731	Hydrogen Peroxide Cell Test Spectroquant® Method: photometric	2.0 - 20.0 mg/l H <sub>2</sub> O <sub>2</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>   	1.14731.0001	25 tests	<a href="#">inquire</a>
118789	Hydrogen Peroxide Test Spectroquant® Method: photometric	0.015 - 6.00 mg/l H <sub>2</sub> O <sub>2</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul> 	1.18789.0001	100 tests	<a href="#">inquire</a>









## Hydroxymethylfurfural (HMF)

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
117952	Hydroxymethylfurfural (HMF) Test Reflectoquant® Method: reflectometric with test strips	1.0 - 60.0 mg/l	<ul style="list-style-type: none"> <li>■ Store at +2°C to +8°C.</li> </ul>	1.17952.0001	50 strips	<a href="#">inquire</a>

## Iodine















Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
100606	Iodine Test Spectroquant® Method: photometric, DPD	0.050 - 10.00 mg/l I <sub>2</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul> 	1.00606.0001	200 tests	<a href="#">inquire</a>

## Iron

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110004	Iron Test MQuant™ Method: colorimetric with test strips	3 - 10 - 25 - 50 - 100 - 250 - 500 mg/l Fe <sup>2+</sup>	<ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.10004.0001	100 strips	<a href="#">inquire</a>
114660	Iron Test in freshwater and seawater MColoritest™ Method: colorimetric with color card	0.05 - 0.1 - 0.2 - 0.4 - 0.6 - 0.8 - 1.0 mg/l Fe <sup>2+</sup>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul> 	1.14660.0001	50 tests	<a href="#">inquire</a>
111136	Iron Test MColoritest™ Method: colorimetric with color-matching vessel	0.1 - 0.3 - 0.5 - 1.0 - 2.5 - 5.0 - 7.5 - 12.5 - 25 - 50 mg/l Fe	 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 8 B ■ Store at +15°C to +25°C.</li> </ul> 	1.11136.0001	200 tests	<a href="#">inquire</a>
108023	Iron Test Refill pack MColoritest™ for 111136		 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 8 B ■ Store at +15°C to +25°C.</li> </ul> 	1.08023.0001	200 tests	<a href="#">inquire</a>
114759	Iron Test MColoritest™ Method: colorimetric with colour-disk comparator	0.1 - 0.2 - 0.3 - 0.5 - 0.8 - 1.2 - 2 - 3 - 5 mg/l Fe	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul> 	1.14759.0001	500 tests	<a href="#">inquire</a>



## Iron

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114404	Iron Test MColorstest™ Method: colorimetric with color card and comparator block with short test tubes	0.25 - 0.5 - 1.0 - 2.0 - 3.0 - 5.0 - 7.5 - 10 - 15 mg/l Fe	  ■ GHS: Danger ■ LGK 6.1C ■ Store at +15°C to +25°C.	1.14404.0001	300 tests	inquire
114438	Iron Test MColorstest™ Method: colorimetric with colour card and comparator block with short test tubes	0.2 - 0.4 - 0.6 - 0.8 - 1.0 - 1.3 - 1.6 - 2.0 - 2.5 mg/l Fe	  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.14438.0001	500 tests	inquire
114403	Iron Test MColorstest™ Method: colorimetric with color card and comparator block with long test tubes	0.01 - 0.02 - 0.03 - 0.04 - 0.06 - 0.08 - 0.10 - 0.15 - 0.20 mg/l Fe	  ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.	1.14403.0001	300 tests	inquire
118458	Iron Test Refill pack MColorstest™ for 114759, 114438, 114403		  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.18458.0002	500 tests	inquire
116983	Iron Test Reflectoquant® Method: reflectometric with test strips	20 - 200 mg/l Fe <sup>2+</sup>	■ Store at +15°C to +25°C.	1.16983.0001	50 strips	inquire
116982	Iron Test Reflectoquant® Method: reflectometric with test strips	0.5 - 20 mg/l Fe <sup>2+</sup>	■ Store at +15°C to +25°C.	1.16982.0001	50 strips	inquire
114549	Iron Cell Test Spectroquant® Method: photometric	0.05 - 4.00 mg/l Fe	  ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.	1.14549.0001	25 tests	inquire
114896	Iron Cell Test Spectroquant® Method: photometric	1.0 - 50.0 mg/l Fe	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14896.0001	25 tests	inquire
114761	Iron Test Spectroquant® Method: photometric	0.005 - 5.00 mg/l Fe	  ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.	1.14761.0001 1.14761.0002	1000 tests 250 tests	inquire inquire
100796	Iron Test Spectroquant® Method: photometric	0.010 - 5.00 mg/l Fe	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.00796.0001	150 tests	inquire
173007	Iron Powder Packs for photometers of other manufacturers for 10-ml samples Spectroquant® Method: photometric, phenanthroline	0 - 3.00 mg/l Fe	 ■ GHS: Danger, Serious eye damage, Category 1, H318 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.73007.0001	100 tests	inquire

## Lactic Acid









Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
116127	Lactic Acid Test Reflectoquant® Method: reflectometric with test strips	3.0 - 60.0 mg/l	■ Store at +2°C to +8°C.	1.16127.0001	50 strips	inquire

## Lead

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110077	Lead Test MQuant™ Method: colorimetric with test strips and reagent	20 - 40 - 100 - 200 - 500 mg/l Pb	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10077.0001	100 strips	inquire

# Analytical Test Kits








## Lead

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114833	Lead Cell Test Spectroquant® Method: photometric	0.10 - 5.00 mg/l Pb	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1A</li> <li>■ Store at +15°C to +25°C.</li> </ul>   	1.14833.0001	25 tests	<a href="#">inquire</a>
109717	Lead Test Spectroquant® Method: photometric	0.010 - 5.00 mg/l Pb	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1B</li> <li>■ Store at +15°C to +25°C.</li> </ul>   	1.09717.0001	50 tests	<a href="#">inquire</a>

## Lead Acetate Paper

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
109511	Lead(II)acetate paper roll length 4.8 m		<ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.09511.0003	3 rolls	<a href="#">inquire</a>


















## Magnesium

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
111131	Magnesium Test MColorTest™ Method: colorimetric with color card	100 - 200 - 300 - 500 - 1000 - 1500 mg/l Mg	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.11131.0001	50 tests	<a href="#">inquire</a>
116124	Magnesium Test Reflectoquant® Method: reflectometric with test strips	5 - 100 mg/l Mg	<ul style="list-style-type: none"> <li>■ Store at +2°C to +8°C.</li> </ul>	1.16124.0001	50 strips	<a href="#">inquire</a>
100815	Magnesium Cell Test Spectroquant® Method: photometric	5.0 - 75.0 mg/l Mg	 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 3</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.00815.0001	25 tests	<a href="#">inquire</a>
101846	Manganese Test Spectroquant® Method: photometric	0.005 - 2.00 mg/l Mn	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3</li> <li>■ Store at +15°C to +25°C.</li> </ul>    	1.01846.0001	250 tests	<a href="#">inquire</a>




## Malic Acid

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
116128	Malic Acid Test Reflectoquant® Method: reflectometric with test strips	5.0 - 60.0 mg/l	<ul style="list-style-type: none"> <li>■ Store at +2°C to +8°C.</li> </ul>	1.16128.0001	50 strips	<a href="#">inquire</a>

## Manganese



Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110080	Manganese Test MQuant™ Method: colorimetric with test strips and reagents	2 - 5 - 20 - 50 - 100 mg/l Mn	 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.10080.0001	100 strips	inquire
114768	Manganese Test MColortest™ Method: colorimetric with color-disk comparator	0.3 - 0.7 - 1.3 - 2 - 3 - 4 - 5 - 7 - 10 mg/l Mn	 ■ GHS: Danger ■ LGK 8 A ■ Store at +15°C to +25°C. 	1.14768.0001	120 tests	inquire
114406	Manganese Test MColortest™ Method: colorimetric with color card and comparator block with long test tubes	0.03-0.06-0.10-0.15-0.20-0.25-0.3-0.4-0.5 mg/l Mn	 ■ GHS: Danger ■ LGK 8 A ■ Store at +15°C to +25°C. 	1.14406.0001	120 tests	inquire
118460	Manganese Test Refill pack MColortest™ for 114768, 114406		 ■ GHS: Danger ■ LGK 8 A ■ Store at +15°C to +25°C. 	1.18460.0002	120 tests	inquire
100816	Manganese Cell Test Spectroquant® Method: photometric	0.10 - 5.00 mg/l Mn	 ■ GHS: Danger ■ LGK 6.1C ■ Store at +15°C to +25°C.  	1.00816.0001	25 tests	inquire
114770	Manganese Test Spectroquant® Method: photometric	0.010 - 10.00 mg/l Mn	 ■ GHS: Danger ■ LGK 8 A ■ Store at +15°C to +25°C. 	1.14770.0001 1.14770.0002	500 tests 250 tests	inquire inquire
101846	Manganese Test Spectroquant® Method: photometric	0.005 - 2.00 mg/l Mn	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.    	1.01846.0001	250 tests	inquire

## Molybdenum



Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110049	Molybdenum Test MQuant™ Method: colorimetric with test strips and reagent	5 - 20 - 50 - 100 - 250 mg/l Mo	 ■ GHS: Warning ■ LGK 8 B ■ Store at +15°C to +25°C.	1.10049.0001	100 strips	inquire
100860	Molybdenum Cell Test Spectroquant® Method: photometric	0.02 - 1.00 mg/l Mo 0.03 - 1.67 mg/l MoO <sub>4</sub> <sup>2-</sup> 0.04 - 2.15 mg/l Na <sub>2</sub> MoO <sub>4</sub>	 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C. 	1.00860.0001	25 tests	inquire

# Analytical Test Kits
















## Molybdenum

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
119252	Molybdenum Test Spectroquant® Method: photometric	0.5 - 45.0 mg/l Mo 0.8 - 75.0 mg/l MoO <sub>4</sub> <sup>2-</sup> 1.1 - 96.6 mg/l Na <sub>2</sub> MoO <sub>4</sub>	  ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.19252.0001	100 tests	<a href="#">inquire</a>


















## Monochloramine

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
101632	Monochloramine Test Spectroquant® Method: photometric	0.050 - 10.00 mg/l Cl <sub>2</sub> 0.036 - 7.25 mg/l NH <sub>2</sub> Cl 0.010 - 1.96 mg/l NH <sub>2</sub> Cl-N	  ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.01632.0001	150 tests	<a href="#">inquire</a>

## Nickel





Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110006	Nickel Test MQuant™ Method: colorimetric with test strips	10 - 25 - 100 - 250 - 500 mg/l Ni	■ Store at +15°C to +25°C.	1.10006.0001	100 strips	<a href="#">inquire</a>
114783	Nickel Test Microquant® Method: colorimetric with colour-disk comparator	0.5 - 1.0 - 1.5 - 2 - 3 - 4 - 6 - 8 - 10 mg/l Ni	   ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.14783.0001	500 tests	<a href="#">inquire</a>
114420	Nickel Test MColorTest™ Method: colorimetric with color card and comparator block with long test tubes	0.02 - 0.04 - 0.07 - 0.10 - 0.15 - 0.2 - 0.3 - 0.4 - 0.5 mg/l Ni	   ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.14420.0001	125 tests	<a href="#">inquire</a>
118461	Nickel Test Refill pack MColorTest™ for 114783, 114420		   ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.18461.0002	500 tests	<a href="#">inquire</a>
114554	Nickel Cell Test Spectroquant® Method: photometric	0.10 - 6.00 mg/l Ni	   ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.14554.0001	25 tests	<a href="#">inquire</a>
114785	Nickel Test Spectroquant® Method: photometric	0.02 - 5.00 mg/l Ni	   ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.14785.0001	250 tests	<a href="#">inquire</a>

## Nitrate




Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110020	Nitrate Test MQuant™ Method: colorimetric with test strips	10 - 25 - 50 - 100 - 250 - 500 mg/l NO <sub>3</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.10020.0001 1.10020.0002	100 strips 25 strips	inquire inquire
110092	Nitrate Test MQuant™ individually sealed (Alu foil) with nitrate and nitrite reaction zone Method: colorimetric with test strips	10 - 25 - 50 - 100 - 250 - 500 mg/l NO <sub>3</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.10092.0021	1000strips	inquire
111169	Nitrate Test in freshwater MColorTest™ Method: colorimetric with color card	10 - 25 - 50 - 75 - 100 - 125 - 150 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.  	1.11169.0001	100 tests	inquire
111170	Nitrate Test MColorTest™ Method: colorimetric with colour card and sliding comparator	10 - 25 - 50 - 75 - 100 - 125 - 150 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.  	1.11170.0001	200 tests	inquire
118387	Nitrate Test MColorTest™ Method: colorimetric with color-disk comparator	5 - 10 - 20 - 30 - 40 - 50 - 60 - 70 - 90 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.18387.0001	90 tests	inquire
118462	Nitrate Test Refill pack MColorTest™ for 118387		 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.18462.0002	90 tests	inquire
116971	Nitrate Test Reflectoquant® Method: reflectometric with test strips	5 - 225 mg/l NO <sub>3</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.16971.0001	50 strips	inquire
116995	Nitrate Test Reflectoquant® Method: reflectometric with test strips	3 - 90 mg/l NO <sub>3</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.16995.0001	50 strips	inquire
117961	Nitrate Test RQeasy® Reflectoquant® Method: reflectometric	5 - 250 mg/l NO <sub>3</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.17961.0001	50 strips	inquire
114542	Nitrate Cell Test Spectroquant® Method: photometric	0.5 - 18.0 mg/l NO <sub>3</sub> -N 2.2 - 79.7 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.14542.0001	25 tests	inquire
114563	Nitrate Cell Test Spectroquant® Method: photometric, DMP	0.5 - 25.0 mg/l NO <sub>3</sub> -N 2.2 - 110.7 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.14563.0001	25 tests	inquire
114764	Nitrate Cell Test Spectroquant® Method: photometric, DMP	1.0 - 50.0 mg/l NO <sub>3</sub> -N 4 - 221 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.14764.0001	25 tests	inquire
100614	Nitrate Cell Test Spectroquant® Method: photometric, DMP	23 - 225 mg/l NO <sub>3</sub> -N 102 - 996 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.00614.0001	25 tests	inquire
109713	Nitrate Test Spectroquant® Method: photometric, DMP	0.10 - 25.0 mg/l NO <sub>3</sub> -N 0.4 - 110.7 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.09713.0001 1.09713.0002	100 tests 250 tests	inquire inquire

# Analytical Test Kits







## Nitrate

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114773	Nitrate Test Spectroquant® Method: photometric	0.2 - 20.0 mg/l NO <sub>3</sub> -N 0.9 - 88.5 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.14773.0001	100 tests	<a href="#">inquire</a>
101842	Nitrate Test Spectroquant® Method: photometric	0.3 - 30.0 mg/l NO <sub>3</sub> -N	 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.    	1.01842.0001	100 tests	<a href="#">inquire</a>

## Nitrate in seawater



Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114556	Nitrate Cell Test in seawater Spectroquant® Method: photometric	0.10 - 3.00 mg/l NO <sub>3</sub> -N 0.4 - 13.3 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.14556.0001	25 tests	<a href="#">inquire</a>
114942	Nitrate test in seawater Spectroquant® Method: photometric	0.2 - 17.0 mg/l NO <sub>3</sub> -N 0.9 - 75.3 mg/l NO <sub>3</sub> <sup>-</sup>	 ■ GHS: Danger ■ LGK 6.1C ■ Store at +15°C to +25°C.  	1.14942.0001	50 tests	<a href="#">inquire</a>

## Nitrite












Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110022	Nitrite Test MQuant™ Method: colorimetric with test strips	0.1 - 0.3 - 0.6 - 1 - 2 - 3 g/l NO <sub>2</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.10022.0001	100 strips	<a href="#">inquire</a>
110007	Nitrite Test MQuant™ Method: colorimetric with test strips	2 - 5 - 10 - 20 - 40 - 80 mg/l NO <sub>2</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.10007.0001 1.10007.0002	100 strips 25 strips	<a href="#">inquire</a> <a href="#">inquire</a>
110057	Nitrite Test MQuant™ Method: colorimetric with test strips	0.5 - 1 - 2 - 5 - 10 mg/l NO <sub>2</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.10057.0001	75 strips	<a href="#">inquire</a>
114658	Nitrite Test in freshwater and seawater MColortest™ Method: colorimetric with color card	0.05 - 0.15 - 0.25 - 0.50 - 1.0 mg/l NO <sub>2</sub> <sup>-</sup>	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14658.0001	100 tests	<a href="#">inquire</a>
108025	Nitrite Test MColortest™ Method: colorimetric with colour card and sliding comparator	0.025 - 0.050 - 0.075 - 0.10 - 0.15 - 0.2 - 0.3 - 0.5 mg/l NO <sub>2</sub> <sup>-</sup>	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08025.0001	200 tests	<a href="#">inquire</a>
114774	Nitrite Test MColortest™ Method: colorimetric with color-disk comparator	0.1 - 0.2 - 0.4 - 0.6 - 1.0 - 1.8 - 3.0 - 6.0 - 10 mg/l NO <sub>2</sub> <sup>-</sup>	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14774.0001	400 tests	<a href="#">inquire</a>
114424	Nitrite Test MColortest™ Method: colorimetric with color card and comparator block with short test tubes	0.1-0.2-0.3-0.4-0.6-0.8-1.0-1.3-2.0 mg/l NO <sub>2</sub> <sup>-</sup> 0.03-0.06-0.09-0.12-0.18-0.24-0.3-0.4-0.6 mg/l NO <sub>2</sub> -N	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14424.0001	400 tests	<a href="#">inquire</a>
114408	Nitrite Test MColortest™ Method: colorimetric with color card and comparator block with long test tubes	0.005 - 0.012 - 0.02 - 0.03 - 0.04 - 0.05 - 0.06 - 0.08 - 0.10 mg/l NO <sub>2</sub> <sup>-</sup> 0.0015 - 0.0037 - 0.006 - 0.009 - 0.012 - 0.015 - 0.018 - 0.024 - 0.030 mg/l NO <sub>2</sub> -N	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14408.0001	110 tests	<a href="#">inquire</a>
118463	Nitrite Test Refill pack MColortest™ for 114774, 114424, 114408		 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18463.0002	400 tests	<a href="#">inquire</a>
116732	Nitrite Test Reflectoquant® Method: reflectometric with test strips	0.03 - 1.00 g/l NO <sub>2</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.16732.0001	50 strips	<a href="#">inquire</a>






## Nitrite

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
116973	Nitrite Test Reflectoquant® Method: reflectometric with test strips	0.5 – 25.0 mg/l NO <sub>2</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.16973.0001	50 strips	inquire
114547	Nitrite Cell Test Spectroquant® Method: photometric	0.010 – 0.700 mg/l NO <sub>2</sub> -N 0.03 – 2.30 mg/l NO <sub>2</sub> <sup>-</sup>	 ■ GHS: Warning ■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.14547.0001	25 tests	inquire
100609	Nitrite Cell Test Spectroquant® Method: photometric	1.0 – 90.0 mg/l NO <sub>2</sub> -N 3.3 – 295.2 mg/l NO <sub>2</sub> <sup>-</sup>	■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.00609.0001	25 tests	inquire
114776	Nitrite Test Spectroquant® Method: photometric	0.002 – 1.00 mg/l NO <sub>2</sub> -N 0.007 – 3.28 mg/l NO <sub>2</sub> <sup>-</sup>	 ■ GHS: Warning ■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.14776.0001 1.14776.0002	1000 tests 335 tests	inquire inquire
173010	Nitrite Powder Packs for photometers of other manufacturers for 25-ml samples Spectroquant® Method: photometric, diazotization	0 – 0.300 mg/l NO <sub>2</sub> -N	■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.73010.0001	100 tests	inquire

## Nitrogen (total)




Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
100613	Nitrogen (total) Cell Test Spectroquant® Method: photometric, DMP	0.5 – 15.0 mg/l N	 ■ GHS: Danger ■ LGK 5.1 B ■ Store at +15°C to +25°C.   	1.00613.0001	25 tests	inquire
114537	Nitrogen (total) Cell Test Spectroquant® Method: photometric	0.5 – 15.0 mg/l N	 ■ GHS: Danger ■ LGK 5.1 B ■ Store at +15°C to +25°C.  	1.14537.0001	25 tests	inquire
114763	Nitrogen (total) Cell Test Spectroquant® Method: photometric, DMP	10 – 150 mg/l N	 ■ GHS: Danger ■ LGK 5.1B ■ Store at +15°C to +25°C.   	1.14763.0001	25 tests	inquire

## Oxifrit Test® (see also Fritest®)






Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110653	Oxifrit-Test® Method: colorimetric, determination of oxidized fatty acids	Reagents and accessories for evaluating the degree of deterioration of vegetable and animal fats used in deep-frying in kitchens and bakeries	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.  	1.10653.0001	60 tests	inquire

# Analytical Test Kits


## Oxifrit Test® (see also Fritest®)

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110654	Oxifrit-Test® Refill pack for 110653		 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>  	1.10654.0001	30 tests	inquire







## Oxygen

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114662	Oxygen Test in freshwater and seawater MColorTest™ Method: colorimetric with color card	1 - 3 - 5 - 7 - 9 - 12 mg/l O <sub>2</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B ■ Store at +15°C to +25°C.</li> </ul>	1.14662.0001	50 tests	inquire
111107	Oxygen Test MColorTest™ Method: titrimetric, acc. to Winkler, with titration pipette	Measuring range with 1 full pipette: 0.1 - 10 mg/l O <sub>2</sub> Graduation of the titration pipette: 0.1 mg/l O <sub>2</sub> 100 determinations at 8.5 mg/l O <sub>2</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B ■ Store at +15°C to +25°C.</li> </ul>	1.11107.0001	100 tests	inquire
111152	Oxygen Test Refill pack MColorTest™ for 111107	100 determinations at 8.5 mg/l O <sub>2</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B ■ Store at +15°C to +25°C.</li> </ul>	1.11152.0001	100 tests	inquire
117117	Oxygen Test MColorTest™ Method: titrimetric, acc. to Winkler, with dropping bottle	Graduation: 1 drop $\triangle$ 0.5 mg/l O <sub>2</sub> 100 determinations at 8.5 mg/l O <sub>2</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B ■ Store at +15°C to +25°C.</li> </ul>	1.17117.0001	100 tests	inquire
114663	Oxygen Reaction Bottle MColorTest™		<ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.14663.0001	1 unit	inquire
114694	Oxygen Cell Test Spectroquant® Method: photometric	0.5 - 12.0 mg/l O <sub>2</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B ■ Store at +15°C to +25°C.</li> </ul>	1.14694.0001	25 tests	inquire



## Oxygen Scavengers

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
119251	Oxygen Scavengers Test Spectroquant® Method: photometric 0.020 - 0.500 mg/l DEHA 0.027 - 0.667 mg/l Carbohy 0.053 - 1.315 mg/l Hydro 0.078 - 1.950 mg/l ISA 0.087 - 2.170 mg/l MEKO		 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B ■ Store at +15°C to +25°C.</li> </ul>	1.19251.0001	200 tests	inquire

## Ozone

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
118758	Ozone Test MColorTest™ Method: colorimetric, DPD, with color-disk comparator	0.15 - 0.35 - 0.5 - 0.7 - 1.4 - 2.7 - 5.0 - 7.0 - 10 mg/l O <sub>3</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul> 	1.18758.0001	300 tests	inquire
118759	Ozone Test Refill pack MColorTest™ for 118758, 118755		 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul> 	1.18759.0002	300 tests	inquire
118755	Ozone Test MColorTest™ Method: colorimetric, DPD, with color card and comparator block with long test tubes	0.007 - 0.017 - 0.030 - 0.040 - 0.055 - 0.070 - 0.10 - 0.14 - 0.20 mg/l O <sub>3</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul> 	1.18755.0001	300 tests	inquire

## Ozone

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
100607	Ozone Test Spectroquant® Method: photometric, DPD	0.010 - 4.00 mg/l O <sub>3</sub>	 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C. 	1.00607.0001	200 tests	inquire
				1.00607.0002	1200 tests	inquire

## Peracetic Acid

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
117922	Peracetic Acid Test MQuant™ Method: colorimetric with test strips	500 - 1000 - 1500 - 2000 mg/l	■ Store at +2°C to +8°C.	1.17922.0001	100 strips	inquire
110001	Peracetic Acid Test MQuant™ Method: colorimetric with test strips	100 - 150 - 200 - 250 - 300 - 400 - 500 mg/l	■ Store at +2°C to +8°C.	1.10001.0001	100 strips	inquire
110084	Peracetic Acid Test MQuant™ Method: colorimetric with test strips	5 - 10 - 20 - 30 - 50 mg/l	■ Store at +2°C to +8°C.	1.10084.0001	100 strips	inquire
116976	Peracetic Acid Test Reflectoquant® Method: reflectometric with test strips	75 - 400 mg/l	■ Store at +2°C to +8°C.	1.16976.0001	50 strips	inquire
116975	Peracetic Acid Test Reflectoquant® Method: reflectometric with test strips	1.0 - 22.5 mg/l	■ Store at +2°C to +8°C.	1.16975.0001	50 strips	inquire

## Peroxidase

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
117828	Peroxidase Test MQuant™ Method: colorimetric with test strips		■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.17828.0001	100 tests	inquire

## Peroxide (see also hydrogen peroxide)

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110337	Peroxide Test MQuant™ Method: colorimetric with test strips	100 - 200 - 400 - 600 - 800 - 1000 mg/l H <sub>2</sub> O <sub>2</sub>	■ Store at +2°C to +8°C.	1.10337.0001	100 strips	inquire
110081	Peroxide Test MQuant™ Method: colorimetric with test strips	1 - 3 - 10 - 30 - 100 mg/l H <sub>2</sub> O <sub>2</sub>	■ Store at +2°C to +8°C.	1.10081.0001	100 strips	inquire
110011	Peroxide Test MQuant™ Method: colorimetric with test strips	0.5 - 2 - 5 - 10 - 25 mg/l H <sub>2</sub> O <sub>2</sub>	■ Store at +2°C to +8°C.	1.10011.0001 1.10011.0002	100 strips 25 strips	inquire inquire
116731	Peroxide Test Reflectoquant® Method: reflectometric with test strips	100 - 1000 mg/l H <sub>2</sub> O <sub>2</sub>	■ Store at +2°C to +8°C.	1.16731.0001	50 strips	inquire
116974	Peroxide Test Reflectoquant® Method: reflectometric with test strips	0.2 - 20.0 mg/l H <sub>2</sub> O <sub>2</sub>	■ Store at +2°C to +8°C.	1.16974.0001	50 strips	inquire

## pH-Indicator papers

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
109565	pH Box pH-indicator paper pH 0.5 - 13.0 with Acilit® (pH 0.5-5.0), Neutralit® (pH 5.5-9.0), Alkali® (9.5-13.0), 3 rolls (of 4.8 m) and colour scale			1.09565.0001	3 rolls	inquire

# Analytical Test Kits






## pH-Indicator papers

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
109514	pH-indicator paper Congo red paper Roll (4.8 m) with colour scale			1.09514.0003	3 rolls	<a href="#">inquire</a>
109486	pH-indicator paper Litmus paper blue Roll (4.8 m) with colour scale			1.09486.0003	3 rolls	<a href="#">inquire</a>
109489	pH-indicator paper Litmus paper red Roll (4.8 m) with colour scale			1.09489.0003	3 rolls	<a href="#">inquire</a>
109568	pH-indicator paper pH 0.5 - 5.0 Acilit® 6 replacement rolls (of 4.8 m) for 109560, 109565			1.09568.0001	6 rolls	<a href="#">inquire</a>
109560	pH-indicator paper pH 0.5 - 5.0 Acilit® Roll (4.8 m) with colour scale	pH 0.5 - 1.0 - 1.5 - 2.0 - 2.5 - 3.0 - 3.5 - 4.0 - 4.5 - 5.0		1.09560.0003	3 rolls	<a href="#">inquire</a>
109527	pH-indicator paper pH 1 - 10 Universal indicator 6 replacement rolls (of 4.8 m) for 109526			1.09527.0001	6 rolls	<a href="#">inquire</a>
109525	pH-indicator paper pH 1 - 10 Universal indicator	pH 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10		1.09525.0003	3x100strip	<a href="#">inquire</a>
109526	pH-indicator paper pH 1 - 10 Universal indicator Roll (4.8 m) with colour scale	pH 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10		1.09526.0003	3 rolls	<a href="#">inquire</a>
110232	pH-indicator paper pH 1 - 14 Universal indicator 6 replacement rolls (of 4.8 m) for 110962			1.10232.0001	6 rolls	<a href="#">inquire</a>
110962	pH-indicator paper pH 1 - 14 Universal indicator Roll (4.8 m) with colour scale	pH 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 12 - 14	■ LGK 10 - 13	1.10962.0003	3 rolls	<a href="#">inquire</a>
109555	pH-indicator paper pH 3.8 - 5.4 Special indicator Roll (4.8 m) with colour scale	pH <3.8 - 4.1 - 4.4 - 4.6 - 4.8 - 5.1 - 5.4		1.09555.0003	3 rolls	<a href="#">inquire</a>
109556	pH-indicator paper pH 5.4 - 7.0 Special indicator Roll (4.8 m) with colour scale	pH <5.4 - 5.4 - 5.8 - 6.2 - 6.4 - 6.7 - 7.0 - >7.0		1.09556.0003	3 rolls	<a href="#">inquire</a>
109569	pH-indicator paper pH 5.5 - 9.0 Neutralit® 6 replacement rolls (of 4.8 m) for 109564, 109565			1.09569.0001	6 rolls	<a href="#">inquire</a>
109564	pH-indicator paper pH 5.5 - 9.0 Neutralit® Roll (4.8 m) with colour scale	pH 5.5 - 6.0 - 6.5 - 7.0 - 7.5 - 8.0 - 8.5 - 9.0		1.09564.0003	3 rolls	<a href="#">inquire</a>
109557	pH-indicator paper pH 6.4 - 8.0 Special indicator Roll (4.8 m) with colour scale	pH 6.4 - 6.7 - 7.0 - 7.2 - 7.5 - 7.7 - 8.0 - >8.0		1.09557.0003	3 rolls	<a href="#">inquire</a>
109558	pH-indicator paper pH 8.2 - 10.0 Special indicator Roll (4.8 m) with colour scale	pH <8.2 - 8.2 - 8.5 - 8.8 - 9.0 - 9.3 - 9.6 - 10.0		1.09558.0003	3 rolls	<a href="#">inquire</a>
109570	pH-indicator paper pH 9.5 - 13.0 Alkalit® 6 replacement rolls (of 4.8 m) for 109562, 109565			1.09570.0001	6 rolls	<a href="#">inquire</a>




## pH-Indicator papers

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
109562	pH-indicator paper pH 9.5 - 13.0 Alkalit® Roll (4.8 m) with colour scale	pH 9.5 - 10.0 - 10.5 - 11.0 - 11.5 - 12.0 - 12.5 - 13.0		1.09562.0003	3 rolls	inquire
109521	pH-indicator paper Phenolphthalein paper Roll (4.8 m) with colour scale			1.09521.0003	3 rolls	inquire

## pH-Indicator solutions

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
109177	pH-indicator solution pH 0 - 5 with colour card	pH 0 - 0.5 - 1 - 1.5 - 2 - 2.5 - 3 - 3.5 - 4 - 4.5 - 5	   <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 2, H371</li> <li>■ LGK 10 - 13</li> </ul>	1.09177.0100	100 ml	inquire
109175	pH-indicator solution pH 4.0 - 10.0 Universal Indicator with colour card	pH 4.0 - 4.5 - 5.0 - 5.5 - 6.0 - 6.5 - 7.0 - 7.5 - 8.0 - 8.5 - 9.0 - 9.5 - 10.0	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Flammable liquid, Category 3, H226</li> <li>■ LGK 3</li> </ul>	1.09175.0100 1.09175.1000	100 ml 1 l	inquire inquire
109176	pH-indicator solution pH 9.0 - 13.0 with colour card	pH 9.0 - 10.0 - 11.0 - 12.0 - 13.0	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225</li> <li>■ LGK 3</li> </ul>	1.09176.0100	100 ml	inquire

## pH-Test sets





Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114669	pH Test for swimming pools MColorTest™ Method: colorimetric with colour card	pH 6.5 - 6.8 - 7.1 - 7.4 - 7.6 - 7.8 - 8.2	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.14669.0001	200 tests	inquire
108027	pH Test MColorTest™ Method: colorimetric with colour card and sliding comparator	pH 4.5 - 5.0 - 5.5 - 6.0 - 6.5 - 7.0 - 7.5 - 8.0 - 8.5 - 9.0	 <ul style="list-style-type: none"> <li>■ flammable</li> <li>■ GHS: Warning</li> <li>■ LGK 3</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.08027.0001	400 tests	inquire
108038	pH Test MColorTest™ Method: colorimetric with color-matching vessel	pH 4.5 - 5.0 - 5.5 - 6.0 - 6.5 - 7.0 - 7.5 - 8.0 - 8.5 - 9.0	 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 3</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.08038.0001	100 tests	inquire
108043	pH Test Refill pack MColorTest™ for 108038		 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 3</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.08043.0001	400 tests	inquire
118773	pH Test in freshwater and seawater MColorTest™ Method: colorimetric with colour card	pH 5.0 - 5.3 - 5.6 - 6.0 - 6.3 - 6.6 - 7.0 - 7.3 - 7.6 - 8.0 - 8.3 - 8.6 - 9.0	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.18773.0001	200 tests	inquire
111143	Chlorine and pH Test Refill pack Reagent pH-1 MColorTest™ for 111174		<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.11143.0001	400 tests	inquire
116894	pH Test Reflectoquant® Method: reflectometric with test strips	pH 1.0 - 5.0	<ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.16894.0001	50 strips	inquire
116996	pH Test Reflectoquant® Method: reflectometric with test strips	pH 4.0 - 9.0	<ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.16996.0001	50 strips	inquire
116898	pH Test in cooling lubricants Reflectoquant® Method: reflectometric with test strips	pH 7.0 - 10.0	<ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.16898.0001	50 strips	inquire
101744	pH Cell Test Spectroquant® Method: photometric	pH 6.4 - 8.8	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.01744.0001	280 tests	inquire

# Analytical Test Kits

## pH-Test strips (non-bleeding)




















Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
109540	pH-indicator strips pH 0 - 2.5 MColorpHast™ non-bleeding	pH 0 - 0.5 - 1.0 - 1.3 - 1.6 - 1.9 - 2.2 - 2.5		1.09540.0001	100 strips	inquire
109531	pH-indicator strips pH 0 - 6.0 MColorpHast™ non-bleeding	pH 0 - 6.0		1.09531.0001 1.09531.0007	100 strips 6 x 100 strip	inquire inquire
109535	pH-indicator strips pH 0 - 14 Universal indicator MColorpHast™ non-bleeding	pH 0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14		1.09535.0001 1.09535.0007	100 strips 6 x 100strip	inquire inquire
109502	pH-indicator strips pH 2.0 - 9.0 MColorpHast™ for pH measurements in turbid solutions (suspensions) non-bleeding	pH 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9		1.09502.0001	100 strips	inquire
109450	pH-Indicator strips pH 2.0 - 9.0 MColorpHast™ individually sealed			1.09450.0010 1.09450.0013	1000strips 25000strip	inquire inquire
109584	pH-indicator strips pH 2.0 - 9.0 MColorpHast™ non-bleeding	2.0 - 2.5 - 3.0 - 3.5 - 4.0 - 4.5 - 5.0 - 5.5 - 6.0 - 6.5 - 7.0 - 7.5 - 8.0 - 8.5 - 9.0		1.09584.0001 1.09584.1111	100 strips 100 strips	inquire inquire
109541	pH-indicator strips pH 2.5 - 4.5 MColorpHast™ non-bleeding	pH 2.5 - 3.0 - 3.3 - 3.6 - 3.9 - 4.2 - 4.5		1.09541.0001	100 strips	inquire
109542	pH-indicator strips pH 4.0 - 7.0 MColorpHast™ non-bleeding	pH 4.0 - 4.4 - 4.7 - 5.0 - 5.3 - 5.5 - 5.8 - 6.1 - 6.5 - 7.0	■ LGK 10 - 13	1.09542.0001 1.09542.0007	100 strips 6 x 100 strip	inquire inquire
109533	pH-indicator strips pH 5.0 - 10.0 MColorpHast™ non-bleeding	pH 5.0 - 5.5 - 6.0 - 6.5 - 7.0 - 7.5 - 8.0 - 8.5 - 9.0 - 9.5 - 10.0		1.09533.0001 1.09533.0007	100 strips 6 x 100 strip	inquire inquire
109632	pH-indicator strips pH 5.2 - 7.2 Special indicator MColorpHast™ for pH measurements in meat non-bleeding	pH 5.2 - 5.6 - 6.0 - 6.4 - 6.8 - 7.2	■ LGK 10 - 13	1.09632.0001	100 strips	inquire
109543	pH-indicator strips pH 6.5 - 10.0 MColorpHast™ non-bleeding	pH 6.5 - 6.8 - 7.1 - 7.4 - 7.7 - 7.9 - 8.1 - 8.3 - 8.5 - 8.7 - 9.0 - 9.5 - 10.0		1.09543.0001 1.09543.0007	100 strips 6 x 100 strip	inquire inquire
109532	pH-indicator strips pH 7.5 - 14 MColorpHast™ non-bleeding	pH 7.5 - 8.0 - 8.5 - 9.0 - 9.5 - 10.0 - 10.5 - 11.0 - 11.5 - 12.0 - 12.5 - 13.0 - 13.5 - 14.0		1.09532.0001	100 strips	inquire
109545	pH-indicator strips pH 11.0 - 13.0 MColorpHast™ non-bleeding	pH 11.0 - 11.5 - 11.8 - 12.1 - 12.3 - 12.5 - 12.8 - 13.0		1.09545.0001	100 strips	inquire

## Phenol

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114551	Phenol Cell Test Spectroquant® Method: photometric	0.10 - 2.50 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B ■ Store at +15°C to +25°C.</li> </ul> 	1.14551.0001	25 tests	inquire
100856	Phenol Test Spectroquant® Method: photometric	0.002 - 5.00 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 5.1B ■ Store at +15°C to +25°C.</li> </ul> 	1.00856.0001	50-250test	inquire












## Phosphate










Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110428	Phosphate Test Merckoquant® Method: colorimetric with test strips and reagent	10 - 25 - 50 - 100 - 250 - 500 mg/l PO <sub>4</sub> <sup>3-</sup>	 ■ GHS: Warning ■ LGK 8 B ■ Store at +15°C to +25°C.	1.10428.0001	100 strips	inquire
114661	Phosphate Test in freshwater and seawater MColorTest™ Method: colorimetric with colour card	0.25 - 0.50 - 0.75 - 1.0 - 1.5 - 2.0 - 3.0 mg/l PO <sub>4</sub> <sup>3-</sup>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.14661.0001	100 tests	inquire
111138	Phosphate Test MColorTest™ Method: colorimetric, PMB, with color-matching vessel	1.0 - 2.5 - 5.0 - 7.5 - 10 mg/l P <sub>2</sub> O <sub>5</sub> 1.3 - 3.3 - 6.7 - 10.0 - 13.4 mg/l PO <sub>4</sub> <sup>3-</sup>	  ■ GHS: Warning ■ LGK 8BL ■ Store at +15°C to +25°C.	1.11138.0001	200 tests	inquire
108046	Phosphate Test Refill pack MColorTest™ for 111138		  ■ GHS: Warning ■ LGK 8B ■ Store at +15°C to +25°C.	1.08046.0001	200 tests	inquire
114846	Phosphate Test MColorTest™ Method: colorimetric, PMB, with colour-disk comparator	0.2 - 0.4 - 0.6 - 0.8 - 1.0 - 1.5 - 2.0 - 2.5 - 3.0 mg/l PO <sub>4</sub> -P	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.14846.0001	200 tests	inquire
118388	Phosphate Test MColorTest™ Method: colorimetric, VM, with color-disk comparator	1.5 - 3 - 6 - 9 - 12 - 16 - 20 - 40 - 100 mg/l PO <sub>4</sub> -P	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.18388.0001	300 tests	inquire
118466	Phosphate Test Refill pack MColorTest™ for 118388, 114449		 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.18466.0002	300 tests	inquire
118465	Phosphate-Test Refill pack MColorTest™ for 114846, 118394		 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.18465.0002	200 tests	inquire
114449	Phosphate Test MColorTest™ Method: colorimetric, VM, with color card and comparator block with short test tubes	1.0 - 2.0 - 3.5 - 6.0 - 10 - 20 - 40 mg/l PO <sub>4</sub> -P 3.1 - 6.1 - 11 - 18 - 31 - 61 - 123 mg/l PO <sub>4</sub> <sup>3-</sup>	 ■ GHS: Danger ■ LGK 8BL ■ Store at +15°C to +25°C.	1.14449.0001	190 tests	inquire
116978	Phosphate Test Reflectoquant® Method: reflectometric with test strips and reagent	5 - 120 mg/l PO <sub>4</sub> <sup>3-</sup>	 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.16978.0001	50 strips	inquire
117942	Phosphate Test Reflectoquant® plus Method: reflectometric	0.1 - 5.0 mg/l PO <sub>4</sub> <sup>3-</sup>	 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.17942.0001	100 tests	inquire
114543	Phosphate Cell Test Spectroquant® (o-phosphate and total phosphorous) Method: photometric, PMB	0.05 - 5.00 mg/l PO <sub>4</sub> -P 0.2 - 15.3 mg/l PO <sub>4</sub> <sup>3-</sup> 0.11 - 11.46 mg/l P <sub>2</sub> O <sub>5</sub>	   ■ GHS: Danger ■ LGK 5.1 B ■ Store at +15°C to +25°C.	1.14543.0001	25 tests	inquire
114729	Phosphate Cell Test Spectroquant® (o-phosphate and total phosphorous) Method: photometric, PMB	0.5 - 25.0 mg/l PO <sub>4</sub> -P 1.5 - 76.7 mg/l PO <sub>4</sub> <sup>3-</sup> 1.1 - 57.3 mg/l P <sub>2</sub> O <sub>5</sub>	  ■ GHS: Danger ■ LGK 5.1B ■ Store at +15°C to +25°C.	1.14729.0001	25 tests	inquire
100616	Phosphate Cell Test Spectroquant® (o-phosphate) Method: photometric, PMB	3.0 - 100.0 mg/l PO <sub>4</sub> -P 9 - 307 mg/l PO <sub>4</sub> <sup>3-</sup> 7 - 229 mg/l P <sub>2</sub> O <sub>5</sub>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.00616.0001	25 tests	inquire

# Analytical Test Kits

## Phosphate

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114848	Phosphate Test Spectroquant® (o-phosphate) Method: photometric, PMB	0.010 - 5.00 mg/l PO <sub>4</sub> -P 0.03 - 15.3 mg/l PO <sub>4</sub> <sup>3-</sup> 0.02 - 11.46 mg/l P <sub>2</sub> O <sub>5</sub>	 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.14848.0001 1.14848.0002	420 tests 220 tests	<a href="#">inquire</a> <a href="#">inquire</a>
100798	Phosphate Test Spectroquant® (o-phosphate) Method: photometric, PMB	1.0 - 100.0 mg/l PO <sub>4</sub> -P 3 - 307 mg/l PO <sub>4</sub> <sup>3-</sup> 2 - 229 mg/l P <sub>2</sub> O <sub>5</sub>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.00798.0001	100 tests	<a href="#">inquire</a>
114546	Phosphate Cell Test Spectroquant® (o-phosphate) Method: photometric, VM	0.5 - 25.0 mg/l PO <sub>4</sub> -P 1.5 - 76.7 mg/l PO <sub>4</sub> <sup>3-</sup> 1.1 - 57.3 mg/l P <sub>2</sub> O <sub>5</sub>	 ■ GHS: Danger ■ LGK 8 B ■ Store at +15°C to +25°C.	1.14546.0001	25 tests	<a href="#">inquire</a>
114842	Phosphate Test Spectroquant® (o-phosphate) Method: photometric, VM	0.5 - 30.0 mg/l PO <sub>4</sub> -P 1.5 - 92.0 mg/l PO <sub>4</sub> <sup>3-</sup> 1.1 - 68.7 mg/l P <sub>2</sub> O <sub>5</sub>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.14842.0001	400 tests	<a href="#">inquire</a>
100673	Phosphate Cell Test Spectroquant® (o-phosphate and total phosphorous) Method: photometric, PMB	3.0 - 100.0 mg/l PO <sub>4</sub> -P 9 - 307 mg/l PO <sub>4</sub> <sup>3-</sup> 7 - 229 mg/l P <sub>2</sub> O <sub>5</sub>	  ■ GHS: Danger ■ LGK 5.1 B ■ Store at +15°C to +25°C.	1.00673.0001	1 unit	<a href="#">inquire</a>
100475	Phosphate Cell Test Spectroquant® (o-phosphate) Method: photometric, PMB	0.5 - 25.0 mg/l PO <sub>4</sub> -P 1.5 - 76.7 mg/l PO <sub>4</sub> <sup>3-</sup> 1.1 - 57.3 mg/l P <sub>2</sub> O <sub>5</sub>	 ■ GHS: Warning ■ LGK 8B ■ Store at +15°C to +25°C.	1.00475.0001	25 tests	<a href="#">inquire</a>
100474	Phosphate Cell Test Spectroquant® (o-phosphate) Method: photometric, PMB	0.05 - 5.00 mg/l PO <sub>4</sub> -P 0.2 - 15.3 mg/l PO <sub>4</sub> <sup>3-</sup> 0.11 - 11.46 mg/l P <sub>2</sub> O <sub>5</sub>	 ■ GHS: Warning ■ LGK 8 B ■ Store at +15°C to +25°C.	1.00474.0001	25 tests	<a href="#">inquire</a>
118394	Phosphate Test MColoritest™ Method: colorimetric, PMB, with colour card and comparator block with long test tubes	0.015 - 0.030 - 0.045 - 0.06 - 0.08 - 0.11 - 0.14 mg/l PO <sub>4</sub> -P 0.046 - 0.09 - 0.14 - 0.18 - 0.25 - 0.34 - 0.43 mg/l PO <sub>4</sub> <sup>3-</sup> 0.034 - 0.07 - 0.10 - 0.14 - 0.18 - 0.25 - 0.32 mg/l P <sub>2</sub> O <sub>5</sub>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.18394.0001	200 tests	<a href="#">inquire</a>

## Potassium

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
116992	Potassium Test Reflectoquant® Method: reflectometric with test strips and reagent	0.25 - 1.2 g/l K	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.16992.0001	50 strips	<a href="#">inquire</a>
117945	Potassium Test Reflectoquant® plus Method: reflectometric	1.0 - 25.0 mg/l K	 ■ GHS: Danger ■ LGK 6.1A ■ Store at +15°C to +25°C.  	1.17945.0001	100 tests	<a href="#">inquire</a>
114562	Potassium Cell Test Spectroquant® Method: photometric	5.0 - 50.0 mg/l K	 ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.  	1.14562.0001	25 tests	<a href="#">inquire</a>
100615	Potassium Cell Test Spectroquant® Method: photometric	30 - 300 mg/l K	 ■ GHS: Danger ■ LGK 6.1B ■ Store at +15°C to +25°C.  	1.00615.0001	25 tests	<a href="#">inquire</a>

## Potassium

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
117985	Potassium Test Merckoquant® Method: colorimetric with test strips and reagent	250 - 450 - 700 - 1000 - 1500 mg/l K	■ LGK 8 B ■ Store at +15°C to +25°C.	1.17985.0001	100 strips	inquire





## Potassium iodate starch paper

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
159225	Potassium iodate-starch paper Roll (4.8 m) with colour scale		■ Store at +15°C to +25°C.	1.59225.0003	3 rolls	inquire

## Potassium iodide starch paper

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
109512	Potassium iodide-starch paper Roll (4.8 m) with colour scale		■ Store at +15°C to +25°C.	1.09512.0003	3 rolls	inquire


## Protein

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110306	Protein Kit (Bradford Method) reagent solution for approx. 200 determinations		 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302;  Specific target organ toxicity - single exposure, Category 2, H371  ■ LGK 8 B ■ Store at +2°C to +8°C.	1.10306.0500	500 ml	inquire
110307	Protein Kit (Biuret Method) reagent solution for approx. 250 determinations		 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412 ■ LGK 8 B ■ Store at +2°C to +8°C.	1.10307.0500	500 ml	inquire

## Quaternary Ammonium Compounds

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
117920	Quaternary Ammonium Compounds MQuant™ Method: colorimetric with test strips	10 - 25 - 50 - 100 - 250 - 500 mg/l	■ Store at +15°C to +25°C.	1.17920.0001	100 strips	inquire

## Residual Hardness




Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
111142	Residual Hardness Test MColorTest™ Method: colorimetric with color card	0.04 - 0.08 - 0.15 °d 0.05 - 0.1 - 0.19 °e 0.7 - 1.4 - 2.7 mg/l CaCO <sub>3</sub> Measuring range/graduation: 0.05 - 0.1 - 0.19 °e 0.7 - 1.4 - 2.7 mg/l CaCO <sub>3</sub>	■ LGK 10 ■ Store at +15°C to +25°C.	1.11142.0001	400 tests	inquire
114683	Residual Hardness Cell Test Spectroquant® Method: photometric	0.50 - 5.00 mg/l Ca 0.070 - 0.700 °d 0.087 - 0.874 °e 0.12 - 1.25 °f 0.70 - 7.00 CaO 1.2 - 12.5 mg/l CaCO <sub>3</sub>	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.14683.0001	25 tests	inquire

# Analytical Test Kits





## Silicate

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
108045	Silicate (Silicic Acid) Test Refill pack MColorTest™ for 118765		 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 8B</li> </ul> 	1.08045.0001	100 tests	inquire
114792	Silicate (Silicic Acid) Test MColorTest™ Method: colorimetric with color-disk comparator	0.3 - 0.6 - 1.0 - 1.5 - 2 - 3 - 5 - 7 - 10 mg/l Si	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8BL</li> <li>■ Store at +15°C to +25°C.</li> </ul> 	1.14792.0001	150 tests	inquire
114410	Silicate (Silicic Acid) Test MColorTest™ Method: colorimetric with color card and comparator block with long test tubes	0.01-0.02-0.04-0.06-0.08-0.10-0.15-0.20-0.25 mg/l Si 0.02-0.04-0.09-0.13-0.17-0.21-0.32-0.43-0.53 mg/l SiO <sub>2</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8 B</li> <li>■ Store at +15°C to +25°C.</li> </ul> 	1.14410.0001	150 tests	inquire
118323	Silicate (Silicic Acid) Test Refill pack MColorTest™ for 114792, 114410		 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B</li> <li>■ Store at +15°C to +25°C.</li> </ul> 	1.18323.0002	150 tests	inquire
114794	Silicate (Silicic Acid) Test Spectroquant® Method: photometric	0.011 - 10.70 mg/l SiO <sub>2</sub> 0.005 - 5.00 mg/l Si	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8BL</li> <li>■ Store at +15°C to +25°C.</li> </ul> 	1.14794.0001	300 tests	inquire
100857	Silicate (Silicic Acid) Test Spectroquant® Method: photometric	1.1 - 1070 mg/l SiO <sub>2</sub> 0.5 - 500 mg/l Si	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8BL</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.00857.0001	100 tests	inquire
101813	Silicate (Silicic Acid) Test Spectroquant® Method: photometric	0.0005 - 0.5000 mg/l SiO <sub>2</sub>	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B</li> <li>■ Store at +15°C to +25°C.</li> </ul>  	1.01813.0001	100 tests	inquire


## Silver (see also Fixing bath)

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114831	Silver Test Spectroquant® Method: photometric	0.25 - 3.00 mg/l Ag	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 5.1B</li> <li>■ Store at +15°C to +25°C.</li> </ul>  	1.14831.0001	100 tests	inquire

















## Sodium in nutrient solutions for fertilization

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
100885	Sodium Cell Test in nutrient solutions for fertilization Spectroquant® Method: photometric	10 - 300 mg/l Na	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 C</li> <li>■ Store at +15°C to +25°C.</li> </ul>   	1.00885.0001	25 tests	inquire

## Sucrose (Saccharose)





Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
116141	Sucrose (Saccharose) Test Reflectoquant® Method: reflectometric with test strips and reagent	0.25 - 2.50 g/l	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.16141.0001	50 strips	inquire

## Sulfate





Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110019	Sulfate Test MQuant™ Method: colorimetric with test strips (4 reaction zones)	200 - 400 - 800 - 1200 - 1600 mg/l SO <sub>4</sub> <sup>2-</sup>	■ Store at +15°C to +25°C.	1.10019.0001	100 strips	inquire
114411	Sulfate Test MColorstest™ Method: colorimetric with color card and comparator block with short test tubes	25 - 50 - 80 - 110 - 140 - 200 - 300 mg/l SO <sub>4</sub> <sup>2-</sup>	 ■ GHS: Danger ■ LGK 5.1B ■ Store at +15°C to +25°C.  	1.14411.0001	90 tests	inquire
118467	Sulfate Test Refill pack MColorstest™ for 118389, 114411		 ■ GHS: Danger ■ LGK 5.1B ■ Store at +15°C to +25°C.  	1.18467.0002	90 tests	inquire
114548	Sulfate Cell Test Spectroquant® Method: photometric	5 - 250 mg/l SO <sub>4</sub> <sup>2-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.  	1.14548.0001	25 tests	inquire
100617	Sulfate Cell Test Spectroquant® Method: photometric	50 - 500 mg/l SO <sub>4</sub> <sup>2-</sup>	 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.00617.0001	25 tests	inquire
114564	Sulfate Cell Test Spectroquant® Method: photometric	100 - 1000 mg/l SO <sub>4</sub> <sup>2-</sup>	 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.14564.0001	25 tests	inquire
114791	Sulfate Test Spectroquant® Method: photometric	25 - 300 mg/l SO <sub>4</sub> <sup>2-</sup>	 ■ GHS: Danger ■ LGK 5.1B ■ Store at +15°C to +25°C.  	1.14791.0001	200 tests	inquire
173014	Sulfate Powder Packs for photometers of other manufacturers for 10-ml samples Spectroquant® Method: photometric, barium chloride	0 - 70 mg/l SO <sub>4</sub>	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Eye irritation, Category 2, H319 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.73014.0001	100 tests	inquire
173015	Sulfate Powder Packs for photometers of other manufacturers. BR for 25-ml samples Spectroquant® Method: photometric, barium chloride	0 - 70 mg/l SO <sub>4</sub>	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Eye irritation, Category 2, H319 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.73015.0001	100 tests	inquire

# Analytical Test Kits


## Sulfate

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
118389	Sulfate Test MColorTest™ Method: colorimetric with color-disk comparator	25 - 50 - 75 - 100 - 130 - 160 - 190 - 240 - 300 mg/l SO <sub>4</sub> <sup>2-</sup>	   ■ GHS: Danger ■ LGK 5.1B ■ Store at +15°C to +25°C.	1.18389.0001	75 tests	<a href="#">inquire</a>
101812	Sulfate Test Spectroquant® Method: photometric	0.50 - 50.0 mg/l SO <sub>4</sub> <sup>2-</sup>	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.	1.01812.0001	100 tests	<a href="#">inquire</a>



## Sulfide

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114777	Sulfide Test MColorTest™ Method: colorimetric with color-disk comparator	0.1 - 0.3 - 0.5 - 0.7 - 1 - 2 - 3 - 4 - 5 mg/l S <sup>2-</sup>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.14777.0001	200 tests	<a href="#">inquire</a>
114416	Sulfide Test MColorTest™ Method: colorimetric with color card and comparator block with long test tubes	0.02 - 0.04 - 0.06 - 0.08 - 0.10 - 0.13 - 0.16 - 0.20 - 0.25 mg/l S <sup>2-</sup>	 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.14416.0001	100 tests	<a href="#">inquire</a>
118468	Sulfide Test Refill pack MColorTest™ for 114777, 114416		 ■ GHS: Danger ■ LGK 8B ■ Store at +15°C to +25°C.	1.18468.0002	200 tests	<a href="#">inquire</a>
114779	Sulfide Test Spectroquant® Method: photometric	0.020 - 1.50 mg/l S <sup>2-</sup>	 ■ GHS: Danger ■ LGK 8BL ■ Store at +15°C to +25°C.	1.14779.0001	220 tests	<a href="#">inquire</a>



## Sulfite

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110013	Sulfite Test MQuant™ Method: colorimetric with test strips	10 - 40 - 80 - 180 - 400 mg/l SO <sub>3</sub> <sup>2-</sup>	■ Store at +2°C to +8°C.	1.10013.0001	100 strips	<a href="#">inquire</a>
111148	Sulfite Test MColorTest™ Method: titrimetric (iodometric) with titration pipette	Measuring range with 1 full pipette: 0.5 - 50 mg/l Na <sub>2</sub> SO <sub>3</sub> Graduation of the titration pipette: 0.5 mg/l Na <sub>2</sub> SO <sub>3</sub> 200 determinations at 40 mg/l Na <sub>2</sub> SO <sub>3</sub>	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11148.0001	200 tests	<a href="#">inquire</a>
116987	Sulfite Test Reflectoquant® Method: reflectometric with test strips	10 - 200 mg/l SO <sub>3</sub> <sup>2-</sup>	■ Store at +2°C to +8°C.	1.16987.0001	50 strips	<a href="#">inquire</a>
114394	Sulfite Cell Test Spectroquant® Method: photometric	1.0 - 20.0 mg/l SO <sub>3</sub> <sup>2-</sup>	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14394.0001	25 tests	<a href="#">inquire</a>
101746	Sulfite Test Spectroquant® Method: photometric	1.0 - 60.0 mg/l SO <sub>3</sub> <sup>2-</sup> 0.8 - 48.0 mg/l SO <sub>2</sub>	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01746.0001	150 tests	<a href="#">inquire</a>



## Surfactants (Anionic)

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114697	Surfactants (anion.) Cell Test Spectroquant® Method: photometric	0.05 - 2.00 mg/l MBAS	  ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14697.0001	25 tests	<a href="#">inquire</a>







## Surfactants (Cationic)

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
101764	Surfactants (cation.) Cell Test Spectroquant® Method: photometric	0.05 - 1.50 mg/l CTAB	 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 10 - 13</li> </ul>  <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.01764.0001	25 tests	inquire






## Surfactants (Non-Ionic)

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
101787	Surfactants (nonion.) Cell Test Spectroquant® Method: photometric	0.10 - 7.50 mg/l Triton® X-100	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 10 - 13</li> </ul>  <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.01787.0001	25 tests	inquire

## Tenside

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114697	Surfactants (anion.) Cell Test Spectroquant® Method: photometric	0.05 - 2.00 mg/l MBAS	 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 10 - 13</li> </ul>  <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.14697.0001	25 tests	inquire
101764	Surfactants (cation.) Cell Test Spectroquant® Method: photometric	0.05 - 1.50 mg/l CTAB	 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 10 - 13</li> </ul>  <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.01764.0001	25 tests	inquire
101787	Surfactants (nonion.) Cell Test Spectroquant® Method: photometric	0.10 - 7.50 mg/l Triton® X-100	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 10 - 13</li> </ul>  <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.01787.0001	25 tests	inquire







## Tin

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110028	Tin Test MQuant™ Method: colorimetric with test strips and reagent	10 - 25 - 50 - 100 - 200 mg/l Sn	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8 B</li> </ul>  <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.10028.0001	50 strips	inquire
114622	Tin Cell Test Spectroquant® Method: photometric	0.10 - 2.50 mg/l Sn	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 C</li> </ul>   <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.14622.0001	25 tests	inquire



# Analytical Test Kits



## TOC

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114878	TOC Cell Test Spectroquant® Method: photometric	5.0 - 80.0 mg/l	 ■ GHS: Danger  ■ LGK 5.1B ■ Store at +15°C to +25°C. 	1.14878.0001	25 tests	<a href="#">inquire</a>
114879	TOC Cell Test Spectroquant® Method: photometric	50 - 800 mg/l	 ■ GHS: Danger  ■ LGK 5.1 B ■ Store at +15°C to +25°C. 	1.14879.0001	25 tests	<a href="#">inquire</a>
173500	Screw caps Spectroquant® for TOC digestion			1.73500.0001	6 units	<a href="#">inquire</a>

## Total Acidity

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
116135	Total Acidity Test pH 7.0 Reflectoquant® Method: reflectometric with test strips and reagent	2.0 - 14.0 g/l	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.16135.0001	100 strips	<a href="#">inquire</a>



## Total Dietary Fiber

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
112979	Total dietary fiber Kit reagent kit for 100 determinations		 ■ GHS: Danger  ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.12979.0001	100 tests	<a href="#">inquire</a>

## Total Hardness


Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110025	Total Hardness Test MQuant™ Method: colorimetric with test strips (4 reaction zones)	<3 - >4 - >7 - >14 - >21°d <4 - >5 - >9 - >18 - >26°e <5 - >7 - >12 - >25 - >37°f	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10025.0001	100 strips	<a href="#">inquire</a>
110032	Total Hardness Test MQuant™ Test strips, individually sealed (4 reaction zones) Method: colorimetric with test strips	<3 - >4 - >7 - >14 - >21°d <4 - >5 - >9 - >18 - >26°e <5 - >7 - >12 - >25 - >37°f	■ Store at +15°C to +25°C.	1.10032.0001	1000strips	<a href="#">inquire</a>
110029	Total Hardness Test MQuant™ Test strips, single test strips (4 reaction zones) Method: colorimetric with test strips	<3 - >4 - >7 - >14 - >21°d <4 - >5 - >9 - >18 - >26°e <5 - >7 - >12 - >25 - >37°f	■ Store at +15°C to +25°C.	1.10029.0001	5000strips	<a href="#">inquire</a>
110046	Total Hardness Test MQuant™ Method: colorimetric with test strips (5 reaction zones)	>5 - >10 - >15 - >20 - >25°d >6 - >13 - >19 - >25 - >31°e >9 - >18 - >27 - >36 - >45°f	■ Store at +15°C to +25°C.	1.10046.0001	100 strips	<a href="#">inquire</a>

## Total Hardness





Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110047	Total hardness Test MQuant™ Test strips, individually sealed (5 reaction zones) Method: colorimetric with test strips	>5 - >10 - >15 - >20 - >25°d >6 - >13 - >19 - >25 - >31°e >9 - >18 - >27 - >36 - >45°f	■ Store at +15°C to +25°C.	1.10047.0013	25000strip	inquire
117934	Total Hardness Test MQuant™ Method: colorimetric with test strips (2 reaction zones)	<1.5; 1.5 - 2.5; >2.5 mmol/l CaCO <sub>3</sub>		1.17934.0001	100 strips	inquire
114652	Total Hardness Test in freshwater MColorTest™ Method: titrimetric with dropping bottle	Graduation: 1 drop $\Delta$ 1.25 °e 50 determinations at 12.5 °e	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14652.0001	50 tests	inquire
111104	Total Hardness Test MColorTest™ Method: titrimetric with dropping bottle	Graduation: 1 drop $\Delta$ 1.25 °e 100 determinations at 12.5 °e	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11104.0001	100 tests	inquire
108312	Total Hardness Test MColorTest™ Method: titrimetric with dropping bottle	Graduation: 1 drop $\Delta$ 20 mg/l CaCO <sub>3</sub> 200 determinations at 200 mg/l CaCO <sub>3</sub>	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08312.0001	200 tests	inquire
111141	Total Hardness Test Reagent H-2 (titration solution) Refill pack MColorTest™ for 108011	400 determinations at 12.5 °e in combination with 1.11140.0001	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11141.0001	400 tests	inquire
108039	Total Hardness Test MColorTest™ Method: titrimetric with titration pipette	Measuring range with 1 full pipette: 0.25 - 25 °e (10 - 360 mg/l CaCO <sub>3</sub> ) Graduation of the titration pipette: 0.25 °e (10 mg/l CaCO <sub>3</sub> ) 300 determinations at 12.5 °e (180 mg/l CaCO <sub>3</sub> )	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08039.0001	300 tests	inquire
111122	Total Hardness Test Refill pack Reagent H-1 (indicator solution) MColorTest™ for 108039	600 determinations at 12.5 °e in combination with 1.08203.0001	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11122.0001	600 tests	inquire
108203	Total Hardness Test Refill pack Reagent H-2 (titration solution) MColorTest™ for 108039	600 determinations at 12.5 °e in combination with 1.11122.0001	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08203.0001	600 tests	inquire
108033	Total Hardness Test Refill pack MColorTest™ for 108039	300 determinations at 12.5 °e	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08033.0001	300 tests	inquire
108047	Total Hardness Test MColorTest™ Method: titrimetric with titration pipette	Measuring range with 1 full pipette: 0.13 - 7 °e (0.1 - 5.6 °d) resp. 1 - 100 mg/l CaCO <sub>3</sub> Graduation of the titration pipette: 0.13 °e (0.1 °d) resp. 1 mg/l CaCO <sub>3</sub> 300 determinations at 3.8 °e (3 °d) resp. 53.5 mg/l CaCO <sub>3</sub>	■ LGK 10 ■ Store at +15°C to +25°C.	1.08047.0001	300 tests	inquire
108040	Total Hardness Test Refill pack MColorTest™ for 108047	300 determinations at 3.8 °e	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08040.0001	300 tests	inquire
116997	Total Hardness Test Reflectoquant® Method: reflectometric with test strips	0.1 - 30.0 °d	■ Store at +15°C to +25°C.	1.16997.0001	50 strips	inquire
100961	Total Hardness Cell Test Spectroquant® Method: photometric	5 - 215 mg/l Ca 0.7 - 30.1 °d 0.9 - 37.6 °e 1.2 - 53.7 °f 7 - 301 mg/l CaO 12 - 537 mg/l CaCO <sub>3</sub>	 ■ GHS: Warning ■ LGK 3 ■ Store at +15°C to +25°C.	1.00961.0001	25 tests	inquire

# Analytical Test Kits







## Total Sugar

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
116136	Total Sugar Test (glucose and fructose) Reflectoquant® Method: reflectometric with test strips and reagent	65 - 650 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 8 B</li> <li>■ Store at +2°C to +8°C.</li> </ul>	1.16136.0001	50 strips	<a href="#">inquire</a>





## Urea

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114843	Urea Test for swimming pools MColorTest™ Method: colorimetric with color-disk comparator	0.3 - 0.6 - 1.0 - 1.5 - 2 - 3 - 4 - 5 - 8 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3</li> <li>■ Store at +15°C to +25°C.</li> </ul> 	1.14843.0001	100 tests	<a href="#">inquire</a>
114845	Urea Test in swimming pool Refill pack MColorTest™ for 114843		 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3</li> <li>■ Store at +15°C to +25°C.</li> </ul> 	1.14845.0002	100 tests	<a href="#">inquire</a>




















## Volatile Organic Acid

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
101749	Volatile organic Acids Cell Test Spectroquant® Method: photometric	50 - 3000 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B</li> <li>■ Store at +15°C to +25°C.</li> </ul>  	1.01749.0001	25 tests	<a href="#">inquire</a>
101809	Volatile Organic Acids Test Spectroquant® Method: photometric	50 - 3000 mg/l	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8 B</li> <li>■ Store at +15°C to +25°C.</li> </ul>  	1.01809.0001	100 tests	<a href="#">inquire</a>

## Zinc












Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114780	Zinc Test MColorTest™ Method: colorimetric with color-disk comparator	0.1 - 0.2 - 0.3 - 0.4 - 0.5 - 0.7 - 1 - 2 - 5 mg/l Zn	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B</li> <li>■ Store at +15°C to +25°C.</li> </ul>   	1.14780.0001	120 tests	<a href="#">inquire</a>

## Zinc

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114782	Zinc Test Refill pack MColorTest™ for 114780, 114412		 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B ■ Store at +15°C to +25°C.</li> </ul>   	1.14782.0002	120 tests	inquire
114412	Zinc Test MColorTest™ Method: colorimetric with color card and comparator block with short test tubes	0.1 - 0.2 - 0.3 - 0.4 - 0.5 - 0.7 - 1 - 2 - 5 mg/l Zn	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8B ■ Store at +15°C to +25°C.</li> </ul>   	1.14412.0001	120 tests	inquire
100861	Zinc Cell Test Spectroquant® Method: photometric	0.025 - 1.000 mg/l Zn	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 D ■ Store at +15°C to +25°C.</li> </ul> 	1.00861.0001	25 tests	inquire
114566	Zinc Cell Test Spectroquant® Method: photometric	0.20 - 5.00 mg/l Zn	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 6.1 C ■ Store at +15°C to +25°C.</li> </ul>  	1.14566.0001	25 tests	inquire
114832	Zinc Test Spectroquant® Method: photometric	0.05 - 2.50 mg/l Zn	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>    	1.14832.0001	100 tests	inquire
117953	Zinc Test MQuant™ Method: colorimetric with test strips	0 - 4 - 10 - 20 - 50 mg/L Zn Tube containing 100 Test Strips, bottle of reagent Zn-1 and test vessel	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 8 B ■ Store at +15°C to +25°C.</li> </ul>	1.17953.0001	100 tests	inquire

# Analytical Test Kits

## Compact Laboratories

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
111102	Compact Laboratory for Aquaristics MColorTest™ Reagents and accessoires for the determination of: pH, total hardness, carbonate hardness ammonium, nitrite, nitrate		 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C.  	1.11102.0001	1 set	<a href="#">inquire</a>
111151	Compact Laboratory for Water Testing MColorTest™	Reagents and accessories for the determination of: ammonium, carbonate hardness, total hardness, nitrate, nitrite, pH, phosphate, oxygen/BOD	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C.  	1.11151.0001	1 set	<a href="#">inquire</a>
114602	Soil Laboratory 3 x N/pH Nitrogen and pH (lime requirement) Agroquant®	Compact laboratory with test strips, reagents, balance, timer and accessories for the determination of nitrate, nitrite and ammonium nitrogen as well as pH in soils, water, plants, animal feed, compost, solid and liquid manure	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.14602.0001	1 set	<a href="#">inquire</a>

## Accessories for tests and compact laboratories

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
111165	Areometer for Compact Laboratory 1.11154.0001 for the determination of the isopropanol content			1.11165.0001	1 unit	<a href="#">inquire</a>
111860	Blank Strips MQuant™ Test strips without reagents			1.11860.0001	100 strips	<a href="#">inquire</a>
116730	Blank Strips Reflectoquant® test strips without reagents		■ Store at +15°C to +25°C.	1.16730.0001	50 strips	<a href="#">inquire</a>
114901	Flat-bottomed long tubes with screw caps MColorTest™ for MColorTest™ with color card comparator			1.14901.0001	12 units	<a href="#">inquire</a>
117988	Flat-bottomed tubes with screw caps MColorTest™ for MColorTest™ with color disk comparator			1.17988.0001	12 units	<a href="#">inquire</a>
114902	Flat-bottomed tubes with screw caps MColorTest™ for titrimetric and colorimetric MColorTest™			1.14902.0001	12 units	<a href="#">inquire</a>
114663	Oxygen Reaction Bottle MColorTest™		■ Store at +15°C to +25°C.	1.14663.0001	1 unit	<a href="#">inquire</a>
117989	Test vessels with 5ml and 10ml graduations for MColorTest™ and MQuant™ Tests			1.17989.0001	30 units	<a href="#">inquire</a>

## Reflectometer and accessories

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
117963	Ascorbic Acid Test RQeasy® Reflectoquant® Method: reflectometric	25 - 450 mg/l	■ Store at +15°C to +25°C.	1.17963.0001	50 strips	inquire
116729	Cell adapter Reflectoquant®	RQflex® plus		1.16729.0001	1 unit	inquire
116957	Check Set Reflectoquant®	RQcheck RQflex®, RQflex® plus		1.16957.0001	1 set	inquire
116727	Empty cells Reflectoquant®	RQflex® plus		1.16727.0001	100 units	inquire
117961	Nitrate Test RQeasy® Reflectoquant® Method: reflectometric	5 - 250 mg/l NO <sub>3</sub> <sup>-</sup>	■ Store at +2°C to +8°C.	1.17961.0001	50 strips	inquire
116954	Recalibration Set Reflectoquant®	RQflex®		1.16954.0001	1 unit	inquire
116970	Reflectometer Reflectoquant®	RQflex® 10		1.16970.0001	1 unit	inquire
116955	Reflectometer Reflectoquant®	RQflex® plus 10		1.16955.0001	1 unit	inquire
116998	Software Reflectoquant® for Windows incl. interface (RS 232, USB) for the data transfer of RQflex® reflectometers	RQdata		1.16998.0001	1 unit	inquire
116953	Strip adapter Reflectoquant®	RQflex®, RQflex® plus		1.16953.0001	1 unit	inquire

## Colorimeter and accessories

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
173630	Colorimeter Spectroquant®	Multy		1.73630.0001	1 unit	inquire
173607	Colorimeter Spectroquant®	Picco Cl2 / O3 / ClO2 / CyA / pH		1.73607.0001	1 unit	inquire
173608	Colorimeter Spectroquant®	Picco COD / CSB		1.73608.0001	1 unit	inquire
173606	Colorimeter Spectroquant®	Picco F		1.73606.0001	1 unit	inquire
173603	Colorimeter Spectroquant®	Picco NO <sub>3</sub> -N		1.73603.0001	1 unit	inquire
173650	Empty cells Spectroquant® with screw caps	24 mm		1.73650.0001	12 units	inquire
173632	Spectroquant® Colorimeter Move 100		■ LGK 10 - 13	1.73632.0001	1 unit	inquire
173633	Spectroquant® Data Transfer		■ LGK 10 - 13	1.73633.0001	1 unit	inquire
173634	Update cable for Move 100 Spectroquant®		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.73634.0001	1 unit	inquire

## Photometer and accessories

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
100786	12 V Adapter (car, PowerPack) Spectroquant®	Pharo 100, Pharo 300		1.00786.0001	1 unit	inquire
109769	Case Spectroquant®	NOVA 30, NOVA 60		1.09769.0001	1 unit	inquire
100670	Case Spectroquant®	Pharo 100, Pharo 300		1.00670.0001	1 unit	inquire
114613	Digestion basis set			1.14613.0001	1 set	inquire
114615	Digestion vessel 30 ml			1.14615.0001	1 unit	inquire
114724	Empty cells Spectroquant® with screw caps	16 mm		1.14724.0001	25 units	inquire
109749	Halogen lamp Spectroquant®	NOVA 30, NOVA 60		1.09749.0001	1 unit	inquire

# Analytical Test Kits

## Photometer and accessories

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
109778	Halogen lamp Spectroquant®	NOVA 400		1.09778.0001	1 unit	inquire
114723	Halogen lamp Spectroquant®	SQ 118		1.14723.0001	1 unit	inquire
100660	Halogen lamp module Spectroquant®	Pharo 100		1.00660.0001	1 unit	inquire
114667	PC cable Spectroquant® (for serial interface)	NOVA 30, NOVA 60, NOVA 400, SQ 200, SQ 300		1.14667.0001	1 set	inquire
109748	Photometer Spectroquant®	NOVA 30 A		1.09748.0001	1 unit	inquire
109752	Photometer Spectroquant®	NOVA 60 A		1.09752.0001	1 unit	inquire
109751	Photometer Spectroquant®	NOVA 60		1.09751.0001	1 unit	inquire
100787	Positioning Aid Spectroquant® for 10 mm plastic cuvette		■ LGK 10 - 13	1.00787.0001	1 unit	inquire
114618	PTFE protection foils			1.14618.0001	25 units	inquire
114946	Rectangular cells Spectroquant®	10 mm		1.14946.0001	2 units	inquire
114947	Rectangular cells Spectroquant®	20 mm		1.14947.0001	2 units	inquire
114944	Rectangular cells Spectroquant®	50 mm		1.14944.0001	2 units	inquire
100784	Rectangular cells quartz Spectroquant®	10 mm		1.00784.0001	2 units	inquire
114616	Rupture discs			1.14616.0001	25 units	inquire
173502	Semi-microcells Spectroquant®	50 mm		1.73502.0001	2 units	inquire
114964	Software Spectroquant® for Windows (in English and German) for the data transfer of NOVA photometers	Multi-Achat II		1.14964.0001	1 unit	inquire
100706	Spectrophotometer Spectroquant®	Pharo 100		1.00706.0001	1 unit	inquire
173633	Spectroquant® Data Transfer		■ LGK 10 - 13	1.73633.0001	1 unit	inquire
100703	Supplementary Software Analysis Methods for the Brewery Industry Spectroquant®		■ LGK 10 - 13	1.00703.0001	1 unit	inquire
173634	Update cable for Move 100 Spectroquant®		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.73634.0001	1 unit	inquire
100707	UV-VIS Spectrophotometer Spectroquant®	Pharo 300		1.00707.0001	1 unit	inquire
119302	Verification Standard for Spectroquant® Move 100 Colorimeter and Spectroquant® Multy Colorimeter		 ■ GHS: Warning  ■ LGK 3 ■ Store at +15°C to +25°C.	1.19302.0001	1 unit	inquire

## Thermoreactors and accessories

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
171204	PC cable Spectroquant®	TR 420, TR 620		1.71204.0001	1 unit	inquire



## Thermoreactors and accessories

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
171202	Thermoreactor Spectroquant® 2 x 12 holes in 2 heating zones, temperature and time separately controllable for each zone, 7 preinstalled programmes and 8 freely selectable programmes	TR 620		1.71202.0001	1 unit	inquire
171200	Thermoreactor Spectroquant® 12 holes, 7 preinstalled programmes: 148 °C (20, 120 min), 150 °C (120 min), 120 °C (30, 60, 120 min), 100 °C (60 min)	TR 320		1.71200.0001	1 unit	inquire
171201	Thermoreactor Spectroquant® 24 holes, 7 preinstalled programmes and 8 freely selectable programmes	TR 420		1.71201.0001	1 unit	inquire
171203	Thermosensor Spectroquant®	TR 420, TR 620		1.71203.0001	1 unit	inquire

## Accessories for Thermoreactor TR 105

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
115955	Absorption tube Spectroquant®			1.15955.0001	1 unit	inquire
115953	Reaction vessels for thermoreactor Spectroquant®	TR 105		1.15953.0001	2 units	inquire

## Turbidimeters and accessories










Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
118342	Calibration standard Turbiquant®	3000 IR 10 000 NTU		1.18342.0001	1 unit	inquire
118343	Calibration standard Turbiquant®	3000 T 10 000 NTU		1.18343.0001	1 unit	inquire
118335	Calibration Standard Set Turbiquant® 3 standards	1100 IR, 1100 T 0.02 - 10.00 - 1000 NTU		1.18335.0001	3 vials	inquire
118328	Calibration Standard Set Turbiquant® 3 standards	1500 IR, 1500 T 0.02 - 10.00 - 1000 NTU		1.18328.0001	3 vials	inquire
118327	Calibration Standard Set Turbiquant® 4 standards	1000 IR 0.02 - 10.00 - 100.0 - 1000 NTU		1.18327.0001	4 vials	inquire
118329	Calibration Standard Set Turbiquant® 4 standards	3000 IR 0.02 - 10.00 - 100.0 - 1750 NTU		1.18329.0001	4 vials	inquire
118349	Calibration Standard Set Turbiquant® 4 standards	3000 T 0.02 - 10.00 - 100.0 - 1750 NTU		1.18349.0001	4 vials	inquire
118339	Cell rack Turbiquant®	1500 IR, 1500 T, 3000 IR, 3000 T		1.18339.0001	1 unit	inquire
118320	Empty cells Turbiquant®	1000 IR, 1100 IR, 1100 T		1.18320.0001	3 units	inquire
118336	Empty cells Turbiquant®	1500 IR, 1500 T, 3000 IR, 3000 T		1.18336.0001	3 units	inquire
118340	Flow cell Turbiquant®	1500 IR, 1500 T, 3000 IR, 3000 T		1.18340.0001	1 unit	inquire
118341	Flow cell Turbiquant®	3000 IR, 3000 T		1.18341.0001	1 unit	inquire
118344	Lamp Turbiquant®	1500 IR		1.18344.0001	1 unit	inquire
118338	Lamp Turbiquant®	1500 T, 3000 T		1.18338.0001	1 unit	inquire
118382	Lamp Turbiquant®	3000 IR		1.18382.0001	1 unit	inquire

# Analytical Test Kits



## Turbidimeters and accessories

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
118330	Turbidimeter Turbiquant® incl. universal power supply/plug, 3 empty cells, manual, handy hints	1500 IR 0 - 1000 NTU		1.18330.0001	1 unit	<a href="#">inquire</a>
118331	Turbidimeter Turbiquant® incl. universal power supply/plug, 3 empty cells, manual, handy hints	1500 T 0 - 1000 NTU		1.18331.0001	1 unit	<a href="#">inquire</a>
118332	Turbidimeter Turbiquant® incl. universal power supply/plug, 3 empty cells, manual, handy hints	3000 IR 0 - 10 000 NTU		1.18332.0001	1 unit	<a href="#">inquire</a>
118333	Turbidimeter Turbiquant® incl. universal power supply/plug, 3 empty cells, manual, handy hints	3000 T 0 - 10 000 NTU		1.18333.0001	1 unit	<a href="#">inquire</a>
118324	Turbidimeter Turbiquant® portable, incl. batteries, case, 2 empty cells, manual, handy hints	1100 IR 0.01 - 1100 NTU		1.18324.0001	1 unit	<a href="#">inquire</a>
118325	Turbidimeter Turbiquant® portable, incl. batteries, case, 2 empty cells, manual, handy hints	1100 T 0.01 - 1100 NTU		1.18325.0001	1 unit	<a href="#">inquire</a>

## Sample preparation with Crack Sets for Thermoreactor






Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114687	Crack Set 10 Spectroquant® for the digestion of lead, cadmium, iron, copper, nickel, phosphorus (total) and zinc	100 digestions	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 5.1B ■ Store at +15°C to +25°C.</li> </ul>  	1.14687.0001	1 set	inquire
114963	Crack Set 20 Spectroquant® for the digestion of nitrogen (total)	90 digestions	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 5.1 B ■ Store at +15°C to +25°C.</li> </ul>  	1.14963.0001	1 set	inquire
114688	Crack Set 10C Spectroquant® for the digestion of lead, cadmium, iron, copper, nickel, phosphorus (total) and zinc	25 digestion cells	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 5.1B ■ Store at +15°C to +25°C.</li> </ul>  	1.14688.0001	1 set	inquire

## Carrez-Clarification

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
110537	Carrez Clarification Kit reagent kit for sample preparation in food analysis, 5-fold concentrate		 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 10 - 13 ■ Store at +2°C to +8°C.</li> </ul> 	1.10537.0001	2 x 100 ml	inquire

# Analytical Test Kits

## Analytical quality assurance for Photometer

Cat.No.	Designation	Measuring range/Graduation	Transport	Ord.No.	Quantity	Price
114676	<b>CombiCheck 10 Spectroquant®</b> for checking the quality of photometric methods for ammonium, chloride, CSB, nitrate, phosphorus and sulfate		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14676.0001	1 set	<a href="#">inquire</a>
114675	<b>CombiCheck 20 Spectroquant®</b> for checking the quality of photometric methods for ammonium, chloride, CSB, nitrate, phosphorus and sulfate		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14675.0001	1 set	<a href="#">inquire</a>
114677	<b>CombiCheck 30 Spectroquant®</b> for checking the quality of photometric methods for cadmium, iron, copper and manganese		 ■ GHS: Warning ■ LGK 8B ■ Store at +15°C to +25°C.	1.14677.0001	1 set	<a href="#">inquire</a>
114692	<b>CombiCheck 40 Spectroquant®</b> for checking the quality of photometric methods for aluminium, lead, nickel and zinc		 ■ GHS: Warning ■ LGK 8B ■ Store at +2°C to +8°C.	1.14692.0001	1 set	<a href="#">inquire</a>
114695	<b>CombiCheck 50 Spectroquant®</b> for checking the quality of photometric methods for ammonium, CSB and nitrogen		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14695.0001	1 set	<a href="#">inquire</a>
114696	<b>CombiCheck 60 Spectroquant®</b> for checking the quality of photometric methods for chloride and CSB		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14696.0001	1 set	<a href="#">inquire</a>
114689	<b>CombiCheck 70 Spectroquant®</b> for checking the quality of photometric methods for ammonium, CSB and nitrogen		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14689.0001	1 set	<a href="#">inquire</a>
114738	<b>CombiCheck 80 Spectroquant®</b> for checking the quality of photometric methods for CSB, nitrate and phosphorus		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14738.0001	1 set	<a href="#">inquire</a>
114693	<b>PhotoCheck Spectroquant®</b> Check solutions for photometers (445/446 nm, 520/525 nm, and 690 nm)		 ■ GHS: Danger ■ LGK 6.1 D ■ Store at +15°C to +25°C.  	1.14693.0001	1 set	<a href="#">inquire</a>
114962	<b>PipeCheck Spectroquant®</b> Check solutions (4x6 cells) and reference solutions (4 cells) for checking the volume of pipettes		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14962.0001	25 tests	<a href="#">inquire</a>
119301	<b>Reference Standard Spectroquant®</b> for chlorine, chlorine dioxide, ozone		■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.19301.0001	1 unit	<a href="#">inquire</a>

# Innovative Microbial Testing Solutions for Pharmaceuticals, Food and Beverages.

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# BioMonitoring

## Culture Media

### Chromogenic and Fluorogenic Dehydrated Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
112587	BRILA broth for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12587.0500	500 g	inquire
100432	ChromoCult® Listeria Agar Selective-Supplement Lyophilisate for preparation of 5 l Listeria Selective Agar	 ■ GHS: Warning, Reproductive toxicity, Category 2, H361d ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00432.0010	10 vials	inquire
116122	Chromocult® TBX (Tryptone Bile X-glucuronide) Agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.16122.0500	500 g	inquire
110426	Coliform Agar for microbiology Chromocult®	 ■ GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10426.0500	500 g	inquire
100850	Coliform Agar ES (Enhanced Selectivity) for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00850.0500	500 g	inquire
101295	Coliforms 50 Readycult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01295.0001	20 tests	inquire
101298	Coliforms 100 Readycult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01298.0001	20 tests	inquire
104037	DEV lactose peptone broth for microbiology Fluorocult®	■ Store at +15°C to +25°C.	1.04037.0500	500 g	inquire
104038	ECD agar for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04038.0500	500 g	inquire
104036	E.coli O157:H7-Agar for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04036.0500	1x500gm	inquire
100873	Enterobacter Sakazakii Agar for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00873.0100 1.00873.0500	100 g 500 g	inquire inquire
101299	Enterococci 100 Readycult®	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411  ■ LGK 6.1 C ■ Store at +15°C to +25°C.	1.01299.0001	20 tests	inquire
100950	Enterococci-Agar for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.00950.0500	500 g	inquire
110294	Enterococci broth for microbiology Chromocult®	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411  ■ LGK 6.1 C ■ Store at +15°C to +25°C.	1.10294.0500	500 g	inquire
112588	Lauryl sulfate broth for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12588.0500	500 g	inquire
100427	Listeria Selective Agar Base acc. OTTAVIANI and AGOSTI (ISO 11290) for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00427.0500	500 g	inquire
110620	LMX broth modified acc. to MANAFI and OSSMER for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10620.0500	500 g 6 x 500 g	inquire inquire
107500	RAMBACH® agar for the identification of Salmonella	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07500.0001 1.07500.0002 1.07500.0003	4x250 ml 4 x 1 l 50 l	inquire inquire inquire
104030	VRB agar for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04030.0500	500 g	inquire

### Dehydrated culture Media for Food and Beverage Industry

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
100415	A-1 Medium for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00415.0500	500 g	inquire
101800	Alkaline Peptone Water for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01800.0500	500 g	inquire






## Dehydrated culture Media for Food and Beverage Industry

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
105452	Anaerobic agar acc. to BREWER for the surface cultivation of clostridia and other microorganisms	 ■ GHS: Warning, Skin sensitisation, Category 1, H317 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05452.0500	500 g	inquire
110453	APT agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10453.0500	500 g	inquire
105406	BAIRD-PARKER agar Staphylococcus selective agar (base) acc. to BAIRD-PARKER for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05406.0500	500 g 6 x 500 g	inquire inquire
107994	BAT agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07994.0500	500 g	inquire
100072	Bile Aesculin Azide Agar, acc. to ISO 7899-2 for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.00072.0500	500 g	inquire
105418	Bismuth sulfite agar acc. to WILSON-BLAIR for the isolation and differentiation of Salmonella typhi	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05418.0500	500 g 6 x 500 g	inquire inquire
110886	Blood agar (base) for the isolation and cultivation of various fastidious microorganisms	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10886.0500	500 g 6 x 500 g	inquire inquire
110328	Blood agar (base) no. 2 for the cultivation of fastidious microorganisms	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10328.0500	500 g	inquire
100068	Bolton Selective Enrichment Broth (Base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00068.0500	500 g	inquire
107237	BPLS agar for the isolation of Salmonella	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07237.0500	500 g	inquire
107232	BPLS agar for the isolation of Salmonella USP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07232.0500	500 g 6 x 500 g	inquire inquire
110747	BPLS agar modified Brilliant-green phenol-red lactose sucrose agar modified, for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10747.0500	500 g 6 x 500 g	inquire inquire
113825	Brain heart agar for the cultivation of fastidious microorganisms	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.13825.0500	500 g	inquire
110493	Brain heart broth for the cultivation of fastidious bacteria	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10493.0500	500 g 6 x 500 g	inquire inquire
105454	BRILA broth Brilliant-green bile lactose broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05454.0500 1.05454.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
112587	BRILA broth for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12587.0500	500 g	inquire
101638	BROLACIN agar (C.L.E.D. agar) for the enumeration, isolation and preliminary identification of microorganisms	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01638.0500	500 g 6 x 500 g	inquire inquire
110490	Brucella agar for microbiology	■ Store at +15°C to +25°C.	1.10490.0500	500 g	inquire
101617	Bryant Burkey broth with Resazurin and Lactate for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01617.0500	500 g	inquire
109628	Buffered Listeria Enrichment Broth (base) acc. to FDA/BAM 1995 for microbiology	■ Store at +15°C to +25°C.	1.09628.0500	500 g	inquire
105409	Calcium caseinate agar acc. to FRAZIER and RUPP modified for microbiology	■ Store at +15°C to +25°C.	1.05409.0500	500 g	inquire
100070	Campylobacter Blood-Free Selective Agar Base (modified CCDA) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00070.0500	500 g	inquire
101868	Caseinhydrolysate Glucose Yeast extract Broth (Base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01868.0100	100 g	inquire
111723	Casein-peptone lecithin polysorbate broth (base) for microbiology	■ Store at +15°C to +25°C.	1.11723.0500	500 g	inquire
100060	CAYE Broth modified acc. to EVANS for the culture of pathogenic E.coli to enhance verotoxin production during growth	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00060.0100	100 g	inquire
100071	CCDA Selective Supplement for preparation of 5 l Campylobacter Blood-Free Selective Agar (modified CCDA)	■ harmful ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00071.0010	10 vials	inquire
105267	Cereus selective agar base acc. to MOSSEL (Δ MYP agar) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05267.0500	500 g	inquire
102348	China-blue lactose agar for microbiology	■ Store at +15°C to +25°C.	1.02348.0500	500 g	inquire











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Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
100432	ChromoCult® Listeria Agar Selective-Supplement Lyophilisate for preparation of 5 l Listeria Selective Agar	 ■ GHS: Warning, Reproductive toxicity, Category 2, H361d ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00432.0010	10 vials	<a href="#">inquire</a>
116122	Chromocult® TBX (Tryptone Bile X-glucuronide) Agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.16122.0500	500 g	<a href="#">inquire</a>
110426	Coliform Agar for microbiology Chromocult®	 ■ GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10426.0500	500 g	<a href="#">inquire</a>
100850	Coliform Agar ES (Enhanced Selectivity) for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00850.0500	500 g	<a href="#">inquire</a>
101295	Coliforms 50 ReadyCult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01295.0001	20 tests	<a href="#">inquire</a>
101298	Coliforms 100 ReadyCult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01298.0001	20 tests	<a href="#">inquire</a>
110455	Columbia agar (base) for the cultivation of fastidious microorganisms (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10455.0500 1.10455.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
110878	Count agar sugar free FIL-IDF for microbiology	■ Store at +15°C to +25°C.	1.10878.0500	500 g	<a href="#">inquire</a>
110259	DCA agar acc. to Weenk et al. for microbiology	■ Store at +15°C to +25°C.	1.10259.0500	500 g	<a href="#">inquire</a>
100025	Demi FRASER Broth with antibiotics for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00025.0500	500 g	<a href="#">inquire</a>
102894	Deoxycholate lactose agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.02894.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110896	Dermatophyte selective agar (DTM) according to TAPLIN for the isolation and rapid differentiation of dermatophytes	  ■ GHS: Danger, Reproductive toxicity, Category 1B, H360D; Acute toxicity, Category 3, Oral, H301; Germ cell mutagenicity, Category 2, H341 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.10896.0500	500 g	<a href="#">inquire</a>
110685	DEV gelatin agar for microbiology	■ Store at +15°C to +25°C.	1.10685.0500	500 g	<a href="#">inquire</a>
110689	DEV Lactose broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10689.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110690	DEV Lactose peptone broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10690.0500 1.10690.5000	500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a>
104037	DEV lactose peptone broth for microbiology Fluorocult®	■ Store at +15°C to +25°C.	1.04037.0500	500 g	<a href="#">inquire</a>
111471	DEV nutrient agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11471.0500 1.11471.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
110694	DEV TRYPTOPHAN BROTH FOR MICROBIOLOGY	■ Store at +15°C to +25°C.	1.10694.0500	500 g	<a href="#">inquire</a>
110860	Dextrose casein-peptone agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10860.0500	500 g	<a href="#">inquire</a>
111435	DHL agar acc. to SAKAZAKI for the detection and isolation of pathogenic Enterobacteriaceae	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11435.0500	500 g	<a href="#">inquire</a>
100465	Dichloran Glycerol (DG18)-Agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00465.0500	500 g	<a href="#">inquire</a>
100466	Dichloran Rose-Bengal Chloramphenicol Agar (DRBC) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00466.0500	500 g	<a href="#">inquire</a>
111699	Differential reinforced clostridial broth (DRCM) for microbiology	 ■ GHS: Warning, Eye irritation, Category 2, H319 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11699.0500	500 g	<a href="#">inquire</a>
110449	DNase test agar for microbiology	■ Store at +15°C to +25°C.	1.10449.0500	500 g	<a href="#">inquire</a>
110765	EC broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10765.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
104038	ECD agar for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04038.0500	500 g	<a href="#">inquire</a>

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Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
100026	E.coli culture medium for enrichment of pathogenic E.coli Rapidcult™	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00026.0100 1.00026.0107 1.00026.0500	100 g 1 unit 500 g	inquire inquire inquire
104036	E.coli 0157:H7-Agar for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04036.0500	1x500gm	inquire
101347	EMB agar for the detection and isolation of pathogenic Enterobacteriaceae	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01347.0500	500 g	inquire
104044	ENDO agar for microbiology	 ■ GHS: Danger, Carcinogenicity, Category 1B, H350 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.04044.0500	500 g 6 x 500 g	inquire inquire
111277	m-ENDO agar LES for microbiology	 ■ GHS: Danger, Carcinogenicity, Category 1B, H350 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.11277.0500	500 g	inquire
100873	Enterobacter Sakazakii Agar for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00873.0100 1.00873.0500	100 g 500 g	inquire inquire
101299	Enterococci 100 ReadyCult®	  ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411 ■ LGK 6.1 C ■ Store at +15°C to +25°C.	1.01299.0001	20 tests	inquire
100950	Enterococci-Agar for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.00950.0500	500 g	inquire
110294	Enterococci broth for microbiology Chromocult®	  ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411 ■ LGK 6.1 C ■ Store at +15°C to +25°C.	1.10294.0500	500 g	inquire
110398	FRASER Listeria Selective Enrichment Broth (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10398.0500	500 g 6 x 500 g	inquire inquire
101282	GASSNER agar Water-blue-metachrome-yellow lactose agar acc. to GASSNER for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01282.0500 1.01282.5000	500 g 5 kg	inquire inquire
110675	GIOLITTI-CANTONI-broth Staphylococcus-enrichment broth (base) acc. to GIOLITTI and CANTONI for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10675.0500	500 g 6 x 500 g	inquire inquire
110756	GN enrichment broth acc. to HAJNA for the selective cultivation of Gram-negative intestinal bacteria	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10756.0500	500 g	inquire
110230	GSP agar Pseudomonas Aeromonas selective agar acc. to KIELWEIN (base) for microbiology	■ Store at +15°C to +25°C.	1.10230.0500	500 g	inquire
111681	Hektoen enteric agar for the detection and isolation of pathogenic intestinal bacteria	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11681.0500	500 g 6 x 500 g	inquire inquire
105222	Kanamycin esculin azide agar for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05222.0500	500 g	inquire
110707	KF streptococcus agar (base) for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10707.0500	500 g	inquire
110991	KING agar B (base) (Dansk Standard) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10991.0500	500 g	inquire
103913	KLIGLER agar for the identification of Gram-negative intestinal bacteria	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.03913.0500	500 g	inquire
107680	Lactose TTC Agar with Tergitol® 7 for microbiology	■ Store at +15°C to +25°C.	1.07680.0500	500 g	inquire
110266	Lauryl sulfate broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10266.0500 1.10266.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire

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Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
112588	Lauryl sulfate broth for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12588.0500	500 g	inquire
102896	LEIFSON Agar Deoxycholate citrate agar acc. to LEIFSON, modified for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.02896.0500	500 g 6 x 500 g	inquire inquire
101342	LEVINE-EMB-agar for the isolation and differentiation of E.coli and Enterobacter	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01342.0500	500 g	inquire
111951	Listeria-Enrichment-Broth (Base) acc. to FDA/IDF-FIL for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11951.0500	500 g	inquire
110549	Listeria Enrichment Broth (LEB) acc. to FDA/IDF-FIL for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302 ■ LGK 10 - 13 ■ Store below +15°C.	1.10549.0500 1.10549.5000	500 g 5 kg	inquire inquire
100427	Listeria Selective Agar Base acc. OTTAVIANI and AGOSTI (ISO 11290) for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00427.0500	500 g	inquire
110620	LMX broth modified acc. to MANAFI and OSSMER for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10620.0500	500 g 6 x 500 g	inquire inquire
111640	Lysine iron agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11640.0500	500 g	inquire
115108	M 17 agar acc. to TERZAGHI for microbiology	■ Store at +15°C to +25°C.	1.15108.0500	500 g	inquire
115029	M 17 broth acc. to TERZAGHI for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.15029.0500	500 g	inquire
105465	MacCONKEY agar for the isolation of Salmonella, Shigella and coliform bacteria (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05465.0500 1.05465.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105396	MacCONKEY broth for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05396.0500	500 g 6 x 500 g	inquire inquire
110329	Malachite-green broth (base) for microbiology	■ Store at +15°C to +25°C.	1.10329.0500	500 g	inquire
105398	Malt extract agar for microbiology	■ Store at +15°C to +25°C.	1.05398.0500 1.05398.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105397	Malt extract broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05397.0500	500 g	inquire
105404	Mannitol salt phenol-red agar for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05404.0500	500 g 6 x 500 g	inquire inquire
112535	Maximum Recovery Diluent for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12535.0500	500 g	inquire
110658	M broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10658.0500	500 g	inquire
115045	Meat liver agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.15045.0500	500 g	inquire
114582	mEC-broth with Novobiocin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14582.0500	500 g	inquire
105262	Membrane-filter enterococcus selective agar acc. to SLANETZ and BARTLEY for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.05262.0500	500 g	inquire
105289	Membrane-filter enterococcus selective agar acc. to SLANETZ and BARTLEY (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.05289.0500	500 g	inquire
105286	Membrane-filter rinse fluid (USP) for microbiology	■ Store at +15°C to +25°C.	1.05286.0500	500 g	inquire
111278	M FC agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11278.0500	500 g	inquire
109045	Mineral modified glutamate Agar (MMGA) acc. to ISO 16649 for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09045.0500	500 g	inquire
105394	MOSSEL broth Enterobacteriaceae enrichment broth acc. to MOSSEL for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05394.0500 1.05394.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
110660	MRS agar Lactobacillus agar acc. to DE MAN, ROGOSA and SHARPE for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.10660.0500	500 g 6 x 500 g	inquire inquire
110661	MRS broth Lactobacillus broth acc. to DE MAN, ROGOSA and SHARPE for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.10661.0500	500 g 6 x 500 g	inquire inquire

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Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
105712	MR-VP broth Methyl-red VOGES-PROSKAUER broth for microbiology	■ Store at +15°C to +25°C.	1.05712.0500	500 g	inquire
109878	MSRV Medium (Base) modified for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09878.0500	500 g	inquire
109205	mTSB-Broth with Novobiocin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09205.0500	500 g	inquire
105437	MUELLER-HINTON agar for testing the sensitivity of clinically important pathogens	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05437.0500	500 g 6 x 500 g	inquire inquire
105435	MUELLER-HINTON agar acc. to CLSI for the determination of antibiotic susceptibility including sulfonamides	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05435.0500	500 g	inquire
110293	MUELLER-HINTON broth for testing the sensitivity of clinically important pathogens	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10293.0500	500 g	inquire
105878	Muller-Kauffmann Tetrathionate Novobiocine enrichment broth acc. to ISO for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05878.0500	500 g	inquire
105450	Nutrient agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05450.0500	500 g 6 x 500 g	inquire inquire
105443	Nutrient broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05443.0500	500 g	inquire
110282	OF basal medium for the differentiation and classification of gram-negative intestinal bacteria	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10282.0500	500 g	inquire
105978	OGYE agar, Base acc. to ISO for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05978.0500	500 g	inquire
110673	Orange-serum agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10673.0500	500 g 6 x 500 g	inquire inquire
107004	Oxford-Listeria-Selective-Agar (Base) for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07004.0500	500 g	inquire
111755	PALCAM Listeria-Selective agar (Base) acc. to VAN NETTEN et al. for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11755.0500	500 g 6 x 500 g	inquire inquire
110823	L-PALCAM-Listeria selective enrichment broth (Base) acc. to van Netten et al. for microbiology	 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10823.0500	500 g	inquire
107228	Peptone water (buffered); acc. to ISO 6579 for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07228.0500 1.07228.5000	500 g 6 x 500 g 5 kg 4 x 5 kg	inquire inquire inquire inquire
110987	Phenol-red broth (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10987.0500	500 g	inquire
105463	Plate count agar Casein-peptone glucose yeast extract agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05463.0500 1.05463.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
115338	Plate count skim milk agar for microbiology	■ Store at +15°C to +25°C.	1.15338.0500	500 g 6 x 500 g	inquire inquire
100414	Presence-Absence Broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00414.0500	500 g	inquire
110989	Pseudomonas agar F (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10989.0500	500 g	inquire
110988	Pseudomonas agar P (base) for microbiology	■ Store at +15°C to +25°C.	1.10988.0500	500 g	inquire
107620	Pseudomonas Selective agar (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07620.0500	500 g	inquire
107500	RAMBACH® agar for the identification of Salmonella	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07500.0001 1.07500.0002 1.07500.0003	4x250 ml 4 x 1 l 50 l	inquire inquire inquire
105410	Reinforced clostridial agar (RCM) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05410.0500	500 g	inquire
105411	Reinforced clostridial medium (RCM) for microbiology (According harm. EP/USP/JP)	■ Store at +15°C to +25°C.	1.05411.0500	500 g	inquire

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Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
105413	ROGOSA agar Lactobacillus selective agar for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.05413.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
100467	Rose-Bengal Chloramphenicol Agar (RBC) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00467.0500	500 g	<a href="#">inquire</a>
107315	SABOURAUD 2% glucose agar for the cultivation of dermatophytes	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07315.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110236	Salmonella enrichment broth acc. to RAPPAPORT for the selective enrichment of Salmonella	 ■ GHS: Warning, Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10236.0500	500 g	<a href="#">inquire</a>
107700	Salmonella enrichment broth acc. to RAPPAPORT and VASSILIADIS (RVS broth) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07700.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110153	Salmosyst® Broth base for microbiology	■ Store at +15°C to +25°C.	1.10153.0500	500 g	<a href="#">inquire</a>
105467	Selective agar for pathogenic fungi for the isolation of pathogenic fungi (contains Cycloheximide)	  ■ GHS: Danger, Reproductive toxicity, Category 1B, H360D; Acute toxicity, Category 3, Oral, H301; Germ cell mutagenicity, Category 2, H341 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.05467.0500	500 g	<a href="#">inquire</a>
107709	Selenite cystine enrichment broth for the enrichment of salmonellae	 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 4, Inhalation, H332; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412 ■ LGK 6.1B ■ Store below +15°C.	1.07709.0500	500 g	<a href="#">inquire</a>
107717	Selenite enrichment broth acc. to LEIFSON for the selective enrichment of salmonellae	 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 4, Inhalation, H332; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412 ■ LGK 6.1A ■ Store below +15°C.	1.07717.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
105470	SIM medium for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05470.0500	500 g	<a href="#">inquire</a>
102501	SIMMONS citrate agar for the identification of microorganisms	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.02501.0500	500 g	<a href="#">inquire</a>
109207	SMAC agar base for direct isolation and differentiation of enterohemorrhagic (EHEC) E.coli O157:H7-strains	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09207.0500	500 g	<a href="#">inquire</a>
110235	SPS agar Perfringens selective agar acc. to ANGELOTTI for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10235.0500	500 g	<a href="#">inquire</a>
107667	SS agar for the isolation of salmonellae and shigellae	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07667.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
107881	Standard I nutrient agar for the cultivation of fastidious bacteria	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07881.0500 1.07881.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
107882	Standard I nutrient broth for the cultivation of fastidious bacteria	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07882.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
107883	Standard II nutrient agar for microbiology	■ Store at +15°C to +25°C.	1.07883.0500	500 g	<a href="#">inquire</a>
101621	Standard count agar for microbiology	■ Store at +15°C to +25°C.	1.01621.0500	500 g	<a href="#">inquire</a>
107899	Staphylococcus enrichment broth (base) acc. to BAIRD for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07899.0500	500 g	<a href="#">inquire</a>
110864	Sulfite iron agar (base) for microbiology	■ Store at +15°C to +25°C.	1.10864.0500	500 g	<a href="#">inquire</a>
105400	TB medium acc. to LÖWENSTEIN-JENSEN (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.05400.0500	500 g	<a href="#">inquire</a>

## Dehydrated culture Media for Food and Beverage Industry

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
110263	TCBS agar for the isolation and selective cultivation of <i>Vibrio cholera</i>	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10263.0500	500 g 6 x 500 g	inquire inquire
101629	Terrific broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01629.0500	500 g	inquire
110663	Test agar pH 6.0 for the inhibitor test for microbiology	■ Store at +15°C to +25°C.	1.10663.0500	500 g	inquire
110664	Test agar pH 8.0 for the inhibitor test for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10664.0500	500 g	inquire
110863	Tetrathionate enrichment broth base acc. to MULLER-KAUFFMANN for microbiology	■ Store at +15°C to +25°C.	1.10863.0500	500 g 6 x 500 g	inquire inquire
110128	TGE agar Tryptone glucose meat extract agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10128.0500	500 g	inquire
100043	TOS-Propionate Agar (Base)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00043.0100 1.00043.0500	100 g 500 g	inquire inquire
103915	Triple sugar iron agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.03915.0500	500 g 6 x 500 g	inquire inquire
110859	Tryptone water for microbiology	■ Store at +15°C to +25°C.	1.10859.0500	500 g	inquire
100454	Trypton Soya Yeast extract Agar for detection of <i>Listeria</i> according ISO 11290 for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00454.0100 1.00454.0500	100 g 500 g	inquire inquire
110676	Tryptose broth for the enrichment and cultivation of fastidious pathogenic microorganisms	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10676.0500	500 g	inquire
111972	TSC agar Tryptose sulfite cycloserine agar (base) for microbiology	 ■ GHS: Warning, Eye irritation, Category 2, H319 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11972.0500	500 g	inquire
105264	TSN agar <i>Perfringens</i> selective agar acc. to MARSHALL for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05264.0500	500 g	inquire
100445	Universal beer agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00445.0500	500 g	inquire
108492	Urea agar (base) acc. to CHRISTENSEN for microbiology	■ Store at +15°C to +25°C.	1.08492.0500	500 g	inquire
108483	Urea broth for detecting microorganisms which metabolize urea	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08483.0500	500 g	inquire
110824	UVM- <i>Listeria</i> selective enrichment broth modified for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10824.0500	500 g	inquire
104030	VRB agar for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04030.0500	500 g	inquire
101406	VRB Agar Violet red bile agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01406.0500 1.01406.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
110275	VRBD agar Crystal-violet neutral-red bile glucose agar acc. to MOSSEL for microbiology (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10275.0500	500 g 6 x 500 g	inquire inquire
110866	WL nutrient agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10866.0500	500 g	inquire
105448	Wort agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05448.0500 1.05448.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105449	Wort broth (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05449.0500 1.05449.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105287	XLD agar Xylose lysine deoxycholate agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05287.0500	500 g 6 x 500 g	inquire inquire
113919	XLT4 agar (Base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.13919.0500	500 g	inquire
103750	Yeast extract agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.03750.0500	500 g	inquire
113116	Yeast extract agar acc. to ISO 6222 and Swedish Standard SS 028171 for microbiology	■ Store at +15°C to +25°C.	1.13116.0500	500 g	inquire
116434	<i>Yersinia</i> selective agar (base) acc. to SCHIEMANN (CIN-agar) for the selective cultivation of <i>Yersinia</i>	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.16434.0500	500 g	inquire
116000	YGC agar Yeast extract glucose chloramphenicol agar FIL-IDF for microbiology	■ Store at +15°C to +25°C.	1.16000.0500	500 g 6 x 500 g	inquire inquire





# BioMonitoring

## Dehydrated Culture Media for Pharmaceutical & Cosmetics Industry





Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
105272	Antibiotic agar no. 1 for microbiology	■ Store at +15°C to +25°C.	1.05272.0500	500 g	<a href="#">inquire</a>
105271	Antibiotic agar No. 5 for microbiology	■ Store at +15°C to +25°C.	1.05271.0500	500 g	<a href="#">inquire</a>
105269	Antibiotic agar no. 11 GROVE and RANDALL medium no. 11 for microbiology	■ Store at +15°C to +25°C.	1.05269.0500	500 g	<a href="#">inquire</a>
101590	Azide dextrose broth for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.01590.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
111723	Casein-peptone lecithin polysorbate broth (base) for microbiology	■ Store at +15°C to +25°C.	1.11723.0500	500 g	<a href="#">inquire</a>
105284	Cetrimide agar Pseudomonas selective agar base for microbiology (According harm. EP/USP/JP)	 ■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 2, H411	1.05284.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110455	Columbia agar (base) for the cultivation of fastidious microorganisms (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10455.0500 1.10455.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
105403	EE Broth-MOSSEL (acc. harm. EP/USP/JP) Enterobacteriaceae Enrichment Broth-MOSSEL for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05403.0500	500 g	<a href="#">inquire</a>
108191	Fluid thioglycolate medium for microbiology	 ■ GHS: Warning, Skin sensitisation, Category 1, H317 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08191.0500 1.08191.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
107661	Lactose broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07661.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110283	LB agar (MILLER) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10283.0500	500 g	<a href="#">inquire</a>
110285	LB broth (MILLER) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10285.0500 1.10285.5000	500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a>
110404	Lethen-Agar Base modified for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10404.0500	500 g	<a href="#">inquire</a>
110405	Lethen-Broth Base modified for the determination of bacterial activity	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10405.0500	500 g	<a href="#">inquire</a>
105465	MacCONKEY agar for the isolation of Salmonella, Shigella and coliform bacteria (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05465.0500 1.05465.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
105396	MacCONKEY broth for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05396.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
105404	Mannitol salt phenol-red agar for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05404.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110130	Potato dextrose agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10130.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
100416	R2A Agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00416.0500 1.00416.5000	500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a>
107666	Rappaport-Vassiliadis Salmonella Enrichment Broth (acc. harm. EP/USP/JP) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07666.0500	500 g	<a href="#">inquire</a>
105411	Reinforced clostridial medium (RCM) for microbiology (According harm. EP/USP/JP)	■ Store at +15°C to +25°C.	1.05411.0500	500 g	<a href="#">inquire</a>
108339	SABOURAUD-2% dextrose broth for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08339.0500	500 g	<a href="#">inquire</a>
105438	SABOURAUD 4% dextrose agar for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05438.0500 1.05438.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
105439	SABOURAUD 4% maltose agar for microbiology	■ Store at +15°C to +25°C.	1.05439.0500	500 g	<a href="#">inquire</a>
110582	Sodium chloride peptone broth (buffered) for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10582.0500 1.10582.5000	500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a>
105178	TBG broth, modified Tetrathionate brilliant-green bile enrichment broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05178.0500	500 g	<a href="#">inquire</a>
105285	Tetrathionate broth (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05285.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>



## Dehydrated Culture Media for Pharmaceutical &amp; Cosmetics Industry














Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
116761	Thioglycolate medium G for microbiology	 ■ GHS: Warning, Skin sensitisation, Category 1, H317 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.16761.0500 1.16761.5000	500 g 5 kg	inquire inquire
108190	Thioglycollate broth for microbiology	 ■ GHS: Warning, Skin sensitisation, Category 1, H317 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08190.0500 1.08190.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105458	Tryptic soy agar Casein-peptone soymeal-peptone agar for microbiology (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05458.0500 1.05458.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
107324	Tryptic soy agar with polysorbate 80 and lecithin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07324.0500	500 g	inquire
105459	Tryptic Soy Broth Casein-peptone soymeal-peptone broth for microbiology (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05459.0500 1.05459.5000 1.05459.9025	500 g 6 x 500 g 5 kg 25 kg	inquire inquire inquire inquire
100525	Tryptic Soy Broth non animal origin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00525.5000	5 kg	inquire
100550	Tryptic Soy Broth non animal origin irradiated for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00550.0500 1.00550.5000	500 g 5 kg	inquire inquire
100800	Tryptic Soy (CASO) broth irradiated Casein-peptone soymeal-peptone broth USP for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00800.5000	5 kg	inquire
111988	Vitamin B <sub>12</sub> (Lactobacillus) assay broth (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11988.0100	100 g	inquire
110275	VRBD agar Crystal-violet neutral-red bile glucose agar acc. to MOSSEL for microbiology (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10275.0500	500 g 6 x 500 g	inquire inquire
105290	XLD Agar (acc. harm. EP/USP/JP) Xylose-lysine-deoxycholate agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05290.0500	500 g	inquire

## Enzymes and Supplements





Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
109875	Bacillus Cereus Selective supplement for the preparation of 5 l Cereus Selective Agar MOSSEL	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.09875.0010	10 vials	inquire
100079	Bolton Broth Selective Supplement acc. to ISO 10272-1 for preparation of 5 l Bolton Broth	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00079.0010	10 vials	inquire
100051	CAYE Broth Supplement for Preparation of 2 l CAYE Broth mod. EVANS	 ■ GHS: Danger, Carcinogenicity, Category 1B, H350 ■ LGK 6.1B ■ Store at +2°C to +8°C.	1.00051.0010	10 vials	inquire
100439	ChromoCult® Listeria Agar Enrichment-Supplement for preparation of 5 l Listeria Selective Agar	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00439.0010	10 vials	inquire
100888	Clostridium perfringens selective supplement for preparation of 5 l TSC - Agar	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00888.0010	10 vials	inquire
109202	CT-Supplement for preparation of 5 l CT-SMAC Agar	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.09202.0010	10 vials	inquire
100898	E.coli/Coliform Selective-Supplement for preparation of 5 l selective culture media for the detection of E.coli/Coliforms	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00898.0010	10 vials	inquire
100092	FRASER Listeria Ammonium iron(III) Supplement for preparation of 5 l half FRASER Broth or 5 l FRASER Broth	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00092.0010	10 vials	inquire
100093	FRASER Listeria Selective Supplement for preparation of 5 l half FRASER Broth or 2.5 l FRASER Broth	  ■ GHS: Danger, Reproductive toxicity, Category 2, H361d; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 3, H412 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00093.0010	10 vials	inquire

# BioMonitoring
















## Enzymes and Supplements

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146544	LACTAMATOR 10x>50 IU Cepase	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46544.0010	10 PC	<a href="#">inquire</a>
146551	LACTAMATOR LIQ STER 5x10ml	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46551.0005	5 PC	<a href="#">inquire</a>
146556	LACTAMATOR TM >2 KIU Cepase	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46556.0001	1 PC	<a href="#">inquire</a>
111781	Listeria selective enrichment supplement FDA-BAM 1995 / IDF-FIL for preparation of 5 l Listeria-Enrichment Broth FDA/IDF-FIL or 5 l buffered Listeria- Enrichment Broth FDA/BAM	 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1B, H314; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 1B, H360D; Chronic aquatic toxicity, Category 2, H411  ■ LGK 6.1A ■ Store at +2°C to +8°C.  	1.11781.0010	10 vials	<a href="#">inquire</a>
109874	MSRV Selective supplement for preparation of 5 l MSRV Medium	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.09874.0010	10 vials	<a href="#">inquire</a>
100045	MUP Selective Supplement	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00045.0010	10 vials	<a href="#">inquire</a>
109877	OGYE selective supplement for preparation of 5 l OGYE Agar	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.09877.0010	10 vials	<a href="#">inquire</a>
107006	Oxford-Listeria-selective supplement for preparation of 5 l Oxford-Listeria Selective Agar	 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Eye irritation, Category 2, H319; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 1B, H360D; Chronic aquatic toxicity, Category 2, H411   ■ LGK 6.1A ■ Store at +2°C to +8°C.	1.07006.0010	10 vials	<a href="#">inquire</a>
112122	PALCAM Listeria Selective-Supplement acc. to van Netten et al. for preparation of 5 l PALCAM Listeria Selective Agar	 ■ GHS: Danger, Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 3, H412 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.12122.0010	10 vials	<a href="#">inquire</a>
146593	Penase Conc. 2Mio Levy U/ml	■ Store at +2°C to +8°C.	1.46593.0001	1 PC	<a href="#">inquire</a>
107627	Pseudomonas CFC Selective Supplement for the preparation of 5 l Pseudomonas CFC Selective Agar	 ■ GHS: Danger, Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410  ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.07627.0010	10 vials	<a href="#">inquire</a>
107624	Pseudomonas CN Selective Supplement for the preparation of 5 l Pseudomonas CN Selective Agar	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410   ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.07624.0010	10 vials	<a href="#">inquire</a>
110141	Selective supplement tablets for microbiology Salmosyst®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10141.0001	250 tabs	<a href="#">inquire</a>

## Enzymes and Supplements










Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
104039	UVM II supplement for microbiology (1 vial with 13 mg of acriflavine hydrochloride)	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 2, H411</li> <li>■ LGK 10 - 13</li> </ul>	1.04039.0001	1 vial	inquire
108981	XLT4 Agar Supplement 4.6 ml supplement solution to 1 litre of XLT4 Agar (Base)	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Skin corrosion, Category 1B, H314</li> <li>■ LGK 8 B</li> </ul>	1.08981.0100	100 ml	inquire
116466	Yersinia selective supplement (CIN) for preparation of 8 l Yersinia selective agar acc. to SCHIEMANN	  <ul style="list-style-type: none"> <li>■ GHS: Warning, Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410</li> <li>■ LGK 10 - 13 ■ Store at +2°C to +8°C.</li> </ul>	1.16466.0001	16 vials	inquire

## Microbiology accessories


Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
114226	Anaeroclip® for microbiology	<ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.14226.0001	25 units	inquire
113829	Anaerocult® A for microbiology (Reagent for the generation of an anaerobic medium in anaerobic jars)	   <ul style="list-style-type: none"> <li>■ GHS: Warning, Eye irritation, Category 2, H319; Specific target organ toxicity - repeated exposure, Category 2, Inhalation, H373; Chronic aquatic toxicity, Category 2, H411</li> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.13829.0001	10 sets	inquire
101611	Anaerocult® A mini Gas generator system for the incubation of one to four petri dishes in an anaerobic atmosphere	   <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.01611.0001	25 sets 6 x 25 sets	inquire inquire
116275	Anaerocult® C for microbiology (for the generation of an oxygen-depleted and CO <sub>2</sub> -enriched atmosphere in an anaerobic jar)	  <ul style="list-style-type: none"> <li>■ GHS: Warning, Eye irritation, Category 2, H319; Specific target organ toxicity - repeated exposure, Category 2, H373</li> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.16275.0001	25 sets 6 x 25 sets	inquire inquire
113682	Anaerocult® C mini for microbiology gas generator system for incubation of one to two Petri dishes in a oxygen-depleted and CO <sub>2</sub> -enriched atmosphere	  <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.13682.0001	25 sets	inquire
116819	Anaerocult® IS for microbiology Gas generator system for the anaerobic incubation of identification systems and sensitivity tests	  <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.16819.0001	25 sets 6 x 25 sets	inquire inquire
113807	Anaerocult® P for microbiology for generating an anaerobic atmosphere in the single Petri dish	   <ul style="list-style-type: none"> <li>■ GHS: Warning</li> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.13807.0001	25 sets	inquire

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Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
115112	Anaerotest® for microbiology	■ Store at +15°C to +25°C.	1.15112.0001	50 strips	<a href="#">inquire</a>
110649	Bacillus subtilis (BGA) spore suspension for inhibitor test	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.10649.0001	15x2ml amp	<a href="#">inquire</a>
113301	Bactident® Aminopeptidase 50 test strips for the detection of L-alanine aminopeptidase in microorganisms	■ Store at +2°C to +8°C.	1.13301.0001	50 strips	<a href="#">inquire</a>
113306	Bactident® Coagulase Rabbit plasma with EDTA, lyophilized	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.13306.0001	6 x 3 ml	<a href="#">inquire</a>
113303	Bactident® E. coli rapid identification kit for E. coli	 ■ GHS: Danger  ■ LGK 3 ■ Store at +2°C to +8°C.	1.13303.0001	50 tests	<a href="#">inquire</a>
113300	Bactident® Oxidase for the detection of cytochrome oxidase in microorganisms	■ Store at +2°C to +8°C.	1.13300.0001	50 strips	<a href="#">inquire</a>
144107	Blank Strip Kit, Agar Strips 941605 HYCON®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.44107.0050	50 units	<a href="#">inquire</a>
144024	Blank Strip Kit, Contact Slides 931200 HYCON®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.44024.0020	20 units	<a href="#">inquire</a>
146525	Bottle Rack 6 x 1000ml	■ LGK 10 - 13	1.46525.0001	1 PC	<a href="#">inquire</a>
146526	Bottle Rack 15 x 100ml	■ LGK 10 - 13	1.46526.0001	1 PC	<a href="#">inquire</a>
111351	Catalase Reagent for the detection of catalase in microorganisms Hydrogen peroxide 3% Bactident®	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.11351.0001	1 x 30 ml	<a href="#">inquire</a>
144111	Cover Slides 941900 HYCON®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.44111.0100	100 units	<a href="#">inquire</a>
115533	CULTURA mini incubator (115 V) for microbiology		1.15533.0001	1 unit	<a href="#">inquire</a>
113311	CULTURA mini incubator (230 V) for microbiology	■ Store at +15°C to +25°C.	1.13311.0001	1 unit	<a href="#">inquire</a>
111499	Geobacillus stearothermophilus Spore Suspension for the antibiotic sulfonamide residue test acc. to KUNDRAT	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.11499.0001	5 x 2 ml	<a href="#">inquire</a>
109023	GRIESS-ILOSVAY'S nitrite reagent for microbiology	 ■ GHS: Danger, Skin corrosion, Category 1B, H314 ■ LGK 8 B ■ Store at +15°C to +25°C.	1.09023.0500	500 ml	<a href="#">inquire</a>
144249	Incubation Rack for Agar Strips 940941	■ LGK 10 - 13	1.44249.0001	1 unit	<a href="#">inquire</a>
144250	Incubation Rack for Contact Slides 940946	■ LGK 10 - 13	1.44250.0001	1 unit	<a href="#">inquire</a>
111350	Indole KOVÁCS Indol reagent Bactident®	 ■ GHS: Danger, Flammable liquid, Category 3, H226; Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Specific target organ toxicity - single exposure, Category 3,  ■ LGK 3 ■ Store at +2°C to +8°C. 	1.11350.0001	1 x 30 ml	<a href="#">inquire</a>
109293	KOVACS' indole reagent for microbiology	 ■ GHS: Danger, Flammable liquid, Category 3, H226; Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Specific target organ toxicity - single exposure, Category 3,  ■ LGK 3 ■ Store at +2°C to +8°C. 	1.09293.0100	100 ml	<a href="#">inquire</a>
113312	MULTIRACK for CULTURA mini incubator	■ Store at +15°C to +25°C.	1.13312.0001	1 unit	<a href="#">inquire</a>
107040	Petri-dish rack for up to 12 petri dishes		1.07040.0001	1 unit	<a href="#">inquire</a>
146502	Rack for contact plates	■ LGK 10 - 13	1.46502.0001	1 PC	<a href="#">inquire</a>
146519	Rack for sedimentation pl.	■ LGK 10 - 13	1.46519.0001	1 PC	<a href="#">inquire</a>

## Microbiology accessories








Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
115525	RINGER tablets for the preparation of RINGER'S solution	 ■ GHS: Warning, Eye irritation, Category 2, H319 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.15525.0001	100 tabs	inquire
144217	Safety Tweezer Holder 940910	■ LGK 10 - 13	1.44217.0001	1 unit	inquire
146530	Swab Rack	■ LGK 10 - 13	1.46530.0001	1 PC	inquire
146478	Swab sterile	■ LGK 10 - 13	1.46478.0100 1.46478.0500	100 PC 500 PC	inquire inquire
146509	Transp. Bags (25x5) -sterile	■ LGK 10 - 13	1.46509.0125	125 PC	inquire
113203	UV lamp 366 nm for microbiology	■ Store at +15°C to +25°C.	1.13203.0001	1 unit	inquire

## Raw Materials

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
100846	Adonitol for microbiology	■ LGK 10 - 13	1.00846.0005	5 g	inquire
101614	Agar-agar granulated, purified and free from inhibitors for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01614.1000 1.01614.5000	1 kg 6 x 1 kg 5 kg	inquire inquire inquire
111925	Agar-agar technical for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11925.1000	1 kg	inquire
101613	Agar-agar ultrapure, granulated for microbiology	■ LGK 10 - 13	1.01613.1000	1 kg	inquire
101492	L(+)-Arabinose for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01492.0100	100 g	inquire
101310	Brilliant green (hydrogen sulfate) (C.I. 42040) for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319 ■ LGK 10 - 13	1.01310.0050	50 g	inquire
102245	Casein hydrolysate (acid hydrolyzed) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.02245.0500	500 g	inquire
105990	Dulcitol for microbiology	■ LGK 10 - 13	1.05990.0050	50 g	inquire
103784	Egg yolk emulsion sterile, 50%, for microbiology	■ Store at +2°C to +8°C.	1.03784.0001	10 x 100ml	inquire
103785	Egg yolk tellurite emulsion sterile, 20%, for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.03785.0001	10 x 50 ml	inquire
100842	Esculin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00842.0025	25 g	inquire
105323	D(-)Fructose for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05323.0250	250 g	inquire
104062	D(+)-Galactose for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04062.0050	50 g	inquire
104070	Gelatine for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04070.0500	500 g	inquire
108342	D(+)-Glucose monohydrate for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08342.1000 1.08342.2500 1.08342.9025	1 kg 2.5 kg 4 x 2.5 kg 25 kg	inquire inquire inquire inquire
104728	myo-Inositol for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04728.0100	100 g	inquire
112523	Lactalbumin hydrolysate enzymatically hydrolyzed for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12523.5000	5 kg	inquire
107657	Lactose monohydrate (milk sugar) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07657.1000 1.07657.5000	1 kg 5 kg	inquire inquire
105391	Malt extract for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05391.0500	500 g 6 x 500 g	inquire inquire
105910	Maltose monohydrate for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05910.0500	500 g 6 x 500 g	inquire inquire
105982	D(-)-Mannitol for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05982.0500	500 g 6 x 500 g	inquire inquire
103979	Meat extract dry, granulated, for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.03979.0500 1.03979.2500	500 g 6 x 500 g 2.5 kg	inquire inquire inquire

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## Raw Materials

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
103756	Ox bile dried pure for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.03756.0500	500 g	<a href="#">inquire</a>
102239	Peptone from casein pancreatically digested free from sulfonamide antagonists for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.02239.0500	500 g	<a href="#">inquire</a>
111931	Peptone from casein (Tryptone) for biotechnology Fermtech®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11931.1000 1.11931.9025	1 kg 25 kg	<a href="#">inquire</a> <a href="#">inquire</a>
107213	Peptone from casein (Tryptone) pancreatically digested, granulated for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07213.1000 1.07213.2500 1.07213.9025	1 kg 6 x 1 kg 2.5 kg 25 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
107284	Peptone from gelatin pancreatic digested for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07284.1000	1 kg	<a href="#">inquire</a>
107214	Peptone from meat pancreatically digested granulated for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07214.1000 1.07214.2500	1 kg 2.5 kg	<a href="#">inquire</a> <a href="#">inquire</a>
107224	Peptone from meat peptic digested, granulated, for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07224.1000 1.07224.2500	1 kg 2.5 kg	<a href="#">inquire</a> <a href="#">inquire</a>
107212	Peptone from soymeal papain-digested for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07212.0500	500 g	<a href="#">inquire</a>
105164	Potassium tellurite-hydrate for microbiology	 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301 ■ LGK 6.1B ■ Store at +15°C to +25°C.	1.05164.0100	100 g	<a href="#">inquire</a>
114242	Potassium tetrathionate extra pure for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.14242.0500	500 g	<a href="#">inquire</a>
107229	Protease peptone for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07229.1000	1 kg	<a href="#">inquire</a>
104736	L(+)-Rhamnose monohydrate for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04736.0025	25 g	<a href="#">inquire</a>
107665	Salicin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07665.0025	25 g	<a href="#">inquire</a>
115363	Skim milk powder for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.15363.0500	500 g	<a href="#">inquire</a>
106504	Sodium deoxycholate for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.06504.0250	250 g	<a href="#">inquire</a>
106340	Sodium hydrogen selenite for microbiology	   ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410 ■ LGK 6.1B ■ Store at +15°C to +25°C.	1.06340.0050	50 g	<a href="#">inquire</a>
106691	Sodium thioglycolate for microbiology	 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317 ■ LGK 6.1C ■ Store at +2°C to +8°C.	1.06691.0500	500 g	<a href="#">inquire</a>
107758	D(-)-Sorbitol extra pure for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07758.1000	1 kg 6 x 1 kg	<a href="#">inquire</a> <a href="#">inquire</a>
107651	Sucrose for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07651.1000 1.07651.5000	1 kg 6 x 1 kg 5 kg 4 x 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
108353	Trehalose for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08353.0005	5 g	<a href="#">inquire</a>
108380	2,3,5-Triphenyltetrazolium chloride for microbiology	 ■ GHS: Danger, Flammable solid, Category 1, H228 ■ LGK 4.1B	1.08380.0010 1.08380.0100	10 g 100 g	<a href="#">inquire</a> <a href="#">inquire</a>

## Raw Materials

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
110213	Tryptose for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10213.1000	1 kg	inquire
107043	Universal peptone M 66 for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07043.1000	1 kg	inquire
111926	Yeast extract for biotechnology Fermtech®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11926.1000 1.11926.9025	1 kg 25 kg	inquire inquire
103753	Yeast extract granulated for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.03753.0500 1.03753.5000 1.03753.9025	500 g 6 x 500 g 5 kg 25 kg	inquire inquire inquire inquire

## Ready to Use Culture Media for Food and Beverage Industry

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146088	Bacillus cereus Agar	■ LGK 10 - 13	1.46088.0020 1.46088.0100	20 PC 100 PC	inquire inquire
146137	Baird Parker Agar EP	■ LGK 10 - 13	1.46137.0020 1.46137.0100	20 PC 100 PC	inquire inquire
146344	Bifido Agar	■ LGK 10 - 13	1.46344.0020 1.46344.0100	20 PC 100 PC	inquire inquire
146321	Bile Esculin Azide Agar	■ LGK 10 - 13	1.46321.0020	20 PC	inquire
146011	B. Parker A. -LI EP+USP 22ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46011.0020	20 PC	inquire
146227	Brain Heart Infusion B. 9ml	■ LGK 10 - 13	1.46227.0020 1.46227.0100	20 PC 100 PC	inquire inquire
146543	Buff. NaCl-Pept Sol. acc. EP	■ LGK 10 - 13	1.46543.0001	1 PC	inquire
146550	Buff. Peptone Water 2 l bag	■ LGK 10 - 13	1.46550.0001	1 PC	inquire
146092	Cereus Ident Agar	■ LGK 10 - 13	1.46092.0020	20 PC	inquire
146136	Cetrimide A. +Fucid.+Cephal.	■ LGK 10 - 13	1.46136.0020 1.46136.0100	20 PC 100 PC	inquire inquire
146078	Cetrimide-A (Pseudomon.CN-A)	■ LGK 10 - 13 ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.46078.0020 1.46078.0100	20 PC 100 PC	inquire inquire
118441	Chromocult® Coliform Agar Merckotube®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18441.0010	10 x 200ml	inquire
146222	Citr-Az-Tween-Carb-A. (CATC)	■ LGK 10 - 13	1.46222.0020	20 PC	inquire
146559	Columbia Blood Agar Pharm.	■ LGK 10 - 13	1.46559.0020 1.46559.0100	20 PC 100 PC	inquire inquire
146189	Contact A. Baird Parker - RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46189.0020	20 PC	inquire
146266	Contact Agar DG 18 + Cm - RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46266.0020	20 PC	inquire
146154	Contact Agar Plate Count-RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46154.0020	20 PC	inquire
146191	Contact A. Malt Extract - RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46191.0020	20 PC	inquire
146200	Contact A. Tr. Soy w. LTH-RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46200.0020	20 PC	inquire
146135	m-CP Agar	■ LGK 10 - 13	1.46135.0020 1.46135.0100	20 PC 100 PC	inquire inquire
146464	DEV Glucose B. +Durham 100ml	■ LGK 10 - 13	1.46464.0006	6 PC	inquire
146289	DEV Nutrient Agar	■ LGK 10 - 13	1.46289.0020 1.46289.0100	20 PC 100 PC	inquire inquire
146336	DEV Nutrient Agar	■ LGK 10 - 13	1.46336.0020	20 PC	inquire
146359	DEV Nutrient Agar 200ml	■ LGK 10 - 13	1.46359.0006	6 PC	inquire
146138	DRCM Agar	■ LGK 10 - 13	1.46138.0020	20 PC	inquire
146167	DRCM Agar	■ LGK 10 - 13	1.46167.0020	20 PC	inquire
146370	DRCM-Agar 200ml	■ LGK 10 - 13	1.46370.0006	6 PC	inquire
146123	ECD Agar + MUG	■ LGK 10 - 13	1.46123.0020	20 PC	inquire



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## Ready to Use Culture Media for Food and Beverage Industry

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146131	Egg-Yolk Lactose Agar	■ LGK 10 - 13	1.46131.0020	20 PC	<a href="#">inquire</a>
102136	Envirocheck® Contact C (total coliforms/E.coli)	■ LGK 10 - 13 ■ Store below +15°C.	1.02136.0001	10 units	<a href="#">inquire</a>
102147	Envirocheck® Contact DC (Disinfection Control)	■ LGK 10 - 13 ■ Store below +15°C.	1.02147.0001	10 units	<a href="#">inquire</a>
102137	Envirocheck® Contact E (Enterobacteriaceae)	■ LGK 10 - 13 ■ Store below +15°C.	1.02137.0001	10 units	<a href="#">inquire</a>
102149	Envirocheck® Contact TVC (Total Viable Counts)	■ LGK 10 - 13 ■ Store below +15°C.	1.02149.0001	10 units	<a href="#">inquire</a>
102139	Envirocheck® Contact YM(R) (Yeasts and Moulds)	■ LGK 10 - 13 ■ Store below +15°C.	1.02139.0001	10 units	<a href="#">inquire</a>
146476	Fraser Enrichment B. (1/2)	■ LGK 10 - 13	1.46476.0006	6 PC	<a href="#">inquire</a>
146208	Fraser Enrichment Broth 10ml	■ LGK 10 - 13	1.46208.0020 1.46208.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146106	Fungi Agar acc. to Kimmig	■ LGK 10 - 13	1.46106.0020 1.46106.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146161	D G 18 Agar with Cm	■ LGK 10 - 13	1.46161.0020 1.46161.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146120	Gassner Agar	■ LGK 10 - 13	1.46120.0100	100 PC	<a href="#">inquire</a>
146312	Gluc B.+Bromthy. Blue+Durham	■ LGK 10 - 13	1.46312.0020	20 PC	<a href="#">inquire</a>
146145	GSP-A. (Pseudomon./Aeromon.)	■ LGK 10 - 13	1.46145.0020	20 PC	<a href="#">inquire</a>
146111	Kimmig's Agar w. Pen/Strep.	■ LGK 10 - 13	1.46111.0020	20 PC	<a href="#">inquire</a>
146099	King's B Medium (Slant)	■ LGK 10 - 13	1.46099.0020	20 PC	<a href="#">inquire</a>
146401	Lactose Broth EP+USP	■ LGK 10 - 13	1.46401.0010	10 PC	<a href="#">inquire</a>
146400	Lactose B. wide mouth acc EP	■ LGK 10 - 13	1.46400.0006	6 PC	<a href="#">inquire</a>
146185	Lactose TTC A. w. Tergitol-7	■ LGK 10 - 13	1.46185.0020 1.46185.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146322	Legion.-G.V.P.C.-Select. A.	■ LGK 10 - 13	1.46322.0020 1.46322.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146264	Lethen Broth 9.9ml	■ LGK 10 - 13	1.46264.0100	100 PC	<a href="#">inquire</a>
146186	Listeria Agar chromogen ISO	■ LGK 10 - 13	1.46186.0020 1.46186.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146066	MacConkey Agar Pharm.	■ LGK 10 - 13	1.46066.0020 1.46066.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146022	MacConkey A-LI acc. EP 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46022.0020 1.46022.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146383	MacConkey B. acc EP wide m.	■ LGK 10 - 13	1.46383.0006	6 PC	<a href="#">inquire</a>
146372	MacConkey Broth acc. EP	■ LGK 10 - 13	1.46372.0006	6 PC	<a href="#">inquire</a>
146382	MacConkey Broth acc. EP	■ LGK 10 - 13	1.46382.0006	6 PC	<a href="#">inquire</a>
146461	MacConkey Broth acc. EP	■ LGK 10 - 13	1.46461.0010	10 PC	<a href="#">inquire</a>
146427	MacConkey Cont. A.-RT acc EP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46427.0020	20 PC	<a href="#">inquire</a>
146151	Malt Extract Agar	■ LGK 10 - 13	1.46151.0020 1.46151.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146147	Malt Extract Agar with Cm	■ LGK 10 - 13	1.46147.0020 1.46147.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146157	Mannitol Salt Agar	■ LGK 10 - 13	1.46157.0020 1.46157.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146023	Mannitol Salt Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46023.0020 1.46023.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146160	Mannit-Yolk-Polymyx-A. (MYP)	■ LGK 10 - 13	1.46160.0020 1.46160.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146405	Milk Plate Count Agar 200ml	■ LGK 10 - 13	1.46405.0006	6 PC	<a href="#">inquire</a>
146444	Mod. Tween Lethen A. (MLAT)	■ LGK 10 - 13	1.46444.0100	100 PC	<a href="#">inquire</a>
146487	Mod. Tween Lethen Broth	■ LGK 10 - 13	1.46487.0006	6 PC	<a href="#">inquire</a>
146346	Mossel Broth (EE Broth)	■ LGK 10 - 13	1.46346.0020	20 PC	<a href="#">inquire</a>
146373	Mossel Broth (EE Broth)	■ LGK 10 - 13	1.46373.0010	10 PC	<a href="#">inquire</a>

## Ready to Use Culture Media for Food and Beverage Industry

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146434	Mossel Broth (EE Broth)	■ LGK 10 - 13	1.46434.0006	6 PC	inquire
146462	Mossel Broth (EE Broth)	■ LGK 10 - 13	1.46462.0006	6 PC	inquire
146148	MRS Agar	■ LGK 10 - 13	1.46148.0020 1.46148.0100	20 PC 100 PC	inquire inquire
146364	MRS Agar 200ml pH 5.4 +-0.2	■ LGK 10 - 13	1.46364.0006	6 PC	inquire
146262	MSRV Medium + Novobiocin	■ LGK 10 - 13	1.46262.0100	100 PC	inquire
146327	NaCl Peptone Broth 9ml	■ LGK 10 - 13	1.46327.0100	100 PC	inquire
146196	NaCl Peptone Buffer 9.0ml EP	■ LGK 10 - 13	1.46196.0020 1.46196.0100	20 PC 100 PC	inquire inquire
146217	NaCl (phys.) 10ml	■ LGK 10 - 13	1.46217.0020 1.46217.0100	20 PC 100 PC	inquire inquire
146198	NaCl (phys.) 5ml	■ LGK 10 - 13	1.46198.0020 1.46198.0100	20 PC 100 PC	inquire inquire
146193	NaCl (phys.) 9ml	■ LGK 10 - 13	1.46193.0020 1.46193.0100	20 PC 100 PC	inquire inquire
146290	OF Medium	■ LGK 10 - 13	1.46290.0020	20 PC	inquire
146350	Orange Serum Agar	■ LGK 10 - 13	1.46350.0020 1.46350.0100	20 PC 100 PC	inquire inquire
146425	Orange Serum Agar	■ LGK 10 - 13	1.46425.0006	6 PC	inquire
146328	Oxford Listeria Select. A.	■ LGK 10 - 13	1.46328.0020	20 PC	inquire
146329	PALCAM Listeria Select. A.	■ LGK 10 - 13	1.46329.0020	20 PC	inquire
146142	Peptone Water 9ml	■ LGK 10 - 13	1.46142.0020 1.46142.0100	20 PC 100 PC	inquire inquire
146404	Peptone Water (buff.) 225ml	■ LGK 10 - 13	1.46404.0006	6 PC	inquire
146355	Pept Water +0,1% Tween 80 1l	■ LGK 10 - 13	1.46355.0006	6 PC	inquire
146403	Pept. Water (buff.) 1000ml	■ LGK 10 - 13	1.46403.0006	6 PC	inquire
146199	Phosphate Buffer Solution	■ LGK 10 - 13	1.46199.0100	100 PC	inquire
146202	Plate Count Agar	■ LGK 10 - 13	1.46202.0020	20 PC	inquire
146269	Plate Count Agar	■ LGK 10 - 13	1.46269.0020 1.46269.0100	20 PC 100 PC	inquire inquire
118412	Plate count agar Contact plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18412.0020	20 plates	inquire
146365	Plate Count Agar 200ml	■ LGK 10 - 13	1.46365.0006	6 PC	inquire
146363	Plate Count Agar 400ml	■ LGK 10 - 13	1.46363.0006	6 PC	inquire
146024	Pseudomonas Agar P - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46024.0020	20 PC	inquire
146068	Rambach Agar	■ LGK 10 - 13	1.46068.0020 1.46068.0100	20 PC 100 PC	inquire inquire
146324	Rappaport-Vassil.-Med (RVS)	■ LGK 10 - 13	1.46324.0020 1.46324.0100	20 PC 100 PC	inquire inquire
MHA000P2D	Wallerstein Differential Broth (WLD)	■ 2-10 (refrigerated in foil bag) °C	MHA000P2D	50	inquire
MHA000P2E	m-Endo Total Coliform Broth	■ 2-10°C (refrigerated and protected from bright light and oxygen) °C	MHA000P2E	50	inquire
MHA000P2F	m-FC Broth with Rosolic Acid	■ 2-10 (refrigerated) °C	MHA000P2F	50	inquire
MHA000P2M	m-Green Yeast and Mold Broth	■ 2-10 (refrigerated) °C	MHA000P2M	50	inquire
MHA000P2N	Wallerstein Nutrient Broth (WLN)	■ 2-10 (refrigerated) °C	MHA000P2N	50	inquire
MHA000P2P	Pseudomonas Selective Broth	■ 2-10 (refrigerated) °C	MHA000P2P	50	inquire
MHA000P2S	m-HPC Broth	■ 2-10 (refrigerated) °C	MHA000P2S	50	inquire
MHA000P2T	Tryptone Glucose Extract Broth (TGE)	■ 2-10 (refrigerated) °C	MHA000P2T	50	inquire
MHA00P2SM	Yeast and Mold Selective Broth	■ 2-10 (refrigerated) °C	MHA00P2SM	50	inquire
MHA00P2TT	Tryptone Glucose Extract Broth with TTC	■ 2-10 (refrigerated) °C	MHA00P2TT	50	inquire
M00PMCB24	m-ColiBlue24® Broth	■ 2-10 (refrigerated) °C	M00PMCB24	50	inquire
MB000000E	m-Endo Total Coliform Broth (Dehydrated)	■ < 30°C (protected from bright light) °C	MB000000E	1	inquire

# BioMonitoring

## Ready to Use Culture Media for Food and Beverage Industry

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MB000000F	m-FC Broth (Dehydrated) without Rosolic Acid	■ < 30°C (protected from bright light) °C	MB000000F	1	<a href="#">inquire</a>
MB000000R	Rosolic Acid (Dehydrated)	■ < 30°C (protected from bright light) °C	MB000000R	1	<a href="#">inquire</a>
MB000000S	KF Agar (Dehydrated) without TTC indicator	■ GHS: Chronic aquatic toxicity, Category 3, H412 ■ < 30°C (protected from bright light) °C	MB000000S	1	<a href="#">inquire</a>
MB000000T	Tryptone Glucose Extract Broth (Dehydrated)	■ < 30°C (protected from bright light) °C	MB000000T	1	<a href="#">inquire</a>
MB000000Y	m-Green Yeast and Mold Broth (Dehydrated)	■ < 30°C (protected from bright light) °C	MB000000Y	1	<a href="#">inquire</a>
MHA00BSM2	Brettanomyces Selective Broth	■ 2-10 (refrigerated) °C	MHA00BSM2	50	<a href="#">inquire</a>
MHA00FCR2	m-FC Broth without Rosolic Acid	■ 2-10 (refrigerated) °C	MHA00FCR2	50	<a href="#">inquire</a>
MHA00PRY2	PRY (Preservative Resistant Yeast) Broth	■ 2-10 (refrigerated) °C	MHA00PRY2	50	<a href="#">inquire</a>
MHA00MRS2	De Man, Rogosa and Sharpe (MRS) Broth	■ 2-10 (refrigerated) °C	MHA00MRS2	50	<a href="#">inquire</a>
MHA000T2B	Tryptic Soybean Broth (TSB)	■ 2-10 (refrigerated) °C	MHA000T2B	50	<a href="#">inquire</a>
MHA000P20	Orange Serum Liquid Media Ampoule	■ 2-10 (refrigerated) °C	MHA000P20	50	<a href="#">inquire</a>
146192	Rogosa Agar mod.	■ LGK 10 - 13	1.46192.0020	20 PC	<a href="#">inquire</a>
146122	Rose Bengal Agar with Cm	■ LGK 10 - 13	1.46122.0020 1.46122.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146236	Sab-Dextr-Agar acc. EP+USP	■ LGK 10 - 13	1.46236.0020 1.46236.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146394	Sab. Dextr.(4%) Agar w. Cm	■ LGK 10 - 13	1.46394.0006	6 PC	<a href="#">inquire</a>
146466	Sab. Dextr.(4%) Agar w. Cm	■ LGK 10 - 13	1.46466.0006	6 PC	<a href="#">inquire</a>
146393	Sab. Dextrose (4%) A. acc EP	■ LGK 10 - 13	1.46393.0006	6 PC	<a href="#">inquire</a>
118414	SABOURAUD 4% dextrose agar with chloramphenicol Contact plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18414.0020	20 plates	<a href="#">inquire</a>
146392	Sabouraud Dextrose A. acc EP	■ LGK 10 - 13	1.46392.0006	6 PC	<a href="#">inquire</a>
146366	Sabouraud Dextrose B. (SDB)	■ LGK 10 - 13	1.46366.0010	10 PC	<a href="#">inquire</a>
146056	Sabouraud Glucose (4%) Slant	■ LGK 10 - 13	1.46056.0020	20 PC	<a href="#">inquire</a>
146130	Salmonellen Ident Agar	■ LGK 10 - 13	1.46130.0020	20 PC	<a href="#">inquire</a>
146303	SDA acc. EP+USP	■ LGK 10 - 13	1.46303.0020 1.46303.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146549	SDA Contact +Cm - RT+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46549.0020	20 PC	<a href="#">inquire</a>
146028	SDA - LI acc. EP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46028.0020 1.46028.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146298	SDA w. Chloramphenicol	■ LGK 10 - 13	1.46298.0020	20 PC	<a href="#">inquire</a>
146442	SDA w. Cm acc. EP	■ LGK 10 - 13	1.46442.0020 1.46442.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146003	SDA w. Cm acc. EP - LI	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46003.0020 1.46003.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146345	Sel. A. acc Slanetz-Bartley	■ LGK 10 - 13	1.46345.0020 1.46345.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146163	Shahidi Fergu. Perfr-A (SFP)	■ LGK 10 - 13	1.46163.0020	20 PC	<a href="#">inquire</a>
146338	SIM Agar	■ LGK 10 - 13	1.46338.0020	20 PC	<a href="#">inquire</a>
146061	Simmons Citrate Agar Slope	■ LGK 10 - 13	1.46061.0020	20 PC	<a href="#">inquire</a>
146256	Standard I Nutrient Agar	■ LGK 10 - 13	1.46256.0020 1.46256.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146320	Streptococcus Selective Agar	■ LGK 10 - 13	1.46320.0020 1.46320.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146221	Tetrathionate Broth (MKTTn)	■ LGK 10 - 13	1.46221.0020 1.46221.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146190	T G E Agar	■ LGK 10 - 13	1.46190.0020	20 PC	<a href="#">inquire</a>
146220	Thioglycollate Med. acc. EP	■ LGK 10 - 13	1.46220.0020 1.46220.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>

## Ready to Use Culture Media for Food and Beverage Industry

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146139	Thioglycollate Medium acc EP	■ LGK 10 - 13	1.46139.0020	20 PC	inquire
			1.46139.0100	100 PC	inquire
146375	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46375.0006	6 PC	inquire
146431	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46431.0020	20 PC	inquire
			1.46431.0100	100 PC	inquire
146457	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46457.0006	6 PC	inquire
146271	Tryptic Soy A. Slope EP+USP	■ LGK 10 - 13	1.46271.0020	20 PC	inquire
146429	Tryptic Soy A. (Tubes 18ml)	■ LGK 10 - 13	1.46429.0020	20 PC	inquire
			1.46429.0100	100 PC	inquire
146357	Tryptic Soy B. acc. EP+USP	■ LGK 10 - 13	1.46357.0006	6 PC	inquire
146379	Tryptic Soy B. acc. EP+USP	■ LGK 10 - 13	1.46379.0006	6 PC	inquire
146318	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46318.0006	6 PC	inquire
146334	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46334.0006	6 PC	inquire
146335	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46335.0006	6 PC	inquire
146432	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46432.0020	20 PC	inquire
			1.46432.0100	100 PC	inquire
146458	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46458.0010	10 PC	inquire
146484	Tryptic Soy Broth +LT 90ml	■ LGK 10 - 13	1.46484.0006	6 PC	inquire
146283	Tryptic Soy Broth w. LTHTh	■ LGK 10 - 13	1.46283.0020	20 PC	inquire
146326	Tryptone Bile X-Gluc Agar	■ LGK 10 - 13	1.46326.0020	20 PC	inquire
			1.46326.0100	100 PC	inquire
146171	Tryptophan Broth	■ LGK 10 - 13	1.46171.0020	20 PC	inquire
146165	Trypt-Sulf-Cyclos. A. (TSC)	■ LGK 10 - 13	1.46165.0020	20 PC	inquire
146172	TSA + Cycloheximide	■ LGK 10 - 13	1.46172.0020	20 PC	inquire
146004	TSA - LI 30ml EP+USP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46004.0020	20 PC	inquire
			1.46004.0120	120 PC	inquire
146015	TSA w. LTH - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46015.0020	20 PC	inquire
			1.46015.0120	120 PC	inquire
146002	TSA w. LTHTh - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46002.0020	20 PC	inquire
			1.46002.0120	120 PC	inquire
146455	Urea Agar acc to Christensen	■ LGK 10 - 13	1.46455.0020	20 PC	inquire
146134	Violet Red Bile Agar + MUG	■ LGK 10 - 13	1.46134.0020	20 PC	inquire
146435	Viol. R. Bile Gluc. A. 200ml	■ LGK 10 - 13	1.46435.0006	6 PC	inquire
146423	Viol. R. Bile (VRB) A. 200ml	■ LGK 10 - 13	1.46423.0006	6 PC	inquire
146253	Viol Red-Bile-Dext-Cont-A RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46253.0020	20 PC	inquire
146265	Viol Red-Bile-Dext-Dext-A-RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46265.0020	20 PC	inquire
146127	Viol Red-Bile-Dextr (VRBD) A	■ LGK 10 - 13	1.46127.0020	20 PC	inquire
			1.46127.0100	100 PC	inquire
118417	VRBD agar Contact plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18417.0020	20 plates	inquire
146000	VRBD Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46000.0020	20 PC	inquire
			1.46000.0120	120 PC	inquire
146241	Wort Agar (pH 5.0)	■ LGK 10 - 13	1.46241.0020	20 PC	inquire
146126	XLD Agar EP+USP	■ LGK 10 - 13	1.46126.0020	20 PC	inquire
			1.46126.0100	100 PC	inquire
146073	XLD Agar - LI EP+USP 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46073.0020	20 PC	inquire
			1.46073.0120	120 PC	inquire
146121	Yeast Extract Agar 18ml	■ LGK 10 - 13	1.46121.0020	20 PC	inquire
			1.46121.0100	100 PC	inquire
146465	Yeast Glucose Cm Agar	■ LGK 10 - 13	1.46465.0006	6 PC	inquire
146348	Yeast Glucose Cm Agar (YGC)	■ LGK 10 - 13	1.46348.0020	20 PC	inquire
			1.46348.0100	100 PC	inquire

# BioMonitoring

## Ready to use Culture Media for Pharmaceutical & Cosmetics Industry

### Dilution/Enrichment/Total cell count


Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146371	Buff NaCl-Pept.Sol.+0.1%Tw80	■ LGK 10 - 13	1.46371.0006	6 PC	<a href="#">inquire</a>
146421	Buff NaCl-Pept Sol +0.1%Tw80	■ LGK 10 - 13	1.46421.0006	6 PC	<a href="#">inquire</a>
146360	Buff. NaCl-Pept. Sol. acc EP	■ LGK 10 - 13	1.46360.0006	6 PC	<a href="#">inquire</a>
146367	Buff. NaCl-Pept. Sol. acc EP	■ LGK 10 - 13	1.46367.0010	10 PC	<a href="#">inquire</a>
146368	Buff. NaCl-Pept. Sol. acc EP	■ LGK 10 - 13	1.46368.0006	6 PC	<a href="#">inquire</a>
146419	Buff. NaCl-Pept. Sol. acc EP	■ LGK 10 - 13	1.46419.0006	6 PC	<a href="#">inquire</a>
146480	Buff. NaCl-Pept. Sol. acc EP	■ LGK 10 - 13	1.46480.0010	10 PC	<a href="#">inquire</a>
146543	Buff. NaCl-Pept Sol. acc. EP	■ LGK 10 - 13	1.46543.0001	1 PC	<a href="#">inquire</a>
146550	Buff. Peptone Water 2 l bag	■ LGK 10 - 13	1.46550.0001	1 PC	<a href="#">inquire</a>
146495	Cas.Pept.Lec.Polysorb.B. USP	■ LGK 10 - 13	1.46495.0010	10 PC	<a href="#">inquire</a>
146559	Columbia Blood Agar Pharm.	■ LGK 10 - 13	1.46559.0020 1.46559.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146264	Lethen Broth 9.9ml	■ LGK 10 - 13	1.46264.0100	100 PC	<a href="#">inquire</a>
146444	Mod. Tween Lethen A. (MLAT)	■ LGK 10 - 13	1.46444.0100	100 PC	<a href="#">inquire</a>
146353	Mod. Tween Lethen B. (MLBT)	■ LGK 10 - 13	1.46353.0006	6 PC	<a href="#">inquire</a>
146487	Mod. Tween Lethen Broth	■ LGK 10 - 13	1.46487.0006	6 PC	<a href="#">inquire</a>
146381	NaCl-Pept-B. + 0.1% Tween 80	■ LGK 10 - 13	1.46381.0006	6 PC	<a href="#">inquire</a>
146522	NaCl-Pept-Buff. +LTH wide n.	■ LGK 10 - 13	1.46522.0006	6 PC	<a href="#">inquire</a>
146175	NaCl-Pept-B. with LTH 9ml	■ LGK 10 - 13	1.46175.0100	100 PC	<a href="#">inquire</a>
146196	NaCl Peptone Buffer 9.0ml EP	■ LGK 10 - 13	1.46196.0020 1.46196.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146404	Peptone Water (buff.) 225ml	■ LGK 10 - 13	1.46404.0006	6 PC	<a href="#">inquire</a>
146441	Pepton Rinsing Solution + TH	■ LGK 10 - 13	1.46441.0006	6 PC	<a href="#">inquire</a>
146355	Pept Water +0,1% Tween 80 1l	■ LGK 10 - 13	1.46355.0006	6 PC	<a href="#">inquire</a>
146403	Pept. Water (buff.) 1000ml	■ LGK 10 - 13	1.46403.0006	6 PC	<a href="#">inquire</a>
146269	Plate Count Agar	■ LGK 10 - 13	1.46269.0020 1.46269.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146365	Plate Count Agar 200ml	■ LGK 10 - 13	1.46365.0006	6 PC	<a href="#">inquire</a>
146363	Plate Count Agar 400ml	■ LGK 10 - 13	1.46363.0006	6 PC	<a href="#">inquire</a>
146236	Sab-Dextr-Agar acc. EP+USP	■ LGK 10 - 13	1.46236.0020 1.46236.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146394	Sab. Dextr.(4%) Agar w. Cm	■ LGK 10 - 13	1.46394.0006	6 PC	<a href="#">inquire</a>
146393	Sab. Dextrose (4%) A. acc EP	■ LGK 10 - 13	1.46393.0006	6 PC	<a href="#">inquire</a>
118409	SABOURAUD 4% dextrose agar with Neutralizers Contact plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18409.0020	20 plates	<a href="#">inquire</a>
118411	SABOURAUD 4% dextrose agar with neutralizers Settle plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18411.0020	20 plates	<a href="#">inquire</a>
146392	Sabouraud Dextrose A. acc EP	■ LGK 10 - 13	1.46392.0006	6 PC	<a href="#">inquire</a>
146366	Sabouraud Dextrose B. (SDB)	■ LGK 10 - 13	1.46366.0010	10 PC	<a href="#">inquire</a>
146303	SDA acc. EP+USP	■ LGK 10 - 13	1.46303.0020 1.46303.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146028	SDA - LI acc. EP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46028.0020 1.46028.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146298	SDA w. Chloramphenicol	■ LGK 10 - 13	1.46298.0020	20 PC	<a href="#">inquire</a>
146442	SDA w. Cm acc. EP	■ LGK 10 - 13	1.46442.0020 1.46442.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146003	SDA w. Cm acc. EP - LI	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46003.0020 1.46003.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146220	Thioglycollate Med. acc. EP	■ LGK 10 - 13	1.46220.0020 1.46220.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146139	Thioglycollate Medium acc EP	■ LGK 10 - 13	1.46139.0020 1.46139.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>

## Ready to use Culture Media for Pharmaceutical &amp; Cosmetics Industry

## Dilution/Enrichment/Total cell count

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146375	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46375.0006	6 PC	inquire
146431	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46431.0020 1.46431.0100	20 PC 100 PC	inquire inquire
146457	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46457.0006	6 PC	inquire
146285	Tryptic Soy Agar +LTH	■ LGK 10 - 13	1.46285.0020 1.46285.0100	20 PC 100 PC	inquire inquire
118408	Tryptic Soy agar with Neutralizers Contact plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18408.0020	20 plates	inquire
118410	Tryptic Soy agar with Neutralizers Settle plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18410.0020	20 plates	inquire
146271	Tryptic Soy A. Slope EP+USP	■ LGK 10 - 13	1.46271.0020	20 PC	inquire
146429	Tryptic Soy A. (Tubes 18ml)	■ LGK 10 - 13	1.46429.0020 1.46429.0100	20 PC 100 PC	inquire inquire
146357	Tryptic Soy B. acc. EP+USP	■ LGK 10 - 13	1.46357.0006	6 PC	inquire
146379	Tryptic Soy B. acc. EP+USP	■ LGK 10 - 13	1.46379.0006	6 PC	inquire
146380	Tryptic Soy B. acc. EP+USP	■ LGK 10 - 13	1.46380.0010	10 PC	inquire
146317	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46317.0010	10 PC	inquire
146318	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46318.0006	6 PC	inquire
146334	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46334.0006	6 PC	inquire
146335	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46335.0006	6 PC	inquire
146432	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46432.0020 1.46432.0100	20 PC 100 PC	inquire inquire
146458	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46458.0010	10 PC	inquire
146484	Tryptic Soy Broth +LT 90ml	■ LGK 10 - 13	1.46484.0006	6 PC	inquire
146283	Tryptic Soy Broth w. LTHTh	■ LGK 10 - 13	1.46283.0020	20 PC	inquire
146004	TSA - LI 30ml EP+USP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46004.0020 1.46004.0120	20 PC 120 PC	inquire inquire
146015	TSA w. LTH - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46015.0020 1.46015.0120	20 PC 120 PC	inquire inquire
146002	TSA w. LTHTh - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46002.0020 1.46002.0120	20 PC 120 PC	inquire inquire
146492	TSB + TLHC (Inactivator B.)	■ LGK 10 - 13	1.46492.0010	10 PC	inquire

## Identification/Differentiation

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146137	Baird Parker Agar EP	■ LGK 10 - 13	1.46137.0020 1.46137.0100	20 PC 100 PC	inquire inquire
146011	B. Parker A. -LI EP+USP 22ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46011.0020	20 PC	inquire
146046	BPLS Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46046.0020	20 PC	inquire
146048	Cetrimide A -LI acc. EP 30ml	 ■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 2, H411	1.46048.0020 1.46048.0120	20 PC 120 PC	inquire inquire
146401	Lactose Broth EP+USP	■ LGK 10 - 13	1.46401.0010	10 PC	inquire
146066	MacConkey Agar Pharm.	■ LGK 10 - 13	1.46066.0020 1.46066.0100	20 PC 100 PC	inquire inquire
146022	MacConkey A-LI acc. EP 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46022.0020 1.46022.0120	20 PC 120 PC	inquire inquire
146383	MacConkey B. acc EP wide m.	■ LGK 10 - 13	1.46383.0006	6 PC	inquire
146372	MacConkey Broth acc. EP	■ LGK 10 - 13	1.46372.0006	6 PC	inquire
146382	MacConkey Broth acc. EP	■ LGK 10 - 13	1.46382.0006	6 PC	inquire
146461	MacConkey Broth acc. EP	■ LGK 10 - 13	1.46461.0010	10 PC	inquire



# BioMonitoring

## Identification/Differentiation

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146157	Mannitol Salt Agar	■ LGK 10 - 13	1.46157.0020 1.46157.0100	20 PC 100 PC	inquire inquire
146023	Mannitol Salt Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46023.0020 1.46023.0120	20 PC 120 PC	inquire inquire
146219	Mossel Broth acc. EP+USP	■ LGK 10 - 13	1.46219.0020 1.46219.0100	20 PC 100 PC	inquire inquire
146463	Mossel Broth acc. EP+USP	■ LGK 10 - 13	1.46463.0010	10 PC	inquire
146024	Pseudomonas Agar P - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46024.0020	20 PC	inquire
146181	Rappaport Vassil.-B. acc. EP	■ LGK 10 - 13	1.46181.0020 1.46181.0100	20 PC 100 PC	inquire inquire
146236	Sab-Dextr-Agar acc. EP+USP	■ LGK 10 - 13	1.46236.0020 1.46236.0100	20 PC 100 PC	inquire inquire
146028	SDA - LI acc. EP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46028.0020 1.46028.0120	20 PC 120 PC	inquire inquire
146127	Viol Red-Bile-Dextr (VRBD) A	■ LGK 10 - 13	1.46127.0020 1.46127.0100	20 PC 100 PC	inquire inquire
146000	VRBD Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46000.0020 1.46000.0120	20 PC 120 PC	inquire inquire
146126	XLD Agar EP+USP	■ LGK 10 - 13	1.46126.0020 1.46126.0100	20 PC 100 PC	inquire inquire
146073	XLD Agar - LI EP+USP 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46073.0020 1.46073.0120	20 PC 120 PC	inquire inquire



## Bioburden Testing

### Bioburden testing for Food & Beverage / Clinical

#### Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
EZSPKIT01	EZ-Pak Membrane Dispenser spare part kit	■ NA	EZSPKIT01	1	inquire
M00000001	Sterile Sampling Tube 5 in. w/Luer Fitting	■ Room temperature	M00000001	100	inquire
MIACN8S01	Microfil V stainless steel filter support for manifold	■ NA	MIACN8S01	1	inquire
STREAMTUB	5 meters autoclavable silicone tubing with 9.5 mm internal diameter	■ NA	STREAMTUB	1	inquire
EZFITMIHE1	Microfil® filtration head for EZ-Fit™ Manifold	■ NA	EZFITMIHE1	1	inquire
EZFITMIHE3	Microfil® filtration head for EZ-Fit™ Manifold	■ NA	EZFITMIHE3	3	inquire
EZFITLOHE1	Microfil® V or Microfil® S filtration head for EZ-Fit™ Manifold	■ NA	EZFITLOHE1	1	inquire
EZFITLOHE3	Microfil® V or Microfil® S filtration head for EZ-Fit™ Manifold	■ NA	EZFITLOHE3	3	inquire
EZFITHIHE1	Filtration head for rubber stopper tulip for EZ-Fit™ Manifold	■ NA	EZFITHIHE1	1	inquire
EZFITHIHE3	Filtration head for rubber stopper tulip for EZ-Fit™ Manifold	■ NA	EZFITHIHE3	3	inquire
EZFITMAKIT	EZ-Fit™ Manifold maintenance kit including lubricant and brush	■ NA	EZFITMAKIT	1	inquire
MIAC03P01	Microfil 3-Place Manifold and Support	■ NA	MIAC03P01	1	inquire
MIACFD101	Microfil Funnel Dispenser 100 mL	■ NA	MIACFD101	1	inquire

#### Devices & Membranes

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
JBRMHWG05505	55-Plus monitors	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	JBRMHWG05505	50	inquire
JBRMABG05505	55-Plus monitors	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	JBRMABG05505	50	inquire



## Devices &amp; Membranes

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MSP010063	Petri-Pad™ Petri dish, sterile, 47 mm, EO sterilized for m-ColiBlue®	■ Room temperature	MSP010063	150	inquire
HAEP047A0	3 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white plain autoclave packed	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEP047A0	100	inquire
HAEP047AW	6 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white plain autoclave packed	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEP047AW	100	inquire
HAEP047S0	3 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white plain sterile	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEP047S0	100	inquire
HAEP047SW	6 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white plain sterile	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEP047SW	100	inquire
HAWG047A0	AO Pak Filters 0.45 µm 50 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWG047A0	100	inquire
HAWG047S0	SO-Pak Filters 0.45 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWG047S0	100	inquire
HAWP047A0	AO Pak Filters 0.45 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWP047A0	100	inquire
HAWP047S0	SO-Pak Filters 0.45 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWP047S0	100	inquire
MSP000814	EZ-Pak Filters 0.45 µm 47 mm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MSP000814	4 bands of 150 filters	inquire
EZPDLT150	EZ-Pad with Lactose TTC w/Tergitol Media	■ Room temperature	EZPDLT150	150 Pads + 150 Membranes	inquire
EZHAWG504	EZ-Pak Filters 0.45 µm 50 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZHAWG504	4 bands of 150 filters	inquire
EZHABG504	EZ-Pak Filters 0.45 µm 50 mm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZHABG504	4 bands of 150 filters	inquire
EZHAGG504	EZ-Pak Filters 0.45 µm 50 mm green gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZHAGG504	4 bands of 150 filters	inquire
HABG047S6	S-Pak Filters 0.45 µm 47 mm black gridded	■ Room temperature	HABG047S6	600	inquire
HAWG047S6	S-Pak Filters 0.45 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWG047S6	600	inquire
AAWG047S6	S-Pak Filters 0.8 µm 47 mm white gridded	■ Room temperature	AAWG047S6	600	inquire
AABG047S6	S-Pak Filters 0.8 µm 47 mm black gridded	■ Room temperature	AABG047S6	600	inquire
GSWG047S6	S-Pak Filters 0.22 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	GSWG047S6	600	inquire
HAWG647SP	S-Pak 0.45 µm 47 mm white gridded + 3 dispensers & 600 pads	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWG647SP	600	inquire
HCWG047S6	S-Pak Filters 0.7 µm 47 mm white gridded	■ Room temperature	HCWG047S6	600	inquire
RAWG047S6	S-Pak Filters 1.2 µm 47 mm white gridded sterile	■ Room temperature	RAWG047S6	600	inquire
HABG050S6	S-Pak Filters 0.45 µm 50 mm black gridded	■ Room temperature	HABG050S6	600	inquire
HAGG050S6	S-Pak Filters 0.45 µm 50 mm green gridded	■ Room temperature	HAGG050S6	600	inquire
HAWG050S6	S-Pak Filters 0.45 µm 50 mm white gridded	■ Room temperature	HAWG050S6	600	inquire
HVWP047S6	S-Pak Filters 0.45 µm 47 mm white plain sterile	■ Room temperature	HVWP047S6	600	inquire
MZAABG101	EZ-Pak & Microfil 100 mL, 0.8 µm 47 mm black gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZAABG101	1 band of 150 filters, 150 foams	inquire

# BioMonitoring

## Devices & Membranes

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MZGSWG101	EZ-Pak & Microfil 100 mL, 0.22 µm 47 mm white gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZGSWG101	1 band of 150 filters, 150 funnels	<a href="#">inquire</a>
MZHABG101	EZ-Pak & Microfil 100 mL, 0.45 µm 47 mm black gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZHABG101	1 band of 150 filters, 150 funnels	<a href="#">inquire</a>
MZHABG251	EZ-Pak & Microfil 250 mL, 0.45 µm 47 mm black gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZHABG251	1 band of 150 filters, 150 funnels	<a href="#">inquire</a>
MZHAWG101	EZ-Pak & Microfil 100 mL, 0.45 µm 47 mm white gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZHAWG101	1 band of 150 filters, 150 funnels	<a href="#">inquire</a>
MZHAWG251	EZ-Pak & Microfil 250 mL, 0.45 µm 47 mm white gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZHAWG251	1 band of 150 filters, 150 funnels	<a href="#">inquire</a>
MZAAWG101	EZ-Pak & Microfil 100 mL, 0.8 µm 47 mm white gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZAAWG101	1 band of 150 filters, 150 funnels	<a href="#">inquire</a>
MZAAWG251	EZ-Pak & Microfil 250 mL, 0.8 µm 47 mm white gridded membrane	■ Room temperature	MZAAWG251	1 band of 150 filters, 150 funnels	<a href="#">inquire</a>
AABG047S0	SO-Pak Filters 0.8 µm 47 mm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	AABG047S0	100	<a href="#">inquire</a>
AAWP047S0	SO-Pak Filters 0.8 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	AAWP047S0	100	<a href="#">inquire</a>
EZAABG474	EZ-Pak Filters 0.8 µm 47 mm black gridded	■ Room temperature	EZAABG474	4 bands of 150 filters	<a href="#">inquire</a>
EZAAWG474	EZ-Pak Filters 0.8 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZAAWG474	4 bands of 150 filters	<a href="#">inquire</a>
EZDISP001	EZ-Pak Membrane Dispenser	■ Room temperature	EZDISP001	1	<a href="#">inquire</a>
EZGSWG474	EZ-Pak Filters 0.22 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZGSWG474	4 bands of 150 filters	<a href="#">inquire</a>
EZHAGG474	EZ-Pak Filters 0.45 µm 47 mm green gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZHAGG474	4 bands of 150 filters	<a href="#">inquire</a>
EZHAWG474	EZ-Pak Filters 0.45 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZHAWG474	4 bands of 150 filters	<a href="#">inquire</a>
EZH CWG474	EZ-Pak Filters 0.7 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZH CWG474	4 bands of 150 filters	<a href="#">inquire</a>
GSEP0470W	6 mm Hydrophobic Edge Membrane 0.22 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	GSEP0470W	100	<a href="#">inquire</a>
GSEP047S0	3 mm Hydrophobic Edge Membrane 0.22 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	GSEP047S0	100	<a href="#">inquire</a>
GSWP047S0	SO-Pak Filters 0.22 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	GSWP047S0	100	<a href="#">inquire</a>
HABG047S0	SO-Pak Filters 0.45 µm 47 mm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HABG047S0	100	<a href="#">inquire</a>
HAEG047A0	3 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white gridded autoclave packed	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEG047A0	100	<a href="#">inquire</a>
HAEG047AW	6 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white gridded autoclave packed	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEG047AW	100	<a href="#">inquire</a>
HAEG047S0	3 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white gridded sterile	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEG047S0	100	<a href="#">inquire</a>

## Devices &amp; Membranes

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
HAEP0470W	6 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEP0470W	100	inquire
MIAABG100	Microfil Funnel & Filter, 100 mL, 0.8 µm 47 mm black gridded	■ Room temperature	MIAABG100	150 filters, 150 funnels	inquire
MIAAWG100	Microfil Funnel & Filter, 100 mL, 0.8 µm 47 mm white gridded	■ Room temperature	MIAAWG100	150 filters, 150 funnels	inquire
MIGSWG100	Microfil Funnel & Filter, 100 mL, 0.22 µm 47 mm white gridded	■ Room temperature	MIGSWG100	150 filters, 150 funnels	inquire
MIGSWG250	Microfil Funnel & Filter, 250 mL, 0.22 µm 47 mm white gridded	■ Room temperature	MIGSWG250	150 filters, 150 funnels	inquire
MIHABG100	Microfil Funnel & Filter, 100 mL, 0.45 µm 47 mm black gridded	■ Room temperature	MIHABG100	150 filters, 150 funnels	inquire
MIHABG250	Microfil Funnel & Filter, 250 mL, 0.45 µm 47 mm black gridded	■ Room temperature	MIHABG250	150 filters, 150 funnels	inquire
MIHAWG250	Microfil Funnel & Filter, 250 mL, 0.45 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MIHAWG250	150 filters, 150 funnels	inquire
MIHCWG100	Microfil Funnel & Filter, 100 mL, 0.7 µm 47 mm white gridded	■ Room temperature	MIHCWG100	150 filters, 150 funnels	inquire
MIHCWG250	Microfil Funnel & Filter, 250 mL, 0.7 µm 47 mm white gridded	■ Room temperature	MIHCWG250	150 filters, 150 funnels	inquire
MIHVWP100	Microfil Funnel & Filter, 100 mL, 0.45 µm 47 mm white plain	■ Room temperature	MIHVWP100	150 filters, 150 funnels	inquire
MIRAWG100	Microfil Funnel & Filter, 100 mL, 1.2 µm 47 mm white gridded	■ Room temperature	MIRAWG100	150 filters, 150 funnels	inquire
MIRAWG250	Microfil Funnel & Filter, 250 mL, 1.2 µm 47 mm white gridded	■ Room temperature	MIRAWG250	150 filters, 150 funnels	inquire
BVHAWG124	Beviflex Unit, 100 mL funnel, 0.45 µm white gridded	■ Room temperature	BVHAWG124	24	inquire
BVHABG124	Beviflex Unit, 100 mL funnel, 0.45 µm black gridded	■ Room temperature	BVHABG124	24	inquire
BVDAWG124	Beviflex Unit, 100 mL funnel, 0.65 µm white gridded	■ Room temperature	BVDAWG124	24	inquire
MIHAWG100	Microfil Funnel & Filter, 100 mL, 0.45 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MIHAWG100	150 filters, 150 funnels	inquire

## Instruments

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MIAC03P01	Microfil 3-Place Manifold and Support	■ NA	MIAC03P01	1	inquire
MIACFD101	Microfil Funnel Dispenser 100 mL	■ NA	MIACFD101	1	inquire
MIACFD201	Microfil Funnel Dispenser 250 mL	■ NA	MIACFD201	1	inquire
XX2504700	6-place manifold, 47 mm, stainless steel	■ NA	XX2504700	1	inquire
XX2504735	3-place manifold, 47 mm, stainless steel	■ NA	XX2504735	1	inquire
XX2604735	3-place manifold, 47 mm, PVC	■ NA	XX2604735	1	inquire
EZSTREAM1	EZ-Stream vacuum pump for liquid transfer	■ NA	EZSTREAM1	1	inquire
EZFITMIC01	EZ-Fit™ Manifold, 1-place for Microfil® funnels and membranes	■ Room temperature	EZFITMIC01	1	inquire
EZFITMIC03	EZ-Fit™ Manifold, 3-place for Microfil® funnels and membranes	■ Room temperature	EZFITMIC03	1	inquire
EZFITMIC06	EZ-Fit™ Manifold, 6-place for Microfil® funnels and membranes	■ Room temperature	EZFITMIC06	1	inquire
EZFITLOW01	EZ-Fit™ Manifold, 1-place for Microfil® V or Microfil® S filtration units	■ Room temperature	EZFITLOW01	1	inquire
EZFITLOW03	EZ-Fit™ Manifold, 3-place for Microfil® V or Microfil® S filtration units	■ Room temperature	EZFITLOW03	1	inquire
EZFITLOW06	EZ-Fit™ Manifold, 6-place for Microfil® V or Microfil® S filtration units	■ Room temperature	EZFITLOW06	1	inquire
EZCURVE01	EZ-Pak® Membrane Dispenser Curve	■ NA	EZCURVE01	1	inquire

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## Instruments

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
EZCURVEAC	EZ-Pak® Membrane Dispenser Curve (AC only), without battery	■ NA	EZCURVEAC	1	inquire

## Media


Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MHA000P2D	Wallerstein Differential Broth (WLD)	■ 2-10 (refrigerated in foil bag) °C	MHA000P2D	50	inquire
MHA000P2E	m-Endo Total Coliform Broth	■ 2-10°C (refrigerated and protected from bright light and oxygen) °C	MHA000P2E	50	inquire
MHA000P2F	m-FC Broth with Rosolic Acid	■ 2-10 (refrigerated) °C	MHA000P2F	50	inquire
MHA000P2M	m-Green Yeast and Mold Broth	■ 2-10 (refrigerated) °C	MHA000P2M	50	inquire
MHA000P2N	Wallerstein Nutrient Broth (WLN)	■ 2-10 (refrigerated) °C	MHA000P2N	50	inquire
MHA000P2P	Pseudomonas Selective Broth	■ 2-10 (refrigerated) °C	MHA000P2P	50	inquire
MHA000P2S	m-HPC Broth	■ 2-10 (refrigerated) °C	MHA000P2S	50	inquire
MHA000P2T	Tryptone Glucose Extract Broth (TGE)	■ 2-10 (refrigerated) °C	MHA000P2T	50	inquire
MHA00P2SM	Yeast and Mold Selective Broth	■ 2-10 (refrigerated) °C	MHA00P2SM	50	inquire
MHA00P2TT	Tryptone Glucose Extract Broth with TTC	■ 2-10 (refrigerated) °C	MHA00P2TT	50	inquire
M00PMCB24	m-ColiBlue24® Broth	■ 2-10 (refrigerated) °C	M00PMCB24	50	inquire
MB000000E	m-Endo Total Coliform Broth (Dehydrated)	■ < 30°C (protected from bright light) °C	MB000000E	1	inquire
MB000000F	m-FC Broth (Dehydrated) without Rosolic Acid	■ < 30°C (protected from bright light) °C	MB000000F	1	inquire
MB000000R	Rosolic Acid (Dehydrated)	■ < 30°C (protected from bright light) °C	MB000000R	1	inquire
MB000000S	KF Agar (Dehydrated) without TTC indicator	■ GHS: Chronic aquatic toxicity, Category 3, H412 ■ < 30°C (protected from bright light) °C	MB000000S	1	inquire
MB000000T	Tryptone Glucose Extract Broth (Dehydrated)	■ < 30°C (protected from bright light) °C	MB000000T	1	inquire
MB000000Y	m-Green Yeast and Mold Broth (Dehydrated)	■ < 30°C (protected from bright light) °C	MB000000Y	1	inquire
MHA00BSM2	Brettanomyces Selective Broth	■ 2-10 (refrigerated) °C	MHA00BSM2	50	inquire
MHA00FCR2	m-FC Broth without Rosolic Acid	■ 2-10 (refrigerated) °C	MHA00FCR2	50	inquire
MHA00PRY2	PRY (Preservative Resistant Yeast) Broth	■ 2-10 (refrigerated) °C	MHA00PRY2	50	inquire
MHA00MRS2	De Man, Rogosa and Sharpe (MRS) Broth	■ 2-10 (refrigerated) °C	MHA00MRS2	50	inquire
MHA000T2B	Tryptic Soybean Broth (TSB)	■ 2-10 (refrigerated) °C	MHA000T2B	50	inquire
MHA000P20	Orange Serum Liquid Media Ampoule	■ 2-10 (refrigerated) °C	MHA000P20	50	inquire

## Bioburden Testing for Pharmaceutical/Cosmetics Industry (Microbial Examination of non-sterile Products)


### Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MCLHEAD01	Microfil Head for Milliflex PLUS Pump	■ NA	MCLHEAD01	1	inquire
MCCHEAD01	Microfil V/S Head for Milliflex PLUS Pump	■ NA	MCCHEAD01	1	inquire

### Devices

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MSHAWGE48	MicropreSure Monitor, sterile, individually packed, 0.45 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MSHAWGE48	48	inquire
MXRPKT110	Milliflex® Rapid Microbiology Detection and Enumeration System Kit	■ NA	MXRPKT110	1	inquire
MXRPSRKT	Milliflex® Rapid AutoSpray Station	■ NA	MXRPSRKT	1	inquire

## Devices





Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MXQUA4K01	Milliflex Quantum standard kit with validation protocol A4 format	■ NA	MXQUA4K01	1	inquire
MXQULTK01	Milliflex Quantum standard kit with validation protocol letter format	■ NA	MXQULTK01	1	inquire
MXQUANK01	Milliflex Quantum standard kit	■ NA	MXQUANK01	1	inquire
MSP000489	Milliflex-100 0.45 µm white gridded separate	■ Room temperature	MSP000489	24	inquire
MSP000582	Milliflex-100 0.45 µm black gridded separate, with Cassette	■ Room temperature	MSP000582	24	inquire
MSP000864	Milliflex-100 0.45 µm black gridded separate	■ Room temperature	MSP000864	24	inquire
MSP000865	Milliflex-100 0.22 µm white gridded separate	■ Room temperature	MSP000865	24	inquire
MSP000866	Milliflex-100 0.45 µm white plain separate	■ Room temperature	MSP000866	24	inquire
MXEF50024	Milliflex Extension Funnel 500 mL	■ Room temperature	MXEF50024	24	inquire
MXGSWG124	Milliflex-100, 100 mL, 0.22 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MXGSWG124	24	inquire
MXHABG124	Milliflex-100, 100 mL, 0.45 µm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MXHABG124	24	inquire
MXHAWG124	Milliflex-100, 100 mL, 0.45 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MXHAWG124	24	inquire
MXHAWG1LS	Milliflex-100, 100 mL, 0.45 µm white gridded, with Cassette	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MXHAWG1LS	24	inquire
MXHAWG224	Milliflex-250, 250 mL, 0.45 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MXHAWG224	24	inquire
MXHVWP124	Milliflex-100, 100 mL, Durapore 0.45 µm white plain	■ Room temperature	MXHVWP124	24	inquire
MSHAWGM48	MicropreSure Monitor, EO sterilized, 0.45 µm white gridded	■ Room temperature	MSHAWGM48	48	inquire
MSHAWGS48	MicropreSure Sampler, sterile, individually packed, 0.45 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MSHAWGS48	48	inquire
MSHAWGT48	MicropreSure Sampler, EO sterilized, bulk packed, 0.45 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MSHAWGT48	48	inquire
MSHABGM48	MicropreSure Monitor, EO sterilized, 0.45 µm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MSHABGM48	48	inquire
MSHABGT48	MicropreSure Sampler, EO sterilized, bulk packed, 0.45 µm black gridded	■ Room temperature	MSHABGT48	48	inquire
EFHAB100B	EZ-Fit Filtration unit, black membrane, 0,45 µm pore size	■ Room temperature	EFHAB100B		inquire
EFHAW100B	EZ-Fit Filtration unit, white membrane, 0,45 µm pore size	■ Room temperature	EFHAW100B		inquire
EFHAW100I	EZ-Fit Filtration unit, white membrane, 0,45µm pore size	■ Room temperature	EFHAW100I		inquire
EFHAB100I	EZ-Fit Filtration unit, black membrane, 0,45 µm pore size	■ Room temperature	EFHAB100I		inquire
EFHAW250B	EZ-Fit Filtration unit, white membrane, 0,45 µm pore size	■ Room temperature	EFHAW250B		inquire
EFHAB250B	EZ-Fit Filtration unit, black membrane, 0,45 µm pore size	■ Room temperature	EFHAB250B		inquire
EFHAB250I	EZ-Fit Filtration unit, black membrane, 0,45 µm pore size	■ Room temperature	EFHAB250I		inquire
EFHAW250I	EZ-Fit Filtration unit, white membrane, 0,45 µm pore size	■ Room temperature	EFHAW250I		inquire
EFHVV100I	EZ-Fit Filtration unit, durapore membrane, 0,45 µm pore size	■ Room temperature	EFHVV100I		inquire

# BioMonitoring

## Instruments

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MXPPLUS01	Milliflex PLUS Pump Single Head Kit	■ NA	MXPPLUS01	1	<a href="#">inquire</a>
MXPPLUS02	Milliflex PLUS Pump Double Head Kit	■ NA	MXPPLUS02	1	<a href="#">inquire</a>
MXPPLUS03	Milliflex PLUS Pump Triple Head Kit	■ NA	MXPPLUS03	1	<a href="#">inquire</a>
MXPRINT01	Milliflex PLUS Printer	■ NA	MXPRINT01	1	<a href="#">inquire</a>
MXPPUMP01	Milliflex PLUS pump	■ NA	MXPPUMP01	1	<a href="#">inquire</a>
MILSNAP01	MilliSnap System	■ NA	MILSNAP01	1	<a href="#">inquire</a>

## Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
105272	Antibiotic agar no. 1 for microbiology	■ Store at +15°C to +25°C.	1.05272.0500	500 g	<a href="#">inquire</a>
105271	Antibiotic agar No. 5 for microbiology	■ Store at +15°C to +25°C.	1.05271.0500	500 g	<a href="#">inquire</a>
105269	Antibiotic agar no. 11 GROVE and RANDALL medium no. 11 for microbiology	■ Store at +15°C to +25°C.	1.05269.0500	500 g	<a href="#">inquire</a>
101590	Azide dextrose broth for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.01590.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
146371	Buff NaCl–Pept.Sol.+0.1%Tw80	■ LGK 10 - 13	1.46371.0006	6 PC	<a href="#">inquire</a>
146421	Buff NaCl–Pept Sol +0.1%Tw80	■ LGK 10 - 13	1.46421.0006	6 PC	<a href="#">inquire</a>
146360	Buff. NaCl–Pept. Sol. acc EP	■ LGK 10 - 13	1.46360.0006	6 PC	<a href="#">inquire</a>
146367	Buff. NaCl–Pept. Sol. acc EP	■ LGK 10 - 13	1.46367.0010	10 PC	<a href="#">inquire</a>
146368	Buff. NaCl–Pept. Sol. acc EP	■ LGK 10 - 13	1.46368.0006	6 PC	<a href="#">inquire</a>
146419	Buff. NaCl–Pept. Sol. acc EP	■ LGK 10 - 13	1.46419.0006	6 PC	<a href="#">inquire</a>
146480	Buff. NaCl–Pept. Sol. acc EP	■ LGK 10 - 13	1.46480.0010	10 PC	<a href="#">inquire</a>
146495	Cas.Pept.Lec.Polysorb.B. USP	■ LGK 10 - 13	1.46495.0010	10 PC	<a href="#">inquire</a>
105284	Cetrimide agar Pseudomonas selective agar base for microbiology (According harm. EP/USP/JP)	 ■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 2, H411	1.05284.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
146048	Cetrimide A –LI acc. EP 30ml	 ■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 2, H411	1.46048.0020 1.46048.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
110455	Columbia agar (base) for the cultivation of fastidious microorganisms (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10455.0500 1.10455.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
105403	EE Broth–MOSSEL (acc. harm. EP/USP/JP) Enterobacteriaceae Enrichment Broth–MOSSEL for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05403.0500	500 g	<a href="#">inquire</a>
108191	Fluid thioglycolate medium for microbiology	 ■ GHS: Warning, Skin sensitisation, Category 1, H317 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08191.0500 1.08191.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
107661	Lactose broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07661.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110283	LB agar (MILLER) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10283.0500	500 g	<a href="#">inquire</a>
110285	LB broth (MILLER) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10285.0500 1.10285.5000	500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a>
110404	Lethen–Agar Base modified for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10404.0500	500 g	<a href="#">inquire</a>
110405	Lethen–Broth Base modified for the determination of bacterial activity	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10405.0500	500 g	<a href="#">inquire</a>
105465	MacCONKEY agar for the isolation of Salmonella, Shigella and coliform bacteria (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05465.0500 1.05465.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
146022	MacConkey A–LI acc. EP 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46022.0020 1.46022.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>





## Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146383	MacConkey B. acc EP wide m.	■ LGK 10 - 13	1.46383.0006	6 PC	inquire
105396	MacCONKEY broth for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05396.0500	500 g 6 x 500 g	inquire inquire
146372	MacConkey Broth acc. EP	■ LGK 10 - 13	1.46372.0006	6 PC	inquire
146382	MacConkey Broth acc. EP	■ LGK 10 - 13	1.46382.0006	6 PC	inquire
146461	MacConkey Broth acc. EP	■ LGK 10 - 13	1.46461.0010	10 PC	inquire
146023	Mannitol Salt Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46023.0020 1.46023.0120	20 PC 120 PC	inquire inquire
105404	Mannitol salt phenol-red agar for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05404.0500	500 g 6 x 500 g	inquire inquire
MXSMBPA48	Milliflex Cassette prefilled with Baird Parker Agar	■ 2-8°C Refrigerated	MXSMBPA48	48	inquire
MXSMCET24	Milliflex Cassette prefilled with Cetrimide Agar with Naladixic Acid	■ GHS: Chronic aquatic toxicity, Category 3, H412 ■ 2-8°C Refrigerated	MXSMCET24	24	inquire
MXSMCET48	Milliflex Cassette prefilled with Cetrimide Agar	 ■ GHS: Chronic aquatic toxicity, Category 2, H411 ■ 2-8°C Refrigerated	MXSMCET48	48	inquire
MXSMCMC24	Milliflex Cassette prefilled with MacConkey Agar	■ 2-8°C Refrigerated	MXSMCMC24	24	inquire
MXSMCRA48	Milliflex Cassette prefilled with R2A Agar	■ 2-8°C Refrigerated	MXSMCRA48	48	inquire
MXSMCSD48	Milliflex Cassette prefilled with Sabouraud Dextrose Agar	■ 2-8°C Refrigerated	MXSMCSD48	48	inquire
MXSMCSP48	Milliflex Cassette prefilled with Sabouraud Dextrose Agar with Chloramphenicol	■ 2-8°C Refrigerated	MXSMCSP48	48	inquire
MXSMCTS48	Milliflex Cassette prefilled with Tryptic Soy Agar	■ 2-8°C Refrigerated	MXSMCTS48	48	inquire
MXSMCYM48	Milliflex Cassette prefilled with Yeast and Mold Agar	■ 2-8°C Refrigerated	MXSMCYM48	48	inquire
MXSMEND48	Milliflex Cassette prefilled with m-Endo LES Agar	■ 2-8°C Refrigerated	MXSMEND48	48	inquire
MXSMHPC48	Milliflex Cassette prefilled with Heterotrophic Plate Count Agar	■ 2-8°C Refrigerated	MXSMHPC48	48	inquire
MXSMKFS48	Milliflex Cassette prefilled with KF Strep Agar	■ 2-8°C Refrigerated	MXSMKFS48	48	inquire
MXSMPCA48	Milliflex Cassette prefilled with Plate Count Agar	■ 2-8°C Refrigerated	MXSMPCA48	48	inquire
MXSMPIA48	Milliflex Cassette prefilled with Pseudomonas Isolation Agar	■ 2-8°C Refrigerated	MXSMPIA48	48	inquire
MXSMTGE48	Milliflex Cassette prefilled with Tryptone Glucose Extract Agar	■ 2-8°C Refrigerated	MXSMTGE48	48	inquire
MXSMTLP48	Milliflex Cassette prefilled with Tryptic Soy Agar with Polysorbate 80 and Lecithin	■ 2-8°C Refrigerated	MXSMTLP48	48	inquire
MRSMTCS48	Milliflex Cassette w/Tryptic Soy Agar for Milliflex Rapid	■ 2-8°C Refrigerated	MRSMTCS48	48	inquire
MXLMC0120	Milliflex Liquid Media Cassette	■ Room temperature	MXLMC0120	120	inquire
MXSMC0120	Milliflex Solid Media Cassette	■ Room temperature	MXSMC0120	120	inquire
146353	Mod. Tween Letheen B. (MLBT)	■ LGK 10 - 13	1.46353.0006	6 PC	inquire
146487	Mod. Tween Letheen Broth	■ LGK 10 - 13	1.46487.0006	6 PC	inquire
146219	Mossel Broth acc. EP+USP	■ LGK 10 - 13	1.46219.0020 1.46219.0100	20 PC 100 PC	inquire inquire
146463	Mossel Broth acc. EP+USP	■ LGK 10 - 13	1.46463.0010	10 PC	inquire
146381	NaCl-Pept-B. + 0.1% Tween 80	■ LGK 10 - 13	1.46381.0006	6 PC	inquire
146522	NaCl-Pept-Buff. +LTH wide n.	■ LGK 10 - 13	1.46522.0006	6 PC	inquire
146196	NaCl Peptone Buffer 9.0ml EP	■ LGK 10 - 13	1.46196.0020 1.46196.0100	20 PC 100 PC	inquire inquire
146404	Peptone Water (buff.) 225ml	■ LGK 10 - 13	1.46404.0006	6 PC	inquire
110130	Potato dextrose agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10130.0500	500 g 6 x 500 g	inquire inquire
100416	R2A Agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00416.0500 1.00416.5000	500 g 5 kg	inquire inquire
146181	Rappaport Vassil.-B. acc. EP	■ LGK 10 - 13	1.46181.0020 1.46181.0100	20 PC 100 PC	inquire inquire
107666	Rappaport-Vassiliadis Salmonella Enrichment Broth (acc. harm. EP/USP/JP) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07666.0500	500 g	inquire



# BioMonitoring

## Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
105411	Reinforced clostridial medium (RCM) for microbiology (According harm. EP/USP/JP)	■ Store at +15°C to +25°C.	1.05411.0500	500 g	inquire
146236	Sab-Dextr-Agar acc. EP+USP	■ LGK 10 - 13	1.46236.0020 1.46236.0100	20 PC 100 PC	inquire inquire
146394	Sab. Dextr.(4%) Agar w. Cm	■ LGK 10 - 13	1.46394.0006	6 PC	inquire
146393	Sab. Dextrose (4%) A. acc EP	■ LGK 10 - 13	1.46393.0006	6 PC	inquire
108339	SABOURAUD-2% dextrose broth for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08339.0500	500 g	inquire
105438	SABOURAUD 4% dextrose agar for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05438.0500 1.05438.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105439	SABOURAUD 4% maltose agar for microbiology	■ Store at +15°C to +25°C.	1.05439.0500	500 g	inquire
146392	Sabouraud Dextrose A. acc EP	■ LGK 10 - 13	1.46392.0006	6 PC	inquire
146366	Sabouraud Dextrose B. (SDB)	■ LGK 10 - 13	1.46366.0010	10 PC	inquire
146303	SDA acc. EP+USP	■ LGK 10 - 13	1.46303.0020 1.46303.0100	20 PC 100 PC	inquire inquire
146028	SDA - LI acc. EP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46028.0020 1.46028.0120	20 PC 120 PC	inquire inquire
146298	SDA w. Chloramphenicol	■ LGK 10 - 13	1.46298.0020	20 PC	inquire
146442	SDA w. Cm acc. EP	■ LGK 10 - 13	1.46442.0020 1.46442.0100	20 PC 100 PC	inquire inquire
146003	SDA w. Cm acc. EP - LI	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46003.0020 1.46003.0120	20 PC 120 PC	inquire inquire
110582	Sodium chloride peptone broth (buffered) for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10582.0500 1.10582.5000	500 g 5 kg	inquire inquire
105178	TBG broth, modified Tetrathionate brilliant-green bile enrichment broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05178.0500	500 g	inquire
105285	Tetrathionate broth (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05285.0500	500 g 6 x 500 g	inquire inquire
116761	Thioglycolate medium G for microbiology	 ■ GHS: Warning, Skin sensitisation, Category 1, H317 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.16761.0500 1.16761.5000	500 g 5 kg	inquire inquire
108190	Thioglycollate broth for microbiology	 ■ GHS: Warning, Skin sensitisation, Category 1, H317 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08190.0500 1.08190.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105458	Tryptic soy agar Casein-peptone soymeal-peptone agar for microbiology (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05458.0500 1.05458.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
146375	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46375.0006	6 PC	inquire
146431	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46431.0020 1.46431.0100	20 PC 100 PC	inquire inquire
146457	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46457.0006	6 PC	inquire
107324	Tryptic soy agar with polysorbate 80 and lecithin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07324.0500	500 g	inquire
146429	Tryptic Soy A. (Tubes 18ml)	■ LGK 10 - 13	1.46429.0020 1.46429.0100	20 PC 100 PC	inquire inquire
146357	Tryptic Soy B. acc. EP+USP	■ LGK 10 - 13	1.46357.0006	6 PC	inquire
146379	Tryptic Soy B. acc. EP+USP	■ LGK 10 - 13	1.46379.0006	6 PC	inquire
146380	Tryptic Soy B. acc. EP+USP	■ LGK 10 - 13	1.46380.0010	10 PC	inquire
105459	Tryptic Soy Broth Casein-peptone soymeal-peptone broth for microbiology (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05459.0500 1.05459.5000 1.05459.9025	500 g 6 x 500 g 5 kg 25 kg	inquire inquire inquire inquire
146317	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46317.0010	10 PC	inquire
146318	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46318.0006	6 PC	inquire
146334	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46334.0006	6 PC	inquire

## Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146335	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46335.0006	6 PC	inquire
146432	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46432.0020 1.46432.0100	20 PC 100 PC	inquire inquire
146458	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46458.0010	10 PC	inquire
146484	Tryptic Soy Broth +LT 90ml	■ LGK 10 - 13	1.46484.0006	6 PC	inquire
100525	Tryptic Soy Broth non animal origin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00525.5000	5 kg	inquire
146283	Tryptic Soy Broth w. LTHTh	■ LGK 10 - 13	1.46283.0020	20 PC	inquire
146004	TSA - LI 30ml EP+USP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46004.0020 1.46004.0120	20 PC 120 PC	inquire inquire
146492	TSB + TLHC (Inactivator B.)	■ LGK 10 - 13	1.46492.0010	10 PC	inquire
146435	Viol. R. Bile Gluc. A. 200ml	■ LGK 10 - 13	1.46435.0006	6 PC	inquire
111988	Vitamin B <sub>12</sub> (Lactobacillus) assay broth (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11988.0100	100 g	inquire
110275	VRBD agar Crystal-violet neutral-red bile glucose agar acc. to MOSSEL for microbiology (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10275.0500	500 g 6 x 500 g	inquire inquire
146000	VRBD Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46000.0020 1.46000.0120	20 PC 120 PC	inquire inquire
105290	XLD Agar (acc. harm. EP/USP/JP) Xylose-lysine-deoxycholate agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05290.0500	500 g	inquire
146073	XLD Agar - LI EP+USP 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46073.0020 1.46073.0120	20 PC 120 PC	inquire inquire

## Microbiological Water Testing for Municipal/Hospital &amp; Clinical

## Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
EZSPKIT01	EZ-Pak Membrane Dispenser spare part kit	■ NA	EZSPKIT01	1	inquire
M00000001	Sterile Sampling Tube 5i n. w/Luer Fitting	■ Room temperature	M00000001	100	inquire
MIACN8S01	Microfil V stainless steel filter support for manifold	■ NA	MIACN8S01	1	inquire
STREAMTUB	5 meters autoclavable silicone tubing with 9.5 mm internal diameter	■ NA	STREAMTUB	1	inquire
EZFITMIHE1	Microfil® filtration head for EZ-Fit™ Manifold	■ NA	EZFITMIHE1	1	inquire
EZFITMIHE3	Microfil® filtration head for EZ-Fit™ Manifold	■ NA	EZFITMIHE3	3	inquire
EZFITLOHE1	Microfil® V or Microfil® S filtration head for EZ-Fit™ Manifold	■ NA	EZFITLOHE1	1	inquire
EZFITLOHE3	Microfil® V or Microfil® S filtration head for EZ-Fit™ Manifold	■ NA	EZFITLOHE3	3	inquire
EZFITHIHE1	Filtration head for rubber stopper tulip for EZ-Fit™ Manifold	■ NA	EZFITHIHE1	1	inquire
EZFITHIHE3	Filtration head for rubber stopper tulip for EZ-Fit™ Manifold	■ NA	EZFITHIHE3	3	inquire
EZFITMAKIT	EZ-Fit™ Manifold maintenance kit including lubricant and brush	■ NA	EZFITMAKIT	1	inquire
MIAC03P01	Microfil 3-Place Manifold and Support	■ NA	MIAC03P01	1	inquire
MIACFD101	Microfil Funnel Dispenser 100 mL	■ NA	MIACFD101	1	inquire

## Devices

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
EFHAB100B	EZ-Fit Filtration unit, black membrane, 0,45 µm pore size	■ Room temperature	EFHAB100B	1 unit	inquire
EFHAW100B	EZ-Fit Filtration unit, white membrane, 0,45 µm pore size	■ Room temperature	EFHAW100B	1 unit	inquire
EFHAW100I	EZ-Fit Filtration unit, white membrane, 0,45 µm pore size	■ Room temperature	EFHAW100I	1 unit	inquire
EFHAB100I	EZ-Fit Filtration unit, black membrane, 0,45 µm pore size	■ Room temperature	EFHAB100I	1 unit	inquire

# BioMonitoring

## Devices

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
EFHAW25B	EZ-Fit Filtration unit, white membrane, 0,45 µm pore size	■ Room temperature	EFHAW250B	1 unit	<a href="#">inquire</a>
EFHAB250B	EZ-Fit Filtration unit, black membrane, 0,45 µm pore size	■ Room temperature	EFHAB250B	1 unit	<a href="#">inquire</a>
EFHAB250I	EZ-Fit Filtration unit, black membrane, 0,45 µm pore size	■ Room temperature	EFHAB250I	1 unit	<a href="#">inquire</a>
EFHAW250I	EZ-Fit Filtration unit, white membrane, 0,45 µm pore size	■ Room temperature	EFHAW250I	1 unit	<a href="#">inquire</a>
EFHVV100I	EZ-Fit Filtration unit, durapore membrane, 0,45 µm pore size	■ Room temperature	EFHVV100I	1 unit	<a href="#">inquire</a>
MSP010063	Petri-Pad™ Petri dish, sterile, 47 mm, EO sterilized for m-ColiBlue®	■ Room temperature	MSP010063	150	<a href="#">inquire</a>
HAEP047A0	3 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white plain autoclave packed	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEP047A0	100	<a href="#">inquire</a>
HAEP047AW	6 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white plain autoclave packed	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEP047AW	100	<a href="#">inquire</a>
HAEP047S0	3 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white plain sterile	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEP047S0	100	<a href="#">inquire</a>
HAEP047SW	6 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white plain sterile	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEP047SW	100	<a href="#">inquire</a>
HAWG047A0	AO Pak Filters 0.45 µm 50 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWG047A0	100	<a href="#">inquire</a>
HAWG047S0	SO-Pak Filters 0.45 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWG047S0	100	<a href="#">inquire</a>
HAWP047A0	AO Pak Filters 0.45 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWP047A0	100	<a href="#">inquire</a>
HAWP047S0	SO-Pak Filters 0.45 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWP047S0	100	<a href="#">inquire</a>
MSP000814	EZ-Pak Filters 0.45 µm 47 mm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MSP000814	4 bands of 150 filters	<a href="#">inquire</a>
EZPDLT150	EZ-Pad with Lactose TTC w/Tergitol Media	■ Room temperature	EZPDLT150	150 Pads + 150 Membranes	<a href="#">inquire</a>
EZHAWG504	EZ-Pak Filters 0.45 µm 50 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZHAWG504	4 bands of 150 filters	<a href="#">inquire</a>
EZHABG504	EZ-Pak Filters 0.45 µm 50 mm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZHABG504	4 bands of 150 filters	<a href="#">inquire</a>
EZHAGG504	EZ-Pak Filters 0.45 µm 50 mm green gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZHAGG504	4 bands of 150 filters	<a href="#">inquire</a>
HABG047S6	S-Pak Filters 0.45 µm 47 mm black gridded	■ Room temperature	HABG047S6	600	<a href="#">inquire</a>
HAWG047S6	S-Pak Filters 0.45 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWG047S6	600	<a href="#">inquire</a>
AAWG047S6	S-Pak Filters 0.8 µm 47 mm white gridded	■ Room temperature	AAWG047S6	600	<a href="#">inquire</a>
AABG047S6	S-Pak Filters 0.8 µm 47 mm black gridded	■ Room temperature	AABG047S6	600	<a href="#">inquire</a>
GSWG047S6	S-Pak Filters 0.22 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	GSWG047S6	600	<a href="#">inquire</a>
HAWG647SP	S-Pak 0.45 µm 47 mm white gridded + 3 dispensers Et 600 pads	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAWG647SP	600	<a href="#">inquire</a>
HCWG047S6	S-Pak Filters 0.7 µm 47 mm white gridded	■ Room temperature	HCWG047S6	600	<a href="#">inquire</a>
RAWG047S6	S-Pak Filters 1.2 µm 47 mm white gridded sterile	■ Room temperature	RAWG047S6	600	<a href="#">inquire</a>

## Devices

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
HABG050S6	S-Pak Filters 0.45 µm 50 mm black gridded	■ Room temperature	HABG050S6	600	inquire
HAGG050S6	S-Pak Filters 0.45 µm 50 mm green gridded	■ Room temperature	HAGG050S6	600	inquire
HAWG050S6	S-Pak Filters 0.45 µm 50 mm white gridded	■ Room temperature	HAWG050S6	600	inquire
HVWP047S6	S-Pak Filters 0.45 µm 47 mm white plain sterile	■ Room temperature	HVWP047S6	600	inquire
MZAABG101	EZ-Pak & Microfil 100 mL, 0.8 µm 47 mm black gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZAABG101	1 band of 150 filters, 150 funnels	inquire
MZGSWG101	EZ-Pak & Microfil 100 mL, 0.22 µm 47 mm white gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZGSWG101	1 band of 150 filters, 150 funnels	inquire
MZHABG101	EZ-Pak & Microfil 100 mL, 0.45 µm 47 mm black gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZHABG101	1 band of 150 filters, 150 funnels	inquire
MZHABG251	EZ-Pak & Microfil 250 mL, 0.45 µm 47 mm black gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZHABG251	1 band of 150 filters, 150 funnels	inquire
MZHAWG101	EZ-Pak & Microfil 100 mL, 0.45 µm 47 mm white gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZHAWG101	1 band of 150 filters, 150 funnels	inquire
MZHAWG251	EZ-Pak & Microfil 250 mL, 0.45 µm 47 mm white gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZHAWG251	1 band of 150 filters, 150 funnels	inquire
MZAAWG101	EZ-Pak & Microfil 100 mL, 0.8 µm 47 mm white gridded membrane	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MZAAWG101	1 band of 150 filters, 150 funnels	inquire
MZAAWG251	EZ-Pak & Microfil 250 mL, 0.8 µm 47 mm white gridded membrane	■ Room temperature	MZAAWG251	1 band of 150 filters, 150 funnels	inquire
AABG047S0	SO-Pak Filters 0.8 µm 47 mm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	AABG047S0	100	inquire
AAWP047S0	SO-Pak Filters 0.8 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	AAWP047S0	100	inquire
EZAABG474	EZ-Pak Filters 0.8 µm 47 mm black gridded	■ Room temperature	EZAABG474	4 bands of 150 filters	inquire
EZAAWG474	EZ-Pak Filters 0.8 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZAAWG474	4 bands of 150 filters	inquire
EZDISP001	EZ-Pak Membrane Dispenser	■ Room temperature	EZDISP001	1	inquire
EZGSWG474	EZ-Pak Filters 0.22 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZGSWG474	4 bands of 150 filters	inquire
EZHAGG474	EZ-Pak Filters 0.45 µm 47 mm green gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZHAGG474	4 bands of 150 filters	inquire
EZHAWG474	EZ-Pak Filters 0.45 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZHAWG474	4 bands of 150 filters	inquire
EZH CWG474	EZ-Pak Filters 0.7 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	EZH CWG474	4 bands of 150 filters	inquire
GSEP0470W	6 mm Hydrophobic Edge Membrane 0.22 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	GSEP0470W	100	inquire
GSEP047S0	3 mm Hydrophobic Edge Membrane 0.22 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	GSEP047S0	100	inquire
GSWP047S0	SO-Pak Filters 0.22 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	GSWP047S0	100	inquire
HABG047S0	SO-Pak Filters 0.45 µm 47 mm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HABG047S0	100	inquire

# BioMonitoring

## Devices

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
HAEG047A0	3 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white gridded autoclave packed	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEG047A0	100	<a href="#">inquire</a>
HAEG047AW	6 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white gridded autoclave packed	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEG047AW	100	<a href="#">inquire</a>
HAEG047S0	3 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white gridded sterile	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEG047S0	100	<a href="#">inquire</a>
HAEP0470W	6 mm Hydrophobic Edge Membrane 0.45 µm 47 mm white plain	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	HAEP0470W	100	<a href="#">inquire</a>
MIAABG100	Microfil Funnel & Filter, 100 mL, 0.8 µm 47 mm black gridded	■ Room temperature	MIAABG100	150 filters, 150 funnels	<a href="#">inquire</a>
MIAAWG100	Microfil Funnel & Filter, 100 mL, 0.8 µm 47 mm white gridded	■ Room temperature	MIAAWG100	150 filters, 150 funnels	<a href="#">inquire</a>
MIGSWG100	Microfil Funnel & Filter, 100 mL, 0.22 µm 47 mm white gridded	■ Room temperature	MIGSWG100	150 filters, 150 funnels	<a href="#">inquire</a>
MIGSWG250	Microfil Funnel & Filter, 250 mL, 0.22 µm 47 mm white gridded	■ Room temperature	MIGSWG250	150 filters, 150 funnels	<a href="#">inquire</a>
MIHABG100	Microfil Funnel & Filter, 100 mL, 0.45 µm 47 mm black gridded	■ Room temperature	MIHABG100	150 filters, 150 funnels	<a href="#">inquire</a>
MIHABG250	Microfil Funnel & Filter, 250 mL, 0.45 µm 47 mm black gridded	■ Room temperature	MIHABG250	150 filters, 150 funnels	<a href="#">inquire</a>
MIHAWG100	Microfil Funnel & Filter, 100 mL, 0.45 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MIHAWG100	150 filters, 150 funnels	<a href="#">inquire</a>
MIHAWG250	Microfil Funnel & Filter, 250 mL, 0.45 µm 47 mm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MIHAWG250	150 filters, 150 funnels	<a href="#">inquire</a>
MIHCWG100	Microfil Funnel & Filter, 100 mL, 0.7 µm 47 mm white gridded	■ Room temperature	MIHCWG100	150 filters, 150 funnels	<a href="#">inquire</a>
MIHCWG250	Microfil Funnel & Filter, 250 mL, 0.7 µm 47 mm white gridded	■ Room temperature	MIHCWG250	150 filters, 150 funnels	<a href="#">inquire</a>
MIHVWP100	Microfil Funnel & Filter, 100 mL, 0.45 µm 47 mm white plain	■ Room temperature	MIHVWP100	150 filters, 150 funnels	<a href="#">inquire</a>
MIRAWG100	Microfil Funnel & Filter, 100 mL, 1.2 µm 47 mm white gridded	■ Room temperature	MIRAWG100	150 filters, 150 funnels	<a href="#">inquire</a>
MIRAWG250	Microfil Funnel & Filter, 250 mL, 1.2 µm 47 mm white gridded	■ Room temperature	MIRAWG250	150 filters, 150 funnels	<a href="#">inquire</a>
BVHAWG124	Beviflex Unit, 100 mL funnel, 0.45 µm white gridded	■ Room temperature	BVHAWG124	24	<a href="#">inquire</a>
BVHABG124	Beviflex Unit, 100 mL funnel, 0.45 µm black gridded	■ Room temperature	BVHABG124	24	<a href="#">inquire</a>
BVDAWG124	Beviflex Unit, 100 mL funnel, 0.65 µm white gridded	■ Room temperature	BVDAWG124	24	<a href="#">inquire</a>



## Instruments

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MIAC03P01	Microfil 3-Place Manifold and Support	■ NA	MIAC03P01	1	<a href="#">inquire</a>
MIACFD101	Microfil Funnel Dispenser 100 mL	■ NA	MIACFD101	1	<a href="#">inquire</a>
MIACFD201	Microfil Funnel Dispenser 250 mL	■ NA	MIACFD201	1	<a href="#">inquire</a>
XX2504700	6-place manifold, 47 mm, stainless steel	■ NA	XX2504700	1	<a href="#">inquire</a>
XX2504735	3-place manifold, 47 mm, stainless steel	■ NA	XX2504735	1	<a href="#">inquire</a>
XX2604735	3-place manifold, 47 mm, PVC	■ NA	XX2604735	1	<a href="#">inquire</a>
EZSTREAM1	EZ-Stream vacuum pump for liquid transfer	■ NA	EZSTREAM1	1	<a href="#">inquire</a>
EZFITMIC01	EZ-Fit™ Manifold, 1-place for Microfil® funnels and membranes	■ Room temperature	EZFITMIC01	1	<a href="#">inquire</a>
EZFITMIC03	EZ-Fit™ Manifold, 3-place for Microfil® funnels and membranes	■ Room temperature	EZFITMIC03	1	<a href="#">inquire</a>

## Instruments

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
EZFITMIC06	EZ-Fit™ Manifold, 6-place for Microfil® funnels and membranes	■ Room temperature	EZFITMIC06	1	inquire
EZFITLOW01	EZ-Fit™ Manifold, 1-place for Microfil® V or Microfil® S filtration units	■ Room temperature	EZFITLOW01	1	inquire
EZFITLOW03	EZ-Fit™ Manifold, 3-place for Microfil® V or Microfil® S filtration units	■ Room temperature	EZFITLOW03	1	inquire
EZFITLOW06	EZ-Fit™ Manifold, 6-place for Microfil® V or Microfil® S filtration units	■ Room temperature	EZFITLOW06	1	inquire
EZCURVE01	EZ-Pak® Membrane Dispenser Curve	■ NA	EZCURVE01	1	inquire
EZCURVEAC	EZ-Pak® Membrane Dispenser Curve (AC only), without battery	■ NA	EZCURVEAC	1	inquire







## Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
100415	A-1 Medium for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00415.0500	500 g	inquire
146321	Bile Esculin Azide Agar	■ LGK 10 - 13	1.46321.0020	20 PC	inquire
105418	Bismuth sulfite agar acc. to WILSON-BLAIR for the isolation and differentiation of Salmonella typhi	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05418.0500	500 g 6 x 500 g	inquire inquire
105454	BRILA broth Brilliant-green bile lactose broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05454.0500 1.05454.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
112587	BRILA broth for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12587.0500	500 g	inquire
146078	Cetrimide-A (Pseudomon.CN-A)	■ LGK 10 - 13 ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.46078.0020 1.46078.0100	20 PC 100 PC	inquire inquire
116122	Chromocult® TBX (Tryptone Bile X-glucuronide) Agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.16122.0500	500 g	inquire
110426	Coliform Agar for microbiology Chromocult®	 ■ GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10426.0500	500 g	inquire
101295	Coliforms 50 Readycult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01295.0001	20 tests	inquire
101298	Coliforms 100 Readycult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01298.0001	20 tests	inquire
146135	m-CP Agar	■ LGK 10 - 13	1.46135.0020 1.46135.0100	20 PC 100 PC	inquire inquire
110685	DEV gelatin agar for microbiology	■ Store at +15°C to +25°C.	1.10685.0500	500 g	inquire
110689	DEV Lactose broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10689.0500	500 g 6 x 500 g	inquire inquire
110690	DEV Lactose peptone broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10690.0500 1.10690.5000	500 g 5 kg	inquire inquire
104037	DEV lactose peptone broth for microbiology Fluorocult®	■ Store at +15°C to +25°C.	1.04037.0500	500 g	inquire
146289	DEV Nutrient Agar	■ LGK 10 - 13	1.46289.0020 1.46289.0100	20 PC 100 PC	inquire inquire
146336	DEV Nutrient Agar	■ LGK 10 - 13	1.46336.0020	20 PC	inquire
111471	DEV nutrient agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11471.0500 1.11471.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
110694	DEV TRYPTOPHAN BROTH FOR MICROBIOLOGY	■ Store at +15°C to +25°C.	1.10694.0500	500 g	inquire
110765	EC broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10765.0500	500 g 6 x 500 g	inquire inquire
104044	ENDO agar for microbiology	 ■ GHS: Danger, Carcinogenicity, Category 1B, H350 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.04044.0500	500 g 6 x 500 g	inquire inquire




# BioMonitoring

## Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
111277	m-ENDO agar LES for microbiology	 ■ GHS: Danger, Carcinogenicity, Category 1B, H350 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.11277.0500	500 g	inquire
101299	Enterococci 100 Readycult®	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411  ■ LGK 6.1 C ■ Store at +15°C to +25°C.	1.01299.0001	20 tests	inquire
110294	Enterococci broth for microbiology Chromocult®	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411  ■ LGK 6.1 C ■ Store at +15°C to +25°C.	1.10294.0500	500 g	inquire
105222	Kanamycin esculin azide agar for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05222.0500	500 g	inquire
110991	KING agar B (base) (Dansk Standard) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10991.0500	500 g	inquire
146099	King's B Medium (Slant)	■ LGK 10 - 13	1.46099.0020	20 PC	inquire
107680	Lactose TTC Agar with Tergitol® 7 for microbiology	■ Store at +15°C to +25°C.	1.07680.0500	500 g	inquire
146185	Lactose TTC A. w. Tergitol-7	■ LGK 10 - 13	1.46185.0020 1.46185.0100	20 PC 100 PC	inquire inquire
110266	Lauryl sulfate broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10266.0500 1.10266.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
112588	Lauryl sulfate broth for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12588.0500	500 g	inquire
146322	Legion.-G.V.P.C.-Select. A.	■ LGK 10 - 13	1.46322.0020 1.46322.0100	20 PC 100 PC	inquire inquire
110620	LMX broth modified acc. to MANAFI and OSSMER for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10620.0500	500 g 6 x 500 g	inquire inquire
105465	MacCONKEY agar for the isolation of Salmonella, Shigella and coliform bacteria (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05465.0500 1.05465.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105396	MacCONKEY broth for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05396.0500	500 g 6 x 500 g	inquire inquire
105262	Membrane-filter enterococcus selective agar acc. to SLANETZ and BARTLEY for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.05262.0500	500 g	inquire
105289	Membrane-filter enterococcus selective agar acc. to SLANETZ and BARTLEY (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.05289.0500	500 g	inquire
105286	Membrane-filter rinse fluid (USP) for microbiology	■ Store at +15°C to +25°C.	1.05286.0500	500 g	inquire
111278	M FC agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11278.0500	500 g	inquire
105463	Plate count agar Casein-peptone glucose yeast extract agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05463.0500 1.05463.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
100414	Presence-Absence Broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00414.0500	500 g	inquire
146345	Sel. A. acc Slanetz-Bartley	■ LGK 10 - 13	1.46345.0020 1.46345.0100	20 PC 100 PC	inquire inquire



## Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
107717	Selenite enrichment broth acc. to LEIFSON for the selective enrichment of salmonellae	 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 4, Inhalation, H332; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412 ■ LGK 6.1A ■ Store below +15°C.	1.07717.0500	500 g 6 x 500 g	inquire inquire
146256	Standard I Nutrient Agar	■ LGK 10 - 13	1.46256.0020 1.46256.0100	20 PC 100 PC	inquire inquire
101621	Standard count agar for microbiology	■ Store at +15°C to +25°C.	1.01621.0500	500 g	inquire
101629	Terrific broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01629.0500	500 g	inquire
110128	TGE agar Tryptone glucose meat extract agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10128.0500	500 g	inquire
146431	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46431.0020 1.46431.0100	20 PC 100 PC	inquire inquire
146144	Tryptone Bile Agar (TBA)	■ LGK 10 - 13	1.46144.0020	20 PC	inquire
146171	Tryptophan Broth	■ LGK 10 - 13	1.46171.0020	20 PC	inquire
146165	Trypt-Sulf-Cyclos. A. (TSC)	■ LGK 10 - 13	1.46165.0020	20 PC	inquire
146004	TSA - LI 30ml EP+USP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46004.0020 1.46004.0120	20 PC 120 PC	inquire inquire
101406	VRB Agar Violet red bile agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01406.0500 1.01406.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
146121	Yeast Extract Agar 18ml	■ LGK 10 - 13	1.46121.0020 1.46121.0100	20 PC 100 PC	inquire inquire
113116	Yeast extract agar acc. to ISO 6222 and Swedish Standard SS 028171 for microbiology	■ Store at +15°C to +25°C.	1.13116.0500	500 g	inquire










## Microbiological Water Testing for Pharmaceutical &amp; Cosmetics Industry

## Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
M00000001	Sterile Sampling Tube 5 in. w/Luer Fitting	■ Room temperature	M00000001	100	inquire
MIACN8S01	Microfil V stainless steel filter support for manifold	■ NA	MIACN8S01	1	inquire
STREAMTUB	5 meters autoclavable silicone tubing with 9.5 mm internal diameter	■ NA	STREAMTUB	1	inquire
EZFITMIHE1	Microfil® filtration head for EZ-Fit™ Manifold	■ NA	EZFITMIHE1	1	inquire
EZFITMIHE3	Microfil® filtration head for EZ-Fit™ Manifold	■ NA	EZFITMIHE3	3	inquire
EZFITLOHE1	Microfil® V or Microfil® S filtration head for EZ-Fit™ Manifold	■ NA	EZFITLOHE1	1	inquire
EZFITLOHE3	Microfil® V or Microfil® S filtration head for EZ-Fit™ Manifold	■ NA	EZFITLOHE3	3	inquire
EZFITHIHE1	Filtration head for rubber stopper tulip for EZ-Fit™ Manifold	■ NA	EZFITHIHE1	1	inquire
EZFITHIHE3	Filtration head for rubber stopper tulip for EZ-Fit™ Manifold	■ NA	EZFITHIHE3	3	inquire
EZFITMAKIT	EZ-Fit™ Manifold maintenance kit including lubricant and brush	■ NA	EZFITMAKIT	1	inquire
MCLHEAD01	Microfil Head for Milliflex PLUS Pump	■ NA	MCLHEAD01	1	inquire
MCCHEAD01	Microfil V/S Head for Milliflex PLUS Pump	■ NA	MCCHEAD01	1	inquire
EZSPKIT01	EZ-Pak Membrane Dispenser spare part kit	■ NA	EZSPKIT01	1	inquire
MIAC03P01	Microfil 3-Place Manifold and Support	■ NA	MIAC03P01	1	inquire
MIACFD101	Microfil Funnel Dispenser 100 mL	■ NA	MIACFD101	1	inquire

# BioMonitoring

## Devices

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MSHAWGE48	MicropreSure Monitor, sterile, individually packed, 0.45 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MSHAWGE48	48	<a href="#">inquire</a>
MXRPKT110	Milliflex® Rapid Microbiology Detection and Enumeration System Kit	■ NA	MXRPKT110	1	<a href="#">inquire</a>
MXRPSPRKT	Milliflex® Rapid AutoSpray Station	■ NA	MXRPSPRKT	1	<a href="#">inquire</a>
MXQUA4K01	Milliflex Quantum standard kit with validation protocol A4 format	■ NA	MXQUA4K01	1	<a href="#">inquire</a>
MXQULTK01	Milliflex Quantum standard kit with validation protocol letter format	■ NA	MXQULTK01	1	<a href="#">inquire</a>
MXQUANK01	Milliflex Quantum standard kit	■ NA	MXQUANK01	1	<a href="#">inquire</a>
MSP000489	Milliflex-100 0.45 µm white gridded separate	■ Room temperature	MSP000489	24	<a href="#">inquire</a>
MSP000582	Milliflex-100 0.45 µm black gridded separate, with Cassette	■ Room temperature	MSP000582	24	<a href="#">inquire</a>
MSP000864	Milliflex-100 0.45 µm black gridded separate	■ Room temperature	MSP000864	24	<a href="#">inquire</a>
MSP000865	Milliflex-100 0.22 µm white gridded separate	■ Room temperature	MSP000865	24	<a href="#">inquire</a>
MSP000866	Milliflex-100 0.45 µm white plain separate	■ Room temperature	MSP000866	24	<a href="#">inquire</a>
MXEF50024	Milliflex Extension Funnel 500 mL	■ Room temperature	MXEF50024	24	<a href="#">inquire</a>
MXGSWG124	Milliflex-100, 100 mL, 0.22 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MXGSWG124	24	<a href="#">inquire</a>
MXHABG124	Milliflex-100, 100 mL, 0.45 µm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MXHABG124	24	<a href="#">inquire</a>
MXHAWG124	Milliflex-100, 100 mL, 0.45 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MXHAWG124	24	<a href="#">inquire</a>
MXHAWG1LS	Milliflex-100, 100 mL, 0.45 µm white gridded, with Cassette	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MXHAWG1LS	24	<a href="#">inquire</a>
MXHAWG224	Milliflex-250, 250 mL, 0.45 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MXHAWG224	24	<a href="#">inquire</a>
MXHVWP124	Milliflex-100, 100 mL, Durapore 0.45 µm white plain	■ Room temperature	MXHVWP124	24	<a href="#">inquire</a>
MSHAWGM48	MicropreSure Monitor, EO sterilized, 0.45 µm white gridded	■ Room temperature	MSHAWGM48	48	<a href="#">inquire</a>
MSHAWGS48	MicropreSure Sampler, sterile, individually packed, 0.45 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MSHAWGS48	48	<a href="#">inquire</a>
MSHAWGT48	MicropreSure Sampler, EO sterilized, bulk packed, 0.45 µm white gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MSHAWGT48	48	<a href="#">inquire</a>
MSHABGM48	MicropreSure Monitor, EO sterilized, 0.45 µm black gridded	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	MSHABGM48	48	<a href="#">inquire</a>
MSHABGT48	MicropreSure Sampler, EO sterilized, bulk packed, 0.45 µm black gridded	■ Room temperature	MSHABGT48	48	<a href="#">inquire</a>

## Instruments

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MXPPLUS01	Milliflex PLUS Pump Single Head Kit	■ NA	MXPPLUS01	1	<a href="#">inquire</a>
MXPPLUS02	Milliflex PLUS Pump Double Head Kit	■ NA	MXPPLUS02	1	<a href="#">inquire</a>
MXPPLUS03	Milliflex PLUS Pump Triple Head Kit	■ NA	MXPPLUS03	1	<a href="#">inquire</a>
MXPRINT01	Milliflex PLUS Printer	■ NA	MXPRINT01	1	<a href="#">inquire</a>
MXPPUMP01	Milliflex PLUS pump	■ NA	MXPPUMP01	1	<a href="#">inquire</a>
MILSNAP01	MilliSnap System	■ NA	MILSNAP01	1	<a href="#">inquire</a>
MIAC03P01	Microfil 3-Place Manifold and Support	■ NA	MIAC03P01	1	<a href="#">inquire</a>
MIACFD101	Microfil Funnel Dispenser 100 mL	■ NA	MIACFD101	1	<a href="#">inquire</a>

## Instruments

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MIACFD201	Microfil Funnel Dispenser 250 mL	■ NA	MIACFD201	1	inquire
XX2504700	6-place manifold, 47 mm, stainless steel	■ NA	XX2504700	1	inquire
XX2504735	3-place manifold, 47 mm, stainless steel	■ NA	XX2504735	1	inquire
XX2604735	3-place manifold, 47 mm, PVC	■ NA	XX2604735	1	inquire
EZSTREAM1	EZ-Stream vacuum pump for liquid transfer	■ NA	EZSTREAM1	1	inquire
EZFITMIC01	EZ-Fit™ Manifold, 1-place for Microfil® funnels and membranes	■ Room temperature	EZFITMIC01	1	inquire
EZFITMIC03	EZ-Fit™ Manifold, 3-place for Microfil® funnels and membranes	■ Room temperature	EZFITMIC03	1	inquire
EZFITMIC06	EZ-Fit™ Manifold, 6-place for Microfil® funnels and membranes	■ Room temperature	EZFITMIC06	1	inquire
EZFITLOW01	EZ-Fit™ Manifold, 1-place for Microfil® V or Microfil® S filtration units	■ Room temperature	EZFITLOW01	1	inquire
EZFITLOW03	EZ-Fit™ Manifold, 3-place for Microfil® V or Microfil® S filtration units	■ Room temperature	EZFITLOW03	1	inquire
EZFITLOW06	EZ-Fit™ Manifold, 6-place for Microfil® V or Microfil® S filtration units	■ Room temperature	EZFITLOW06	1	inquire
EZCURVE01	EZ-Pak® Membrane Dispenser Curve	■ NA	EZCURVE01	1	inquire
EZCURVEAC	EZ-Pak® Membrane Dispenser Curve (AC only), without battery	■ NA	EZCURVEAC	1	inquire

## Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146269	Plate Count Agar	■ LGK 10 - 13	1.46269.0020 1.46269.0100	20 PC 100 PC	inquire inquire
146365	Plate Count Agar 200ml	■ LGK 10 - 13	1.46365.0006	6 PC	inquire
146363	Plate Count Agar 400ml	■ LGK 10 - 13	1.46363.0006	6 PC	inquire
146313	R2A Agar acc. EP	■ LGK 10 - 13	1.46313.0006	6 PC	inquire
146049	R2A Agar chromogenic - LI	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46049.0020	20 PC	inquire
146075	R2A Agar - LI EP 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46075.0020 1.46075.0120	20 PC 120 PC	inquire inquire
146074	R3A Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46074.0020	20 PC	inquire

## Rapid Detection Methods for Bioburden

## Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MXQREAD01	Milliflex Quantum Reader	■ NA	MXQREAD01	1	inquire
MXQSUP001	Milliflex Quantum Reader Stand	■ NA	MXQSUP001	1	inquire
MXQTRT001	Milliflex Quantum Membrane Transfer Tool	■ NA	MXQTRT001	1	inquire
MXQCAM001	Milliflex Quantum Camera	■ NA	MXQCAM001	1	inquire
MXRPSPRKT	Milliflex® Rapid AutoSpray Station	■ NA	MXRPSPRKT	1	inquire

## Devices &amp; Reagents


Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MXQTVOKT1	Milliflex Quantum Universal Kit (including fluorescent reagents & Milliflex HAWG 100 mL funnels)	■ 2-8°C (Reagents)	MXQTVOKT1	48 tests	inquire
MXQTVOKT2	Milliflex Quantum Universal Kit (including fluorescent reagents & Milliflex HAWG 250 mL funnels)	■ 2-8°C (Reagents)	MXQTVOKT2	48 tests	inquire
MXQTVOKT3	Milliflex Quantum Universal Kit (including fluorescent reagents & Milliflex GSWG 100 mL funnels)	■ 2-8°C (Reagents)	MXQTVOKT3	48 tests	inquire
EZFREAG57	EZ-Fluo™ Reagent Kit	■ 2-8°C Refrigerated	EZFREAG57	1	inquire

# BioMonitoring

## Instruments

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MXRPKT110	Milliflex® Rapid Microbiology Detection and Enumeration System Kit	■ NA	MXRPKT110	1	<a href="#">inquire</a>
MXQUA4K01	Milliflex Quantum standard kit with validation protocol A4 format	■ NA	MXQUA4K01	1	<a href="#">inquire</a>
MXQULTK01	Milliflex Quantum standard kit with validation protocol letter format	■ NA	MXQULTK01	1	<a href="#">inquire</a>
MXQUANK01	Milliflex Quantum standard kit	■ NA	MXQUANK01	1	<a href="#">inquire</a>
EZFKIT001WW	EZ-Fluo™ System standard kit including 1 reader, 1 camera and installation CD	■ NA	EZFKIT001WW	1	<a href="#">inquire</a>
EZFREAD01WW	EZ-Fluo™ reader	■ NA	EZFREAD01WW	1	<a href="#">inquire</a>
EZFCAM001	EZ-Fluo™ camera	■ NA	EZFCAM001	1	<a href="#">inquire</a>

## Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MXSMBPA48	Milliflex Cassette prefilled with Baird Parker Agar	■ 2-8°C Refrigerated	MXSMBPA48	48	<a href="#">inquire</a>
MXSMCET24	Milliflex Cassette prefilled with Cetrimide Agar with Naladixic Acid	■ GHS: Chronic aquatic toxicity, Category 3, H412 ■ 2-8°C Refrigerated	MXSMCET24	24	<a href="#">inquire</a>
MXSMCET48	Milliflex Cassette prefilled with Cetrimide Agar	 ■ GHS: Chronic aquatic toxicity, Category 2, H411 ■ 2-8°C Refrigerated	MXSMCET48	48	<a href="#">inquire</a>
MXSMCMC24	Milliflex Cassette prefilled with MacConkey Agar	■ 2-8°C Refrigerated	MXSMCMC24	24	<a href="#">inquire</a>
MXSMCRA48	Milliflex Cassette prefilled with R2A Agar	■ 2-8°C Refrigerated	MXSMCRA48	48	<a href="#">inquire</a>
MXSMCSD48	Milliflex Cassette prefilled with Sabouraud Dextrose Agar	■ 2-8°C Refrigerated	MXSMCSD48	48	<a href="#">inquire</a>
MXSMCSP48	Milliflex Cassette prefilled with Sabouraud Dextrose Agar with Chloramphenicol	■ 2-8°C Refrigerated	MXSMCSP48	48	<a href="#">inquire</a>
MXSMCTS48	Milliflex Cassette prefilled with Tryptic Soy Agar	■ 2-8°C Refrigerated	MXSMCTS48	48	<a href="#">inquire</a>
MXSMCYM48	Milliflex Cassette prefilled with Yeast and Mold Agar	■ 2-8°C Refrigerated	MXSMCYM48	48	<a href="#">inquire</a>
MXSMEND48	Milliflex Cassette prefilled with m-Endo LES Agar	■ 2-8°C Refrigerated	MXSMEND48	48	<a href="#">inquire</a>
MXSMHPC48	Milliflex Cassette prefilled with Heterotrophic Plate Count Agar	■ 2-8°C Refrigerated	MXSMHPC48	48	<a href="#">inquire</a>
MXSMKFS48	Milliflex Cassette prefilled with KF Strep Agar	■ 2-8°C Refrigerated	MXSMKFS48	48	<a href="#">inquire</a>
MXSMPCA48	Milliflex Cassette prefilled with Plate Count Agar	■ 2-8°C Refrigerated	MXSMPCA48	48	<a href="#">inquire</a>
MXSMTGE48	Milliflex Cassette prefilled with Tryptone Glucose Extract Agar	■ 2-8°C Refrigerated	MXSMTGE48	48	<a href="#">inquire</a>
MXSMPIA48	Milliflex Cassette prefilled with Pseudomonas Isolation Agar	■ 2-8°C Refrigerated	MXSMPIA48	48	<a href="#">inquire</a>
MXSMTLP48	Milliflex Cassette prefilled with Tryptic Soy Agar with Polysorbate 80 and Lecithin	■ 2-8°C Refrigerated	MXSMTLP48	48	<a href="#">inquire</a>
MRSMTCS48	Milliflex Cassette w/Tryptic Soy Agar for Milliflex Rapid	■ 2-8°C Refrigerated	MRSMTCS48	48	<a href="#">inquire</a>
MXLMC0120	Milliflex Liquid Media Cassette	■ Room temperature	MXLMC0120	120	<a href="#">inquire</a>
MXSMC0120	Milliflex Solid Media Cassette	■ Room temperature	MXSMC0120	120	<a href="#">inquire</a>
RMHVMFX24	Milliflex® Rapid Funnel 0.45 µm PVDF Membrane	■ Room temperature	RMHVMFX24	24	<a href="#">inquire</a>

## Environmental Monitoring

### Air Monitoring-Accessories

#### M Air T Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
ATAC05060	M Air T Battery charger 50//60 Hz	■ NA	ATAC05060	1	<a href="#">inquire</a>
ATACAL001	M Air T Calibration Kit	■ NA	ATACAL001	1	<a href="#">inquire</a>
ATAHEAD01	M Air T Tester Sieve with cover	■ NA	ATAHEAD01	1	<a href="#">inquire</a>
ATAKEY001	M Air T Allen key	■ NA	ATAKEY001	1	<a href="#">inquire</a>
ATASUP001	M Air T Tester Tripod	■ NA	ATASUP001	1	<a href="#">inquire</a>

## Environmental Monitoring

## Air Monitoring-Accessories

## M Air T Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
ATBCSEV01	M Air T Sieve for Cone Adapter	■ NA	ATBCSEV01	1	inquire
ATBFEET01	M Air T Isolator Tripod	■ NA	ATBFEET01	1	inquire
ATBHCON01	M Air T Cone Adapter	■ NA	ATBHCON01	1	inquire
ATBHEAD01	M Air T Isolator Sampling Head	■ NA	ATBHEAD01	1	inquire
ATBHPRE01	M Air T Pressure Reducer	■ NA	ATBHPRE01	1	inquire
ATBPRNT02	M Air T Isolator Printer	■ NA	ATBPRNT02	1	inquire
ATBPRNT11	Printer Expendables for printer MXPPRNO1 (5 rolls; 2 ink cartridges)	■ NA	ATBPRNT11	1	inquire
ATBSEVE01	M Air T Sieve	■ NA	ATBSEVE01	1	inquire
ATBTEST01	M Air T Isolator Regulation Test Tool	■ NA	ATBTEST01	1	inquire
ATBTUBE01	M Air T Isolator Tubing 3 m	■ NA	ATBTUBE01	1	inquire
ATISOKIT1	M Air T Isolator Kit	■ NA	ATISOKIT1	1	inquire
YFS714N34	3/4" TC Plug with 1/4" Thread	■ NA	YFS714N34	1	inquire
ATBPRNT22	Thermal Printer Paper Rolls	■ NA	ATBPRNT22	5	inquire

## MAS Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
109214	Adapter for contact plates		1.09214.0001	1 unit	inquire
109082	Adapter for glass Petri dish for MAS air sampler		1.09082.0001	1 unit	inquire
109208	Battery pack Li-Ion for MAS 100 NT		1.09208.0001	1 unit	inquire
109229	Battery pack NIMH for MAS 100 from serial number 75001		1.09229.0001	1 unit	inquire
109192	DA-100 NT Digital anemometer for MAS air-sampler		1.09192.0001	1 unit	inquire
109123	Dust cover for MAS 100Ex Air Sampler		1.09123.0001	1 unit	inquire
109087	Extra battery pack (Accu) for MAS		1.09087.0001	1 unit	inquire
109084	Extra dust-cover for collection head		1.09084.0001	1 unit	inquire
109088	Extra perforated lid (autoclavable) for collection head		1.09088.0001	1 unit	inquire
109085	Main charger for MAS		1.09085.0001	1 unit	inquire
109200	Mains charger for MAS 100 NT		1.09200.0001	1 unit	inquire
109225	MAS 100 case		1.09225.0001	1 unit	inquire
109213	Perforated lid for contact plates		1.09213.0001	1 unit	inquire
109195	Perforated lid for MAS 100 NT (300 x 0.6 mm)		1.09195.0001	1 unit	inquire
109124	Perforated lid for use with MAS 100Ex Air Sampler		1.09124.0001	1 unit	inquire
109128	Power supply unit with international adapters for MAS 100 Eco		1.09128.0001	1 unit	inquire
109237	Sampling Head SHLF-CG for MAS-100 CG Ex		1.09237.0001	1 unit	inquire
109126	Shoulder bag for MAS-100 Eco		1.09126.0001	1 unit	inquire
109226	Software for MAS 100 Airsampler		1.09226.0001	1 unit	inquire
109127	Tripod adapter screw for MAS-100 Eco		1.09127.0001	1 unit	inquire
109223	Tripod quick change adapter for MAS Airsampler		1.09223.0001	1 unit	inquire
109224	Tube-Adapter for MAS 100 Airsampler		1.09224.0001	1 unit	inquire

## RCS High Flow (Touch) Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144252	7.2 V Ni-Cd Replacement Battery 940375 7.2 V Ni-Cd Replacement Battery 940375 (RCS Plus Ex)	■ LGK 10 - 13	1.44252.0001	1 unit	inquire
144203	9.6 V Ni-Cd Replacement Battery 940275 (RCS High Flow)	■ LGK 10 - 13	1.44203.0001	1 unit	inquire
144198	Air Outlet Ring 940244 (RCS High Flow Touch/RCS High Flow)	■ LGK 10 - 13	1.44198.0001	1 unit	inquire

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## RCS High Flow (Touch) Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144239	Air Outlet Tubing 940814	■ LGK 10 - 13	1.44239.0001	1 unit	<a href="#">inquire</a>
144227	Battery Compartment Key 940450 (RCS Plus Ex	■ LGK 10 - 13	1.44227.0001	1 unit	<a href="#">inquire</a>
144221	Battery Discharger 940381 (RCS High Flow/RCS Plus Ex)	■ LGK 10 - 13	1.44221.0001	1 unit	<a href="#">inquire</a>
144174	Calibration Set 940060 (RCS Standard)	■ LGK 10 - 13	1.44174.0001	1 unit	<a href="#">inquire</a>
144206	CalibSo 940321	■ LGK 10 - 13	1.44206.0001	1 unit	<a href="#">inquire</a>
144150	Carrying Case 194324 (RCS High Flow Touch)	■ LGK 10 - 13	1.44150.0001	1 unit	<a href="#">inquire</a>
144151	Carrying Case 194326 (RCS High Flow)	■ LGK 10 - 13	1.44151.0001	1 unit	<a href="#">inquire</a>
144256	Docking Station 940376 (RCS High Flow Touch)	■ LGK 10 - 13	1.44256.0001	1 unit	<a href="#">inquire</a>
144220	Floor Plate 940020 (RCS Standard)	■ LGK 10 - 13	1.44220.0001	1 unit	<a href="#">inquire</a>
144260	Foot for Compressed Gas Adpater 194434 (RCS High Flow Touch)	■ LGK 10 - 13	1.44260.0001	1 unit	<a href="#">inquire</a>
144197	Infrared Remote Control 940241 (RCS Isolator)	■ LGK 10 - 13	1.44197.0001	1 unit	<a href="#">inquire</a>
144212	Infrared Remote Control, for serial numbers as of 5000 940341 (RCS Plus Ex/RCS Standard)	■ LGK 10 - 13	1.44212.0001	1 unit	<a href="#">inquire</a>
144235	Nozzle Set for RCS Compressed Gas Adapter 940725 (RCS High Flow Touch/RCS High Flow/RCS Isolator)	■ LGK 10 - 13	1.44235.0001	1 unit	<a href="#">inquire</a>
144171	Power Supply 940042 (RCS Standard)	■ LGK 10 - 13	1.44171.0001	1 unit	<a href="#">inquire</a>
144202	Power Supply, 120 V (US) 940271 (RCS High Flow)	■ LGK 10 - 13	1.44202.0001	1 unit	<a href="#">inquire</a>
144201	Power Supply, 230 / 240 V (EU) 940270 (RCS High Flow)	■ LGK 10 - 13	1.44201.0001	1 unit	<a href="#">inquire</a>
144225	Protection Cap 940415 (RCS High Flow Touch/RCS High Flow/RCS Isolator/RCS Plus Ex)	■ LGK 10 - 13	1.44225.0001	1 unit	<a href="#">inquire</a>
144257	RCS Compressed Gas Adapter Touch 940723 (RCS High Flow Touch)	■ LGK 10 - 13	1.44257.0001	1 unit	<a href="#">inquire</a>
144192	RCS High Flow Touch Qualification Handbook, English version 940136 (RCS High Flow Touch)	■ LGK 10 - 13	1.44192.0001	1 unit	<a href="#">inquire</a>
144178	RCS High Flow Touch Qualification Handbook, German version 940106 (RCS High Flow Touch)	■ LGK 10 - 13	1.44178.0001	1 unit	<a href="#">inquire</a>
144189	RCS High Flow Touch Validation Handbook, English version 940131 (RCS High Flow Touch)	■ LGK 10 - 13	1.44189.0001	1 unit	<a href="#">inquire</a>
144176	RCS High Flow Touch Validation Handbook, German version 940101 (RCS High Flow Touch)	■ LGK 10 - 13	1.44176.0001	1 unit	<a href="#">inquire</a>
144191	RCS Qualification Handbook, English version 940135 (RCS High Flow)	■ LGK 10 - 13	1.44191.0001	1 unit	<a href="#">inquire</a>
144177	RCS Qualification Handbook, German version 940105 (RCS High Flow)	■ LGK 10 - 13	1.44177.0001	1 unit	<a href="#">inquire</a>
144185	RCS Validation Handbook, English version 940130 (RCS High Flow/RCS Isolator/RCS Plus Ex)	■ LGK 10 - 13	1.44185.0001	1 unit	<a href="#">inquire</a>
144175	RCS Validation Handbook, German version 940100 (RCS High Flow/RCS Isolator/RCS Plus Ex)	■ LGK 10 - 13	1.44175.0001	1 unit	<a href="#">inquire</a>
144229	Replacement Impeller Blade 940500 (RCS Standard)	■ LGK 10 - 13	1.44229.0001	1 unit	<a href="#">inquire</a>
144232	Replacement Impeller Drum 940511	■ LGK 10 - 13	1.44232.0001	1 unit	<a href="#">inquire</a>
144196	Rotor 940230 (RCS High Flow Touch/RCS High Flow/RCS Isolator)	■ LGK 10 - 13	1.44196.0001	1 unit	<a href="#">inquire</a>
144223	Rotor, for serial numbers as of 5000 940411 (RCS Plus Ex)	■ LGK 10 - 13	1.44223.0001	1 unit	<a href="#">inquire</a>
144222	Rotor, for serial numbers up to 4999 940410 (RCS Plus Ex)	■ LGK 10 - 13	1.44222.0001	1 unit	<a href="#">inquire</a>
144238	Sampling Unit 940813	■ LGK 10 - 13	1.44238.0001	1 unit	<a href="#">inquire</a>
144207	Serial Cable 940322 (RCS High Flow Touch)	■ LGK 10 - 13	1.44207.0001	1 unit	<a href="#">inquire</a>
144200	Spare Part Set 940252 (RCS High Flow Touch)	■ LGK 10 - 13	1.44200.0001	1 unit	<a href="#">inquire</a>
144173	Sterile Sleeves 940050 (RCS Standard)	■ LGK 10 - 13	1.44173.0010	10 st	<a href="#">inquire</a>
144199	Sterile Sleeves 940250 (RCS High Flow Touch/RCS High Flow/RCS Plus Ex)	■ LGK 10 - 13	1.44199.0010	1 unit	<a href="#">inquire</a>
144247	Support Stand for Sampling Unit 940816 (RCS Isolator)	■ LGK 10 - 13	1.44247.0001	1 unit	<a href="#">inquire</a>
144218	Table-top Stand for RCS High Flow 940920	■ LGK 10 - 13	1.44218.0001	1 unit	<a href="#">inquire</a>
144210	Table-top Tripod 940335 (RCS High Flow Touch/RCS High Flow/RCS Isolator/RCS Plus Ex)	■ LGK 10 - 13	1.44210.0001	1 unit	<a href="#">inquire</a>
144246	Tri-Clamp Cable Transfer 940815 (RCS Isolator)	■ LGK 10 - 13	1.44246.0001	1 unit	<a href="#">inquire</a>



## RCS High Flow (Touch) Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144169	Tripod 940030 (RCS Isolator/RCS Standard)	■ LGK 10 - 13	1.44169.0001	1 unit	inquire
144209	Tripod 940330 (RCS High Flow Touch/RCS High Flow/RCS Plus Ex)	■ LGK 10 - 13	1.44209.0001	1 unit	inquire
144248	Tripod Adapter 940817	■ LGK 10 - 13	1.44248.0001	1 unit	inquire
144216	Universal Battery Charger 940820 (RCS Isolator)	■ LGK 10 - 13	1.44216.0001	1 unit	inquire
144251	Universal Rapid Battery Charger, 120 V (US) 940371 (RCS High Flow/RCS Plus Ex)	■ LGK 10 - 13	1.44251.0001	1 unit	inquire
144241	Universal Rapid Battery Charger, 230 / 240 V (EU) 940370 (RCS High Flow/RCS Plus Ex)	■ LGK 10 - 13	1.44241.0001	1 unit	inquire
144152	USB Adapter 196584 (RCS High Flow Touch)	■ LGK 10 - 13	1.44152.0001	1 unit	inquire

## Air Monitoring-Instruments

## Isolator / Cleanroom

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
109194	Air sampler MAS-100 NT Ex (explosion proofed)		1.09194.0001	1 unit	inquire
109191	Air-sampler System MAS-100 NT		1.09191.0001	1 unit	inquire
ATAS05060	M Air T Tester Kit	■ NA	ATAS05060	1	inquire
ATASPLR01	M Air T Tester	■ NA	ATASPLR01	1	inquire
ATBPUMP01	M Air T Isolator Pump	■ NA	ATBPUMP01	1	inquire
ATBHGAS01	M Air T Compressed Gas/Air Kit	■ NA	ATBHGAS01	1	inquire
109327	MAS 100 CG Ex for microbiological control of compressed gases		1.09327.0001	1 unit	inquire
144194	RCS High Flow Touch Microbial Air Sampler 940217	■ LGK 10 - 13	1.44194.0001	1 unit	inquire
144236	RCS Isolator Microbial Air Sampler 940810	■ LGK 10 - 13	1.44236.0001	1 unit	inquire
144204	RCS Plus Ex 940312	■ LGK 10 - 13	1.44204.0001	1 unit	inquire

## Less Controlled Areas

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
ATAS05060	M Air T Tester Kit	■ NA	ATAS05060	1	inquire
ATASPLR01	M Air T Tester	■ NA	ATASPLR01	1	inquire
ATBPUMP01	M Air T Isolator Pump	■ NA	ATBPUMP01	1	inquire
ATBHGAS01	M Air T Compressed Gas/Air Kit	■ NA	ATBHGAS01	1	inquire
109227	MAS-100 Eco Airsampler for food industry		1.09227.0001	1 unit	inquire
144194	RCS High Flow Touch Microbial Air Sampler 940217	■ LGK 10 - 13	1.44194.0001	1 unit	inquire
144204	RCS Plus Ex 940312	■ LGK 10 - 13	1.44204.0001	1 unit	inquire
144164	RCS Standard Microbial Air Sampler 940015	■ LGK 10 - 13	1.44164.0001	1 unit	inquire

## Air Monitoring- Ready to Use Culture media for Isolators &amp; Clean Rooms

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144108	Agar Strips LAC-γ Total count, γ-irradiated (941706) HYCON®	■ LGK 10 - 13	1.44108.0040	40 units	inquire
144109	Agar Strips PEN-γ Total count, γ-irradiated (941716) HYCON®	■ LGK 10 - 13	1.44109.0040	40 units	inquire
144244	Agar Strips SDX-γ Yeasts and molds, γ-irradiated (941215) HYCON®	■ LGK 10 - 13	1.44244.0040	40 units	inquire
144226	Agar Strips TC-γ Total count, γ-irradiated (941115) HYCON®	■ LGK 10 - 13	1.44226.0040	40 units	inquire
144228	Agar Strips TCI-γ Total count, γ-irradiated (941125) HYCON®	■ LGK 10 - 13	1.44228.0040	40 units	inquire
ATSMTPB24	M Air T Isolator Cassette prefilled with TSA Media (with pyruvate for VHP-sanitized environments)	■ 2-8°C Refrigerated	ATSMTPB24	24	inquire
ATSMITB24	M Air T Isolator Cassette prefilled with TSA Media	■ 2-8°C Refrigerated	ATSMITB24	24	inquire



# BioMonitoring

## Air Monitoring- Ready to Use Culture media for Isolators & Clean Rooms

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144107	Blank Strip Kit, Agar Strips 941605 HYCON®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.44107.0050	50 units	<a href="#">inquire</a>
144249	Incubation Rack for Agar Strips 940941	■ LGK 10 - 13	1.44249.0001	1 unit	<a href="#">inquire</a>
146016	Sab.Dex.A sel. +LTHTh - ICR	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46016.0020 1.46016.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146577	Sab. Dextr. Agar - ICR 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46577.0020 1.46577.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146081	Sab-Dextr-A. w. LT -ICR 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46081.0020	20 PC	<a href="#">inquire</a>
118411	SABOURAUD 4% dextrose agar with neutralizers Settle plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18411.0020	20 plates	<a href="#">inquire</a>
144217	Safety Tweezer Holder 940910	■ LGK 10 - 13	1.44217.0001	1 unit	<a href="#">inquire</a>
146005	SDA w. LTHTh - ICR 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46005.0020 1.46005.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146001	Tryptic Soy Agar - ICR 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46001.0020	20 PC	<a href="#">inquire</a>
118410	Tryptic Soy agar with Neutralizers Settle plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18410.0020	20 plates	<a href="#">inquire</a>
146076	TSA + LT + Cepase - ICR	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46076.0020 1.46076.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146013	TSA w. LTHTh & Pen-ICR 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46013.0020 1.46013.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146051	TSA w. LTHTh - ICR 15 cm	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46051.0018	18 PC	<a href="#">inquire</a>
146069	TSA w. LTHTh - ICR 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46069.0020 1.46069.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146050	TSA w. LT - ICR 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46050.0020 1.46050.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146658	Veget Pept A + LTHTh-ICR	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46658.0020 1.46658.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146659	Veget Pept A +LTHTh-ICR 15cm	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46659.0018	18 PC	<a href="#">inquire</a>

## Air Monitoring- Ready to Use Culture media for less critical areas

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144102	Agar Strips S Staphylococci (941405) HYCON®	■ LGK 10 - 13	1.44102.0025	25 units	<a href="#">inquire</a>
144099	Agar Strips C Coliform bacteria (941505) HYCON®	■ LGK 10 - 13	1.44099.0025	25 units	<a href="#">inquire</a>
144245	Agar Strips DG-18 Yeasts and molds (941225) HYCON®	■ LGK 10 - 13	1.44245.0025	25 units	<a href="#">inquire</a>
144243	Agar Strips SDX Yeasts and molds (941205) HYCON®	■ LGK 10 - 13	1.44243.0050	50 st	<a href="#">inquire</a>
144253	Agar Strips TC Total count (941105) HYCON®	■ LGK 10 - 13	1.44253.0050	50 units	<a href="#">inquire</a>
144240	Agar Strips TSM Total count (941135) HYCON®	■ LGK 10 - 13	1.44240.0050	50 units	<a href="#">inquire</a>
144242	Agar Strips YM Yeasts and molds (941196) HYCON®	■ LGK 10 - 13	1.44242.0050	50 units	<a href="#">inquire</a>
ATSMPND60	M Air T Cassette prefilled with TSA and beta-lactamase	■ 2-8°C Refrigerated	ATSMPND60	60	<a href="#">inquire</a>
ATSMDD60	M Air T Cassette prefilled with Sabouraud Dextrose Agar Media	■ 2-8°C Refrigerated	ATSMDD60	60	<a href="#">inquire</a>
ATSMTTD60	M Air T Cassette prefilled with TSA Media	■ 2-8°C Refrigerated	ATSMTTD60	60	<a href="#">inquire</a>
ATSMC0114	M Air T Empty Cassette	■ NA	ATSMC0114	114	<a href="#">inquire</a>
144107	Blank Strip Kit, Agar Strips 941605 HYCON®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.44107.0050	50 units	<a href="#">inquire</a>
144249	Incubation Rack for Agar Strips 940941	■ LGK 10 - 13	1.44249.0001	1 unit	<a href="#">inquire</a>
146237	Sab-Gluc.(4%)-Agar w. LHT	■ LGK 10 - 13	1.46237.0020 1.46237.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146052	Sab-Gluc-A w. LTHTh -LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46052.0020 1.46052.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>
144217	Safety Tweezer Holder 940910	■ LGK 10 - 13	1.44217.0001	1 unit	<a href="#">inquire</a>
146028	SDA - LI acc. EP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46028.0020 1.46028.0120	20 PC 120 PC	<a href="#">inquire</a> <a href="#">inquire</a>

## Air Monitoring- Ready to Use Culture media for less critical areas

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146003	SDA w. Cm acc. EP - LI	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46003.0020	20 PC	inquire
			1.46003.0120	120 PC	inquire
146004	TSA - LI 30ml EP+USP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46004.0020	20 PC	inquire
			1.46004.0120	120 PC	inquire
146015	TSA w. LTH - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46015.0020	20 PC	inquire
			1.46015.0120	120 PC	inquire
146002	TSA w. LTHTh - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46002.0020	20 PC	inquire
			1.46002.0120	120 PC	inquire

## ATP/NAD Testing

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
130195	HY-LiTE® ATP Standard 1.0 NG/ML	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.30195.0005	5 fl.	inquire
130194	HY-LiTE® Free ATP Pens	■ Store at +2°C to +8°C.	1.30194.0021	50 pens	inquire
130100	HY-LiTE® Hygiene Monitoring System		1.30100.0301	1 unit	inquire
			1.30100.0302	1 unit	inquire
130196	HY-LiTE® Jet A1 Fuel Test Kit	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.30196.0021	1x20 tests	inquire
130895	HY-LiTE Plus ATP Test for Industrial Microbiology HY-LiTE®	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.30895.0021	20 tests	inquire
130110	HY-LiTE® Replacement paper roll for printer	■ Store at +15°C to +25°C.	1.30110.0205	5 rolls	inquire
130111	HY-LiTE® Ribbon for printer	■ Store at +15°C to +25°C.	1.30111.0001	2 units	inquire
130102	HY-LiTE® Sampling pens	■ Store at +2°C to +8°C.	1.30102.0021	50 units	inquire
131200	HY-RiSE Colour Hygiene Test Strip Package containing 50 tests for assessing cleanliness of surfaces HY-RiSE®	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.31200.0001	50 strips	inquire
130101	Refill pack Sampling pen and Hygiene Swabs for surface control (100 each) HY-LiTE®	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.30101.0021	100 units	inquire

## Particle Counting

## Handheld Particle Counters

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144126	APC ErgoTouch 942500	■ LGK 10 - 13	1.44126.0001	1 unit	inquire
144302	APC ErgoTouch Pro 2 942750	■ LGK 10 - 13	1.44302.0001	1 unit	inquire

## Particle Counting Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144094	Adapter Kit 190265 (APC M3)	■ LGK 10 - 13	1.44094.0001	1 unit	inquire
144123	Air Velocity Probe 942446 (APC M3)	■ LGK 10 - 13	1.44123.0001	1 unit	inquire
144087	Air Velocity Probe 942834 (APC SmartTouch)	■ LGK 10 - 13	1.44087.0001	1 unit	inquire
144179	APC Compressed Gas Adapter 942675 (APC series)	■ LGK 10 - 13	1.44179.0001	1 unit	inquire
144127	APC ErgoTouch Pro Qualification Handbook 942507 (APC ErgoTouch Pro)	■ LGK 10 - 13	1.44127.0001	1 unit	inquire
144181	APC SmartTouch, 1 CFM, Steel 942800	■ LGK 10 - 13	1.44181.0001	1 unit	inquire
144182	APC SmartTouch, 50 LPM, Steel 942801	■ LGK 10 - 13	1.44182.0001	1 unit	inquire
144183	APC SmartTouch, 100 LPM, Steel 942802	■ LGK 10 - 13	1.44183.0001	1 unit	inquire
144077	APC SmartTouch Download Utility Software 942848 (APC SmartTouch)	■ LGK 10 - 13	1.44077.0001	1 unit	inquire
144076	APC SmartTouch Qualification Handbook 942849 (APC SmartTouch)	■ LGK 10 - 13	1.44076.0001	1 unit	inquire
144008	APC Universal Battery Charger 942158000 (APC Handheld)	■ LGK 10 - 13	1.44008.0001	1 unit	inquire
144143	Barbed Tubing Inlet 191824 (APC ErgoTouch Pro/APC ErgoTouch)	■ LGK 10 - 13	1.44143.0001	1 unit	inquire
144011	Benchtop Stand 942050000	■ LGK 10 - 13	1.44011.0001	1 unit	inquire
144303	Carring Case 942751 (APC ErgoTouch Pro 2)	■ LGK 10 - 13	1.44303.0001	1 unit	inquire

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## Particle Counting Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144106	Carring Case APC Ergo Touch 191800	■ LGK 10 - 13	1.44106.0001	1 unit	<a href="#">inquire</a>
144259	Carring Case for steel instruments 942831 (APC SmartTouch)	■ LGK 10 - 13	1.44259.0001	1 unit	<a href="#">inquire</a>
144002	Carrying Case 190210 (APC Handheld)	■ LGK 10 - 13	1.44002.0001	1 unit	<a href="#">inquire</a>
144130	Carrying Case 942520 ET	■ LGK 10 - 13	1.44130.0001	1 unit	<a href="#">inquire</a>
144156	Carrying Case 942570 (APC ErgoTouch Pro)	■ LGK 10 - 13	1.44156.0001	1 unit	<a href="#">inquire</a>
144297	Carrying case 942831	■ LGK 10 - 13	1.44297.0001	1 unit	<a href="#">inquire</a>
144005	Carrying Case 942456000 (APC M3/APC Portable)	■ LGK 10 - 13	1.44005.0001	1 unit	<a href="#">inquire</a>
144148	Carrying Case, for plastic instruments 192119 (APC SmartTouch)	■ LGK 10 - 13	1.44148.0001	1 unit	<a href="#">inquire</a>
144149	Carrying Case, for stainless steel 192178 (APC SmartTouch)	■ LGK 10 - 13	1.44149.0001	1 unit	<a href="#">inquire</a>
144124	Differential Pressure Probe 942451 (APC M3)	■ LGK 10 - 13	1.44124.0001	1 unit	<a href="#">inquire</a>
144103	External Battery Charger 191565	■ LGK 10 - 13	1.44103.0001	1 unit	<a href="#">inquire</a>
144139	External Battery Charger 191806	■ LGK 10 - 13	1.44139.0001	1 unit	<a href="#">inquire</a>
144134	External Battery Charger 942563 (APC ErgoTouch Pro)	■ LGK 10 - 13	1.44134.0001	1 unit	<a href="#">inquire</a>
144116	External Battery Charger Set 942254 (APC M3)	■ LGK 10 - 13	1.44116.0001	1 set	<a href="#">inquire</a>
144146	External Charger 192016 (APC SmartTouch)	■ LGK 10 - 13	1.44146.0001	1 unit	<a href="#">inquire</a>
144163	External Printer 942610 (APC ErgoTouch Pro)	■ LGK 10 - 13	1.44163.0001	1 unit	<a href="#">inquire</a>
144095	Filter Scanning Probe, 0.1 CFM 191520 (APC ErgoTouch Pro/APC ErgoTouch/APC Handheld)	■ LGK 10 - 13	1.44095.0001	1 unit	<a href="#">inquire</a>
144097	Filter Scanning Probe, 1 CFM 191522 (APC Portable)	■ LGK 10 - 13	1.44097.0001	1 unit	<a href="#">inquire</a>
144083	Filter Scanning Probe, 1 CFM 942839 (APC SmartTouch)	■ LGK 10 - 13	1.44083.0001	1 unit	<a href="#">inquire</a>
144136	Inlay Carring Case APC Ergo Touch 191803	■ LGK 10 - 13	1.44136.0001	1 unit	<a href="#">inquire</a>
144137	Inlay Carring Case APC Ergo Touch 191804	■ LGK 10 - 13	1.44137.0001	1 unit	<a href="#">inquire</a>
144000	Isokinetic Probe 190190 (APC Handheld)	■ LGK 10 - 13	1.44000.0001	1 unit	<a href="#">inquire</a>
144258	Isokinetic Probe 942439 (APC Portable)	■ LGK 10 - 13	1.44258.0001	1 unit	<a href="#">inquire</a>
144159	Isokinetic Probe 942602 (APC ErgoTouch Pro/APC ErgoTouch)	■ LGK 10 - 13	1.44159.0001	1 unit	<a href="#">inquire</a>
144084	Isokinetic Probe, 1 CFM 942836	■ LGK 10 - 13	1.44084.0001	1 unit	<a href="#">inquire</a>
144121	Isokinetic Probe, 50 L/min 942438 (APC SmartTouch/APC M3)	■ LGK 10 - 13	1.44121.0001	1 unit	<a href="#">inquire</a>
144120	Isokinetic Probe, 75 L/min 942437 (APC M3)	■ LGK 10 - 13	1.44120.0001	1 unit	<a href="#">inquire</a>
144119	Isokinetic Probe, 100 L/min 942436 (APC SmartTouch/APC M3)	■ LGK 10 - 13	1.44119.0001	1 unit	<a href="#">inquire</a>
144144	Lithium-ion Battery 192003 (APC SmartTouch)	■ LGK 10 - 13	1.44144.0001	1 unit	<a href="#">inquire</a>
144128	Lithium-ion Battery 942511 ET	■ LGK 10 - 13	1.44128.0001	1 unit	<a href="#">inquire</a>
144132	Lithium-ion Battery 942561	■ LGK 10 - 13	1.44132.0001	1 unit	<a href="#">inquire</a>
144101	Lithium-ion Battery, 14.4 V 191560 (APC M3)	■ LGK 10 - 13	1.44101.0001	1 unit	<a href="#">inquire</a>
144075	Network Cable 942851 (APC SmartTouch)	■ LGK 10 - 13	1.44075.0001	1 unit	<a href="#">inquire</a>
144172	Nozzle Set Compressed Gas Adapter, 0.1 CFM 942670 (APC Handheld)	■ LGK 10 - 13	1.44172.0001	1 sa	<a href="#">inquire</a>
144180	Nozzle Set Compressed Gas Adapter, 0.1 CFM 942680 (APC ErgoTouch Pro/APC ErgoTouch)	■ LGK 10 - 13	1.44180.0001	1 sa	<a href="#">inquire</a>
144170	Nozzle Set Compressed Gas Adapter, 1 CFM for Ergo Touch Pro/Pro2	■ LGK 10 - 13	1.44170.0001	1 sa	<a href="#">inquire</a>
144168	Nozzle Set Compressed Gas Adapter, 50 L/min 942660 (APC SmartTouch/APC M3)	■ LGK 10 - 13	1.44168.0001	1 sa	<a href="#">inquire</a>
144167	Nozzle Set Compressed Gas Adapter, 75 L/min 942655 (APC M3)	■ LGK 10 - 13	1.44167.0001	1 set	<a href="#">inquire</a>
144166	Nozzle Set Compressed Gas Adapter, 100 L/min 942650 (APC SmartTouch/APC M3)	■ LGK 10 - 13	1.44166.0001	1 set	<a href="#">inquire</a>
144141	Portable Printer 191808	■ LGK 10 - 13	1.44141.0001	1 unit	<a href="#">inquire</a>
144145	Power Supply 192012 (RCS High Flow Touch/APC SmartTouch)	■ LGK 10 - 13	1.44145.0001	1 unit	<a href="#">inquire</a>
144129	Power Supply 942512 ET	■ LGK 10 - 13	1.44129.0001	1 unit	<a href="#">inquire</a>

## Particle Counting Accessories

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144133	Power Supply 942562 (APC ErgoTouch Pro)	■ LGK 10 - 13	1.44133.0001	1 unit	inquire
144140	Purge Filter 191807	■ LGK 10 - 13	1.44140.0001	1 unit	inquire
144112	Purge Filter 942035 (APC Handheld)	■ LGK 10 - 13	1.44112.0001	1 unit	inquire
144118	Purge Filter 942426 (APC Portable)	■ LGK 10 - 13	1.44118.0001	1 unit	inquire
144157	Purge Filter 942601 (APC ErgoTouch Pro/APC ErgoTouch)	■ LGK 10 - 13	1.44157.0001	1 unit	inquire
144079	Purge Filter 942841 (APC SmartTouch)	■ LGK 10 - 13	1.44079.0001	1 unit	inquire
144125	Purge Filter Assembly 942465 (APC M3)	■ LGK 10 - 13	1.44125.0001	1 unit	inquire
144160	Remote Isokinetic Probe 942603 (APC ErgoTouch Pro/APC ErgoTouch)	■ LGK 10 - 13	1.44160.0001	1 unit	inquire
144138	Replacement Power Supply 191805	■ LGK 10 - 13	1.44138.0001	1 unit	inquire
144306	Replacement Power Supply 942754 (APC ErgoTouch Pro 2)	■ LGK 10 - 13	1.44306.0001	1 unit	inquire
144104	Sampling Tubing 191570 (APC SmartTouch/APC M3)	■ LGK 10 - 13	1.44104.0001	1 unit	inquire
144142	Sampling Tubing 191822 (APC ErgoTouch Pro/APC ErgoTouch)	■ LGK 10 - 13	1.44142.0001	1 unit	inquire
144007	Sampling Tubing 942430000 (APC Portable)	■ LGK 10 - 13	1.44007.0001	1 unit	inquire
144001	Serial Interface Cable 190200 (APC M3/APC Portable/APC Handheld)	■ LGK 10 - 13	1.44001.0001	1 unit	inquire
144219	Table-top Stand 940930 (APC ErgoTouch)	■ LGK 10 - 13	1.44219.0001	1 unit	inquire
144105	Table-top Tripod 191595 (APC SmartTouch/APC M3/APC Portable)	■ LGK 10 - 13	1.44105.0001	1 unit	inquire
144122	Temperature / Relative Humidity Probe 942441 (APC M3)	■ LGK 10 - 13	1.44122.0001	1 unit	inquire
144135	Temperature / Relative Humidity Probe 942565 (APC ErgoTouch Pro)	■ LGK 10 - 13	1.44135.0001	1 unit	inquire
144088	Temperature / Relative Humidity Probe 942833 (APC SmartTouch)	■ LGK 10 - 13	1.44088.0001	1 unit	inquire
144304	Temperature/Relative Humidity Sensor 942752 (APC ErgoTouch Pro 2)	■ LGK 10 - 13	1.44304.0001	1 unit	inquire
144305	Thermal Printer 942753 (APC ErgoTouch Pro 2)	■ LGK 10 - 13	1.44305.0001	1 unit	inquire
144013	Thermal Printer, 120 V 942020000 (APC Handheld)	■ LGK 10 - 13	1.44013.0001	1 unit	inquire
144012	Thermal Printer, 230 - 240 V 942022000 (APC Handheld)	■ LGK 10 - 13	1.44012.0001	1 unit	inquire
144147	Thermal Printer Paper 192074 (APC SmartTouch)	■ LGK 10 - 13	1.44147.0001	1 unit	inquire
144165	Thermal Printer Paper 942611 (APC ErgoTouch Pro)	■ LGK 10 - 13	1.44165.0001	1 unit	inquire
144010	Thermal Printer Paper 942110000 (APC Portable/APC Handheld)	■ LGK 10 - 13	1.44010.0001	1 unit	inquire
144009	Thermal Printer Paper 942112000 (APC M3)	■ LGK 10 - 13	1.44009.0001	1 unit	inquire
144113	Tubing Et Adapter Pieces for Remote Sampling 942041 (APC Handheld)	■ LGK 10 - 13	1.44113.0001	1 unit	inquire
144098	USB Cable 191550 (APC M3/APC ErgoTouch)	■ LGK 10 - 13	1.44098.0001	1 unit	inquire
144100	USB Connection Cable 191551 (APC SmartTouch/APC ErgoTouch Pro)	■ LGK 10 - 13	1.44100.0001	1 unit	inquire
144004	Wall Bracket 942899090 (APC Handheld)	■ LGK 10 - 13	1.44004.0001	1 unit	inquire

## Portable Particle Counters

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144089	APC SmartTouch, 1 CFM Et 100 LPM, Plastic 942822	■ LGK 10 - 13	1.44089.0001	1 unit	inquire
144093	APC SmartTouch, 1 CFM Et 100 LPM, Steel 942803	■ LGK 10 - 13	1.44093.0001	1 unit	inquire
144181	APC SmartTouch, 1 CFM, Steel 942800	■ LGK 10 - 13	1.44181.0001	1 unit	inquire
144092	APC SmartTouch, 50 LPM, Plastic 942820	■ LGK 10 - 13	1.44092.0001	1 unit	inquire
144182	APC SmartTouch, 50 LPM, Steel 942801	■ LGK 10 - 13	1.44182.0001	1 unit	inquire
144091	APC SmartTouch, 100 LPM, Plastic 942821	■ LGK 10 - 13	1.44091.0001	1 unit	inquire
144183	APC SmartTouch, 100 LPM, Steel 942802	■ LGK 10 - 13	1.44183.0001	1 unit	inquire

# BioMonitoring

## Surface Monitoring-Ready to Use Culture media for Isolators & Clean Rooms

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144024	Blank Strip Kit, Contact Slides 931200 HYCON®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.44024.0020	20 units	inquire
146555	Chocolate Cont. A. +LTH-ICR+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46555.0020	20 PC	inquire
144021	Contact Slides DE-γ Total count (931256) HYCON®	■ LGK 10 - 13	1.44021.0020	20 units	inquire
144015	Contact Slides LAC-γ Total count, γ-irradiated (931291) HYCON®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.44015.0100	100 units	inquire
144014	Contact Slides PEN-γ Total count, γ-irradiated (931296) HYCON®	■ LGK 10 - 13	1.44014.0100	100 units	inquire
144016	Contact Slides SDX-γ Yeasts and molds, γ-irradiated (931285) HYCON®	■ LGK 10 - 13	1.44016.0020	20 units	inquire
144022	Contact Slides TC-γ Total count, γ-irradiated (931255) HYCON®	■ LGK 10 - 13	1.44022.0020 1.44022.0100	20 units 100 units	inquire inquire
144111	Cover Slides 941900 HYCON®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.44111.0100	100 units	inquire
146529	ICR-Swab	■ LGK 10 - 13	1.46529.0100	100 PC	inquire
144250	Incubation Rack for Contact Slides 940946	■ LGK 10 - 13	1.44250.0001	1 unit	inquire
146501	Sab-Gluc-Cont. A +LTHH-ICR+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46501.0020 1.46501.0200	20 PC 200 PC	inquire inquire
146538	SDA Contact +LTHH sel-ICR+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46538.0020 1.46538.0200	20 PC 200 PC	inquire inquire
146201	SDA Contact w. LTHH - ICR	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46201.0200	200 PC	inquire
MHPC10025	HPC Total Count Sampler	■ Store at room temperature (15-30°) °C	MHPC10025	25	inquire
146527	Tr. Soy Cont. A. +LTHH-ICR+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46527.0020 1.46527.0200	20 PC 200 PC	inquire inquire
146552	Tr. Soy Cont. A. +LT -ICR+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46552.0020 1.46552.0200	20 PC 200 PC	inquire inquire
146231	Tr. Soy Cont. A w. LTHH-ICR	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46231.0020 1.46231.0200	20 PC 200 PC	inquire inquire
146195	Tr. Soy Cont. A. w. LT-ICR	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46195.0020 1.46195.0200	20 PC 200 PC	inquire inquire
146553	TSA Contact +LTHH +Pen-ICR+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46553.0020 1.46553.0200	20 PC 200 PC	inquire inquire
146153	TSA Cont. + Penase+LTHH-ICR	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46153.0020 1.46153.0200	20 PC 200 PC	inquire inquire
146539	TS-Cont. +LT +Cephase-ICR+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46539.0020 1.46539.0200	20 PC 200 PC	inquire inquire
146601	Veget. Cont. A. +LTHH -ICR+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46601.0020 1.46601.0200	20 PC 200 PC	inquire inquire

## Surface Monitoring Ready to Use Culture Media for less critical areas

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144024	Blank Strip Kit, Contact Slides 931200 HYCON®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.44024.0020	20 units	inquire
146189	Contact A. Baird Parker - RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46189.0020	20 PC	inquire
146266	Contact Agar DG 18 + Cm - RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46266.0020	20 PC	inquire
146154	Contact Agar Plate Count-RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46154.0020	20 PC	inquire
146191	Contact A. Malt Extract - RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46191.0020	20 PC	inquire
146200	Contact A. Tr. Soy w. LTH-RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46200.0020	20 PC	inquire
144020	Contact Slides B Total count (931260) HYCON®	■ LGK 10 - 13	1.44020.0020	20 units	inquire
144019	Contact Slides C Coliform bacteria (931270) HYCON®	■ LGK 10 - 13	1.44019.0020	20 units	inquire
144017	Contact Slides SDX Yeasts and molds (931284) HYCON®	■ LGK 10 - 13	1.44017.0020	20 units	inquire

## Surface Monitoring\_Ready to Use Culture Media for less critical areas

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144023	Contact Slides TC Total count (931250) HYCON®	■ LGK 10 - 13	1.44023.0020	20 units	inquire
			1.44023.0100	100 units	inquire
144018	Contact Slides YM Yeasts and molds (931280) HYCON®	■ LGK 10 - 13	1.44018.0020	20 units	inquire
146240	Cont. A. Tr. Soy-RT EP+USP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46240.0020	20 PC	inquire
144111	Cover Slides 941900 HYCON®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.44111.0100	100 units	inquire
144250	Incubation Rack for Contact Slides 940946	■ LGK 10 - 13	1.44250.0001	1 unit	inquire
146427	MacConkey Cont. A.-RT acc EP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46427.0020	20 PC	inquire
118412	Plate count agar Contact plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18412.0020	20 plates	inquire
118414	SABOURAUD 4% dextrose agar with chloramphenicol Contact plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18414.0020	20 plates	inquire
146549	SDA Contact +Cm - RT+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46549.0020	20 PC	inquire
MC0010025	Coli-Count™ Sampler	■ Store at room temperature (15-30°) °C	MC0010025	25	inquire
MMSB10025	Swab in vial with phosphate buffer	■ Store at room temperature (15-30°) °C	MMSB10025	25	inquire
MY0010025	Yeast and Mold Sampler	■ Store at room temperature (15-30°) °C	MY0010025	25	inquire
146554	TSA Contact +LTH - RT+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46554.0020	20 PC	inquire
146253	Viol Red-Bile-Dext-Cont-A RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46253.0020	20 PC	inquire
146265	Viol Red-Bile-Dext-Dext-A-RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46265.0020	20 PC	inquire
118417	VRBD agar Contact plates Envirocheck®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.18417.0020	20 plates	inquire


## Sterility Testing

## Autoclave Control

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
110274	Sterikon® plus Bioindicator for checks on autoclaving	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.10274.0001	15 amp	inquire
			1.10274.0002	100 amp	inquire

## Culture Media and Rinsing Fluids

## Dehydrated Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
108190	Thioglycollate broth for microbiology	 ■ GHS: Warning, Skin sensitisation, Category 1, H317 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08190.0500	500 g	inquire
			1.08190.5000	6 x 500 g 5 kg	inquire inquire
105459	Tryptic Soy Broth Casein-peptone soymeal-peptone broth for microbiology (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05459.0500	500 g	inquire
			1.05459.5000	6 x 500 g	inquire
			1.05459.9025	5 kg 25 kg	inquire inquire
100525	Tryptic Soy Broth non animal origin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00525.5000	5 kg	inquire
100550	Tryptic Soy Broth non animal origin irradiated for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00550.0500	500 g	inquire
			1.00550.5000	5 kg	inquire
100800	Tryptic Soy (CASO) broth irradiated Casein-peptone soymeal-peptone broth USP for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00800.5000	5 kg	inquire



# BioMonitoring

## Ready to Use Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146386	Fl. Thioglyc. Med acc EP+USP	■ LGK 10 - 13	1.46386.0010	10 PC	<a href="#">inquire</a>
146406	Fl. Thioglyc. Med acc EP+USP	■ LGK 10 - 13	1.46406.0010	10 PC	<a href="#">inquire</a>
STBMFTM12	Fluid Thioglycollate in bottle with screw cap and septum	■ 2-25°C protect from light °C	STBMFTM12	12	<a href="#">inquire</a>
STBMTSB12	Soybean Casein Digest Broth (TSB) in bottle with screw cap and septum	■ 2-25°C protect from light °C	STBMTSB12	12	<a href="#">inquire</a>
STBMCTM12	Clear Fluid Thioglycollate in bottle with screw cap and septum	■ 2-25°C protect from light °C	STBMCTM12	12	<a href="#">inquire</a>
STBMFTM12DP	Fluid Thioglycollate in bottle with screw cap and septum, double packed	■ 2-25°C protect from light °C	STBMFTM12DP	12	<a href="#">inquire</a>
STBMTSB12DP	Soybean Casein Digest Broth (TSB) in bottle with screw cap and septum, double packed	■ 2-25°C protect from light °C	STBMTSB12DP	12	<a href="#">inquire</a>
STBMCTM12DP	Clear Fluid Thioglycollate in bottle with screw cap and septum, double packed	■ 2-25°C protect from light °C	STBMCTM12DP	12	<a href="#">inquire</a>
146456	Thioglycollate B. 0.1l clear	■ LGK 10 - 13	1.46456.0010	10 PC	<a href="#">inquire</a>
146220	Thioglycollate Med. acc. EP	■ LGK 10 - 13	1.46220.0020 1.46220.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146139	Thioglycollate Medium acc EP	■ LGK 10 - 13	1.46139.0020 1.46139.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146333	Thioglycoll. B. 100ml clear	■ LGK 10 - 13	1.46333.0010	10 PC	<a href="#">inquire</a>
146380	Tryptic Soy B. acc. EP+USP	■ LGK 10 - 13	1.46380.0010	10 PC	<a href="#">inquire</a>
146342	Tryptic Soy Broth 750ml	■ LGK 10 - 13	1.46342.0006	6 PC	<a href="#">inquire</a>
146317	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46317.0010	10 PC	<a href="#">inquire</a>
146432	Tryptic Soy Broth acc EP+USP	■ LGK 10 - 13	1.46432.0020 1.46432.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>

## Rinsing Fluid








Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146408	Buff. NaCl-Pept. Sol. acc EP	■ LGK 10 - 13	1.46408.0006	6 PC	<a href="#">inquire</a>
146415	Fluid A acc. USP	■ LGK 10 - 13	1.46415.0006	6 PC	<a href="#">inquire</a>
146470	Fluid A acc. USP Septum	■ LGK 10 - 13	1.46470.0010	10 PC	<a href="#">inquire</a>
146397	Fluid D acc. USP	■ LGK 10 - 13	1.46397.0010	10 PC	<a href="#">inquire</a>
146483	Fluid D acc. USP	■ LGK 10 - 13	1.46483.0006	6 PC	<a href="#">inquire</a>
STBMRFA34	Fluid A in bottle with screw cap and septum	■ 2-25°C protect from light °C	STBMRFA34	4	<a href="#">inquire</a>
STBMRFD34	Fluid D in bottle with screw cap and septum	■ 2-25°C protect from light °C	STBMRFD34	4	<a href="#">inquire</a>
STBMRFA12	Fluid A in bottle with screw cap and septum	■ 2-25°C protect from light °C	STBMRFA12	12	<a href="#">inquire</a>
STBMRFK34	Fluid K in bottle with screw cap and septum	■ 15-25°C protected from light °C	STBMRFK34	4	<a href="#">inquire</a>
STBMRFA64	Fluid A in bottle with screw cap and septum 600ml	■ 2-25°C protect from light °C	STBMRFA64	4	<a href="#">inquire</a>
STBMRFA12DP	Fluid A in bottle with screw cap and septum, double packed	■ 2-25°C protect from light °C	STBMRFA12DP	12	<a href="#">inquire</a>

## Membrane Filtration Sterility Test

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
TZV000010	Steridilutor EZ Device without expansion chamber	■ Room temperature	TZV000010	10	<a href="#">inquire</a>
TZVC00010	Steridilutor EZ Device with expansion chamber	■ Room temperature	TZVC00010	10	<a href="#">inquire</a>
TZHVS210	Steritest Device for solvents creams ointments and veterinary injectables	■ Room temperature	TZHVS210	10	<a href="#">inquire</a>
TZHV210	Sterisolutest EZ Device for antibiotics (liquids or reconstituted powders in vials)	■ Room temperature	TZHV210	10	<a href="#">inquire</a>
TZHVAB210	Steritest EZ Device for Antibiotics	■ Room temperature	TZHVAB210	10	<a href="#">inquire</a>
TZHV210	Steritest EZ Device for Liquids in Vials	■ Room temperature	TZHV210	10	<a href="#">inquire</a>



## Membrane Filtration Sterility Test

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
TZHALA210	Steritest EZ Device for liquids in ampoules or collapsible bags	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	TZHALA210	10	inquire
TZHALV210	Steritest EZ Device for liquids in vials	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	TZHALV210	10	inquire
TZHVS210	Steritest EZ Device for Liquids in Vials	■ Room temperature	TZHVS210	10	inquire
TZHALA205	Steritest EZ Double Packed Device for liquids in ampoules or collapsible bags	■ Room temperature	TZHALA205	10	inquire
TZHALV205	Steritest EZ Double Packed Devices for liquids in large vials	■ Room temperature	TZHALV205	10	inquire
TZHASV210	Steritest EZ Device for SVP in vials	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	TZHASV210	10	inquire
TZHASV205	Steritest EZ Double Packed Device for liquids in small vials	■ Room temperature	TZHASV205	10	inquire
TZHAMD210	Steritest EZ Device for medical devices	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	TZHAMD210	10	inquire
TZHASY210	Steritest EZ Device for pre-filled syringes	■ Room temperature	TZHASY210	10	inquire
TZHAPC210	Steritest EZ Device for liquids in plastic containers	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	TZHAPC210	10	inquire
TZHADA210	Sterisolutest EZ Device for soluble powders in ampoules	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	TZHADA210	10	inquire
TZHADV210	Sterisolutest EZ Device for soluble powders in vials	 ■ GHS: Flammable solid, Category 1, H228 ■ Room temperature	TZHADV210	10	inquire

## Rapid Detection Methods for Sterility

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MXRPKT110	Milliflex® Rapid Microbiology Detection and Enumeration System Kit	■ NA	MXRPKT110	1	inquire
MXRPSPRKT	Milliflex® Rapid AutoSpray Station	■ NA	MXRPSPRKT	1	inquire
RMHVMFX24	Milliflex® Rapid Funnel 0.45 µm PVDF Membrane	■ Room temperature	RMHVMFX24	24	inquire

## Sterility Testing Hardware

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
TQNXLFH01	Steritest™ Equinox Pump for Laminar Flow Hoods	■ NA	TQNXLFH01	1	inquire
TQNXISL01	Steritest Equinox Pump for Isolators	■ NA	TQNXISL01	1	inquire
TQNXISL03	Steritest Equinox Isofit Pump for Isolators	■ NA	TQNXISL03	1	inquire
MXPPLUVHP	Milliflex® PLUS pump VHP compatible	■ NA	MXPPLUVHP	1	inquire
TA0000003	Steridilutor vial accessory	■ Room temperature	TA0000003	1	inquire
TA0F00001	Sterisure stainless steel support for manifold	■ NA	TA0F00001	1	inquire
TAWE00001	Weight system for Steritest	■ NA	TAWE00001	2	inquire
TZA000010	Liquid transfer Kit single needle	■ NA	TZA000010	10	inquire
TEFG02525	Steritest vent needles	■ NA	TEFG02525	25	inquire
TQ00DTR01	Drain Tray without Drain Tube	■ NA	TQ00DTR01	1	inquire
TQ00DTC01	Drain Tray Cover	■ NA	TQ00DTC01	1	inquire
TQ00BTL01	Bottle Holder for Steritest Equinox LFH and Isolator pumps	■ NA	TQ00BTL01	1	inquire
TQ00BTL03	Bottle Holder for Steritest Equinox Isofit Pump	■ NA	TQ00BTL03	1	inquire
TQ00FLS03	Flat seal for Steritest Equinox Isofit Pump	■ NA	TQ00FLS03	1	inquire
MXPELCVHP	VHP cables set for Milliflex electrical hub	■ NA	MXPELCVHP	3	inquire
MXPFHUVHP	Milliflex fluidic hub VHP compatible	■ NA	MXPFHUVHP	1	inquire


# BioMonitoring

## Sterility Testing Hardware

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
MXPTUBVHP	VHP tubes set for Milliflex fluidic hub	■ NA	MXPTUBVHP	3	inquire
TAMF00001	Sterisure SST adapter for Milliflex Pump	■ NA	TAMF00001	1	inquire
MXPHUBKIT	Milliflex® Plus Pump VHP hub Kit	■ NA	MXPHUBKIT	1	inquire
MXPELEHUB	Milliflex electrical hub VHP compatible	■ NA	MXPELEHUB	1	inquire
MXPHEAVHP	Milliflex® PLUS pump head VHP compatible	■ NA	MXPHEAVHP	1	inquire

## Media Fill

### Dehydrated Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
108190	Thioglycollate broth for microbiology	 ■ GHS: Warning, Skin sensitisation, Category 1, H317 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08190.0500 1.08190.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105459	Tryptic Soy Broth Casein-peptone soymeal-peptone broth for microbiology (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05459.0500 1.05459.5000 1.05459.9025	500 g 6 x 500 g 5 kg 25 kg	inquire inquire inquire inquire
100525	Tryptic Soy Broth non animal origin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00525.5000	5 kg	inquire
100550	Tryptic Soy Broth non animal origin irradiated for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00550.0500 1.00550.5000	500 g 5 kg	inquire inquire
100800	Tryptic Soy (CASO) broth irradiated Casein-peptone soymeal-peptone broth USP for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00800.5000	5 kg	inquire

### Ready to Use Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146316	Tryp. Soy Broth acc. EP+USP	■ LGK 10 - 13	1.46316.0001	1 PC	inquire
146379	Tryptic Soy B. acc. EP+USP	■ LGK 10 - 13	1.46379.0006	6 PC	inquire
146332	Vegetable Peptone Broth	■ LGK 10 - 13	1.46332.0001	1 PC	inquire

## Mycoplasma Testing

### Mycoplasma Testing Traditional

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146311	FREY Liquid Medium acc. EP	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46311.0001	1 PC	inquire
146180	FRIS Liquid Medium acc. EP	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46180.0001	1 PC	inquire
146452	HAYFLICK Liquid Med. acc. EP	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46452.0001	1 PC	inquire

### Rapid Detection Methods for Mycoplasma




Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
GPMYCS100	MilliPROBE Reagent Kit for Mycoplasma	■ 2-8°C Refrigerated	GPMYCS100	90 tests	inquire
GPMYCR100	MilliPROBE Reagents for Mycoplasma (without sample prep devices)	■ 2-8°C Refrigerated	GPMYCR100	90 tests	inquire
GPINST0110	MilliPROBE Instrument Package (US)	■ NA	GPINST0110	1	inquire
GPINST0220	MilliPROBE Instrument Package (EU)	■ NA	GPINST0220	1	inquire
GPIMYCRCK	Mycoplasma Sample Preparation Device Rack	■ Room temperature	GPIMYCRCK	2	inquire
GPIMYCRAD	Centrifuge Adaptor for Round Buckets	■ NA	GPIMYCRAD	4	inquire
GPIMYCSAD	Centrifuge Adaptor for Square Buckets	■ NA	GPIMYCSAD	4	inquire
MPRPMYCAD	Filtration Additive (100 mL)	■ 2-8°C, protect from light	MPRPMYCAD	1	inquire
4573	MTC-NI Kit	■ 2-8°C Refrigerated	4573	50 tests	inquire

## Rapid Detection Methods for Mycoplasma

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
105194	Luminometer Leader 50i, 115 V	■ NA	105194	1	inquire
3100i	Luminometer Leader 50i, 220 V	■ NA	3100i	1	inquire
2065	Pace Reaction tubes	■ NA	2065	120 tubes	inquire
1847	Leader printer paper	■ NA	1847	1 roll	inquire
1078	SysCheck calibration standard	■ Room temperature	1078	5x3mL	inquire

## Pyrogen Testing

## Monocyte-Activation Test

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144155	PyroDetect Cryoblood (921102)	■ LGK 10 - 13	1.44155.0001	2 x 2ml	inquire
144299	PyroDetect Data Analysis Tool	■ LGK 10 - 13	1.44299.0001	1 unit	inquire
144161	PyroDetect Endotoxin Standard (921300)	■ LGK 10 - 13 ■ Store at -20°C to 0°C.	1.44161.0001	1 unit	inquire
144158	PyroDetect Interleukin Standard To perform Interleukin-1 $\beta$ standard curve. For use with PyroDetect Kit. (921200)	 ■ GHS: Warning ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.44158.0001	1 unit	inquire
144154	PyroDetect Kit Monocyte-Activation Test (MAT) using Interleukin-1 $\beta$ (921101)	  ■ GHS: Warning ■ LGK 8B ■ Store at +2°C to +8°C.	1.44154.0001	1 set	inquire
144153	PyroDetect System 921100	■ LGK 10 - 13	1.44153.0001	1 unit	inquire

## Pathogen and Spoilage Testing

## Pathogen Detection

## Dehydrated Culture Media





Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
101800	Alkaline Peptone Water for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01800.0500	500 g	inquire
105406	BAIRD-PARKER agar Staphylococcus selective agar (base) acc. to BAIRD-PARKER for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05406.0500	500 g 6 x 500 g	inquire inquire
100072	Bile Aesculin Azide Agar, acc. to ISO 7899-2 for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.00072.0500	500 g	inquire
105418	Bismuth sulfite agar acc. to WILSON-BLAIR for the isolation and differentiation of Salmonella typhi	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05418.0500	500 g 6 x 500 g	inquire inquire
100068	Bolton Selective Enrichment Broth (Base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00068.0500	500 g	inquire
107232	BPLS agar for the isolation of Salmonella USP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07232.0500	500 g 6 x 500 g	inquire inquire
110747	BPLS agar modified Brilliant-green phenol-red lactose sucrose agar modified, for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10747.0500	500 g 6 x 500 g	inquire inquire
110493	Brain heart broth for the cultivation of fastidious bacteria	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10493.0500	500 g 6 x 500 g	inquire inquire
105454	BRILA broth Brilliant-green bile lactose broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05454.0500 1.05454.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
112587	BRILA broth for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12587.0500	500 g	inquire
110490	Brucella agar for microbiology	■ Store at +15°C to +25°C.	1.10490.0500	500 g	inquire
109628	Buffered Listeria Enrichment Broth (base) acc. to FDA/BAM 1995 for microbiology	■ Store at +15°C to +25°C.	1.09628.0500	500 g	inquire
105409	Calcium caseinate agar acc. to FRAZIER and RUPP modified for microbiology	■ Store at +15°C to +25°C.	1.05409.0500	500 g	inquire

# BioMonitoring

## Pathogen and Spoilage Testing

### Pathogen Detection

#### Dehydrated Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
100070	Campylobacter Blood-Free Selective Agar Base (modified CCDA) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00070.0500	500 g	<a href="#">inquire</a>
101868	Caseinhydrolysate Glucose Yeast extract Broth (Base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01868.0100	100 g	<a href="#">inquire</a>
100060	CAYE Broth modified acc. to EVANS for the culture of pathogenic E.coli to enhance verotoxin production during growth	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00060.0100	100 g	<a href="#">inquire</a>
100071	CCDA Selective Supplement for preparation of 5 l Campylobacter Blood-Free Selective Agar (modified CCDA)	■ harmful ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00071.0010	10 vials	<a href="#">inquire</a>
105267	Cereus selective agar base acc. to MOSSEL (Δ MYP agar) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05267.0500	500 g	<a href="#">inquire</a>
100432	ChromoCult® Listeria Agar Selective-Supplement Lyophilisate for preparation of 5 l Listeria Selective Agar	 ■ GHS: Warning, Reproductive toxicity, Category 2, H361d ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.00432.0010	10 vials	<a href="#">inquire</a>
116122	Chromocult® TBX (Tryptone Bile X-glucuronide) Agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.16122.0500	500 g	<a href="#">inquire</a>
110426	Coliform Agar for microbiology Chromocult®	 ■ GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10426.0500	500 g	<a href="#">inquire</a>
100850	Coliform Agar ES (Enhanced Selectivity) for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00850.0500	500 g	<a href="#">inquire</a>
110259	DCA agar acc. to Weenk et al. for microbiology	■ Store at +15°C to +25°C.	1.10259.0500	500 g	<a href="#">inquire</a>
100025	Demi FRASER Broth with antibiotics for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00025.0500	500 g	<a href="#">inquire</a>
102894	Deoxycholate lactose agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.02894.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
111699	Differential reinforced clostridial broth (DRCM) for microbiology	 ■ GHS: Warning, Eye irritation, Category 2, H319 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11699.0500	500 g	<a href="#">inquire</a>
110449	DNase test agar for microbiology	■ Store at +15°C to +25°C.	1.10449.0500	500 g	<a href="#">inquire</a>
110765	EC broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10765.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
104038	ECD agar for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04038.0500	500 g	<a href="#">inquire</a>
104036	E.coli O157:H7-Agar for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04036.0500	1x500gm	<a href="#">inquire</a>
101347	EMB agar for the detection and isolation of pathogenic Enterobacteriaceae	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01347.0500	500 g	<a href="#">inquire</a>
104044	ENDO agar for microbiology	 ■ GHS: Danger, Carcinogenicity, Category 1B, H350 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.04044.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
100873	Enterobacter Sakazakii Agar for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00873.0100 1.00873.0500	100 g 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
100950	Enterococci-Agar for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.00950.0500	500 g	<a href="#">inquire</a>
110398	FRASER Listeria Selective Enrichment Broth (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10398.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
101282	GASSNER agar Water-blue-metachrome-yellow lactose agar acc. to GASSNER for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01282.0500 1.01282.5000	500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a>
110675	GIOLITTI-CANTONI-broth Staphylococcus-enrichment broth (base) acc. to GIOLITTI and CANTONI for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10675.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>

## Pathogen and Spoilage Testing

## Pathogen Detection

## Dehydrated Culture Media





Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
110230	GSP agar <i>Pseudomonas Aeromonas</i> selective agar acc. to KIELWEIN (base) for microbiology	■ Store at +15°C to +25°C.	1.10230.0500	500 g	inquire
110707	KF streptococcus agar (base) for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10707.0500	500 g	inquire
102896	LEIFSON Agar Deoxycholate citrate agar acc. to LEIFSON, modified for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.02896.0500	500 g 6 x 500 g	inquire inquire
111951	Listeria-Enrichment-Broth (Base) acc. to FDA/IDF-FIL for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11951.0500	500 g	inquire
110549	Listeria Enrichment Broth (LEB) acc. to FDA/IDF-FIL for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302 ■ LGK 10 - 13 ■ Store below +15°C.	1.10549.0500 1.10549.5000	500 g 5 kg	inquire inquire
100427	Listeria Selective Agar Base acc. OTTAVIANI and AGOSTI (ISO 11290) for microbiology Chromocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00427.0500	500 g	inquire
110620	LMX broth modified acc. to MANAFI and OSSMER for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10620.0500	500 g 6 x 500 g	inquire inquire
111640	Lysine iron agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11640.0500	500 g	inquire
105465	MacCONKEY agar for the isolation of Salmonella, Shigella and coliform bacteria (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05465.0500 1.05465.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105396	MacCONKEY broth for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05396.0500	500 g 6 x 500 g	inquire inquire
110329	Malachite-green broth (base) for microbiology	■ Store at +15°C to +25°C.	1.10329.0500	500 g	inquire
105404	Mannitol salt phenol-red agar for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05404.0500	500 g 6 x 500 g	inquire inquire
112535	Maximum Recovery Diluent for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12535.0500	500 g	inquire
110658	M broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10658.0500	500 g	inquire
114582	mEC-broth with Novobiocin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.14582.0500	500 g	inquire
105286	Membrane-filter rinse fluid (USP) for microbiology	■ Store at +15°C to +25°C.	1.05286.0500	500 g	inquire
109045	Mineral modified glutamate Agar (MMGA) acc. to ISO 16649 for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09045.0500	500 g	inquire
105394	MOSSEL broth Enterobacteriaceae enrichment broth acc. to MOSSEL for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05394.0500 1.05394.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105712	MR-VP broth Methyl-red VOGES-PROSKAUER broth for microbiology	■ Store at +15°C to +25°C.	1.05712.0500	500 g	inquire
109878	MSRV Medium (Base) modified for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09878.0500	500 g	inquire
109205	mTSB-Broth with Novobiocin for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09205.0500	500 g	inquire
105878	Muller-Kauffmann Tetrathionate Novobiocine enrichment broth acc. to ISO for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05878.0500	500 g	inquire
105443	Nutrient broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05443.0500	500 g	inquire
107004	Oxford-Listeria-Selective-Agar (Base) for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07004.0500	500 g	inquire
111755	PALCAM Listeria-Selective agar (Base) acc. to VAN NETTEN et al. for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11755.0500	500 g 6 x 500 g	inquire inquire

# BioMonitoring

## Pathogen and Spoilage Testing

### Pathogen Detection

#### Dehydrated Culture Media


Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
110823	L-PALCAM-Listeria selective enrichment broth (Base) acc. to van Netten et al. for microbiology	 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10823.0500	500 g	<a href="#">inquire</a>
107228	Peptone water (buffered); acc. to ISO 6579 for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07228.0500 1.07228.5000	500 g 6 x 500 g 5 kg 4 x 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
110989	Pseudomonas agar F (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10989.0500	500 g	<a href="#">inquire</a>
110988	Pseudomonas agar P (base) for microbiology	■ Store at +15°C to +25°C.	1.10988.0500	500 g	<a href="#">inquire</a>
107620	Pseudomonas Selective agar (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07620.0500	500 g	<a href="#">inquire</a>
107500	RAMBACH® agar for the identification of Salmonella	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07500.0001 1.07500.0002 1.07500.0003	4x250 ml 4 x 1 l 50 l	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
105410	Reinforced clostridial agar (RCM) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05410.0500	500 g	<a href="#">inquire</a>
105411	Reinforced clostridial medium (RCM) for microbiology (Accordinging harm. EP/USP/JP)	■ Store at +15°C to +25°C.	1.05411.0500	500 g	<a href="#">inquire</a>
110236	Salmonella enrichment broth acc. to RAPPAPORT for the selective enrichment of Salmonella	 ■ GHS: Warning, Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10236.0500	500 g	<a href="#">inquire</a>
107700	Salmonella enrichment broth acc. to RAPPAPORT and VASSILIADIS (RVS broth) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07700.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110153	Salmosyst® Broth base for microbiology	■ Store at +15°C to +25°C.	1.10153.0500	500 g	<a href="#">inquire</a>
107709	Selenite cystine enrichment broth for the enrichment of salmonellae	 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 4, Inhalation, H332; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412 ■ LGK 6.1B ■ Store below +15°C.	1.07709.0500	500 g	<a href="#">inquire</a>
107717	Selenite enrichment broth acc. to LEIFSON for the selective enrichment of salmonellae	 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 4, Inhalation, H332; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412 ■ LGK 6.1A ■ Store below +15°C.	1.07717.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
109207	SMAC agar base for direct isolation and differentiation of enterohemorrhagic (EHEC) E.coli O157:H7-strains	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09207.0500	500 g	<a href="#">inquire</a>
110235	SPS agar Perfringens selective agar acc. to ANGELOTTI for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10235.0500	500 g	<a href="#">inquire</a>
107667	SS agar for the isolation of salmonellae and shigellae	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07667.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
107899	Staphylococcus enrichment broth (base) acc. to BAIRD for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07899.0500	500 g	<a href="#">inquire</a>
110864	Sulfite iron agar (base) for microbiology	■ Store at +15°C to +25°C.	1.10864.0500	500 g	<a href="#">inquire</a>
110263	TCBS agar for the isolation and selective cultivation of Vibrio cholera	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10263.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110863	Tetrathionate enrichment broth base acc. to MULLER-KAUFFMANN for microbiology	■ Store at +15°C to +25°C.	1.10863.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>



## Pathogen and Spoilage Testing

## Pathogen Detection




## Dehydrated Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
103915	Triple sugar iron agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.03915.0500	500 g 6 x 500 g	inquire inquire
110859	Tryptone water for microbiology	■ Store at +15°C to +25°C.	1.10859.0500	500 g	inquire
100454	Trypton Soya Yeast extract Agar for detection of Listeria according ISO 11290 for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00454.0100 1.00454.0500	100 g 500 g	inquire inquire
111972	TSC agar Tryptose sulfite cycloserine agar (base) for microbiology	 ■ GHS: Warning, Eye irritation, Category 2, H319 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11972.0500	500 g	inquire
105264	TSN agar Perfringens selective agar acc. to MARSHALL for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05264.0500	500 g	inquire
110824	UVM-Listeria selective enrichment broth modified for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10824.0500	500 g	inquire
104030	VRB agar for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04030.0500	500 g	inquire
101406	VRB Agar Violet red bile agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01406.0500 1.01406.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105287	XLD agar Xylose lysine deoxycholate agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05287.0500	500 g 6 x 500 g	inquire inquire
113919	XLT4 agar (Base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.13919.0500	500 g	inquire

## Lateral Flow Tests

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
104146	Duopath® Cereus Enterotoxins Rapid test for the determination of the NHE and HBL toxins in foods	■ Store at +2°C to +8°C.	1.04146.0001	25 tests	inquire
104147	Duopath® Legionella Rapid test for the determination of Legionella spec. and Legionella pneumophila in water and environmental samples	■ Store at +2°C to +8°C.	1.04147.0001	25 tests	inquire
104144	Duopath® Verotoxin Rapid test for the detection of verotoxins in pathogenic E.coli	■ Store at +2°C to +8°C.	1.04144.0001	25 tests	inquire
104143	Singlepath® Campylobacter Rapid test for the detection of Campylobacter in foods	■ Store at +2°C to +8°C.	1.04143.0001	25 tests	inquire
104141	Singlepath® E.coli O157 Rapid test for the detection of E.coli O157 in foods	■ Store at +2°C to +8°C.	1.04141.0001	25 tests	inquire
104154	Singlepath® Emetic Tox Mrk Immunological rapid test for the detection of Bacillus cereus Emetic Toxin Marker	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.04154.0001	25 tests	inquire
104142	Singlepath® Listeria Rapid test for the detection of Listeria in foods	■ Store at +2°C to +8°C.	1.04142.0001	25 tests	inquire
104148	Singlepath® L'mono Rapid test for the detection of Listeria monocytogenes in foods	■ Store at +2°C to +8°C.	1.04148.0001	25 tests	inquire
104140	Singlepath® Salmonella Rapid test for the detection of Salmonella in foods	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.04140.0001	25 tests	inquire




## PCR Kits

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144035	MMB Bacillus cereus (V) Kit 100 944101	■ LGK 10 - 13 ■ Store at -20°C. Transport with dry ice.	1.44035.0100	1 unit	inquire
144030	MMB Bacteria Prep Kit, 2 x 50 reactions 944501	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.  	1.44030.0100	1 unit	inquire



# BioMonitoring

## PCR Kits

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
144036	MMB Clostridium perfringens (V) Kit, 100 reactions 944091	■ LGK 10 - 13 ■ Store at -20°C. Transport with dry ice.	1.44036.0100	1 unit	<a href="#">inquire</a>
144025	MMB DNA/RNA Virus Prep Kit, 2 x 50 944701	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.  	1.44025.0100	1 unit	<a href="#">inquire</a>
144037	MMB Legionella pneumophila (V) Kit, 100 reactions 944081	■ LGK 10 - 13 ■ Store at -20°C. Transport with dry ice.	1.44037.0100	1 unit	<a href="#">inquire</a>
144034	MMB Legionella Screening (V) Kit 944111	■ LGK 10 - 13 ■ Store at -20°C. Transport with dry ice.	1.44034.0100	1 unit	<a href="#">inquire</a>
144033	MMB Norovirus (V) Kit, 100 reactions 944201	■ LGK 10 - 13 ■ Store at -20°C. Transport with dry ice.	1.44033.0100	1 unit	<a href="#">inquire</a>
144048	MMB Staphylococcus aureus (V) Kit, 100 reactions 944051	■ LGK 10 - 13 ■ Store at -20°C. Transport with dry ice.	1.44048.0100	1 unit	<a href="#">inquire</a>
144038	MMB Vibrio cholerae (V) Kit, 100 reactions 944071	■ LGK 10 - 13 ■ Store at -20°C. Transport with dry ice.	1.44038.0100	1 unit	<a href="#">inquire</a>

## Ready to Use Culture Media



Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146088	Bacillus cereus Agar	■ LGK 10 - 13	1.46088.0020 1.46088.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146008	B P L S Agar	■ LGK 10 - 13	1.46008.0020	20 PC	<a href="#">inquire</a>
146292	Campylobacter A. acc Karmali	■ LGK 10 - 13	1.46292.0020	20 PC	<a href="#">inquire</a>
146092	Cereus Ident Agar	■ LGK 10 - 13	1.46092.0020	20 PC	<a href="#">inquire</a>
146135	m-CP Agar	■ LGK 10 - 13	1.46135.0020 1.46135.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146167	DRCM Agar	■ LGK 10 - 13	1.46167.0020	20 PC	<a href="#">inquire</a>
146138	DRCM Agar	■ LGK 10 - 13	1.46138.0020	20 PC	<a href="#">inquire</a>
146370	DRCM-Agar 200ml	■ LGK 10 - 13	1.46370.0006	6 PC	<a href="#">inquire</a>
146131	Egg-Yolk Lactose Agar	■ LGK 10 - 13	1.46131.0020	20 PC	<a href="#">inquire</a>
146476	Fraser Enrichment B. (1/2)	■ LGK 10 - 13	1.46476.0006	6 PC	<a href="#">inquire</a>
146208	Fraser Enrichment Broth 10ml	■ LGK 10 - 13	1.46208.0020 1.46208.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146033	Kligler Agar Slope	■ LGK 10 - 13	1.46033.0020	20 PC	<a href="#">inquire</a>
146055	Kligler Agar + Urea Slope	■ LGK 10 - 13	1.46055.0020	20 PC	<a href="#">inquire</a>
146401	Lactose Broth EP+USP	■ LGK 10 - 13	1.46401.0010	10 PC	<a href="#">inquire</a>
146400	Lactose B. wide mouth acc EP	■ LGK 10 - 13	1.46400.0006	6 PC	<a href="#">inquire</a>
146322	Legion.-G.V.P.C.-Select. A.	■ LGK 10 - 13	1.46322.0020 1.46322.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146186	Listeria Agar chromogen ISO	■ LGK 10 - 13	1.46186.0020 1.46186.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146160	Mannit-Yolk-Polymyx-A. (MYP)	■ LGK 10 - 13	1.46160.0020 1.46160.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146196	NaCl Peptone Buffer 9.0ml EP	■ LGK 10 - 13	1.46196.0020 1.46196.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146328	Oxford Listeria Select. A.	■ LGK 10 - 13	1.46328.0020	20 PC	<a href="#">inquire</a>
146329	PALCAM Listeria Select. A.	■ LGK 10 - 13	1.46329.0020	20 PC	<a href="#">inquire</a>
146403	Pept. Water (buff.) 1000ml	■ LGK 10 - 13	1.46403.0006	6 PC	<a href="#">inquire</a>

## Ready to Use Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146068	Rambach Agar	■ LGK 10 - 13	1.46068.0020	20 PC	inquire
			1.46068.0100	100 PC	inquire
146324	Rappaport-Vassil.-Med (RVS)	■ LGK 10 - 13	1.46324.0020	20 PC	inquire
			1.46324.0100	100 PC	inquire
146130	Salmonellen Ident Agar	■ LGK 10 - 13	1.46130.0020	20 PC	inquire
146163	Shahidi Fergu. Perfr-A (SFP)	■ LGK 10 - 13	1.46163.0020	20 PC	inquire
146221	Tetrathionate Broth (MKTTn)	■ LGK 10 - 13	1.46221.0020	20 PC	inquire
			1.46221.0100	100 PC	inquire
146165	Trypt-Sulf-Cyclos. A. (TSC)	■ LGK 10 - 13	1.46165.0020	20 PC	inquire
146126	XLD Agar EP+USP	■ LGK 10 - 13	1.46126.0020	20 PC	inquire
			1.46126.0100	100 PC	inquire
146073	XLD Agar - LI EP+USP 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46073.0020	20 PC	inquire
			1.46073.0120	120 PC	inquire

## Spoilage Detection

## Dehydrated Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
110453	APT agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10453.0500	500 g	inquire
107994	BAT agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07994.0500	500 g	inquire
101617	Bryant Burkey broth with Resazurin and Lactate for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01617.0500	500 g	inquire
100465	Dichloran Glycerol (DG18)-Agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00465.0500	500 g	inquire
100466	Dichloran Rose-Bengal Chloramphenicol Agar (DRBC) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00466.0500	500 g	inquire
105398	Malt extract agar for microbiology	■ Store at +15°C to +25°C.	1.05398.0500	500 g	inquire
				6 x 500 g	inquire
				5 kg	inquire
110660	MRS agar Lactobacillus agar acc. to DE MAN, ROGOSA and SHARPE for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.10660.0500	500 g	inquire
				6 x 500 g	inquire
110661	MRS broth Lactobacillus broth acc. to DE MAN, ROGOSA and SHARPE for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.10661.0500	500 g	inquire
				6 x 500 g	inquire
105978	OGYE agar, Base acc. to ISO for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05978.0500	500 g	inquire
109877	OGYE selective supplement for preparation of 5 l OGY Agar	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.09877.0010	10 vials	inquire
110673	Orange-serum agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10673.0500	500 g	inquire
				6 x 500 g	inquire
110130	Potato dextrose agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10130.0500	500 g	inquire
				6 x 500 g	inquire
105413	ROGOSA agar Lactobacillus selective agar for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.05413.0500	500 g	inquire
				6 x 500 g	inquire
100467	Rose-Bengal Chloramphenicol Agar (RBC) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00467.0500	500 g	inquire
108339	SABOURAUD-2% dextrose broth for microbiology (According harm. EP/USP/JIP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.08339.0500	500 g	inquire
107315	SABOURAUD 2% glucose agar for the cultivation of dermatophytes	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07315.0500	500 g	inquire
				6 x 500 g	inquire
105467	Selective agar for pathogenic fungi for the isolation of pathogenic fungi (contains Cycloheximide)	 ■ GHS: Danger, Reproductive toxicity, Category 1B, H360D; Acute toxicity, Category 3, Oral, H301; Germ cell mutagenicity, Category 2, H341  ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.05467.0500	500 g	inquire
100445	Universal beer agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00445.0500	500 g	inquire

# BioMonitoring

## Spoilage Detection

### Dehydrated Culture Media


Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
110866	WL nutrient agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10866.0500	500 g	inquire
105448	Wort agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05448.0500	500 g	inquire
			1.05448.5000	6 x 500 g 5 kg	inquire inquire
105449	Wort broth (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05449.0500	500 g	inquire
			1.05449.5000	6 x 500 g 5 kg	inquire inquire
103750	Yeast extract agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.03750.0500	500 g	inquire
116000	YGC agar Yeast extract glucose chloramphenicol agar FIL-IDF for microbiology	■ Store at +15°C to +25°C.	1.16000.0500	500 g	inquire
				6 x 500 g	inquire

### Ready to Use Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146011	B. Parker A. -LI EP+USP 22ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46011.0020	20 PC	inquire
146227	Brain Heart Infusion B. 9ml	■ LGK 10 - 13	1.46227.0020	20 PC	inquire
			1.46227.0100	100 PC	inquire
146189	Contact A. Baird Parker - RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46189.0020	20 PC	inquire
146157	Mannitol Salt Agar	■ LGK 10 - 13	1.46157.0020	20 PC	inquire
			1.46157.0100	100 PC	inquire
146023	Mannitol Salt Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46023.0020	20 PC	inquire
			1.46023.0120	120 PC	inquire



## Indicator Organisms for Food and Beverage Industry

### Dehydrated Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
105406	BAIRD-PARKER agar Staphylococcus selective agar (base) acc. to BAIRD-PARKER for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05406.0500	500 g 6 x 500 g	inquire inquire
110886	Blood agar (base) for the isolation and cultivation of various fastidious microorganisms	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10886.0500	500 g 6 x 500 g	inquire inquire
112587	BRILA broth for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12587.0500	500 g	inquire
105409	Calcium caseinate agar acc. to FRAZIER and RUPP modified for microbiology	■ Store at +15°C to +25°C.	1.05409.0500	500 g	inquire
102348	China-blue lactose agar for microbiology	■ Store at +15°C to +25°C.	1.02348.0500	500 g	inquire
110426	Coliform Agar for microbiology Chromocult®	 ■ GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10426.0500	500 g	inquire
110455	Columbia agar (base) for the cultivation of fastidious microorganisms (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10455.0500	500 g	inquire
			1.10455.5000	6 x 500 g 5 kg	inquire inquire
110878	Count agar sugar free FIL-IDF for microbiology	■ Store at +15°C to +25°C.	1.10878.0500	500 g	inquire
102894	Deoxycholate lactose agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.02894.0500	500 g 6 x 500 g	inquire inquire
110860	Dextrose casein-peptone agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10860.0500	500 g	inquire
111435	DHL agar acc. to SAKAZAKI for the detection and isolation of pathogenic Enterobacteriaceae	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11435.0500	500 g	inquire
100465	Dichloran Glycerol (DG18)-Agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00465.0500	500 g	inquire
100466	Dichloran Rose-Bengal Chloramphenicol Agar (DRBC) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00466.0500	500 g	inquire

## Indicator Organisms for Food and Beverage Industry

## Dehydrated Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
110449	DNase test agar for microbiology	■ Store at +15°C to +25°C.	1.10449.0500	500 g	inquire
110765	EC broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10765.0500	500 g 6 x 500 g	inquire inquire
104044	ENDO agar for microbiology	 ■ GHS: Danger, Carcinogenicity, Category 1B, H350 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.04044.0500	500 g 6 x 500 g	inquire inquire
110675	GIOLITTI-CANTONI-broth Staphylococcus-enrichment broth (base) acc. to GIOLITTI and CANTONI for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10675.0500	500 g 6 x 500 g	inquire inquire
111681	Hektoen enteric agar for the detection and isolation of pathogenic intestinal bacteria	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11681.0500	500 g 6 x 500 g	inquire inquire
105222	Kanamycin esculin azide agar for microbiology	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05222.0500	500 g	inquire
110620	LMX broth modified acc. to MANAFI and OSSMER for microbiology Fluorocult®	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10620.0500	500 g 6 x 500 g	inquire inquire
115108	M 17 agar acc. to TERZAGHI for microbiology	■ Store at +15°C to +25°C.	1.15108.0500	500 g	inquire
115029	M 17 broth acc. to TERZAGHI for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.15029.0500	500 g	inquire
105465	MacCONKEY agar for the isolation of Salmonella, Shigella and coliform bacteria (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05465.0500 1.05465.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105396	MacCONKEY broth for microbiology (According harm. EP/USP/JP)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05396.0500	500 g 6 x 500 g	inquire inquire
105398	Malt extract agar for microbiology	■ Store at +15°C to +25°C.	1.05398.0500 1.05398.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
105397	Malt extract broth for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05397.0500	500 g	inquire
112535	Maximum Recovery Diluent for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12535.0500	500 g	inquire
105286	Membrane-filter rinse fluid (USP) for microbiology	■ Store at +15°C to +25°C.	1.05286.0500	500 g	inquire
105394	MOSSEL broth Enterobacteriaceae enrichment broth acc. to MOSSEL for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05394.0500 1.05394.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
110660	MRS agar Lactobacillus agar acc. to DE MAN, ROGOSA and SHARPE for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.10660.0500	500 g 6 x 500 g	inquire inquire
110661	MRS broth Lactobacillus broth acc. to DE MAN, ROGOSA and SHARPE for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.10661.0500	500 g 6 x 500 g	inquire inquire
105450	Nutrient agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05450.0500	500 g 6 x 500 g	inquire inquire
105978	OGYE agar, Base acc. to ISO for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05978.0500	500 g	inquire
105463	Plate count agar Casein-peptone glucose yeast extract agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05463.0500 1.05463.5000	500 g 6 x 500 g 5 kg	inquire inquire inquire
115338	Plate count skim milk agar for microbiology	■ Store at +15°C to +25°C.	1.15338.0500	500 g 6 x 500 g	inquire inquire
105410	Reinforced clostridial agar (RCM) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05410.0500	500 g	inquire
105411	Reinforced clostridial medium (RCM) for microbiology (According harm. EP/USP/JP)	■ Store at +15°C to +25°C.	1.05411.0500	500 g	inquire
105413	ROGOSA agar Lactobacillus selective agar for microbiology	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.05413.0500	500 g 6 x 500 g	inquire inquire
100467	Rose-Bengal Chloramphenicol Agar (RBC) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00467.0500	500 g	inquire
105470	SIM medium for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05470.0500	500 g	inquire

# BioMonitoring

## Indicator Organisms for Food and Beverage Industry

### Dehydrated Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
102501	SIMMONS citrate agar for the identification of microorganisms	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.02501.0500	500 g	<a href="#">inquire</a>
101621	Standard count agar for microbiology	■ Store at +15°C to +25°C.	1.01621.0500	500 g	<a href="#">inquire</a>
107899	Staphylococcus enrichment broth (base) acc. to BAIRD for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.07899.0500	500 g	<a href="#">inquire</a>
110663	Test agar pH 6.0 for the inhibitor test for microbiology	■ Store at +15°C to +25°C.	1.10663.0500	500 g	<a href="#">inquire</a>
110664	Test agar pH 8.0 for the inhibitor test for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10664.0500	500 g	<a href="#">inquire</a>
100043	TOS-Propionate Agar (Base)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.00043.0100 1.00043.0500	100 g 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110275	VRBD agar Crystal-violet neutral-red bile glucose agar acc. to MOSSEL for microbiology (According harm. EP/USP/JP and ISO)	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10275.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>
110866	WL nutrient agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.10866.0500	500 g	<a href="#">inquire</a>
105448	Wort agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05448.0500 1.05448.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
105449	Wort broth (base) for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05449.0500 1.05449.5000	500 g 6 x 500 g 5 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
103750	Yeast extract agar for microbiology	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.03750.0500	500 g	<a href="#">inquire</a>
116000	YGC agar Yeast extract glucose chloramphenicol agar FIL-IDF for microbiology	■ Store at +15°C to +25°C.	1.16000.0500	500 g 6 x 500 g	<a href="#">inquire</a> <a href="#">inquire</a>

### Ready to Use Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146344	Bifido Agar	■ LGK 10 - 13	1.46344.0020 1.46344.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146011	B. Parker A. -LI EP+USP 22ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46011.0020	20 PC	<a href="#">inquire</a>
146227	Brain Heart Infusion B. 9ml	■ LGK 10 - 13	1.46227.0020 1.46227.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146078	Cetrimide-A (Pseudomon.CN-A)	■ LGK 10 - 13 ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.46078.0020 1.46078.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146559	Columbia Blood Agar Pharm.	■ LGK 10 - 13	1.46559.0020 1.46559.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146189	Contact A. Baird Parker - RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46189.0020	20 PC	<a href="#">inquire</a>
146266	Contact Agar DG 18 + Cm - RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46266.0020	20 PC	<a href="#">inquire</a>
146154	Contact Agar Plate Count-RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46154.0020	20 PC	<a href="#">inquire</a>
146191	Contact A. Malt Extract - RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46191.0020	20 PC	<a href="#">inquire</a>
146200	Contact A. Tr. Soy w. LTH-RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46200.0020	20 PC	<a href="#">inquire</a>
146289	DEV Nutrient Agar	■ LGK 10 - 13	1.46289.0020 1.46289.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146336	DEV Nutrient Agar	■ LGK 10 - 13	1.46336.0020	20 PC	<a href="#">inquire</a>
146359	DEV Nutrient Agar 200ml	■ LGK 10 - 13	1.46359.0006	6 PC	<a href="#">inquire</a>
146123	ECD Agar + MUG	■ LGK 10 - 13	1.46123.0020	20 PC	<a href="#">inquire</a>
146106	Fungi Agar acc. to Kimmig	■ LGK 10 - 13	1.46106.0020 1.46106.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146161	D G 18 Agar with Cm	■ LGK 10 - 13	1.46161.0020 1.46161.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146145	GSP-A. (Pseudomon./Aeromon.)	■ LGK 10 - 13	1.46145.0020	20 PC	<a href="#">inquire</a>

## Ready to Use Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146111	Kimmig's Agar w. Pen/Strep.	■ LGK 10 - 13	1.46111.0020	20 PC	inquire
146099	King's B Medium (Slant)	■ LGK 10 - 13	1.46099.0020	20 PC	inquire
146033	Kligler Agar Slope	■ LGK 10 - 13	1.46033.0020	20 PC	inquire
146055	Kligler Agar + Urea Slope	■ LGK 10 - 13	1.46055.0020	20 PC	inquire
146401	Lactose Broth EP+USP	■ LGK 10 - 13	1.46401.0010	10 PC	inquire
146400	Lactose B. wide mouth acc EP	■ LGK 10 - 13	1.46400.0006	6 PC	inquire
146185	Lactose TTC A. w. Tergitol-7	■ LGK 10 - 13	1.46185.0020 1.46185.0100	20 PC 100 PC	inquire inquire
146066	MacConkey Agar Pharm.	■ LGK 10 - 13	1.46066.0020 1.46066.0100	20 PC 100 PC	inquire inquire
146022	MacConkey A-LI acc. EP 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46022.0020 1.46022.0120	20 PC 120 PC	inquire inquire
146427	MacConkey Cont. A.-RT acc EP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46427.0020	20 PC	inquire
146151	Malt Extract Agar	■ LGK 10 - 13	1.46151.0020 1.46151.0100	20 PC 100 PC	inquire inquire
146147	Malt Extract Agar with Cm	■ LGK 10 - 13	1.46147.0020 1.46147.0100	20 PC 100 PC	inquire inquire
146157	Mannitol Salt Agar	■ LGK 10 - 13	1.46157.0020 1.46157.0100	20 PC 100 PC	inquire inquire
146023	Mannitol Salt Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46023.0020 1.46023.0120	20 PC 120 PC	inquire inquire
146405	Milk Plate Count Agar 200ml	■ LGK 10 - 13	1.46405.0006	6 PC	inquire
146434	Mossel Broth (EE Broth)	■ LGK 10 - 13	1.46434.0006	6 PC	inquire
146373	Mossel Broth (EE Broth)	■ LGK 10 - 13	1.46373.0010	10 PC	inquire
146462	Mossel Broth (EE Broth)	■ LGK 10 - 13	1.46462.0006	6 PC	inquire
146346	Mossel Broth (EE Broth)	■ LGK 10 - 13	1.46346.0020	20 PC	inquire
146148	MRS Agar	■ LGK 10 - 13	1.46148.0020 1.46148.0100	20 PC 100 PC	inquire inquire
146364	MRS Agar 200ml pH 5.4 +-0.2	■ LGK 10 - 13	1.46364.0006	6 PC	inquire
146350	Orange Serum Agar	■ LGK 10 - 13	1.46350.0020 1.46350.0100	20 PC 100 PC	inquire inquire
146425	Orange Serum Agar	■ LGK 10 - 13	1.46425.0006	6 PC	inquire
146202	Plate Count Agar	■ LGK 10 - 13	1.46202.0020	20 PC	inquire
146269	Plate Count Agar	■ LGK 10 - 13	1.46269.0020 1.46269.0100	20 PC 100 PC	inquire inquire
146365	Plate Count Agar 200ml	■ LGK 10 - 13	1.46365.0006	6 PC	inquire
146363	Plate Count Agar 400ml	■ LGK 10 - 13	1.46363.0006	6 PC	inquire
146024	Pseudomonas Agar P - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46024.0020	20 PC	inquire
146192	Rogosa Agar mod.	■ LGK 10 - 13	1.46192.0020	20 PC	inquire
146122	Rose Bengal Agar with Cm	■ LGK 10 - 13	1.46122.0020 1.46122.0100	20 PC 100 PC	inquire inquire
146236	Sab-Dextr-Agar acc. EP+USP	■ LGK 10 - 13	1.46236.0020 1.46236.0100	20 PC 100 PC	inquire inquire
146394	Sab. Dextr.(4%) Agar w. Cm	■ LGK 10 - 13	1.46394.0006	6 PC	inquire
146466	Sab. Dextr.(4%) Agar w. Cm	■ LGK 10 - 13	1.46466.0006	6 PC	inquire
146393	Sab. Dextrose (4%) A. acc EP	■ LGK 10 - 13	1.46393.0006	6 PC	inquire
146392	Sabouraud Dextrose A. acc EP	■ LGK 10 - 13	1.46392.0006	6 PC	inquire
146366	Sabouraud Dextrose B. (SDB)	■ LGK 10 - 13	1.46366.0010	10 PC	inquire
146056	Sabouraud Glucose (4%) Slant	■ LGK 10 - 13	1.46056.0020	20 PC	inquire
146303	SDA acc. EP+USP	■ LGK 10 - 13	1.46303.0020 1.46303.0100	20 PC 100 PC	inquire inquire
146549	SDA Contact +Cm - RT+	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46549.0020	20 PC	inquire

# BioMonitoring

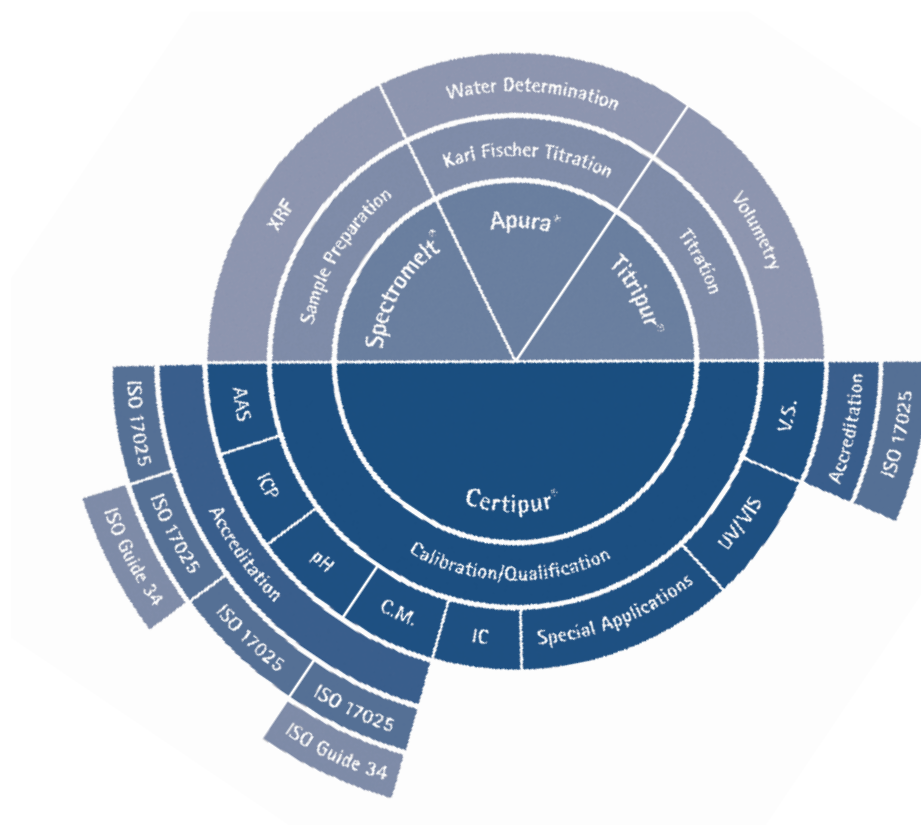
## Ready to Use Culture Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146028	SDA - LI acc. EP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46028.0020	20 PC	<a href="#">inquire</a>
			1.46028.0120	120 PC	<a href="#">inquire</a>
146298	SDA w. Chloramphenicol	■ LGK 10 - 13	1.46298.0020	20 PC	<a href="#">inquire</a>
146442	SDA w. Cm acc. EP	■ LGK 10 - 13	1.46442.0020	20 PC	<a href="#">inquire</a>
			1.46442.0100	100 PC	<a href="#">inquire</a>
146003	SDA w. Cm acc. EP - LI	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46003.0020	20 PC	<a href="#">inquire</a>
			1.46003.0120	120 PC	<a href="#">inquire</a>
146338	SIM Agar	■ LGK 10 - 13	1.46338.0020	20 PC	<a href="#">inquire</a>
146061	Simmons Citrate Agar Slope	■ LGK 10 - 13	1.46061.0020	20 PC	<a href="#">inquire</a>
146256	Standard I Nutrient Agar	■ LGK 10 - 13	1.46256.0020	20 PC	<a href="#">inquire</a>
			1.46256.0100	100 PC	<a href="#">inquire</a>
146190	T G E Agar	■ LGK 10 - 13	1.46190.0020	20 PC	<a href="#">inquire</a>
146457	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46457.0006	6 PC	<a href="#">inquire</a>
146375	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46375.0006	6 PC	<a href="#">inquire</a>
146431	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46431.0020	20 PC	<a href="#">inquire</a>
			1.46431.0100	100 PC	<a href="#">inquire</a>
146271	Tryptic Soy A. Slope EP+USP	■ LGK 10 - 13	1.46271.0020	20 PC	<a href="#">inquire</a>
146429	Tryptic Soy A. (Tubes 18ml)	■ LGK 10 - 13	1.46429.0020	20 PC	<a href="#">inquire</a>
			1.46429.0100	100 PC	<a href="#">inquire</a>
146326	Tryptone Bile X-Gluc Agar	■ LGK 10 - 13	1.46326.0020	20 PC	<a href="#">inquire</a>
			1.46326.0100	100 PC	<a href="#">inquire</a>
146171	Tryptophan Broth	■ LGK 10 - 13	1.46171.0020	20 PC	<a href="#">inquire</a>
146172	TSA + Cycloheximide	■ LGK 10 - 13	1.46172.0020	20 PC	<a href="#">inquire</a>
146004	TSA - LI 30ml EP+USP	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46004.0020	20 PC	<a href="#">inquire</a>
			1.46004.0120	120 PC	<a href="#">inquire</a>
146015	TSA w. LTH - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46015.0020	20 PC	<a href="#">inquire</a>
			1.46015.0120	120 PC	<a href="#">inquire</a>
146002	TSA w. LTHTh - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46002.0020	20 PC	<a href="#">inquire</a>
			1.46002.0120	120 PC	<a href="#">inquire</a>
146134	Violet Red Bile Agar + MUG	■ LGK 10 - 13	1.46134.0020	20 PC	<a href="#">inquire</a>
146435	Viol. R. Bile Gluc. A. 200ml	■ LGK 10 - 13	1.46435.0006	6 PC	<a href="#">inquire</a>
146423	Viol. R. Bile (VRB) A. 200ml	■ LGK 10 - 13	1.46423.0006	6 PC	<a href="#">inquire</a>
146253	Viol Red-Bile-Dext-Cont-A RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46253.0020	20 PC	<a href="#">inquire</a>
146265	Viol Red-Bile-Dext-Dext-A-RT	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46265.0020	20 PC	<a href="#">inquire</a>
146127	Viol Red-Bile-Dextr (VRBD) A	■ LGK 10 - 13	1.46127.0020	20 PC	<a href="#">inquire</a>
			1.46127.0100	100 PC	<a href="#">inquire</a>
146000	VRBD Agar - LI 30ml	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46000.0020	20 PC	<a href="#">inquire</a>
			1.46000.0120	120 PC	<a href="#">inquire</a>
146241	Wort Agar (pH 5.0)	■ LGK 10 - 13	1.46241.0020	20 PC	<a href="#">inquire</a>
146121	Yeast Extract Agar 18ml	■ LGK 10 - 13	1.46121.0020	20 PC	<a href="#">inquire</a>
			1.46121.0100	100 PC	<a href="#">inquire</a>
146465	Yeast Glucose Cm Agar	■ LGK 10 - 13	1.46465.0006	6 PC	<a href="#">inquire</a>
146348	Yeast Glucose Cm Agar (YGC)	■ LGK 10 - 13	1.46348.0020	20 PC	<a href="#">inquire</a>
			1.46348.0100	100 PC	<a href="#">inquire</a>



# Inorganic Reagents – Perfection in Every Dimension.

Our reagents for instrumental analysis are produced from high-purity materials and analyzed using the most sophisticated methods. Choose from our broad range of reagents, such as Certipur® standards and reference materials, Apura® Karl Fisher reagents and standards, Suprapur® and Ultrapur high-purity acids and salts, and Titripur® volumetric solutions. And achieve the most reliable results.



More information

[www.merckmillipore.com/inorganics](http://www.merckmillipore.com/inorganics)

# Instrumental Analysis

## High purity acids and bases

### Suprapur®

Cat.No.	Designation	Ord.No.	Quantity	Price
100066	Acetic acid (glacial) 100% Suprapur®	1.00066.0250	250 ml	inquire
		1.00066.1000	1 l	inquire
105428	Ammonia solution 25 % Suprapur®	1.05428.0250	250 ml	inquire
		1.05428.1000	1 l	inquire
100765	Boric acid 99.9999 Suprapur®	1.00765.0050	50 g	inquire
		1.00765.0500	500 g	inquire
111670	Formic acid 98-100% Suprapur®	1.11670.0250	250 ml	inquire
		1.11670.1000	1 l	inquire
100306	Hydrobromic acid 47% Suprapur®	1.00306.0250	250 ml	inquire
		1.00306.1000	1 l	inquire
100318	Hydrochloric acid 30% Suprapur®	1.00318.0250	250 ml	inquire
			6 x 250 ml	inquire
		1.00318.0500	500 ml	inquire
		1.00318.1000	1 l	inquire
100335	Hydrofluoric acid 40% Suprapur®		6 x 1 l	inquire
		1.00335.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.00335.2500	2.5 l	inquire
100441	Nitric acid 65% Suprapur®		4 x 2.5 l	inquire
		1.00441.0250	250 ml	inquire
			6 x 250 ml	inquire
		1.00441.1000	1 l	inquire
100489	Oxalic acid dihydrate Suprapur®		6 x 1 l	inquire
			100 g	inquire
100517	Perchloric acid 70% Suprapur®	1.00517.0250	250 ml	inquire
		1.00517.1000	1 l	inquire
100552	ortho-Phosphoric acid 85% Suprapur®	1.00552.0250	250 ml	inquire
		1.00552.1000	1 l	inquire
105589	Sodium hydroxide solution 30% Suprapur®	1.05589.0250	250 ml	inquire
		1.05589.1000	1 l	inquire
100714	Sulfuric acid 96% Suprapur®	1.00714.0250	250 ml	inquire
		1.00714.1000	1 l	inquire
			6 x 1 l	inquire

### Ultrapur

Cat.No.	Designation	Ord.No.	Quantity	Price
101514	Hydrochloric acid 30% Ultrapur	1.01514.0250	250 ml	inquire
		1.01514.0500	500 ml	inquire
		1.01514.1000	1 l	inquire
101513	Hydrofluoric acid 48% Ultrapur	1.01513.1000	1 l	inquire
106097	Hydrogen peroxide solution 31% Ultrapur	1.06097.1001	1 kg	inquire
101518	Nitric acid 60% Ultrapur	1.01518.0250	250 ml	inquire
		1.01518.0500	500 ml	inquire
		1.01518.1000	1 l	inquire
101516	Sulfuric acid 96% Ultrapur	1.01516.0250	250 ml	inquire
101262	Water Ultrapur	1.01262.0500	500 ml	inquire
		1.01262.1000	1 l	inquire

### Suprapur® Salts

Cat.No.	Designation	Ord.No.	Quantity	Price
101143	Ammonium chloride 99.995 Suprapur®	1.01143.0050	50 g	inquire
		1.01143.0500	500 g	inquire
101440	Ammonium dihydrogen phosphate 99.99 Suprapur®	1.01440.0050	50 g	inquire
101209	Ammonium sulfate 99.9999 Suprapur®	1.01209.0050	50 g	inquire
		1.01209.0500	500 g	inquire
101716	Barium chloride 99.995 Suprapur®	1.01716.0050	50 g	inquire
		1.01716.0500	500 g	inquire
101722	Barium fluoride 99.99 Suprapur®	1.01722.0050	50 g	inquire

## Suprapur® Salts

Cat.No.	Designation	Ord.No.	Quantity	Price
100765	Boric acid 99.9999 Suprapur®	1.00765.0050	50 g	inquire
		1.00765.0500	500 g	inquire
100169	di-Boron trioxide 99.9995 Suprapur®	1.00169.0250	250 g	inquire
101947	Bromine 99.9999 Suprapur®	1.01947.0250	250 ml	inquire
102059	Calcium carbonate 99.95 Suprapur®	1.02059.0050	50 g	inquire
		1.02059.0500	500 g	inquire
102384	Calcium chloride tetrahydrate 99.995 Suprapur®	1.02384.0100	100 g	inquire
102123	Calcium nitrate tetrahydrate 99.95 Suprapur®	1.02123.0100	100 g	inquire
		1.02123.0500	500 g	inquire
102039	Cesium chloride 99.995 Suprapur®	1.02039.0050	50 g	inquire
		1.02039.0250	250 g	inquire
		1.02039.1000	1 kg	inquire
107298	Hydrogen peroxide 30% Suprapur®	1.07298.0250	250 ml	inquire
		1.07298.0500	500 ml	inquire
		1.07298.1000	1 l	inquire
104763	Iodine 99.999 Suprapur®	1.04763.0050	50 g	inquire
		1.04763.0500	500 g	inquire
105668	Lithium bromide hydrate 99.95 Suprapur®	1.05668.0050	50 g	inquire
		1.05668.0250	250 g	inquire
105676	Lithium carbonate 99.99 Suprapur®	1.05676.0250	250 g	inquire
105677	Lithium chloride monohydrate 99.95 Suprapur®	1.05677.0250	250 g	inquire
105686	Lithium fluoride 99.99 Suprapur®	1.05686.0050	50 g	inquire
		1.05686.0500	500 g	inquire
105653	Lithium nitrate 99.995 Suprapur®	1.05653.0100	100 g	inquire
		1.05653.0500	500 g	inquire
105697	Lithium sulfate monohydrate 99.99 Suprapur®	1.05697.0050	50 g	inquire
105855	Magnesium nitrate hexahydrate 99.99 Suprapur®	1.05855.0050	50 g	inquire
		1.05855.0500	500 g	inquire
104404	Mercury 99.9999 Suprapur®	1.04404.0250	250 g	inquire
		1.04404.1000	1 kg	inquire
104904	Potassium bromide 99.999 Suprapur®	1.04904.0100	100 g	inquire
		1.04904.0500	500 g	inquire
104926	Potassium carbonate-1.5-hydrate 99.995 Suprapur®	1.04926.0050	50 g	inquire
		1.04926.0250	250 g	inquire
104938	Potassium chloride 99.999 Suprapur®	1.04938.0050	50 g	inquire
		1.04938.0500	500 g	inquire
105108	Potassium dihydrogen phosphate anhydrous 99.995 Suprapur®	1.05108.0050	50 g	inquire
		1.05108.0500	500 g	inquire
105109	di-Potassium hydrogen phosphate anhydrous 99.99 Suprapur®	1.05109.0100	100 g	inquire
		1.05109.0500	500 g	inquire
105002	Potassium hydroxide hydrate 99.995 Suprapur®	1.05002.0500	500 g	inquire
105044	Potassium iodide 99.995 Suprapur®	1.05044.0050	50 g	inquire
		1.05044.0500	500 g	inquire
105065	Potassium nitrate 99.995 Suprapur®	1.05065.0050	50 g	inquire
		1.05065.0500	500 g	inquire
105152	Potassium sulfate 99.999 Suprapur®	1.05152.0100	100 g	inquire
		1.05152.0500	500 g	inquire
106264	Sodium acetate anhydrous 99.99 Suprapur®	1.06264.0050	50 g	inquire
		1.06264.0500	500 g	inquire
106363	Sodium bromide 99.995 Suprapur®	1.06363.0100	100 g	inquire
		1.06363.0250	250 g	inquire
106395	Sodium carbonate anhydrous 99.999 Suprapur®	1.06395.0050	50 g	inquire
		1.06395.0500	500 g	inquire
106406	Sodium chloride 99.99 Suprapur®	1.06406.0050	50 g	inquire
		1.06406.0250	250 g	inquire
		1.06406.0500	500 g	inquire
106370	Sodium dihydrogen phosphate anhydrous 99.99 Suprapur®	1.06370.0050	50 g	inquire
106450	Sodium fluoride 99.99 Suprapur®	1.06450.0025	25 g	inquire
106566	di-Sodium hydrogen phosphate anhydrous 99.99 Suprapur®	1.06566.0100	100 g	inquire
		1.06566.0500	500 g	inquire

# Instrumental Analysis

## Suprapur® Salts

Cat.No.	Designation	Ord.No.	Quantity	Price
106466	Sodium hydroxide monohydrate 99.99 Suprapur®	1.06466.0050	50 g	inquire
		1.06466.0500	500 g	inquire
106519	Sodium iodide 99.99 Suprapur®	1.06519.0100	100 g	inquire
		1.06519.0500	500 g	inquire
106546	Sodium nitrate 99.99 Suprapur®	1.06546.0050	50 g	inquire
106647	Sodium sulfate anhydrous 99.99 Suprapur®	1.06647.0050	50 g	inquire
		1.06647.0500	500 g	inquire
106309	di-Sodium tetraborate anhydrous 99.99 Suprapur®	1.06309.0025	25 g	inquire
		1.06309.0250	250 g	inquire
106509	Sodium thiosulfate pentahydrate 99.999 Suprapur®	1.06509.0100	100 g	inquire
		1.06509.0500	500 g	inquire
107871	Strontium nitrate anhydrous 99.99 Suprapur®	1.07871.0050	50 g	inquire
		1.07871.0250	250 g	inquire

## Auxiliaries for elemental analysis

Cat.No.	Designation	Ord.No.	Quantity	Price
112219	Lanthanum(III) chloride heptahydrate 98% for analysis	1.12219.0100	100 g	inquire
		1.12219.0250	250 g	inquire
105326	Lanthanum nitrate hexahydrate for analysis	1.05326.0100	100 g	inquire
112220	Lanthanum(III) oxide	1.12220.0100	100 g	inquire
		1.12220.0500	500 g	inquire
110982	Lanthanum(III) oxide for atomic absorption spectroscopy	1.10982.0025	25 g	inquire
105855	Magnesium nitrate hexahydrate 99.99 Suprapur®	1.05855.0050	50 g	inquire
		1.05855.0500	500 g	inquire
107857	Strontium chloride hexahydrate for atomic absorption spectroscopy (max. 0.0005% Ca)	1.07857.0025	25 g	inquire
112412	Yttrium oxide 99+	1.12412.0025	25 g	inquire

## Spectroscopic buffers

Cat.No.	Designation	Ord.No.	Quantity	Price
102037	Cesium chloride–aluminium nitrate buffer solution acc. to Schuhknecht and Schinkel for the determination of sodium, potassium and lithium by flame spectrometry (enth./cont. 50 g/l CsCl + 250 g/l Al(NO <sub>3</sub> ) <sub>3</sub> * 9 H <sub>2</sub> O)	1.02037.1000	1 l	inquire
116755	Cesium chloride–lanthanum chloride buffersolution acc. to Schinkel for atomic absorption spectroscopy 10 g/l CsCl + 100 g/l La	1.16755.1000	1 l	inquire

## Matrix modifiers

Cat.No.	Designation	Ord.No.	Quantity	Price
105813	Magnesium matrix modifier for graphite furnace AAS c(Mg) = 10.0 ± 0.2 g/l (Mg(NO <sub>3</sub> ) <sub>2</sub> * 6 H <sub>2</sub> O in HNO <sub>3</sub> ca. 17%)	1.05813.0050	50 ml	inquire
107289	Palladium matrix modifier for graphite furnace AAS c(Pd) = 10.0 ± 0.2 g/l (Pd(NO <sub>3</sub> ) <sub>2</sub> / HNO <sub>3</sub> ca. 15%)	1.07289.0050	50 ml	inquire
107290	Phosphate modifier for graphite furnace AAS NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> 100 ± 2 g/l in H <sub>2</sub> O	1.07290.0050	50 ml	inquire

## Mercury determination, graphite furnace

Cat.No.	Designation	Ord.No.	Quantity	Price
104619	Hydroxylammonium chloride for analysis (≤ 0.000001% Hg) ACS,ISO	1.04619.0250	250 g	inquire
100452	Nitric acid 65% for analysis (max. 0.005ppm Hg) EMSURE® ISO	1.00452.1000	1 l	inquire
		1.00452.2500	2.5 l	inquire
			4 x 2.5 l	inquire
100514	Perchloric acid 70% for analysis (max. 0.0000005% Hg) EMSURE® ACS,ISO,Reag. Ph Eur	1.00514.1000	1 l	inquire
		1.00514.1006	6 x 1 l	inquire
104865	Potassium dichromate for analysis (max. 0.000001% Hg) EMSURE® ACS,ISO	1.04865.0500	500 g	inquire
105084	Potassium permanganate for analysis (max. 0.000005% Hg) EMSURE® ACS	1.05084.1000	1 kg	inquire
106371	Sodium borohydride for analysis	1.06371.0100	100 g	inquire
			6 x 100 g	inquire

## Mercury determination, graphite furnace

Cat.No.	Designation	Ord.No.	Quantity	Price
100732	Sulfuric acid 95–97% for analysis (max. 0.005 ppm Hg) EMSURE® ACS,ISO,Reag. Ph Eur	1.00732.1000	1 l	inquire
		1.00732.2500	2.5 l	inquire
		1.00732.2510	4 x 2.5 l	inquire
			2.5 l	inquire
107814	Tin(II) chloride dihydrate for analysis (max. 0.000001% Hg) EMSURE®	1.07814.0250	250 g	inquire
		1.07814.2500	2.5 kg	inquire

## X-ray Fluorescence Spectroscopy

## Spectromelt® Reagents for Fusion of Samples

Cat.No.	Designation	Ord.No.	Quantity	Price
110783	Spectromelt® A 10 (di-lithium tetraborate)	1.10783.1000	1 kg	inquire
		1.10783.5000	6 x 1 kg	inquire
			5 kg	inquire
			25 kg	inquire
111802	Spectromelt® A 12 66% di-lithium tetraborate/34% lithium metaborate	1.11802.1000	1 kg	inquire
		1.11802.5000	5 kg	inquire
111724	Spectromelt® A 14 51% di-lithium tetraborate/ 27% lanthane(III) oxide/ 12% lithium metaborate/ 10% lithium fluoride	1.11724.1000	1 kg	inquire
112996	Spectromelt® A 20 lithium metaborate	1.12996.1000	1 kg	inquire
124001	Spectromelt® A 22 lithium metaborate/di-lithium tetraborate 22:12	1.24001.1000	1 kg	inquire
112630	Spectromelt® A 100 di-lithiumtetraborate	1.12630.1000	1 kg	inquire
		1.12630.5000	5 kg	inquire
113175	Spectromelt® A 1000 Li <sub>2</sub> B <sub>4</sub> O <sub>7</sub> + 0.07% LiBr	1.13175.1000	1 kg	inquire
		1.13175.5000	5 kg	inquire
106304	Spectromelt® B 10 di-Sodium tetraborate	1.06304.1000	1 kg	inquire
		1.06304.5000	6 x 1 kg	inquire
			5 kg	inquire

## Spectromelt® Reagents for Grinding and Tableting

Cat.No.	Designation	Ord.No.	Quantity	Price
109014	Hoechst wax C micropowder tableting aid for X-ray fluorescence analysis	1.09014.1000	1 kg	inquire
113990	Spectromelt® C 10 Grinding and tableting aid for X-ray fluorescence spectroscopy	1.13990.5000	5 kg	inquire
113934	Spectromelt® C 20 grinding and tableting aid for X-ray fluorescence spectroscopy	1.13934.5000	5 kg	inquire

## Reagents for Digestion

Cat.No.	Designation	Ord.No.	Quantity	Price
100163	di-Boron trioxide for silicate analysis	1.00163.1000	1 kg	inquire
105699	di-Lithium tetraborate for analysis	1.05699.0100	100 g	inquire
		1.05699.1000	1 kg	inquire
106563	Sodium peroxide granular for analysis ACS,ISO	1.06563.0100	100 g	inquire
		1.06563.0500	500 g	inquire
		1.06563.1000	1 kg	inquire
106309	di-Sodium tetraborate anhydrous 99.99 Suprapur®	1.06309.0025	25 g	inquire
		1.06309.0250	250 g	inquire
106306	di-Sodium tetraborate anhydrous for analysis	1.06306.0250	250 g	inquire
		1.06306.1000	1 kg	inquire
106310	di-Sodium tetraborate for analysis (ca. 85% Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> )	1.06310.0250	250 g	inquire
106308	di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur	1.06308.0500	500 g	inquire
		1.06308.1000	6 x 500 g	inquire
			1 kg	inquire
			6 x 1 kg	inquire
1.06308.9050	50 kg	inquire		

# Instrumental Analysis

## Volumetry

### Certipur® Volumetric Standards, Secondary Reference Material in the scope of DIN EN ISO 17025

Cat.No.	Designation	Ord.No.	Quantity	Price
102401	Benzoic acid volumetric standard, secondary reference material for alkalimetry, traceable to NIST Standard Reference Material (SMR) Certipur®	1.02401.0060	60 g	inquire
102410	Calcium carbonate volumetric standard, secondary reference material for complexometry, traceable to NIST Standard Reference Material (SRM) Certipur®	1.02410.0050	50 g	inquire
102402	Iron(II) ethylenediammonium sulfate Volumetric standard, secondary reference material for redox titration, traceable to NIST Standard Reference Material (SRM) Certipur®	1.02402.0080	80 g	inquire
102403	Potassium dichromate volumetric standard, secondary reference material for redox titration, traceable to NIST SRM Certipur®	1.02403.0080	80 g	inquire
102400	Potassium hydrogen phthalate Volumetric standard, secondary reference material for alkalimetry, traceable to NIST Standard Reference Material (SRM) Certipur®	1.02400.0080	80 g	inquire
102404	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®	1.02404.0100	100 g	inquire
102405	Sodium carbonate volumetric standard, secondary reference material for acidimetry, traceable to NIST SRM Certipur®	1.02405.0080	80 g	inquire
102406	Sodium chloride volumetric standard, secondary reference material for argentometry, traceable to NIST SRM Certipur®	1.02406.0080	80 g	inquire
102407	di-Sodium oxalate volumetric standard, secondary reference material for redox titration, traceable to NIST Standard Reference Material (SRM) Certipur®	1.02407.0060	60 g	inquire
102408	Tris(hydroxymethyl)aminomethane volumetric standard, secondary reference material for acidimetry, traceable to NIST Standard Reference Material (SRM) Certipur®	1.02408.0080	80 g	inquire
102409	Zinc volumetric standard, secondary reference material for complexometry, traceable to NIST SRM Certipur®	1.02409.0100	100 g	inquire

### Titripur® Volumetric Solutions measured in the DIN EN ISO 17025 accredited laboratory

Cat.No.	Designation	Ord.No.	Quantity	Price
109951	Acetic acid for 500 ml, $c(\text{CH}_3\text{COOH}) = 1 \text{ mol/l}$ (1 N) Titrisol®	1.09951.0001	1 amp	inquire
109944	Acetic acid for 1000 ml, $c(\text{CH}_3\text{COOH}) = 0.1 \text{ mol/l}$ (0.1 N) Titrisol®	1.09944.0001	1 amp	inquire
199061	Acetic acid 1 mol/l prepared from raw materials acc. Ph Eur Titripur®	1.99061.9025	25 l	inquire
102277	Ammonium cerium(IV) nitrate solution $c(\text{NH}_4)_2 \text{Ce}(\text{NO}_3)_6 = 0.1 \text{ mol/l}$ (0,1 N) Titripur®	1.02277.1000	1 l	inquire
109864	Ammonium iron(II) sulfate solution for 250 ml, $c[(\text{NH}_4)_2\text{Fe}(\text{SO}_4)_2] = 0.1 \text{ mol/l}$ (0.1 N) Titrisol®	1.09864.0001	1 amp	inquire
109079	Ammonium thiocyanate solution $c(\text{NH}_4\text{SCN}) = 0.1 \text{ mol/l}$ (0.1 N) Titripur®	1.09079.1000	1 l	inquire
109900	Ammonium thiocyanate solution for 1000 ml, $c(\text{NH}_4\text{SCN}) = 0.1 \text{ mol/l}$ (0.1 N) Titrisol®	1.09900.0001	1 amp	inquire
109962	Barium chloride solution for 1000 ml, $c(\text{BaCl}_2) = 0.05 \text{ mol/l}$ (0.1 N) Titrisol®	1.09962.0001	1 amp	inquire
109086	Barium perchlorate solution in 2-propanol/water (80/20) $c(\text{Ba}(\text{ClO}_4)_2) = 0.005 \text{ mol/l}$ Titripur®	1.09086.1000	1 l	inquire
109905	Bromide bromate solution for 1000 ml, $c(\text{Br}_2) = 0,05 \text{ mol/l}$ (0.1 N) Titrisol®	1.09905.0001	1 amp	inquire
109092	Cerium(IV) sulfate solution $c(\text{Ce}(\text{SO}_4)_2 \cdot 4 \text{H}_2\text{O}) = 0.1 \text{ mol/l}$ (0.1 N) Titripur®	1.09092.1000	1 l 6 x 1 l	inquire inquire
102784	Copper sulfate solution $c(\text{CuSO}_4) = 0.1 \text{ mol/l}$ Titripur®	1.02784.1000	1 l	inquire
109164	Hanus solution for determination of iodine number $c(\text{I}_2) = 0.1 \text{ mol/l}$ Titripur®	1.09164.1000	1 l	inquire
115480	Hyamine® 1622-solution for the determination of anionic tensides 0.004 mol/l Titripur®	1.15480.1000	1 l 6 x 1 l	inquire inquire
109060	Hydrochloric acid $c(\text{HCl}) = 0.1 \text{ mol/l}$ (0.1 N) Titripur®	1.09060.1000 1.09060.4000 1.09060.5000 1.09060.9010 1.09060.9025	1 l 6 x 1 l 4 l 5 l 4 x 5 l 10 l 25 l	inquire inquire inquire inquire inquire inquire inquire
113136	Hydrochloric acid $c(\text{HCl}) = 0.357 \text{ mol/l}$ (1/2.8 N) Titripur®	1.13136.9010	10 l	inquire
109058	Hydrochloric acid $c(\text{HCl}) = 0.5 \text{ mol/l}$ (0.5 N) Titripur®	1.09058.1000 1.09058.4000 1.09058.9025	1 l 6 x 1 l 4 l 25 l	inquire inquire inquire inquire

## Titripur® Volumetric Solutions measured in the DIN EN ISO 17025 accredited laboratory

Cat.No.	Designation	Ord.No.	Quantity	Price
109057	Hydrochloric acid c(HCl) = 1 mol/l (1 N) Titripur®	1.09057.1000	1 l	inquire
			6 x 1 l	inquire
		1.09057.2500	2.5 l	inquire
		1.09057.4000	4 l	inquire
		1.09057.5000	5 l	inquire
			4 x 5 l	inquire
			10 l	inquire
		25 l	inquire	
109063	Hydrochloric acid c(HCl) = 2 mol/l (2 N) Titripur®	1.09063.1000	1 l	inquire
			6 x 1 l	inquire
		1.09063.9026	25 l	inquire
113134	Hydrochloric acid c(HCl) = 3.571 mol/l (1/0.28 N) Titripur®	1.13134.9010	10 l	inquire
109974	Hydrochloric acid for 1000 ml, c(HCl) = 0.01 mol/l (0.01 N) Titrisol®	1.09974.0001	1 amp	inquire
109973	Hydrochloric acid for 1000 ml, c(HCl) = 0.1 mol/l (0.1 N) Titrisol®	1.09973.0001	1 amp	inquire
			6 x 1 amp	inquire
109971	Hydrochloric acid for 1000 ml, c(HCl) = 0.5 mol/l (0.5 N) Titrisol®	1.09971.0001	1 amp	inquire
109970	Hydrochloric acid for 1000 ml, c(HCl) = 1 mol/l (1 N) Titrisol®	1.09970.0001	1 amp	inquire
109911	Hydrochloric acid 1.000 l for the preparation of dilute volumetric solutions or for direct use c(HCl) = 5 mol/l (5 N) Combi-Titrisol®	1.09911.0001	1 l	inquire
100326	Hydrochloric acid in 2-propanol acc. to DIN 51558 part 1 c(HCl) = 0.1 mol/l (0,1 N) Titripur®	1.00326.1000	1 l	inquire
109914	Iodide iodate solution for 1000 ml, c(I <sub>2</sub> ) = 1/128 mol/l (1/64 N) Titrisol®	1.09914.0001	1 amp	inquire
			24 x 1 amp	inquire
109099	Iodine solution c(I <sub>2</sub> ) = 0.05 mol/l (0.1 N) Titripur®	1.09099.1000	1 l	inquire
			6 x 1 l	inquire
109098	Iodine solution c(I <sub>2</sub> ) = 0.5 mol/l (1 N) Titripur®	1.09098.1000	1 l	inquire
109910	Iodine solution for 1000 ml, c(I <sub>2</sub> ) = 0.05 mol/l (0.1 N) Titrisol®	1.09910.0001	1 amp	inquire
109143	Mercury(II) nitrate solution c(Hg(NO <sub>3</sub> ) <sub>2</sub> ) = 0.05 mol/l (0.1 N) Titripur®	1.09143.1000	1 l	inquire
			6 x 1 l	inquire
109964	Nitric acid for 1 l measure solution, c(HNO <sub>3</sub> ) = 0.1 mol/l (0.1 N) Titrisol®	1.09964.0001	1 amp	inquire
109966	Nitric acid for 1000 ml, c(HNO <sub>3</sub> ) = 1 mol/l (1 N) Titrisol®	1.09966.0001	1 amp	inquire
100630	Nitric acid 10 mol/l Titripur®	1.00630.1000	1 l	inquire
109932	Oxalic acid solution for 1000 ml, c(C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> ) = 0.005 mol/l (0.01 N) Titrisol®	1.09932.0001	1 amp	inquire
109965	Oxalic acid solution for 1000 ml, c(C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> ) = 0.05 mol/l (0.1 N) Titrisol®	1.09965.0001	1 amp	inquire
109065	Perchloric acid in anhydrous acetic acid, for titrations in non-aqueous media c(HClO <sub>4</sub> ) = 0.1 mol/l (0.1 N) Titripur®	1.09065.1000	1 l	inquire
			6 x 1 l	inquire
109925	Potassium bromate solution for 1000 ml, c(KBrO <sub>3</sub> ) = 1/60 mol/l (0.1 N) Titrisol®	1.09925.0001	1 amp	inquire
109118	Potassium dichromate solution c(K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> ) = 1/24 mol/l (0.25 N) Titripur®	1.09118.1000	1 l	inquire
			6 x 1 l	inquire
109928	Potassium dichromate solution for 1000 ml, c(K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> ) = 1/60 mol/l (0.1 N) Titrisol®	1.09928.0001	1 amp	inquire
109119	Potassium dichromate solution for determination of COD c(K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> ) = 0.020 mol/l Titripur®	1.09119.1000	1 l	inquire
109112	Potassium hydroxide solution c(KOH) = 0.1 mol/l (0.1 N) Titripur®	1.09112.1000	1 l	inquire
			6 x 1 l	inquire
111586	Potassium hydroxide solution c(KOH) = 0.5 mol/l (0.5 N) Titripur®	1.11586.5000	5 l	inquire
109108	Potassium hydroxide solution c(KOH) = 1 mol/l (1 N) Titripur®	1.09108.1000	1 l	inquire
			6 x 1 l	inquire
109921	Potassium hydroxide solution for 1000 ml, c(KOH) = 0.1 mol/l (0.1 N) Titrisol®	1.09921.0001	1 amp	inquire
109919	Potassium hydroxide solution for 1000 ml, c(KOH) = 0.5 mol/l (0.5 N) Titrisol®	1.09919.0001	1 amp	inquire
109918	Potassium hydroxide solution for 1000 ml, c(KOH) = 1 mol/l (1 N) Titrisol®	1.09918.0001	1 amp	inquire
109107	Potassium hydroxide solution (max. 0.00004 % Ca) c(KOH) = 1 mol/l (1 N) Titripur®	1.09107.1000	1 l	inquire
109115	Potassium hydroxide solution in ethanol c(KOH) = 0.1 mol/l (0.1 N) Titripur®	1.09115.1000	1 l	inquire
			6 x 1 l	inquire
		1.09115.2500	2.5 l	inquire
109114	Potassium hydroxide solution in ethanol c(KOH) = 0.5 mol/l (0.5 N) Titripur®	1.09114.1000	1 l	inquire
			6 x 1 l	inquire
		1.09114.2500	2.5 l	inquire
105544	Potassium hydroxide solution in isopropanol acc. to DIN 51558 part 1 c(KOH)=0.1 mol/l (0,1 N) Titripur®	1.05544.1000	1 l	inquire



# Instrumental Analysis

## Titripur® Volumetric Solutions measured in the DIN EN ISO 17025 accredited laboratory

Cat.No.	Designation	Ord.No.	Quantity	Price
111587	Potassium hydroxide solution in methanol $c(\text{KOH}) = 0.1 \text{ mol/l}$ (0.1 N) Titripur®	1.11587.1000	1 l	inquire
109351	Potassium hydroxide solution in methanol $c(\text{KOH}) = 0.5 \text{ mol/l}$ (0.5 N) Titripur®	1.09351.1000	1 l	inquire
111787	Potassium hydroxide solution in methanol $c(\text{KOH}) = 2.0 \text{ mol/l}$ (2 N) Titripur®	1.11787.2500	2.5 l	inquire
109917	Potassium iodate solution for 1000 ml, $c(\text{KIO}_3) = 1/60 \text{ mol/l}$ (0.1 N) Titrisol®	1.09917.0001	1 amp	inquire
480160	Potassium permanganate solution $c(\text{KMnO}_4) = 0.05 \text{ mol/l}$ (0.25 N) Titripur®	4.80160.2500	2.5 l	inquire
109930	Potassium permanganate solution for 1000 ml, $c(\text{KMnO}_4) = 0.002 \text{ mol/l}$ (0.01 N) Titrisol®	1.09930.0001	1 amp	inquire
109935	Potassium permanganate solution for 1000 ml, $c(\text{KMnO}_4) = 0.02 \text{ mol/l}$ (0.1 N) Titrisol®	1.09935.0001	1 amp 6 x 1 amp	inquire inquire
109122	Potassium permanganate solution standardised against oxalate $c(\text{KMnO}_4) = 0.02 \text{ mol/l}$ (0.1 N) Titripur®	1.09122.1000	1 l 6 x 1 l	inquire inquire
109121	Potassium permanganate solution standardised against sodium thiosulfate $c(\text{KMnO}_4) = 0.02 \text{ mol/l}$ (0.1 N) Titripur®	1.09121.1000	1 l 6 x 1 l	inquire inquire
111718	Silver nitrate solution $c(\text{AgNO}_3) = 0.05 \text{ mol/l}$ (0.05 N) Titripur®	1.11718.1000	1 l	inquire
109081	Silver nitrate solution $c(\text{AgNO}_3) = 0.1 \text{ mol/l}$ (0.1 N) Titripur®	1.09081.1000 1.09081.2500 1.09081.4000 1.09081.9010	1 l 6 x 1 l 2.5 l 4 l 10 l	inquire inquire inquire inquire inquire
109080	Silver nitrate solution $c(\text{AgNO}_3) = 1 \text{ mol/l}$ (1 N) Titripur®	1.09080.1000	1 l	inquire
109990	Silver nitrate solution for 1000 ml, $c(\text{AgNO}_3) = 0.1 \text{ mol/l}$ (0.1 N) Titrisol®	1.09990.0001	1 amp 24 x 1 amp	inquire inquire
106277	Sodium arsenite solution $c(\text{NaAsO}_2) = 0.05 \text{ mol/l}$ (0.1 N) Titripur®	1.06277.1000	1 l	inquire
109940	Sodium carbonate solution for 1000 ml, $c(\text{Na}_2\text{CO}_3) = 0.05 \text{ mol/l}$ (0.1 N) Titrisol®	1.09940.0001	1 amp	inquire
109945	Sodium chloride solution for 1000 ml, $c(\text{NaCl}) = 0.1 \text{ mol/l}$ (0.1 N) Titrisol®	1.09945.0001	1 amp	inquire
109913	Sodium hydroxide 1.000 l for the preparation of dilute volumetric solutions or for direct use $c(\text{NaOH}) = 5 \text{ mol/l}$ (5 N) Combi-Titrisol®	1.09913.0001	1 l	inquire
109142	Sodium hydroxide solution $c(\text{NaOH}) = 0.02 \text{ mol/l}$ (0.02 N) Titripur®	1.09142.0500	500 ml	inquire
109141	Sodium hydroxide solution $c(\text{NaOH}) = 0.1 \text{ mol/l}$ (0.1 N) Titripur®	1.09141.1000 1.09141.4000 1.09141.5000 1.09141.9010 1.09141.9025	1 l 6 x 1 l 4 l 5 l 4 x 5 l 10 l 25 l	inquire inquire inquire inquire inquire inquire inquire
109140	Sodium hydroxide solution $c(\text{NaOH}) = 0.2 \text{ mol/l}$ (0.2 N) Titripur®	1.09140.1000 1.09140.9010	1 l 10 l	inquire inquire
109139	Sodium hydroxide solution $c(\text{NaOH}) = 0.25 \text{ mol/l}$ (0.25 N) Titripur®	1.09139.1000 1.09139.9010	1 l 6 x 1 l 10 l	inquire inquire inquire
105595	Sodium hydroxide solution $c(\text{NaOH}) = 0.33 \text{ mol/l}$ (1/3 N) Titripur®	1.05595.1000 1.05595.9010	1 l 10 l	inquire inquire
109138	Sodium hydroxide solution $c(\text{NaOH}) = 0.5 \text{ mol/l}$ (0.5 N) Titripur®	1.09138.1000 1.09138.4000 1.09138.9010	1 l 6 x 1 l 4 l 10 l	inquire inquire inquire inquire
109137	Sodium hydroxide solution $c(\text{NaOH}) = 1 \text{ mol/l}$ (1 N) Titripur®	1.09137.1000 1.09137.2500 1.09137.4000 1.09137.9010 1.09137.9025	1 l 6 x 1 l 2.5 l 4 l 10 l 25 l	inquire inquire inquire inquire inquire
109136	Sodium hydroxide solution $c(\text{NaOH}) = 2 \text{ mol/l}$ (2 N) Titripur®	1.09136.1000 1.09136.9025	1 l 6 x 1 l 25 l	inquire inquire inquire
111584	Sodium hydroxide solution $c(\text{NaOH}) = 4 \text{ mol/l}$ (4 N) Titripur®	1.11584.5000	5 l	inquire
109961	Sodium hydroxide solution for 1000 ml, $c(\text{NaOH}) = 0.01 \text{ mol/l}$ (0.01 N) Titrisol®	1.09961.0001	1 amp	inquire
109959	Sodium hydroxide solution for 1000 ml, $c(\text{NaOH}) = 0.1 \text{ mol/l}$ (0.1 N) Titrisol®	1.09959.0001	1 amp 6 x 1 amp	inquire inquire
109958	Sodium hydroxide solution for 1000 ml, $c(\text{NaOH}) = 0.25 \text{ mol/l}$ (0.25 N) Titrisol®	1.09958.0001	1 amp	inquire
109957	Sodium hydroxide solution for 1000 ml, $c(\text{NaOH}) = 0.5 \text{ mol/l}$ (0.5 N) Titrisol®	1.09957.0001	1 amp	inquire

## Titripur® Volumetric Solutions measured in the DIN EN ISO 17025 accredited laboratory

Cat.No.	Designation	Ord.No.	Quantity	Price
109956	Sodium hydroxide solution for 1000 ml, c(NaOH) = 1 mol/l (1 N) Titrisol®	1.09956.0001	1 amp 6 x 1 amp	inquire inquire
199062	Sodium hydroxide solution prepared from raw materials acc. Ph Eur c(NaOH) = 6 mol/l (6 N) Titripur®	1.99062.9025	25 l	inquire
199060	Sodium hydroxide solution 1 mol/l prepared from raw materials acc. Ph Eur Titripur®	1.99060.9025	25 l	inquire
109147	Sodium thiosulfate solution c(Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> · 5 H <sub>2</sub> O) = 0.1 mol/l (0.1 N) Titripur®	1.09147.1000 1.09147.4000 1.09147.9010	1 l 6 x 1 l 4 l 10 l	inquire inquire inquire inquire
109909	Sodium thiosulfate solution for 1000 ml, c(Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) = 0,01 mol/l (0.01 N) Titrisol®	1.09909.0001	1 amp	inquire
109950	Sodium thiosulfate solution for 1000 ml, c(Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) = 0.1 mol/l (0.1 N) Titrisol®	1.09950.0001	1 amp 6 x 1 amp	inquire inquire
109074	Sulfuric acid c(H <sub>2</sub> SO <sub>4</sub> ) = 0.05 mol/l (0.1 N) Titripur®	1.09074.1000 1.09074.4000 1.09074.5000 1.09074.9010	1 l 6 x 1 l 4 l 5 l 10 l	inquire inquire inquire inquire inquire
109073	Sulfuric acid c(H <sub>2</sub> SO <sub>4</sub> ) = 0.25 mol/l (0.5 N) Titripur®	1.09073.1000 1.09073.4000 1.09073.9010	1 l 6 x 1 l 4 l 10 l	inquire inquire inquire inquire
109072	Sulfuric acid c(H <sub>2</sub> SO <sub>4</sub> ) = 0.5 mol/l (1 N) Titripur®	1.09072.1000 1.09072.4000 1.09072.5000 1.09072.9010	1 l 6 x 1 l 4 l 5 l 10 l	inquire inquire inquire inquire inquire
480364	Sulfuric acid c(H <sub>2</sub> SO <sub>4</sub> ) = 2.5 mol/l (5 N) Titripur®	4.80364.1000 4.80364.9025	1 l 25 l	inquire inquire
109982	Sulfuric acid for 1000 ml, c(H <sub>2</sub> SO <sub>4</sub> ) = 0.005 mol/l (0.01 N) Titrisol®	1.09982.0001	1 amp	inquire
109984	Sulfuric acid for 1000 ml, c(H <sub>2</sub> SO <sub>4</sub> ) = 0.05 mol/l (0.1 N) Titrisol®	1.09984.0001	1 amp	inquire
109981	Sulfuric acid for 1000 ml, c(H <sub>2</sub> SO <sub>4</sub> ) = 0.5 mol/l (1 N) Titrisol®	1.09981.0001	1 amp	inquire
109912	Sulfuric acid 1.000 l for the preparation of dilute volumetric solutions or for direct use c(H <sub>2</sub> SO <sub>4</sub> ) = 2.5 mol/l (5 N) Combi-Titrisol®	1.09912.0001	1 l	inquire
109162	Tetra-n-butylammonium hydroxide solution in 2-propanol/methanol for titrations in nonaqueous media c[(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub> NOH] = 0.1 mol/l (0.1 N) Titripur®	1.09162.0500 1.09162.1000	500 ml 6 x 500 ml 1 l 6 x 1 l	inquire inquire inquire inquire
108124	Tetramethylammonium hydroxide solution in 2-propanol/methanol for titrations in non-aqueous media c(C <sub>4</sub> H <sub>13</sub> NO)=0.1 mol/l (0.1 N) Titripur®	1.08124.0250 1.08124.1000	250 ml 1 l	inquire inquire
108446	Titriplex® III solution for 1000 ml, c(Na <sub>2</sub> -EDTA · 2 H <sub>2</sub> O) = 0.01 mol/l Titrisol®	1.08446.0001	1 amp	inquire
109992	Titriplex® III solution for 1000 ml, c(Na <sub>2</sub> -EDTA · 2 H <sub>2</sub> O) = 0.1 mol/l Titrisol®	1.09992.0001	1 amp 24 x 1 amp	inquire inquire
108431	Titriplex® III solution for metal titration c(Na <sub>2</sub> -EDTA · 2 H <sub>2</sub> O) = 0.1 mol/l Titripur®	1.08431.1000 1.08431.4000 1.08431.9010	1 l 6 x 1 l 4 l 10 l	inquire inquire inquire inquire
108447	Titriplex® IV solution for metal titration c(DCTA Na <sub>2</sub> ) = 0.1 mol/l Titripur®	1.08447.1000	1 l	inquire
108450	Trifluoromethanesulfonic acid in anhydrous acetic acid c(CF <sub>3</sub> SO <sub>3</sub> H) = 0.1 mol/l Titripur®	1.08450.1000	1 l	inquire
109163	Wijs solution for determination of the iodine number c(ICI) = 0.1 mol/l Titripur®	1.09163.1000 1.09163.2500	1 l 6 x 1 l 2.5 l 4 x 2.5 l	inquire inquire inquire inquire
108879	Zinc sulfate solution c(ZnSO <sub>4</sub> ) = 0.1 mol/l Titripur®	1.08879.1000	1 l	inquire
109991	Zinc sulfate solution for 1000 ml, c(ZnSO <sub>4</sub> ) = 0.1 mol/l (0.1 M) Titrisol®	1.09991.0001	1 amp	inquire

## Complexometric reagents and indicators

Cat.No.	Designation	Ord.No.	Quantity	Price
109478	Ammonium buffer solution for complexometry (ammonium chloride/ammonia) pH = 10-11 Titripur®	1.09478.1000	1 l	inquire
110107	Arsenazo III metal indicator	1.10107.0005	5 g	inquire

# Instrumental Analysis

## Complexometric reagents and indicators

Cat.No.	Designation	Ord.No.	Quantity	Price
102315	Calcein indicator for metal determination	1.02315.0005	5 g	inquire
104595	Calconcarboxylic acid metal indicator	1.04595.0005	5 g	inquire
		1.04595.0025	25 g	inquire
104594	Calcon (C.I.15705) metal indicator	1.04594.0050	50 g	inquire
102498	Chromotropic acid disodium salt dihydrate for analysis ACS,Reag. Ph Eur	1.02498.0025	25 g	inquire
105217	Copper di-ammonium Titriplex® solution Cu(NH <sub>4</sub> ) <sub>2</sub> -EDTA 0.1 mol/l	1.05217.0500	500 ml	inquire
108390	Diethylenetriaminepentaaceticacid	1.08390.0250	250 g	inquire
103409	2,3-Dimercapto-1-propanol for complexometric determination	1.03409.0025	25 ml	inquire
103122	3,3'-Dimethylnaphthidine metal indicator	1.03122.0001	1 g	inquire
103092	Dithizone for analysis (1,5-diphenylthiocarbazone) Reag. Ph Eur	1.03092.0005	5 g	inquire
		1.03092.0025	25 g	inquire
103170	Eriochrome black T (C.I. 14645) indicator for complexometry ACS,Reag. Ph Eur	1.03170.0025	25 g	inquire
		1.03170.0100	100 g	inquire
103168	Eriochrome blue-black B (C.I. 14640) metal indicator	1.03168.0025	25 g	inquire
103164	Eriochrome cyanine R (C.I. 43820) for analysis (reagent for aluminium)	1.03164.0025	25 g	inquire
108407	Ethylendiamintetraacetic acid calcium disodium salt dihydrate	1.08407.0250	250 g	inquire
		1.08407.1000	1 kg	inquire
108409	Ethylendiamintetraacetic acid magnesium dipotassium salt GR for analysis	1.08409.0100	100 g	inquire
		1.08409.0250	250 g	inquire
108415	Ethylenediamine tetraacetic acid copper disodium salt	1.08415.0250	250 g	inquire
108452	Ethylenedinitrilotetraacetic acid	1.08452.0250	250 g	inquire
		1.08452.1000	1 kg	inquire
104819	Ethylenedinitrilotetraacetic acid dipotassium salt dihydrate GR for analysis	1.04819.0100	100 g	inquire
		1.04819.1000	1 kg	inquire
		1.04819.9025	25 kg	inquire
108454	Ethylenedinitrilotetraacetic acid disodium salt dihydrate	1.08454.0250	250 g	inquire
		1.08454.1000	1 kg	inquire
		1.08454.9025	25 kg	inquire
108423	Ethylenedinitrilotetraacetic acid magnesium disodium salt	1.08423.0250	250 g	inquire
108445	Ethylenedinitrilotetraacetic acid tripotassium salt dihydrate	1.08445.0250	250 g	inquire
108430	Indicator buffer tablets for the determination of water hardness with Titriplex® solutions	1.08430.0500	500 tabs	inquire
		1.08430.1000	1000 tabs	inquire
106084	Methylthymol blue sodium salt metal indicator	1.06084.0001	1 g	inquire
		1.06084.0005	5 g	inquire
106161	Murexide (ammonium purpurate) metal indicator ACS,Reag. Ph Eur	1.06161.0005	5 g	inquire
		1.06161.0025	25 g	inquire
101306	Naphthol green B (C.I. 10020) indicator	1.01306.0025	25 g	inquire
107297	Phthalein purple metal indicator Reag. Ph Eur	1.07297.0001	1 g	inquire
		1.07297.0010	10 g	inquire
114266	Polyvinyl alcohol protective colloid for argentometric titration	1.14266.0100	100 g	inquire
107531	1-(2-Pyridylazo)-2-naphthol (PAN) metal indicator Reag. Ph Eur	1.07531.0005	5 g	inquire
107533	4-(2-Pyridylazo)resorcinol monosodium salt monohydrate metal indicator Reag. Ph Eur	1.07533.0005	5 g	inquire
101922	3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate (Tiron) metal indicator	1.01922.0100	100 g	inquire
107534	Pyrogallol red metal indicator	1.07534.0001	1 g	inquire
108416	Titriplex® I GR for analysis (nitrilotriacetic acid)	1.08416.0250	250 g	inquire
108417	Titriplex® II GR for analysis (ethylenedinitrilotetraacetic acid) ACS,Reag. Ph Eur	1.08417.0100	100 g	inquire
		1.08417.0250	250 g	inquire
		1.08417.1000	1 kg	inquire
		1.08417.5000	5 kg	inquire
108418	Titriplex® III GR for analysis (ethylenedinitrilotetraacetic acid, disodium salt dihydrate) ACS,ISO,Reag. Ph Eur	1.08418.0100	100 g	inquire
		1.08418.0250	250 g	inquire
			6 x 250 g	inquire
		1.08418.1000	1 kg	inquire
		1.08418.5000	5 kg	inquire
		1.08418.9025	25 kg	inquire
108424	Titriplex® IV GR for analysis (1,2-cyclohexylenedinitrilotetraacetic acid monohydrate)	1.08424.0025	25 g	inquire
		1.08424.0100	100 g	inquire
			6 x 100 g	inquire
				inquire

## Complexometric reagents and indicators

Cat.No.	Designation	Ord.No.	Quantity	Price
108426	Titriplex® V GR for analysis (diethylenetriaminepentaacetic acid)	1.08426.0100	100 g	inquire
108435	Titriplex® VI GR for analysis	1.08435.0025	25 g	inquire
		1.08435.0100	100 g	inquire
		1.08435.1000	1 kg	inquire
108677	Xylenol orange tetrasodium salt metal indicator ACS,Reag. Ph Eur	1.08677.0001	1 g	inquire
		1.08677.0005	5 g	inquire

## Elementary analysis

Cat.No.	Designation	Ord.No.	Quantity	Price
100011	Acetanilide test substance for elementary analysis	1.00011.0005	5 g	inquire
100134	Benzoic acid standard for elemental analysis	1.00134.0005	5 g	inquire
102083	Calcium chloride fused, granular about 0.5-2.0 mm for elementary analysis	1.02083.0250	250 g	inquire
		1.02083.1000	1 kg	inquire
102263	Cerium(IV) oxide 1-3 mm for elementary analysis	1.02263.0100	100 g	inquire
102764	Copper(II) oxide granular for elementary analysis	1.02764.0250	250 g	inquire
102767	Copper oxide wire about 0.65 x 6 mm for elementary analysis (surface: CuO, core: Cu <sub>2</sub> O) ACS	1.02767.0250	250 g	inquire
		1.02767.1000	1 kg	inquire
102765	Copper oxide wire fine about 0.65 x 3 mm for elementary analysis (surface: CuO, core: Cu <sub>2</sub> O) ACS	1.02765.0250	250 g	inquire
		1.02765.1000	1 kg	inquire
107512	Lead(II) chromate sintered, for elemental analysis	1.07512.0250	250 g	inquire
105875	Magnesium perchlorate hydrate [about 83% Mg(ClO <sub>4</sub> ) <sub>2</sub> ] for elemental analysis	1.05875.0500	500 g	inquire
106828	Nicotinamide test substance for elemental analysis	1.06828.0005	5 g	inquire
102441	Pumice stone granular for elementary analysis	1.02441.1000	1 kg	inquire
101567	Sodium hydroxide on support granulated about 0.8-1.6 mm for elementary analysis	1.01567.0250	250 g	inquire
		1.01567.1000	1 kg	inquire
101564	Sodium hydroxide on support granulated about 1.6-3 mm, for elementary analysis	1.01564.0250	250 g	inquire
		1.01564.1000	1 kg	inquire
100684	Sulfanilic acid standard for elemental analysis for analysis	1.00684.0005	5 g	inquire

## Karl Fischer Titration

## apura® Karl Fischer Reagents

Cat.No.	Designation	Ord.No.	Quantity	Price	
188035	Buffer solution for strong acids for Karl Fischer Titration apura®	1.88035.0500	500 ml	inquire	
188036	Buffer solution for strong bases for Karl Fischer Titration apura®	1.88036.0500	500 ml	inquire	
109255	CombiCoulomat frit Karl Fischer reagent for the coulometric water determination for cells with diaphragm apura®	1.09255.0500	500 ml	inquire	
			6 x 500 ml	inquire	
109257	CombiCoulomat fritless Karl Fischer reagent for coulometric water determination for cells with and without diaphragm apura®	1.09257.0500	500 ml	inquire	
			6 x 500 ml	2.5 l	inquire
				6 x 2.5 l	inquire
188009	CombiMethanol Solvent for volumetric Karl Fischer Titration with One Component Reagents max. 0.01% H <sub>2</sub> O apura®	1.88009.1000	1 l	inquire	
			6 x 1 l	inquire	
			2.5 l	inquire	
188008	CombiSolvent methanol-free solvent for volumetric Karl Fischer titration with one component reagents apura®	1.88008.2500	4 x 2.5 l	inquire	
			1.88008.1000	1 l	inquire
				6 x 1 l	inquire
188007	CombiSolvent Keto Solvent for volumetric Karl Fischer Titration with one component reagents for aldehyds and ketones apura®	1.88007.1000	2.5 l	inquire	
			4 x 2.5 l	inquire	
188021	CombiSolvent Fats Solvent for volumetric Karl Fischer titration with one component reagents for fats apura®	1.88021.1000	1 l	inquire	
			6 x 1 l	inquire	
188020	CombiSolvent Oil Solvent for volumetric Karl Fischer titration with one component reagents for oils apura®	1.88020.1000	1 l	inquire	
			6 x 1 l	inquire	
188001	CombiTitrant 1 one component reagent for volumetric Karl Fischer titration 1 ml $\triangleq$ ca. 1 mg H <sub>2</sub> O apura®	1.88001.1000	1 l	inquire	
			6 x 1 l	inquire	

# Instrumental Analysis

## Karl Fischer Titration

### apura® Karl Fischer Reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
188002	CombiTitrant 2 one component reagent for volumetric Karl Fischer titration 1 ml $\Delta$ ca. 2 mg H <sub>2</sub> O Apura®	1.88002.1000	1 l 6 x 1 l	inquire inquire
188005	CombiTitrant 5 one-component reagent for volumetric Karl Fischer titration 1 ml $\Delta$ ca. 5 mg H <sub>2</sub> O apura®	1.88005.0500 1.88005.1000 1.88005.2500	500 ml 6 x 500 ml 1 l 6 x 1 l 2.5 l 4 x 2.5 l	inquire inquire inquire inquire inquire inquire
188006	CombiTitrant 5 Keto one component reagent for volumetric Karl Fischer titration for aldehydes and ketones 1 ml $\Delta$ ca. 5 mg H <sub>2</sub> O apura®	1.88006.1000	1 l 6 x 1 l	inquire inquire
188015	Solvent solvent for volumetric Karl Fischer titration with two component reagents apura®	1.88015.1000 1.88015.2500	1 l 6 x 1 l 2.5 l 4 x 2.5 l	inquire inquire inquire inquire
188016	Solvent Oils & Fats Solvent for volumetric Karl Fischer titration with two component reagents for oils and fats apura®	1.88016.1000	1 l 6 x 1 l	inquire inquire
188025	Test Kit for water determination according to Karl Fischer apura®	1.88025.0001	1 set	inquire
188027	Test Kit Solvent for water determination acc. to Karl Fischer - refill pack apura®	1.88027.0500	500 ml	inquire
188026	Test Kit Titrant for water determination acc. to Karl Fischer - refill pack apura®	1.88026.0100	100 ml	inquire
188011	Titrant 2 titrant for volumetric Karl Fischer titration with two component reagents 1 ml $\Delta$ ca. 2 mg H <sub>2</sub> O apura®	1.88011.1000	1 l 6 x 1 l	inquire inquire
188010	Titrant 5 titrant for volumetric Karl Fischer titration with two component reagents 1 ml $\Delta$ ca. 5 mg H <sub>2</sub> O apura®	1.88010.0500 1.88010.1000 1.88010.2500	500 ml 6 x 500 ml 1 l 6 x 1 l 2.5 l 4 x 2.5 l	inquire inquire inquire inquire inquire inquire

### apura® Karl Fischer Standards

Cat.No.	Designation	Ord.No.	Quantity	Price
112939	Lactose Standard 5 % solid water standard for coulometric/volumetric Karl Fischer Titration and Karl Fischer oven method apura®	1.12939.0010	10 g	inquire
188050	Water Standard 0.01 % Standard for coulometric Karl Fischer Titration 1 g $\Delta$ 0.1 mg H <sub>2</sub> O apura®	1.88050.0010	10x8ml amp	inquire
188051	Water standard 0.1% Standard for coulometric Karl Fischer Titration 1 g $\Delta$ 1 mg H <sub>2</sub> O apura®	1.88051.0010	10x8ml amp	inquire
188052	Water standard 1% Standard for volumetric Karl Fischer Titration 1 g $\Delta$ 10 mg H <sub>2</sub> O apura®	1.88052.0010	10x8ml	inquire
109259	Water standard 5 mg/ml (1 ml contains 5 mg H <sub>2</sub> O) apura®	1.09259.0250	250 ml	inquire
188055	Water standard oil standard for oil samples for coulometric Karl Fischer Titration (15-30 ppm) apura®	1.88055.0010	10x8ml amp	inquire
188054	Water Standard Oven 1% solid standard for KF oven method apura®	1.88054.0005	5 g	inquire

## pH Measurement

### Certipur® Buffer Solutions in the scope of DIN EN ISO 17025

#### Certipur® Buffer Sachets (25 °C)

Cat.No.	Designation	Ord.No.	Quantity	Price
199050	Buffer solution (boric acid/potassium chloride/sodium hydroxide) colour coded: blue, traceable to NIST and PTB pH 10.00 (25°C) Certipur®	1.99050.0500 1.99050.4000	500 ml 4 l	inquire inquire
199003	Buffer solution (boric acid/potassium chloride/sodium hydroxide solution), traceable to SRM from NIST and PTB pH 9.00 (25°C) Certipur®	1.99003.0001	30 x 30 ml	inquire
199004	Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (25°C) Certipur®	1.99004.0001	30 x 30 ml	inquire
199021	Buffer Solution (Boric acid, Sodium hydroxide, Potassium chloride) traceable to SRM from NIST and PTB pH 11.00 (25°C) Certipur®	1.99021.0001	30 x 30 ml	inquire
199054	Buffer solution (Citric acid/Sodium hydroxide/Hydrogen chloride) colour: red, traceable to SRM from NIST and PTB pH 4.00 (25 °C)	1.99054.0500 1.99054.4000	500 ml 4 l	inquire inquire

## pH Measurement

## Certipur® Buffer Solutions in the scope of DIN EN ISO 17025

## Certipur® Buffer Sachets (25°C)

Cat.No.	Designation	Ord.No.	Quantity	Price
199012	Buffer Solution (Citric acid, Sodium hydroxide, Hydrogen chloride), traceable to SRM from NIST and PTB pH 2.00 (25°C) Certipur®	1.99012.0001	30 x 30 ml	inquire
199057	Buffer solution (di-Sodium hydrogen phosphate/Potassium dihydrogen phosphate), colour: yellow, traceable to SRM from NIST and PTB pH 7.00 (25°C) Certipur®	1.99057.0500 1.99057.4000	500 ml 4 l	inquire inquire
199022	Buffer Solution (Disodium hydrogen phosphate/Sodium hydroxide) traceable to SRM from NIST und PTB pH 12.00 (25°C) Certipur®	1.99022.0001 1.99022.4000	30 x 30 ml 4 l	inquire inquire
199019	Buffer solution (Disodium tetraborate), traceable to SRM from NIST and PTB pH 9.18 (25°C) Certipur®	1.99019.0001	30 x 30 ml	inquire
199002	Buffer solution (potassium dihydrogen phosphate/di-sodium hydrogen phosphate), traceable to SRM from NIST and PTB pH 7.00 (25°C) Certipur®	1.99002.0001	30 x 30 ml	inquire
199001	Buffer solution (potassium hydrogen phthalate), traceable to SRM from NIST and PTB pH 4.01 (25°C) Certipur®	1.99001.0001	30 x 30 ml	inquire
199041	Buffer solutions (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 11.00 (25°C) Certipur®	1.99041.0500 1.99041.4000	500 ml 4 l	inquire inquire
199005	Buffer solutions traceable to SRM from NIST and PTB 10 x pH 4.01 (phthalate) 10 x pH 7.00 (phosphate) 10 x pH 9.00 (borate) pH 4.01/pH 7.00/pH 9.00 (25°C) Certipur®	1.99005.0001	30 x 30 ml	inquire
199006	Buffer solutions traceable to SRM from NIST and PTB 10 x pH 4.01 (phthalate) 10 x pH 7.00 (phosphate) 10 x pH 10.00 (borate) pH 4.01/pH 7.00/pH 10.00(25°C) Certipur®	1.99006.0001	30 x 30 ml	inquire

## Certipur® Buffer Solutions (20°C)

Cat.No.	Designation	Ord.No.	Quantity	Price
109461	Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 9.00 (20°C) Certipur®	1.09461.1000 1.09461.4000 1.09461.9010	1 l 6 x 1 l 4 l 10 l	inquire inquire inquire inquire
109438	Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20°C) Certipur®	1.09438.1000 1.09438.4000 1.09438.9010	1 l 6 x 1 l 4 l 10 l	inquire inquire inquire inquire
109462	Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 11.00 (20°C) Certipur®	1.09462.1000	1 l 6 x 1 l	inquire inquire
109460	Buffer solution (boric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 8.00 (20°C) Certipur®	1.09460.1000 1.09460.4000	1 l 6 x 1 l 4 l	inquire inquire inquire
109433	Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 2.00 (20°C) Certipur®	1.09433.1000 1.09433.4000 1.09433.9010	1 l 6 x 1 l 4 l 10 l	inquire inquire inquire inquire
109434	Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 3.00 (20°C) Certipur®	1.09434.1000	1 l 6 x 1 l	inquire inquire
109435	Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 4.00 (20°C) Certipur®	1.09435.1000 1.09435.4000 1.09435.9010	1 l 6 x 1 l 4 l 10 l	inquire inquire inquire inquire
109436	Buffer solution (citric acid/sodium hydroxide) traceable to SRM from NIST and PTB pH 5.00 (20°C) Certipur®	1.09436.1000	1 l 6 x 1 l	inquire inquire
109437	Buffer solution (citric acid/sodium hydroxide), traceable to SRM from NIST and PTB pH 6.00 (20°C) Certipur®	1.09437.1000 1.09437.4000	1 l 6 x 1 l 4 l	inquire inquire inquire
109439	Buffer solution (di-sodium hydrogen phosphate/potassium dihydrogen phosphate), traceable to SRM from NIST and PTB pH 7.00 (20°C) Certipur®	1.09439.1000 1.09439.4000 1.09439.9010	1 l 6 x 1 l 4 l 10 l	inquire inquire inquire inquire
109432	Buffer solution (glycine/sodium chloride/hydrogen chloride), traceable to SRM from NIST and PTB pH 1.00 (20°C) Certipur®	1.09432.1000	1 l 6 x 1 l	inquire inquire



# Instrumental Analysis

## Certipur® Buffer Solutions (25°C)

Cat.No.	Designation	Ord.No.	Quantity	Price
199038	Buffer solution (boric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 8.00 (25°C) Certipur®	1.99038.0500	500 ml	<a href="#">inquire</a>
		1.99038.4000	4 l	<a href="#">inquire</a>
109442	Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 2.00 (25°C) Certipur®	1.09442.0500	500 ml	<a href="#">inquire</a>
		1.09442.4000	4 l	<a href="#">inquire</a>
109444	Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 3.00 (25°C) Certipur®	1.09444.0500	500 ml	<a href="#">inquire</a>
		1.09444.4000	4 l	<a href="#">inquire</a>
109446	Buffer solution (citric acid/sodium hydroxide) traceable to SRM from NIST and PTB pH 5.00 (25°C) Certipur®	1.09446.0500	500 ml	<a href="#">inquire</a>
		1.09446.4000	4 l	<a href="#">inquire</a>
199036	Buffer solution (citric acid/sodium hydroxide), traceable to SRM from NIST and PTB pH 6.00 (25°C) Certipur®	1.99036.0500	500 ml	<a href="#">inquire</a>
		1.99036.4000	4 l	<a href="#">inquire</a>
109441	Buffer solution (glycine/sodium chloride/hydrogen chloride), traceable to SRM from NIST and PTB pH 1.00 (25°C) Certipur®	1.09441.0500	500 ml	<a href="#">inquire</a>
109407	Buffer solution (potassium dihydrogen phosphate/di-sodium hydrogen phosphate), traceable to SRM from NIST and PTB pH 7.00 (25°C) Certipur®	1.09407.0500	500 ml	<a href="#">inquire</a>
		1.09407.1000	1 l	<a href="#">inquire</a>
		1.09407.4000	6 x 1 l 4 l	<a href="#">inquire</a> <a href="#">inquire</a>
109445	Buffer solution pH 4.00 (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 4.00 (25°C) Certipur®	1.09445.0500	500 ml	<a href="#">inquire</a>
		1.09445.4000	4 l	<a href="#">inquire</a>
109406	Buffer solution pH 4.01 (Potassium hydrogen phthalate), traceable to SRM from NIST and PTB pH 4.01 (25°C) Certipur®	1.09406.0500	500 ml	<a href="#">inquire</a>
		1.09406.1000	1 l	<a href="#">inquire</a>
		1.09406.4000	6 x 1 l 4 l	<a href="#">inquire</a> <a href="#">inquire</a>
109408	Buffer solution pH 9.00 (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 9.00 (25°C) Certipur®	1.09408.0500	500 ml	<a href="#">inquire</a>
		1.09408.1000	1 l	<a href="#">inquire</a>
		1.09408.4000	6 x 1 l 4 l	<a href="#">inquire</a> <a href="#">inquire</a>
109409	Buffer solution pH 10.00 (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (25°C) Certipur®	1.09409.0500	500 ml	<a href="#">inquire</a>
		1.09409.1000	1 l	<a href="#">inquire</a>
		1.09409.4000	6 x 1 l 4 l	<a href="#">inquire</a> <a href="#">inquire</a>
199041	Buffer solutions (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 11.00 (25°C) Certipur®	1.99041.0500	500 ml	<a href="#">inquire</a>
		1.99041.4000	4 l	<a href="#">inquire</a>

## Certipur® Buffer Solutions – Titrisol® concentrates (20°)

Cat.No.	Designation	Ord.No.	Quantity	Price
109888	Buffer concentrate (borate/hydrochloric acid), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 8.00 ± 0.02 (20°C) Titrisol®	1.09888.0001	1 amp	<a href="#">inquire</a>
109889	Buffer concentrate (boric acid/potassium chloride/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 9.00 ± 0.02 (20°C) Titrisol®	1.09889.0001	1 amp	<a href="#">inquire</a>
			24 x 1 amp	<a href="#">inquire</a>
109890	Buffer concentrate (boric acid/potassium chloride/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 10.00 ± 0.05 (20°C) Titrisol®	1.09890.0001	1 amp	<a href="#">inquire</a>
			24 x 1 amp	<a href="#">inquire</a>
109880	Buffer concentrate (boric acid/potassium chloride/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 11.00 ± 0.05 (20°C) Titrisol®	1.09880.0001	1 amp	<a href="#">inquire</a>
109882	Buffer concentrate (citrate/hydrochloric acid), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 2.00 ± 0.02 (20°C) Titrisol®	1.09882.0001	1 amp	<a href="#">inquire</a>
109883	Buffer concentrate (citrate/hydrochloric acid), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 3.00 ± 0.02 (20°C) Titrisol®	1.09883.0001	1 amp	<a href="#">inquire</a>
109884	Buffer concentrate (citrate/hydrochloric acid), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 4.00 ± 0.02 (20°C) Titrisol®	1.09884.0001	1 amp	<a href="#">inquire</a>
			24 x 1 amp	<a href="#">inquire</a>
109885	Buffer concentrate (citrate/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 5.00 ± 0.02 (20°C) Titrisol®	1.09885.0001	1 amp	<a href="#">inquire</a>
109886	Buffer concentrate (citrate/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 6.00 ± 0.02 (20°C) Titrisol®	1.09886.0001	1 amp	<a href="#">inquire</a>
109881	Buffer concentrate (glycine/hydrochloric acid), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 1.00 ± 0.02 (20°C) Titrisol®	1.09881.0001	1 amp	<a href="#">inquire</a>
109892	Buffer concentrate (phosphate/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 12.00 ± 0.05 (20°C) Titrisol®	1.09892.0001	1 amp	<a href="#">inquire</a>
109887	Buffer concentrate (phosphate), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 7.00 ± 0.02 (20°C) Titrisol®	1.09887.0001	1 amp	<a href="#">inquire</a>
			24 x 1 amp	<a href="#">inquire</a>
109893	Buffer concentrate (potassium chloride/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 13.00 ± 0.05 (20°C) Titrisol®	1.09893.0001	1 amp	<a href="#">inquire</a>



## Certipur® Buffer Solutions – Titrisol® concentrates (20°)

Cat.No.	Designation	Ord.No.	Quantity	Price
109879	Buffer concentrate for buffer solution acc. to WEISE for 1000 ml of solution (phosphate), pH 7.20 Titrisol®	1.09879.0001	1 amp	inquire

## Certipur® Certified Secondary Reference Material – buffer solutions (25°C)

Cat.No.	Designation	Ord.No.	Quantity	Price
107203	Certified sec. standard reference buffer solution di-sodium tetraborate decahydrate, directly traceable to primary SRM from NIST/PTB pH(S) = 9.18 <sub>4</sub> (25°C) Certipur®	1.07203.0105	5 x 100 ml	inquire
107202	Certified sec. standard reference buffer solution potassium dihydrogen phosphate/di-sodium hydrogen phosphate, directly traceable to primary SRM from NIST/PTB pH (S) = 6.86 <sub>3</sub> (25°C) Certipur®	1.07202.0105	5 x 100 ml	inquire
107205	Certified sec. standard reference buffer solution potassium hydrogen phosphate/di-sodium hydrogen phosphate, directly traceable to primary SRM from NIST/PTB pH(S) = 7.41 <sub>6</sub> (25°C) Certipur®	1.07205.0105	5 x 100 ml	inquire
107200	Certified sec. standard reference buffer solution potassium hydrogen phthalate, directly traceable to primary SRM from NIST/PTB pH(S) = 4.00 <sub>5</sub> (25°C) Certipur®	1.07200.0105	5 x 100 ml	inquire
107204	Certified sec. standard reference buffer solution potassium tetraoxalate dihydrate, directly traceable to primary SRM from NIST/PTB pH(S) = 1.68 <sub>1</sub> (25°C) Certipur®	1.07204.0105	5 x 100 ml	inquire

## Certipur® Certified Secondary Reference Material – solid substances (25°C)

Cat.No.	Designation	Ord.No.	Quantity	Price
101960	Potassium dihydrogen phosphate, di-Sodium hydrogen phosphate certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S)=6.86 <sub>3</sub> /pH(S)=7.41 <sub>6</sub> (25°C) (DIN 19266) Certipur®	1.01960.0001	2 x 25 g	inquire
101965	Potassium hydrogen phthalate certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S) = 4.00 <sub>5</sub> (25°C) (DIN 19266) Certipur®	1.01965.0025	25 g	inquire
101963	Potassium hydrogen tartrate certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S)= 3.63 <sub>9</sub> (25°C) (DIN 19266) Certipur®	1.01963.0025	25 g	inquire
101961	Potassium tetraoxalate dihydrate certified secondary standard reference material for pH measurement; directly traceable to primary reference material from NIST/PTB pH(S) = 1.68 <sub>1</sub> (25°C) (DIN 19266) Certipur®	1.01961.0025	25 g	inquire
101962	Sodium hydrogen carbonate/sodium carbonate certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S) = 10.01 <sub>4</sub> (25°C) (DIN 19266) Certipur®	1.01962.0001	2 x 25 g	inquire
101964	di-Sodium tetraborate decahydrate certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S)=9.18 <sub>4</sub> (25°C) (DIN 19266) Certipur®	1.01964.0025	25 g	inquire

## Certipur® color coded Buffers Solutions (20°C)

Cat.No.	Designation	Ord.No.	Quantity	Price
109400	Buffer Solution (boric acid/potassium chloride/sodium hydroxide) colour coded: yellow, traceable to NIST and PTB pH 10.00 (20°C) Certipur®	1.09400.0500	500 ml	inquire
		1.09400.4000	6 x 500 ml	inquire
		1.09400.9010	4 l	inquire
109476	Buffer solution (boric acid/potassium chloride/sodium hydroxide), coloured: blue, traceable to SRM from NIST and PTB pH 9.00 (20°C) Certipur®	1.09476.0500	500 ml	inquire
		1.09476.4000	6 x 500 ml	inquire
		1.09476.9010	4 l	inquire
109475	Buffer solution (Citric acid/Sodium hydroxide/Hydrogen chloride) colour: red, traceable to SRM from NIST and PTB pH 4.00 (20 °C) Certipur®	1.09475.0500	500 ml	inquire
		1.09475.4000	6 x 500 ml	inquire
		1.09475.9010	4 l	inquire
109477	Buffer solution (di-Sodium hydrogen phosphate/Potassium dihydrogen phosphate), colour: green, traceable to SRM from NIST and PTB pH 7.00 (20°C) Certipur®	1.09477.0500	500 ml	inquire
		1.09477.4000	6 x 500 ml	inquire
		1.09477.9010	4 l	inquire

## Certipur® color coded Buffers Solutions(25°C)

Cat.No.	Designation	Ord.No.	Quantity	Price
199050	Buffer solution (boric acid/potassium chloride/sodium hydroxide) colour coded: blue, traceable to NIST and PTB pH 10.00 (25°C) Certipur®	1.99050.0500	500 ml	inquire
		1.99050.4000	4 l	inquire

# Instrumental Analysis

## Certipur® color coded Buffers Solutions(25°C)

Cat.No.	Designation	Ord.No.	Quantity	Price
199054	Buffer solution (Citric acid/Sodium hydroxide/Hydrogen chloride) colour: red, traceable to SRM from NIST and PTB pH 4.00 (25 °C)	1.99054.0500	500 ml	<a href="#">inquire</a>
		1.99054.4000	4 l	<a href="#">inquire</a>
199057	Buffer solution (di-Sodium hydrogen phosphate/Potassium dihydrogen phosphate), colour: yellow, traceable to SRM from NIST and PTB pH 7.00 (25°C) Certipur®	1.99057.0500	500 ml	<a href="#">inquire</a>
		1.99057.4000	4 l	<a href="#">inquire</a>

Analyt. Chromatography

Analytical Test Kits

BioMonitoring

Instr. Analysis

IVD

Lab Water

Peptide Synthesis

Solvents

# IVD Products and Services for Diagnostics and Clinical Research.

Merck Millipore's IVD products and services cater for a wide and diverse range of clinical disciplines and applications in areas such as microbiology and microscopy. But with unmatched regulatory compliance and consistency they provide unsurpassed quality for highly accurate and reliable results.



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### Building on tradition

Spanning ready-to-use and dehydrated culture media, and anaerobic systems and supplements, our range of clinical IVD products continues and fortifies Merck Millipore's long history and experience in microbiology and microscopy.

# In Vitro Diagnostics - Microbiology

## Diagnostics and Clinical Research

### Ready to Use Media

#### Accessories for medical use

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146510	Kovacs Reagent for Indoles	■ Store at +2°C to +8°C.	1.46510.0001	1 PC	<a href="#">inquire</a>
146474	Optochin antibiotic disc	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46474.0100	100 PC	<a href="#">inquire</a>
146512	V-Factor disc	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46512.0100	100 PC	<a href="#">inquire</a>
146514	X-Factor disc	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46514.0100	100 PC	<a href="#">inquire</a>
146499	X+V Factor disc	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46499.0100	100 PC	<a href="#">inquire</a>

#### Enrichment /Aerobic Microbial Enumeration

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146248	Columbia Agar Slope	■ LGK 10 - 13	1.46248.0020	20 PC	<a href="#">inquire</a>
146217	NaCl (phys.) 10ml	■ LGK 10 - 13	1.46217.0020 1.46217.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146198	NaCl (phys.) 5ml	■ LGK 10 - 13	1.46198.0020 1.46198.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146267	Nutrient Broth	■ LGK 10 - 13	1.46267.0020 1.46267.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146257	Nutrient Broth + 10% Serum	■ LGK 10 - 13	1.46257.0020	20 PC	<a href="#">inquire</a>
146204	Nutrient Broth + Durham Tube	■ LGK 10 - 13	1.46204.0020	20 PC	<a href="#">inquire</a>
146142	Peptone Water 9ml	■ LGK 10 - 13	1.46142.0020 1.46142.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146203	Sheep Blood Agar	■ LGK 10 - 13	1.46203.0020 1.46203.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146431	Tryptic Soy Agar EP+USP	■ LGK 10 - 13	1.46431.0020 1.46431.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146212	Tryptic Soy A. + Sheep Blood	■ LGK 10 - 13	1.46212.0020 1.46212.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146271	Tryptic Soy A. Slope EP+USP	■ LGK 10 - 13	1.46271.0020	20 PC	<a href="#">inquire</a>
146429	Tryptic Soy A. (Tubes 18ml)	■ LGK 10 - 13	1.46429.0020 1.46429.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146272	Tryptic Soy Broth 9ml	■ LGK 10 - 13	1.46272.0020 1.46272.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>

#### Enrichment /Anaerobic Microbial Enumeration

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146227	Brain Heart Infusion B. 9ml	■ LGK 10 - 13	1.46227.0020 1.46227.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146445	Mueller Hinton Broth 11ml	■ LGK 10 - 13	1.46445.0020 1.46445.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146433	Schaedler Blood Agar mod.	■ LGK 10 - 13	1.46433.0020 1.46433.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146177	Schaedler Broth	■ LGK 10 - 13	1.46177.0020 1.46177.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>
146225	Thioglycol. B. +Vit.K/Hemin	■ LGK 10 - 13	1.46225.0020 1.46225.0100	20 PC 100 PC	<a href="#">inquire</a> <a href="#">inquire</a>

## Ready to Use Media

### Isolation / Differentiation

#### Bacillus cereus

146088	Bacillus cereus Agar	■ LGK 10 - 13	1.46088.0020	20 PC	inquire
			1.46088.0100	100 PC	inquire
146092	Cereus Ident Agar	■ LGK 10 - 13	1.46092.0020	20 PC	inquire
146160	Mannit-Yolk-Polymyx-A. (MYP)	■ LGK 10 - 13	1.46160.0020	20 PC	inquire
			1.46160.0100	100 PC	inquire

#### Campylobacter

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146229	Campylobacter A. acc Butzler	■ LGK 10 - 13	1.46229.0020	20 PC	inquire
			1.46229.0100	100 PC	inquire
146292	Campylobacter A. acc Karmali	■ LGK 10 - 13	1.46292.0020	20 PC	inquire

#### Clostridia

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146131	Egg-Yolk Lactose Agar	■ LGK 10 - 13	1.46131.0020	20 PC	inquire
146163	Shahidi Fergu. Perfr-A (SFP)	■ LGK 10 - 13	1.46163.0020	20 PC	inquire

#### Coliforms/Enterobacteriaceae

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146037	Bile Chrysoid. Glycer. A+MUG	■ LGK 10 - 13	1.46037.0020	20 PC	inquire
			1.46037.0100	100 PC	inquire
146039	Coli-2G-Agar	■ LGK 10 - 13	1.46039.0020	20 PC	inquire
			1.46039.0100	100 PC	inquire
146120	Gassner Agar	■ LGK 10 - 13	1.46120.0100	100 PC	inquire
146033	Kligler Agar Slope	■ LGK 10 - 13	1.46033.0020	20 PC	inquire
146055	Kligler Agar + Urea Slope	■ LGK 10 - 13	1.46055.0020	20 PC	inquire
146034	Kligler A Slope +Plug Hyg F.	■ LGK 10 - 13	1.46034.0100	100 PC	inquire
146307	MacConkey Sorbitol A. w. MUG	■ LGK 10 - 13	1.46307.0020	20 PC	inquire
146338	SIM Agar	■ LGK 10 - 13	1.46338.0020	20 PC	inquire
146061	Simmons Citrate Agar Slope	■ LGK 10 - 13	1.46061.0020	20 PC	inquire

#### Enterococci

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146168	Enterococcus Agar	■ LGK 10 - 13	1.46168.0020	20 PC	inquire
			1.46168.0100	100 PC	inquire
146345	Sel. A. acc Slanetz-Bartley	■ LGK 10 - 13	1.46345.0020	20 PC	inquire
			1.46345.0100	100 PC	inquire

#### Enterohemorrhagic E. coli

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146018	EHEC Direct Medium 4,5ml	■ LGK 10 - 13	1.46018.0020	20 PC	inquire
			1.46018.0100	100 PC	inquire
146010	EHEC Dir. Med. 4ml pl. tube	■ LGK 10 - 13	1.46010.0020	20 PC	inquire
			1.46010.0100	100 PC	inquire
146307	MacConkey Sorbitol A. w. MUG	■ LGK 10 - 13	1.46307.0020	20 PC	inquire

#### Haemophilus influenzae

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146227	Brain Heart Infusion B. 9ml	■ LGK 10 - 13	1.46227.0020	20 PC	inquire
			1.46227.0100	100 PC	inquire
146090	Chocol. A +IsoVit/Bacitracin	■ LGK 10 - 13	1.46090.0020	20 PC	inquire
			1.46090.0100	100 PC	inquire
146257	Nutrient Broth + 10% Serum	■ LGK 10 - 13	1.46257.0020	20 PC	inquire
146256	Standard I Nutrient Agar	■ LGK 10 - 13	1.46256.0020	20 PC	inquire
			1.46256.0100	100 PC	inquire

#### Helicobacter pylori

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146246	Urease test f. Helicob. pyl.	■ LGK 10 - 13	1.46246.0020	20 PC	inquire

# In Vitro Diagnostics - Microbiology

## Lactobacili

146148	MRS Agar	■ LGK 10 - 13	1.46148.0020 1.46148.0100	20 PC 100 PC	inquire inquire
146192	Rogosa Agar mod.	■ LGK 10 - 13	1.46192.0020	20 PC	inquire

## Legionella

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146149	Legionella-B.C.Y.E. alpha A.	■ LGK 10 - 13	1.46149.0020	20 PC	inquire
146133	Legionella-MWY-Selective A.	■ LGK 10 - 13	1.46133.0020	20 PC	inquire
146322	Legion.-G.V.P.C.-Select. A.	■ LGK 10 - 13	1.46322.0020 1.46322.0100	20 PC 100 PC	inquire inquire

## Listeria

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146186	Listeria Agar chromogen ISO	■ LGK 10 - 13	1.46186.0020 1.46186.0100	20 PC 100 PC	inquire inquire
146328	Oxford Listeria Select. A.	■ LGK 10 - 13	1.46328.0020	20 PC	inquire
146329	PALCAM Listeria Select. A.	■ LGK 10 - 13	1.46329.0020	20 PC	inquire

## Mycobacteria

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146436	Kirchner mod. + PACT	■ LGK 10 - 13	1.46436.0020	20 PC	inquire
146354	Loewenst. Jensen A.+Glycerol	■ LGK 10 - 13	1.46354.0020	20 PC	inquire
146418	Loewenst.-Jens. +Glyc.+PACT	■ LGK 10 - 13	1.46418.0020 1.46418.0100	20 PC 100 PC	inquire inquire
146388	Loewenst.-Jens. -Glyc.+PACT	■ LGK 10 - 13	1.46388.0020	20 PC	inquire
146424	MB REDOX 4ml	■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.46424.0020	20 PC	inquire
146412	Middlebr. 7H11 A. +OADC+PACT	■ LGK 10 - 13	1.46412.0020	20 PC	inquire
146391	Middlebrook 7H10 A. + OADC	■ LGK 10 - 13	1.46391.0020	20 PC	inquire
146389	Middlebrook 7H9 B. +OADC 5ml	■ LGK 10 - 13	1.46389.0020	20 PC	inquire
146411	Stonebrink	■ LGK 10 - 13	1.46411.0020	20 PC	inquire
146479	Stonebrink + PACT	■ LGK 10 - 13	1.46479.0020 1.46479.0100	20 PC 100 PC	inquire inquire

## Mycoplasmas

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146251	Mycoplasma Broth	■ LGK 10 - 13	1.46251.0020	20 PC	inquire

## Pseudomonas aeruginosa

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146078	Cetrimide-A (Pseudomon.CN-A)	■ LGK 10 - 13 ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.46078.0020 1.46078.0100	20 PC 100 PC	inquire inquire
146145	GSP-A. (Pseudomon./Aeromon.)	■ LGK 10 - 13	1.46145.0020	20 PC	inquire
146099	King's B Medium (Slant)	■ LGK 10 - 13	1.46099.0020	20 PC	inquire

## Salmonella/Shigella

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146071	BPLS Agar	■ LGK 10 - 13	1.46071.0020	20 PC	inquire
146262	MSRV Medium + Novobiocin	■ LGK 10 - 13	1.46262.0100	100 PC	inquire
146290	OF Medium	■ LGK 10 - 13	1.46290.0020	20 PC	inquire
146068	Rambach Agar	■ LGK 10 - 13	1.46068.0020 1.46068.0100	20 PC 100 PC	inquire inquire
146130	Salmonellen Ident Agar	■ LGK 10 - 13	1.46130.0020	20 PC	inquire
146179	Selenite Broth	■ GHS: Warning, Acute toxicity, Category 4, Oral, H302 ■ LGK 10 - 13	1.46179.0020 1.46179.0100	20 PC 100 PC	inquire inquire
146126	XLD Agar EP+USP	■ LGK 10 - 13	1.46126.0020 1.46126.0100	20 PC 100 PC	inquire inquire



## Staphylococci/MRSA

146137	Baird Parker Agar EP	■ LGK 10 - 13	1.46137.0020 1.46137.0100	20 PC 100 PC	inquire inquire
146157	Mannitol Salt Agar	■ LGK 10 - 13	1.46157.0020 1.46157.0100	20 PC 100 PC	inquire inquire
146309	MRSA Ident Agar	■ LGK 10 - 13	1.46309.0020 1.46309.0100	20 PC 100 PC	inquire inquire
146310	MRSA Ident Broth	■ LGK 10 - 13	1.46310.0020 1.46310.0100	20 PC 100 PC	inquire inquire

## Streptococci

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146453	B-Streptococci Enrichment B.	■ LGK 10 - 13	1.46453.0020	20 PC	inquire
146320	Streptococcus Selective Agar	■ LGK 10 - 13	1.46320.0020 1.46320.0100	20 PC 100 PC	inquire inquire

## Trichomonas

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146210	Trichomonas Medium	■ LGK 10 - 13	1.46210.0020	20 PC	inquire

## Urine derived microorganisms

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146037	Bile Chrysoid. Glycer. A+MUG	■ LGK 10 - 13	1.46037.0020 1.46037.0100	20 PC 100 PC	inquire inquire
146070	Urine 3G Agar II	■ LGK 10 - 13	1.46070.0020 1.46070.0100	20 PC 100 PC	inquire inquire

## Vibrio cholerae

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146091	TCBS Agar	■ LGK 10 - 13	1.46091.0020	20 PC	inquire

## Yeast and molds

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146098	Candida II Agar	■ LGK 10 - 13	1.46098.0020	20 PC	inquire
146305	Candida Ident Agar	■ LGK 10 - 13	1.46305.0020 1.46305.0100	20 PC 100 PC	inquire inquire
146021	Cand. Select A acc Nickerson	■ LGK 10 - 13	1.46021.0020 1.46021.0100	20 PC 100 PC	inquire inquire
146273	C.ide.(I)/Sab.+Genta/Cm(II)	■ LGK 10 - 13	1.46273.0100	100 PC	inquire
146089	Dermatophyte A acc to Taplin	■ LGK 10 - 13	1.46089.0020	20 PC	inquire
146151	Malt Extract Agar	■ LGK 10 - 13	1.46151.0020 1.46151.0100	20 PC 100 PC	inquire inquire
146174	Rice Extract Agar	■ LGK 10 - 13	1.46174.0020	20 PC	inquire
146236	Sab-Dextr-Agar acc. EP+USP	■ LGK 10 - 13	1.46236.0020 1.46236.0100	20 PC 100 PC	inquire inquire
146214	Sab.Gluc.(2%) Agar + Gent/Cm	■ LGK 10 - 13	1.46214.0020 1.46214.0100	20 PC 100 PC	inquire inquire
146107	Sabouraud Glucose (2%) Agar	■ LGK 10 - 13	1.46107.0020 1.46107.0100	20 PC 100 PC	inquire inquire
146299	Sabouraud Glucose (2%) Broth	■ LGK 10 - 13	1.46299.0020	20 PC	inquire
146056	Sabouraud Glucose (4%) Slant	■ LGK 10 - 13	1.46056.0020	20 PC	inquire
146215	Sabour.Gluc.Agar + Pen/Strep	■ LGK 10 - 13	1.46215.0020 1.46215.0100	20 PC 100 PC	inquire inquire
146298	SDA w. Chloramphenicol	■ LGK 10 - 13	1.46298.0020	20 PC	inquire
146442	SDA w. Cm acc. EP	■ LGK 10 - 13	1.46442.0020 1.46442.0100	20 PC 100 PC	inquire inquire
146057	Sel. A. f. Pathogenic Fungi	■ LGK 10 - 13	1.46057.0020	20 PC	inquire
146158	Sel. Agar f. Pathog. Fungi	■ LGK 10 - 13	1.46158.0020 1.46158.0100	20 PC 100 PC	inquire inquire

## Yersinia

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146199	Phosphate Buffer Solution	■ LGK 10 - 13	1.46199.0100	100 PC	inquire



# In Vitro Diagnostics - Microbiology

## Yersinia

146454	Yersinia Enrichment B. (IC)	■ LGK 10 - 13	1.46454.0020	20 PC	<a href="#">inquire</a>
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## Transport media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
146494	Stuart Transp. Med. w. Swab	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.46494.0100	100 PC	<a href="#">inquire</a>
			1.46494.0500	500 PC	<a href="#">inquire</a>

Analyt. Chromatography

Analytical Test Kits

BioMonitoring

Instr. Analysis

IVD






Lab Water

Peptide Synthesis

Solvents

## Reagents for Microscopy













### Fixing Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
100496	Formaldehyde solution 4%, buffered, pH 6.9 (approx. 10% Formalin solution) for histology	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317;</li> </ul>	1.00496.5000	5 l	inquire
			1.00496.9010	4 x 5 l	inquire
			1.00496.9011	10 l	inquire
				10 l	inquire
104003	Formaldehyde solution min. 37% GR for analysis stabilized with about 10% methanol ACS, Reag. Ph Eur	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311;</li> </ul>	1.04003.1000	1 l	inquire
			1.04003.2500	6 x 1 l	inquire
			1.04003.5000	2.5 l	inquire
			1.04003.9025	4 x 2.5 l	inquire
				5 l	inquire
103999	Formaldehyde solution min. 37% free from acid stabilized with about 10% methanol and calcium carbonate for histology	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311;</li> </ul>	1.03999.1000	4 x 5 l	inquire
			1.03999.2500	25 l	inquire
			1.03999.9025	6 x 1 l	inquire
				2.5 l	inquire
104239	Glutardialdehyde solution 25% for electron microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1B, H314;</li> </ul>	1.04239.0250	250 ml	inquire
			1.04239.1000	6 x 250 ml	inquire
			1.04239.2500	1 l	inquire
				6 x 1 l	inquire
112179	Glutardialdehyde solution 25% for electron microscopy, acc. to P.J. Anderson (purified and filled under nitrogen)	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1B, H314;</li> </ul>	1.12179.0025	25 ml	inquire
			1.12179.0100	6 x 25 ml	inquire
				100 ml	inquire
				6 x 100 ml	inquire
					inquire






# In Vitro Diagnostics - Microscopy

## Reagents for Microscopy



### Fixing Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
111955	Hemacolor® Rapid staining of blood smear Solution 1: fixing solution	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.11955.2500	2.5 l 4 x 2.5 l	inquire inquire
112327	LEUCOGNOST® Fixing Mixture for enzyme cytochemistry	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 2, H351; Specific target organ toxicity - single exposure, Category 3, H336  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.12327.0500	500 ml 6 x 500 ml	inquire inquire
103981	M-FIX™ spray fixative for cytodiagnosis	 ■ GHS: Danger, Flammable liquid, Category 2, H225  ■ LGK 3 ■ Store at +15°C to +25°C.	1.03981.0102 1.03981.1000	100 ml 20 x 100 ml 1 l 6 x 1 l	inquire inquire inquire inquire
109266	Osmic acid solution 2% for electron microscopy	 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319  ■ LGK 6.1 D ■ Store at +15°C to +25°C.	1.09266.0005	5 ml	inquire
124505	Osmium(VIII) oxide for microscopy	 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1B, H314  ■ LGK 6.1B ■ Store at +15°C to +25°C.	1.24505.0001 1.24505.0100 1.24505.0500	1 g 100 mg 500 mg	inquire inquire inquire



### Decalcifier for Histology

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
101736	OSTEOMOLL® rapid decalcifier-solution for Histology	 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 2, H351; Specific target organ toxicity - single exposure, Category 3, H335  ■ LGK 8B ■ Store at +15°C to +25°C. 	1.01736.1000 1.01736.2500	1 l	inquire inquire
101728	OSTEOSOFT® mild decalcifier-solution for histology	 ■ GHS: Warning, Eye irritation, Category 2, H319  ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.01728.1000 1.01728.9010	1 l 10 l	inquire inquire









## Embedding Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
111609	Histosec® pastilles solidification point 56–58°C embedding agent for histology	■ LGK 10 – 13	1.11609.2504	4 x 2.5 kg	inquire
			1.11609.9025	4 x 4 x 2.5 kg	inquire
				25 kg	inquire
115161	Histosec® pastilles (without DMSO) solidification point 56–58°C embedding agent for histology	■ LGK 10 – 13	1.15161.2504	4 x 2.5 kg	inquire
			1.15161.9025	4 x 4 x 2.5 kg	inquire
				25 kg	inquire
109242	Kaiser's glycerol gelatine for microscopy	  ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Germ cell mutagenicity, Category 2, H341 ■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.09242.0100	100 g 6 x 100 g	inquire inquire
107164	Paraffin pastilles solidification point about 56–58°C for histology	■ LGK 10 – 13	1.07164.2504	4 x 2.5 kg	inquire

## Aqueous Mounting Media










Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
108562	Aquatex® (aqueous mounting agent) for microscopy	■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.08562.0050	50 ml 10 x 50 ml	inquire inquire
109242	Kaiser's glycerol gelatine for microscopy	  ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Germ cell mutagenicity, Category 2, H341 ■ LGK 10 – 13 ■ Store at +15°C to +25°C.	1.09242.0100	100 g 6 x 100 g	inquire inquire

## Non-aqueous Mounting Media







Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
101691	Canada balsam for microscopy	 ■ GHS: Warning, Flammable liquid, Category 3, H226 ■ LGK 3	1.01691.0025	25 ml	inquire
			1.01691.0100	10 x 25 ml 100 ml	inquire inquire
				10 x 100 ml	inquire
101979	DPX non-aqueous mounting medium for microscopy	    ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Reproductive toxicity, Category 1B, H360Df ■ LGK 3 ■ Store at +15°C to +25°C.	1.01979.0500	500 ml 6 x 500 ml	inquire inquire
107960	Entellan® rapid mounting medium for microscopy	   ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304 ■ LGK 3 ■ Store at +15°C to +25°C.	1.07960.0500	500 ml 6 x 500 ml	inquire inquire

# In Vitro Diagnostics - Microscopy

## Non-aqueous Mounting Media

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
107961	Entellan® new rapid mounting medium for microscopy	 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315  ■ LGK 3 ■ Store at +15°C to +25°C.	1.07961.0100	100 ml	<a href="#">inquire</a>
			1.07961.0500	10 x 100 ml	<a href="#">inquire</a>
			1.07961.1000	500 ml 6 x 500 ml 1 l 6 x 1 l	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
100869	Entellan® new for cover slipper for microscopy	 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315  ■ LGK 3 ■ Store at +15°C to +25°C.	1.00869.0500	500 ml 6 x 500 ml	<a href="#">inquire</a> <a href="#">inquire</a>
103973	Merckoglas® liquid cover glass for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.03973.0001	500 ml 6 x 500 ml	<a href="#">inquire</a> <a href="#">inquire</a>
109016	Neo-Mount® anhydrous mounting medium for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336  ■ LGK 3 ■ Store at +15°C to +25°C.	1.09016.0100	100 ml	<a href="#">inquire</a>
			1.09016.0500	500 ml 6 x 500 ml	<a href="#">inquire</a> <a href="#">inquire</a>

## Immersion Media












Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
104095	Glycerol for fluorescence microscopy	■ LGK 10	1.04095.0250	250 ml	<a href="#">inquire</a>
104699	Immersion oil for microscopy	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411  ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04699.0100	100 ml	<a href="#">inquire</a>
			1.04699.0500	10 x 100 ml 500 ml 6 x 500 ml	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
115577	Immersion oil acc. to ISO 8036 modified for microscopy	 ■ GHS: Danger, Carcinogenicity, Category 2, H351; Reproductive toxicity, Category 1B, H360Df; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410  ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.15577.0100	100 ml 10 x 100 ml	<a href="#">inquire</a> <a href="#">inquire</a>
106965	Oil of cedar wood for microscopy	 ■ GHS: Warning, Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410  ■ LGK 10 ■ Store at +15°C to +25°C.	1.06965.0100	100 ml 10 x 100 ml	<a href="#">inquire</a> <a href="#">inquire</a>
			1.06965.0500	500 ml 6 x 500 ml	<a href="#">inquire</a> <a href="#">inquire</a>

## Buffers

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
111373	Buffer tablets pH 6.4 for preparing buffer solution acc. to WEISE for the staining of blood smears	■ LGK 10 - 13	1.11373.0100	100 tabs 10 x 100 tabs	inquire inquire
111374	Buffer tablets pH 6.8 for preparing buffer solution acc. to WEISE for the staining of blood smears	■ LGK 10 - 13	1.11374.0100	100 tabs 10 x 100 tabs	inquire inquire
109468	Buffer tablets pH 7.2 for preparing buffer solution acc. to WEISE for staining of blood smears	■ LGK 10 - 13	1.09468.0100	100 tabs 10 x 100 tabs	inquire inquire

## Dyes for Microscopy








### Certistain® – Dyes for Microscopy

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
115931	Acridine orange zinc chloride double salt (C.I.46005) for microscopy Certistain®	 ■ GHS: Warning, Germ cell mutagenicity, Category 2, H341 ■ LGK 10 - 13	1.15931.0025	25 g	inquire
105234	Alcian blue 8 GX (C.I.74240) for microscopy Certistain®	■ LGK 10 - 13	1.05234.0010	10 g	inquire
101368	Brilliant cresyl blue zinc chloride double salt for microscopy Certistain®	■ LGK 10 - 13	1.01368.0025	25 g	inquire
101374	Brilliant green (hydrogen sulfate) (C.I. 42040) for microscopy Certistain®	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319 ■ LGK 10 - 13	1.01374.0025	25 g	inquire
115933	Carmine (C.I. 75470) (calcium-aluminium lacquer of carminic acid) for microscopy Certistain®	■ LGK 10 - 13	1.15933.0005 1.15933.0025	5 g 25 g	inquire inquire
105235	Cresyl violet (acetate) for microscopy Certistain®	■ LGK 10 - 13	1.05235.0025	25 g	inquire
115940	Crystal violet (C.I. 42555) for microscopy Certistain®	    ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Carcinogenicity, Category 2, H351; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410 ■ LGK 10 - 13	1.15940.0025 1.15940.0100	25 g 100 g	inquire inquire
115934	Eosin B (bluish) (C.I.45400) for microscopy Certistain®	■ LGK 10 - 13	1.15934.0025 1.15934.0100	25 g 100 g	inquire inquire
117081	Eosin Y solution 1%, alcoholic for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225 ■ LGK 3 ■ Store at +15°C to +25°C.	1.17081.1000	250 ml	inquire
115935	Eosin Y (yellowish) (C.I. 45380) for microscopy Certistain®	 ■ GHS: Warning, Eye irritation, Category 2, H319 ■ LGK 10 - 13	1.15935.0025 1.15935.0100	25 g 100 g	inquire inquire
115936	Erythrosine B (C.I. 45430) for microscopy Certistain®	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302 ■ LGK 10 - 13	1.15936.0010 1.15936.0025	10 g 25 g	inquire inquire
104022	Fast green FCF (C.I. 42053) for microscopy Certistain®	 ■ GHS: Warning, Germ cell mutagenicity, Category 2, H341 ■ LGK 10 - 13	1.04022.0025	25 g	inquire
105231	Fuchsin acid (C.I. 42685) for microscopy Certistain®	■ LGK 10 - 13	1.05231.0025	25 g	inquire
115937	Fuchsin (C.I. 42510) for microscopy Certistain®	 ■ GHS: Danger, Carcinogenicity, Category 1B, H350 ■ LGK 6.1A	1.15937.0025 1.15937.0100	25 g 100 g	inquire inquire
115938	Hematoxylin monohydrate (C.I.75290) for microscopy Certistain®	■ LGK 10 - 13	1.15938.0025 1.15938.0100	25 g 100 g	inquire inquire
101324	Janus green (C.I. 11050) for microscopy	■ LGK 10 - 13	1.01324.0010	10 g	inquire
115941	Light green SF yellowish (C.I. 42095) for microscopy Certistain®	■ LGK 10 - 13	1.15941.0025 1.15941.0100	25 g 100 g	inquire inquire

# In Vitro Diagnostics - Microscopy

## Dyes for Microscopy

### Certistain® - Dyes for Microscopy













Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
115942	Malachite green oxalate (C.I. 42000) for microscopy Certistain®	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Reproductive toxicity, Category 2, H361d; Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410</li> <li>■ LGK 6.1 C</li> </ul>	1.15942.0025 1.15942.0100	25 g 100 g	<a href="#">inquire</a> <a href="#">inquire</a>
115943	Methylene blue (C.I. 52015) for microscopy Certistain®	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Acute toxicity, Category 4, Oral, H302</li> <li>■ LGK 10 - 13</li> </ul>	1.15943.0025 1.15943.0100	25 g 100 g	<a href="#">inquire</a> <a href="#">inquire</a>
115944	Methyl green zinc chloride double salt (C.I. 42590) for microscopy Certistain®	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Skin corrosion, Category 1B, H314; Carcinogenicity, Category 2, H351; Chronic aquatic toxicity, Category 2, H411</li> <li>■ LGK 8A</li> </ul>	1.15944.0025	25 g	<a href="#">inquire</a>
101376	Neutral red (C.I. 50040) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.01376.0025	25 g	<a href="#">inquire</a>
105226	New fuchsin (C.I. 42520) for microscopy Certistain®	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Carcinogenicity, Category 1B, H350</li> <li>■ LGK 6.1A</li> </ul>	1.05226.0100	100 g	<a href="#">inquire</a>
115924	Nigrosine (C.I. 50420) water-soluble for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.15924.0025	25 g	<a href="#">inquire</a>
115946	Nile blue (hydrogen sulfate) (C.I. 51180) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.15946.0025	25 g	<a href="#">inquire</a>
115939	Nuclear fast red (C.I. 60760) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.15939.0025	25 g	<a href="#">inquire</a>
105230	Oil red O (C.I. 26125) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.05230.0025	25 g	<a href="#">inquire</a>
102419	Oil red O color solution for the detection of neutral lipids in cryo sections for microscopy	  <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.02419.0250	250 ml	<a href="#">inquire</a>
115925	Orange G (C.I. 16230) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.15925.0025	25 g	<a href="#">inquire</a>
107100	Orcein for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.07100.0005 1.07100.0025	5 g 25 g	<a href="#">inquire</a> <a href="#">inquire</a>
107509	Pararosaniline (chloride) (C.I. 42500) for microscopy Certistain®	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Carcinogenicity, Category 1B, H350</li> <li>■ LGK 6.1A</li> </ul>	1.07509.0025 1.07509.0100	25 g 100 g	<a href="#">inquire</a> <a href="#">inquire</a>
115926	Phloxin B (C.I. 45410) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.15926.0025	25 g	<a href="#">inquire</a>
115927	Ponceau S (C.I. 27195) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.15927.0025	25 g	<a href="#">inquire</a>
107518	Pyronine G (C.I. 45005) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.07518.0025	25 g	<a href="#">inquire</a>
115948	Safranin O (C.I. 50240) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.15948.0025	25 g	<a href="#">inquire</a>
115929	Thionine (acetate) (C.I. 52000) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.15929.0025	25 g	<a href="#">inquire</a>
115930	Toluidine blue O (C.I.52040) for microscopy Certistain®	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.15930.0025	25 g	<a href="#">inquire</a>

### Dyes and Dye Mixtures

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
101167	Amido black 10 B (C.I. 20470) for electrophoresis	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.01167.0025 1.01167.0100 1.01167.1000	25 g 100 g 1 kg	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>





## Dyes and Dye Mixtures

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
101301	Auramine O (C.I. 41000) for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319;</li> </ul>  <ul style="list-style-type: none"> <li>■ Carcinogenicity, Category 2, H351; Chronic aquatic toxicity, Category 2, H411</li> </ul>  <ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.01301.0050	50 g	inquire
109211	Azure II (C.I. 52010/52015) for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Acute toxicity, Category 4, Oral, H302</li> </ul> <ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.09211.0010	10 g	inquire
100211	Carminic acid (C.I. 75470) GR for analysis and for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.00211.0005	5 g	inquire
124653	4',6-Diamidino-2-phenylindole dihydrochloride (DAPI) for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.24653.0100	100 mg	inquire
124546	Fluorescein-5-isothiocyanate (FITC) for biochemistry and for fluorescence microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul> <ul style="list-style-type: none"> <li>■ Store at +2°C to +8°C.</li> </ul>	1.24546.0250	250 mg	inquire
109203	Giemsa's azur-eosin-methylene blue for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Eye irritation, Category 2, H319</li> </ul> <ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.09203.0025 1.09203.0100	25 g 100 g	inquire inquire
111487	Hematein (C.I. 75290) for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul> <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.11487.0025	25 g	inquire
104302	Hematoxylin cryst. (C.I. 75290) for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.04302.0025 1.04302.0100	25 g 100 g	inquire inquire
101350	Leishman's eosine methylene blue for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Eye irritation, Category 2, H319</li> </ul> <ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.01350.0010	10 g	inquire
101398	Malachite green oxalate (C.I. 42000) for microscopy and for microbiology	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Reproductive toxicity, Category 2, H361d; Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410</li> </ul>  <ul style="list-style-type: none"> <li>■ LGK 6.1 C</li> </ul>	1.01398.0025 1.01398.0100	25 g 100 g 6 x 100 g	inquire inquire inquire
101352	May-Grünwald's eosin methylene blue for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319</li> </ul> <ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.01352.0025 1.01352.0100	25 g 100 g	inquire inquire
116316	Methyl blue (C.I. 42780) for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.16316.0050	50 g	inquire
106731	Neocarmine MS "Fesago" color reagent for the detection of textile fibres	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul> <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.06731.1000	1 l	inquire
106732	Neocarmine W "Fesago" color reagent for the detection of textile fibres	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul> <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.06732.1000	1 l	inquire
124823	Nitro blue tetrazolium chloride (NBT) for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul> <ul style="list-style-type: none"> <li>■ Store at +2°C to +8°C.</li> </ul>	1.24823.0500	500 mg	inquire
102419	Oil red O color solution for the detection of neutral lipids in cryo sections for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336</li> </ul>  <ul style="list-style-type: none"> <li>■ LGK 3</li> </ul> <ul style="list-style-type: none"> <li>■ Store at +15°C to +25°C.</li> </ul>	1.02419.0250	250 ml	inquire
107599	Rhodamine B (C.I. 45170) for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 3, H412</li> </ul> <ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.07599.0025 1.07599.0100	25 g 100 g	inquire inquire
108103	Tetrazolium blue for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> </ul>	1.08103.0005	5 g	inquire










# In Vitro Diagnostics - Microscopy

## Dyes and Dye Mixtures




Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
111732	Trypan blue (C.I. 23850) for microscopy	 ■ GHS: Danger, Carcinogenicity, Category 1B, H350 ■ LGK 6.1A	1.11732.0025	25 g	inquire
109278	Wright's eosine methylene blue for microscopy	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319 ■ LGK 10 - 13	1.09278.0025	25 g	inquire

## Bacteriology













### Gram Staining

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
111885	Gram-color Stain set for the Gram staining method	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C. 	1.11885.0001	5 x 500 ml	inquire
101603	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	 ■ GHS: Danger ■ LGK 3 ■ Store at +15°C to +25°C.  	1.01603.0001	1 set	inquire
109218	Gram's crystal violet solution for the Gram staining method	 ■ GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 3, H412 ■ LGK 3 ■ Store at +15°C to +25°C.	1.09218.0500 1.09218.2500	500 ml 6 x 500 ml 2.5 l 4 x 2.5 l	inquire inquire inquire inquire
110218	Gram's decolorizing solution for the Gram staining method	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336 ■ LGK 3 ■ Store at +15°C to +25°C. 	1.10218.0500 1.10218.2500	500 ml 6 x 500 ml 2.5 l 4 x 2.5 l	inquire inquire inquire inquire
109217	Gram's safranin solution for the Gram staining method	 ■ GHS: Warning, Flammable liquid, Category 3, H226 ■ LGK 3 ■ Store at +15°C to +25°C.	1.09217.0500 1.09217.2500	500 ml 6 x 500 ml 2.5 l 4 x 2.5 l	inquire inquire inquire inquire
100567	Lugol's solution stabilized with PVP for the Gram staining	■ LGK 10 - 13 ■ Store at +15°C to +25°C. ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.00567.1000 1.00567.2500	1 l 6 x 1 l 4 x	inquire inquire inquire inquire
109261	Lugol's solution (diluted iodine-potassium iodide solution) for the Gram staining method	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09261.1000 1.09261.2500	1 l 6 x 1 l 2.5 l 4 x 2.5 l	inquire inquire inquire inquire

### Staining of Mycobacteria




Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
100327	Hydrochloric acid in ethanol for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225 ■ LGK 3	1.00327.1000 1.00327.5000	1 l 6 x 1 l 5 l	inquire inquire inquire
108000	Sputofluol® for microbiology and microscopy	 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314; Acute aquatic toxicity, Category 1, H400 ■ LGK 8B ■ Store at +15°C to +25°C. 	1.08000.1000	1 l 6 x 1 l	inquire inquire

## Staining of Mycobacteria







Cat.No.	Designation	Transport	Ord.No.	Quantity	Price	
108512	Tb-color carbol fuchsin solution for the microscopic cold staining of mycobacteria	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314; Germ cell mutagenicity, Category 2, H341</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.08512.0500	500 ml	inquire	
			1.08512.2500	6 x 500 ml	inquire	
				2.5 l	inquire	
				4 x 2.5 l	inquire	
110630	Tb-color malachite green (oxalate) solution for the microscopic investigation of mycobacteria (cold staining)	<ul style="list-style-type: none"> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.10630.0500	500 ml	inquire	
				6 x 500 ml	inquire	
100497	Tb-color modified Staining kit for the detection of mycobacteria (AFB) by hot staining method	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.00497.0001	1 unit	inquire	
						
						
116450	Tb-color staining kit for the microscopic investigation of mycobacteria (cold staining)	<ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.16450.0001	1 set	inquire	
						
						
						
109093	TB-fluor Staining kit for fluorescence-microscopic detection of acid fast bacteria	<ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.09093.0001	6 x 500 ml	inquire	
						
						
						
101597	TB-Fluor phenol-free Staining kit for the acid-fast smear examination with fluorescence microscopy (Auramin-Rhodamine staining)	<ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.01597.0001	1 set	inquire	
						
						
109215	Ziehl-Neelsen carbol-fuchsin solution for microscopy	<ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314; Germ cell mutagenicity, Category 2, H341</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.09215.0100	100 ml	inquire	
			1.09215.0500	12 x 100 ml	inquire	
			1.09215.2500	500 ml	inquire	
				6 x 500 ml	inquire	
				2.5 l	inquire	
				4 x 2.5 l	inquire	

# In Vitro Diagnostics - Microscopy





## Trichomonad Staining

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
115355	CYTOCOLOR® Cytological standard stain acc. to Szczepanik for microscopy CYTOCOLOR®	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.15355.0001	6 x 500 ml	inquire

## Staining Solutions for Bacteriology











Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
109204	Giemsa's azur eosin methylene blue solution for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225;  Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311;  Specific target organ toxicity - single exposure, Category 1, H370 ■ LGK 3 ■ Store at +15°C to +25°C.	1.09204.0100	100 ml	inquire
			1.09204.0500	12 x 100 ml	inquire
			1.09204.1000	500 ml	inquire
			1.09204.2500	6 x 500 ml	inquire
113741	Lactophenol blue solution for staining fungi	 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312;  Skin corrosion, Category 1B, H314; Germ cell mutagenicity, Category 2, H341; Specific target organ toxicity - repeated exposure, Category 2, H373 ■ LGK 6.1B ■ Store at +15°C to +25°C.	1.13741.0100	100 ml	inquire
				6 x 100 ml	inquire
101287	Löffler's methylene blue solution for microscopy	 ■ GHS: Warning, Flammable liquid, Category 3, H226 ■ LGK 3 ■ Store at +15°C to +25°C.	1.01287.0100	100 ml	inquire
			1.01287.0500	12 x 100 ml	inquire
			1.01287.2500	500 ml	inquire
				6 x 500 ml	inquire
			2.5 l	inquire	
			4 x 2.5 l	inquire	

## Auxiliaries for Bacteriology

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
104699	Immersion oil for microscopy	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411  ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.04699.0100	100 ml	inquire
			1.04699.0500	10 x 100 ml	inquire
115577	Immersion oil acc. to ISO 8036 modified for microscopy	 ■ GHS: Danger, Carcinogenicity, Category 2, H351; Reproductive toxicity, Category 1B, H360Df; Acute aquatic toxicity, Category 1, H400;  Chronic aquatic toxicity, Category 1, H410 ■ LGK 6.1A ■ Store at +15°C to +25°C.	1.15577.0100	100 ml	inquire
				10 x 100 ml	inquire




## Cytology

### Papanicolaou Solutions



Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
109253	Papanicolaou's solution 1a Harris' hematoxylin solution for cytological cancer and cycle diagnosis	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09253.0500	500 ml	inquire
			1.09253.1000	6 x 500 ml	inquire
				1 l	inquire
			1.09253.2500	6 x 1 l	inquire
				2.5 l	inquire
				4 x 2.5 l	inquire
109254	Papanicolaou's solution 1b Hematoxylin solution S for cytological cancer and cycle diagnosis	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09254.0500	500 ml	inquire
			1.09254.2500	6 x 500 ml	inquire
				2.5 l	inquire
				4 x 2.5 l	inquire
106888	Papanicolaou's solution 2a Orange G solution (OG 6) for cytological cancer and cycle diagnosis	 ■ GHS: Danger, Flammable liquid, Category 2, H225 ■ LGK 3 ■ Store at +15°C to +25°C.	1.06888.0500	500 ml	inquire
			1.06888.1000	6 x 500 ml	inquire
				1 l	inquire
			1.06888.2500	6 x 1 l	inquire
				2.5 l	inquire
				4 x 2.5 l	inquire
106887	Papanicolaou's solution 2b Orange II solution for cytological cancer and cycle diagnosis	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C.	1.06887.0500	500 ml	inquire
			1.06887.2500	6 x 500 ml	inquire
				2.5 l	inquire
				4 x 2.5 l	inquire
109271	Papanicolaou's solution 3a polychromatic solution EA 31 for cytological cancer and cycle diagnosis	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C.	1.09271.0500	500 ml	inquire
			1.09271.2500	6 x 500 ml	inquire
				2.5 l	inquire
				4 x 2.5 l	inquire
109272	Papanicolaou's solution 3b polychromatic solution EA 50 for cytological cancer and cycle diagnosis	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C.	1.09272.0500	500 ml	inquire
			1.09272.1000	6 x 500 ml	inquire
			1.09272.2500	1 l	inquire
				6 x 1 l	inquire
				2.5 l	inquire
				4 x 2.5 l	inquire
109270	Papanicolaou's solution 3c Polychromatic solution EA 65 (staining effect: red) for cytological cancer and cycle diagnosis	 ■ GHS: Danger, Flammable liquid, Category 2, H225 ■ LGK 3 ■ Store at +15°C to +25°C.	1.09270.0100	100 ml	inquire
				12 x 100 ml	inquire
109269	Papanicolaou's solution 3d polychromatic solution EA 65 (staining effect: blue-green) for cytological cancer and cycle diagnosis	 ■ GHS: Danger, Flammable liquid, Category 2, H225 ■ LGK 3 ■ Store at +15°C to +25°C.	1.09269.0100	100 ml	inquire
			1.09269.2500	12 x 100 ml	inquire
				2.5 l	inquire
				4 x 2.5 l	inquire

# In Vitro Diagnostics - Microscopy












## Cytocolor®

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
115355	CYTOCOLOR® Cytological standard stain acc. to Szczepanik for microscopy CYTOCOLOR®	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.15355.0001	6 x 500 ml	inquire
101971	Neo-Cytocolor Quick Staining Kit - for cytological samples for microscopy Neo-Cytocolor®	■ LGK 3 ■ Store at +15°C to +25°C.	1.01971.0001	6x 500 ml	inquire









## Hematoxylin Solutions modified according to Gill

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
105175	Hematoxylin solution modified acc. to Gill II for microscopy	 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05175.0500 1.05175.2500	500 ml 6 x 500 ml 2.5 l 4 x 2.5 l	inquire inquire inquire inquire
105174	Hematoxylin solution modified acc. to Gill III for microscopy	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.05174.0500 1.05174.1000 1.05174.2500	500 ml 6 x 500 ml 1 l 6 x 1 l 2.5 l 4 x 2.5 l	inquire inquire inquire inquire inquire inquire

## Other Staining Solutions for Cytology

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
109204	Giemsa's azur eosin methylene blue solution for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.09204.0100 1.09204.0500 1.09204.1000 1.09204.2500	100 ml 12 x 100 ml 500 ml 6 x 500 ml 1 l 6 x 1 l 2.5 l 4 x 2.5 l	inquire inquire inquire inquire inquire inquire inquire inquire
111661	Hemacolor® Rapid staining of blood smear staining set for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.11661.0001	3 x 500 ml	inquire
111674	Hemacolor® Rapid staining of blood smear staining set for microscopy	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.11674.0001	3 x 100 ml	inquire
109275	Shorr staining solution for hormonal cytodiagnosis	 ■ GHS: Danger, Flammable liquid, Category 2, H225  ■ LGK 3 ■ Store at +15°C to +25°C.	1.09275.0500	500 ml 6 x 500 ml	inquire inquire

## Auxiliaries for Cytology













Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
101691	Canada balsam for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Flammable liquid, Category 3, H226</li> <li>■ LGK 3</li> </ul>	1.01691.0025	25 ml	<a href="#">inquire</a>
			1.01691.0100	10 x 25 ml	<a href="#">inquire</a>
				100 ml	<a href="#">inquire</a>
				10 x 100 ml	<a href="#">inquire</a>
101979	DPX non-aqueous mounting medium for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Reproductive toxicity, Category 1B, H360Df</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.01979.0500	500 ml	<a href="#">inquire</a>
				6 x 500 ml	<a href="#">inquire</a>
107960	Entellan® rapid mounting medium for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.07960.0500	500 ml	<a href="#">inquire</a>
				6 x 500 ml	<a href="#">inquire</a>
107961	Entellan® new rapid mounting medium for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.07961.0100	100 ml	<a href="#">inquire</a>
			1.07961.0500	10 x 100 ml	<a href="#">inquire</a>
				500 ml	<a href="#">inquire</a>
				6 x 500 ml	<a href="#">inquire</a>
				1 l	<a href="#">inquire</a>
				6 x 1 l	<a href="#">inquire</a>
100869	Entellan® new for cover slipper for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.00869.0500	500 ml	<a href="#">inquire</a>
				6 x 500 ml	<a href="#">inquire</a>
103973	Merckoglas® liquid cover glass for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.03973.0001	500 ml	<a href="#">inquire</a>
				6 x 500 ml	<a href="#">inquire</a>
109843	Neo-Clear® (xylene substitute) for microscopy Neo-Clear®	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 4, H413</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.09843.5000	5 l	<a href="#">inquire</a>
			1.09843.9025	4 x 5 l	<a href="#">inquire</a>
				25 l	<a href="#">inquire</a>
109016	Neo-Mount® anhydrous mounting medium for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.09016.0100	100 ml	<a href="#">inquire</a>
			1.09016.0500	500 ml	<a href="#">inquire</a>
				6 x 500 ml	<a href="#">inquire</a>






# In Vitro Diagnostics - Microscopy

## Hematology







### Hemacolor® the Rapid Staining Kit

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
115213	Auto-Hemacolor® Staining set for automatic blood smear staining with the HEMA-TEK Slide Stainer	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.15213.0001	1 set	inquire
111955	Hemacolor® Rapid staining of blood smear Solution 1: fixing solution	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.11955.2500	2.5 l 4 x 2.5 l	inquire inquire
111956	Hemacolor® Rapid staining of blood smear Solution 2 colour reagent red	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11956.2500	2.5 l 4 x 2.5 l	inquire inquire
111957	Hemacolor® Rapid staining of blood smear Solution 3 colour reagent blue	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.11957.2500	2.5 l 4 x 2.5 l	inquire inquire
111674	Hemacolor® Rapid staining of blood smear staining set for microscopy	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.11674.0001	3 x 100 ml	inquire
111661	Hemacolor® Rapid staining of blood smear staining set for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.11661.0001	3 x 500 ml	inquire

### Other Staining Solutions for Hematology

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
109204	Giemsa's azur eosin methylene blue solution for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.09204.0100 1.09204.0500 1.09204.1000 1.09204.2500	100 ml 12 x 100 ml 500 ml 6 x 500 ml 1 l 6 x 1 l 2.5 l 4 x 2.5 l	inquire inquire inquire inquire inquire inquire inquire inquire
112084	HEMATOGNOST Fe® staining kit for the detection of free ionic iron (Fe <sup>3+</sup> ) in cells	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12084.0001	4 x 250 ml	inquire





## Other Staining Solutions for Hematology

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
105387	Leishman's eosin methylene blue solution modified for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C.	1.05387.0500	500 ml	inquire
			1.05387.1022	6 x 500 ml	inquire
101424	May-Grünwald's eosine-methylene blue solution modified for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C.	1.01424.0100	100 ml	inquire
			1.01424.0500	12 x 100 ml	inquire
			1.01424.1000	500 ml	inquire
			1.01424.2500	6 x 500 ml	inquire
			1.01424.1000	1 l	inquire
101383	Wright's eosin methylene blue solution for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370  ■ LGK 3 ■ Store at +15°C to +25°C.	1.01383.0100	100 ml	inquire
			1.01383.0500	500 ml	inquire
			1.01383.2500	6 x 500 ml	inquire
			1.01383.2500	2.5 l	inquire
			1.01383.2500	4 x 2.5 l	inquire

## Staining Foils for Microscopy













Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
115332	Sangodiff® G Staining foils for manual staining of blood smears	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.15332.0001	100 units	inquire

## LEUCOGNOST®




Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
116300	LEUCOGNOST® ALPA Detection of the alkaline leukocyte phosphatase activity in leukocytes	 ■ GHS: Danger  ■ LGK 6.1C ■ Store at +2°C to +8°C.	1.16300.0002	12 units	inquire
			1.16304.0002	12 units	inquire
116304	LEUCOGNOST® AP Detection of the acid phosphatase reaction in leukocytes	 ■ GHS: Danger  ■ LGK 3 ■ Store at +2°C to +8°C.	1.16300.0002	12 units	inquire
			1.16304.0002	12 units	inquire
			1.16304.0002	12 units	inquire
			1.16304.0002	12 units	inquire
			1.16304.0002	12 units	inquire

# In Vitro Diagnostics - Microscopy




## LEUCOGNOST®

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
116305	LEUCOGNOST® Basis kit for diagnosis of leukemia	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.16305.0001	1 set	inquire
116301	LEUCOGNOST® EST Detection of the alpha naphthyl acetate esterase reaction in leukocytes	 ■ GHS: Danger  ■ LGK 6.1 D ■ Store at +2°C to +8°C. 	1.16301.0002	12 units	inquire
112327	LEUCOGNOST® Fixing Mixture for enzyme cytochemistry	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 2, H351; Specific target organ toxicity - single exposure, Category 3, H336  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.12327.0500	500 ml 6 x 500 ml	inquire inquire
116198	LEUCOGNOST® NASDCL Detection of naphthol AS-D chloroacetate esterase in granulocytes	 ■ GHS: Warning  ■ LGK 6.1B ■ Store at +2°C to +8°C.	1.16198.0001	12 units	inquire
116302	LEUCOGNOST® PAS Detection of the periodic acid-Schiff reaction in leukocytes	 ■ GHS: Danger  ■ LGK 5.1A ■ Store at +15°C to +25°C. 	1.16302.0002	12 units	inquire
116303	LEUCOGNOST® POX Detection of the peroxidase reaction in leukocytes	 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.	1.16303.0002	12 units	inquire





## Reagents for Manual Blood Cell Counting

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
101384	Brilliant cresyl blue solution for the staining of reticulocytes and trichomonads for microscopy	 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.  ■ GHS: Chronic aquatic toxicity, Category 3, H412	1.01384.0100	100 ml 6 x 100 ml	inquire inquire
109277	Türk's solution for leukocyte counting	 ■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.09277.0100 1.09277.0500	100 ml 12 x 100 ml 500 ml 6 x 500 ml	inquire inquire inquire inquire

## Auxiliaries for Hematology





Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
111373	Buffer tablets pH 6.4 for preparing buffer solution acc. to WEISE for the staining of blood smears	 ■ LGK 10 - 13	1.11373.0100	100 tabs 10 x 100 tabs	inquire inquire
111374	Buffer tablets pH 6.8 for preparing buffer solution acc. to WEISE for the staining of blood smears	 ■ LGK 10 - 13	1.11374.0100	100 tabs 10 x 100 tabs	inquire inquire
109468	Buffer tablets pH 7.2 for preparing buffer solution acc. to WEISE for staining of blood smears	 ■ LGK 10 - 13	1.09468.0100	100 tabs 10 x 100 tabs	inquire inquire

## Auxiliaries for Hematology

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
104699	Immersion oil for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411</li> </ul>	1.04699.0100	100 ml	inquire
			1.04699.0500	10 x 100 ml	inquire
				500 ml	inquire
115577	Immersion oil acc. to ISO 8036 modified for microscopy	 <ul style="list-style-type: none"> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.15577.0100	100 ml	inquire
				10 x 100 ml	inquire
				500 ml	inquire
		 <ul style="list-style-type: none"> <li>■ GHS: Danger, Carcinogenicity, Category 2, H351; Reproductive toxicity, Category 1B, H360Df; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410</li> </ul>			
		 <ul style="list-style-type: none"> <li>■ LGK 6.1A ■ Store at +15°C to +25°C.</li> </ul>			
























## Histology

### Staining Solutions for Histology



Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
101647	Alcian blue solution for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.01647.0500	500 ml	inquire
				6 x 500 ml	inquire
100591	ELASTIN color solution acc. to Weigert for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225</li> <li>■ LGK 3 ■ Store at +2°C to +8°C.</li> </ul>	1.00591.0500	500 ml	inquire
102439	Eosin Y-solution 0.5% alcoholic for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.02439.0500	500 ml	inquire
				2.5 l	inquire
109844	Eosin Y-solution 0.5% aqueous for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.09844.1000	1 l	inquire
				4 x	inquire
109204	Giemsa's azur eosin methylene blue solution for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370</li> </ul>	1.09204.0100	100 ml	inquire
			1.09204.0500	12 x 100 ml	inquire
			1.09204.1000	500 ml	inquire
			1.09204.2500	6 x 500 ml	inquire
				1 l	inquire
				6 x 1 l	inquire
				2.5 l	inquire
				4 x 2.5 l	inquire
109249	Mayer's hemalum solution for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Acute toxicity, Category 4, Oral, H302</li> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.09249.0500	500 ml	inquire
			1.09249.1000	6 x 500 ml	inquire
			1.09249.2500	1 l	inquire
				6 x 1 l	inquire
				2.5 l	inquire
				4 x 2.5 l	inquire
100121	Nuclear fast red-aluminum sulfate solution 0.1% for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.00121.0500	500 ml	inquire
				6 x 500 ml	inquire
100199	Picrofuchsin solution acc. to van Gieson for Microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.00199.0500	500 ml	inquire
				6 x 500 ml	inquire
109033	Schiff's reagent for microscopy	<ul style="list-style-type: none"> <li>■ LGK 10 - 13 ■ Store at +15°C to +25°C.</li> </ul>	1.09033.0500	500 ml	inquire
			1.09033.2500	6 x 500 ml	inquire
				2.5 l	inquire
				4 x 2.5 l	inquire

# In Vitro Diagnostics - Microscopy

## Staining Kits for Histology

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
101641	Congo Red staining kit Kit for detection of amyloid acc. to Highman	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.01641.0001	1 set	<a href="#">inquire</a>
107907	DNA staining kit according to Feulgen	■ LGK 8B ■ Store at +15°C to +25°C.	1.07907.0001	1 set	<a href="#">inquire</a>
115974	Elastica van Gieson staining kit for connective tissue	 ■ GHS: Danger  ■ LGK 3 ■ Store at +2°C to +8°C.	1.15974.0002	4 x 500 ml	<a href="#">inquire</a>
112084	HEMATOGNOST Fe <sup>®</sup> staining kit for the detection of free ionic iron (Fe <sup>3+</sup> ) in cells	■ LGK 10 - 13 ■ Store at +15°C to +25°C.	1.12084.0001	4 x 250 ml	<a href="#">inquire</a>
100485	Masson-Goldner staining kit for the visualization of connective tissue with trichromic staining	 ■ GHS: Danger  ■ LGK 8A ■ Store at +15°C to +25°C.	1.00485.0001	1 unit	<a href="#">inquire</a>
100820	Methenamine silver plating kit acc. to Gomori for microscopy	 ■ GHS: Danger  ■ LGK 4.1B ■ Store at +15°C to +25°C.  	1.00820.0001	1 set	<a href="#">inquire</a>
101646	PAS staining kit for detection of aldehyde and mucosubstances	■ LGK 8B ■ Store at +15°C to +25°C.	1.01646.0001	2 x 500 ml	<a href="#">inquire</a>
100251	Reticulin silver plating kit acc. to Gordon & Sweets	 ■ GHS: Warning  ■ LGK 8 B ■ Store at +2°C to +8°C. 	1.00251.0001	1 set	<a href="#">inquire</a>
100362	Silver plating kit acc. to von Kossa for the detection of microcalcification	 ■ GHS: Warning  ■ LGK 8 B	1.00362.0001	1 set	<a href="#">inquire</a>
100497	Tb-color modified Staining kit for the detection of mycobacteria (AFB) by hot staining method	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C. 	1.00497.0001	1 unit	<a href="#">inquire</a>
109093	TB-fluor Staining kit for fluorescence-microscopic detection of acid fast bacteria	 ■ GHS: Danger  ■ LGK 3 ■ Store at +15°C to +25°C.  	1.09093.0001	6 x 500 ml	<a href="#">inquire</a>


## Staining Kits for Histology

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
102414	Warthin–Starry silver plating kit modified for detection of <i>Helicobacter pylori</i> in paraffin sections	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 10 – 13</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.02414.0001	1 set	inquire
115973	Weigert's iron hematoxylin kit for nuclear staining in histology	 <ul style="list-style-type: none"> <li>■ GHS: Danger</li> <li>■ LGK 3</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.15973.0002	2 x 500 ml	inquire



## ISOSLIDE® control slides with reference tissue

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
100425	ISOSLIDE® Alcian blue control slides with reference tissue for the detection of acid mucosubstances in histological tissue	<ul style="list-style-type: none"> <li>■ LGK 10 – 13</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.00425.0001	25 tests	inquire
100380	ISOSLIDE® Iron control slides with reference tissue for the detection of free iron in histological tissue	<ul style="list-style-type: none"> <li>■ LGK 10 – 13</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.00380.0001	25 tests	inquire
102473	ISOSLIDE® Methenamine control slides with reference tissue for the detection of argent–affine structures in histological tissue	<ul style="list-style-type: none"> <li>■ LGK 10 – 13</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.02473.0001	25 tests	inquire
100408	ISOSLIDE® PAS control slides with reference tissue for the detection of polysaccharides in histological tissue	<ul style="list-style-type: none"> <li>■ LGK 10 – 13</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.00408.0001	25 tests	inquire
100361	ISOSLIDE® Reticulin control slides with reference tissue for the detection of reticular fibers in histology	<ul style="list-style-type: none"> <li>■ LGK 10 – 13</li> <li>■ Store below +30°C.</li> </ul>	1.00361.0001	25 tests	inquire
102472	ISOSLIDE® Warthin–Starry control slides with reference tissue for the detection of <i>Helicobacter pylori</i> in histological tissue	<ul style="list-style-type: none"> <li>■ LGK 10 – 13</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.02472.0001	25 tests	inquire

## Immunohistochemical Reagents















Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
102924	DAB–buffer tablets for immunohistochemistry	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Carcinogenicity, Category 1B, H350</li> <li>■ LGK 6.1C</li> <li>■ Store at +2°C to +8°C.</li> </ul>	1.02924.0001	50 tabs 10 x 50 tabs	inquire inquire

## Auxiliaries for Histology



Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
101691	Canada balsam for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Warning, Flammable liquid, Category 3, H226</li> <li>■ LGK 3</li> </ul>	1.01691.0025 1.01691.0100	25 ml 10 x 25 ml 100 ml 10 x 100 ml	inquire inquire inquire inquire
101979	DPX non–aqueous mounting medium for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Reproductive toxicity, Category 1B, H360Df</li> <li>■ LGK 3</li> <li>■ Store at +15°C to +25°C.</li> </ul>	1.01979.0500	500 ml 6 x 500 ml	inquire inquire

# In Vitro Diagnostics - Microscopy

## Auxiliaries for Histology


Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
100579	DPX new non-aqueous mounting medium for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315  ■ LGK 3 ■ Store at +15°C to +25°C.	1.00579.0500	500 ml 6 x 500 ml	<a href="#">inquire</a> <a href="#">inquire</a>
107960	Entellan® rapid mounting medium for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304  ■ LGK 3 ■ Store at +15°C to +25°C.	1.07960.0500	500 ml 6 x 500 ml	<a href="#">inquire</a> <a href="#">inquire</a>
107961	Entellan® new rapid mounting medium for microscopy	 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315  ■ LGK 3 ■ Store at +15°C to +25°C.	1.07961.0100 1.07961.0500 1.07961.1000	100 ml 10 x 100 ml 500 ml 6 x 500 ml 1 l 6 x 1 l	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>
100869	Entellan® new for cover slipper for microscopy	 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315  ■ LGK 3 ■ Store at +15°C to +25°C.	1.00869.0500	500 ml 6 x 500 ml	<a href="#">inquire</a> <a href="#">inquire</a>
117081	Eosin Y solution 1%, alcoholic for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225  ■ LGK 3 ■ Store at +15°C to +25°C.	1.17081.1000	250 ml	<a href="#">inquire</a>
102419	Oil red O color solution for the detection of neutral lipids in cryo sections for microscopy	 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336  ■ LGK 3 ■ Store at +15°C to +25°C.	1.02419.0250	250 ml	<a href="#">inquire</a>
100362	Silver plating kit acc. to von Kossa for the detection of microcalcification	 ■ GHS: Warning  ■ LGK 8 B	1.00362.0001	1 set	<a href="#">inquire</a>

## Neo Products

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
109843	Neo-Clear® (xylene substitute) for microscopy Neo-Clear®	 ■ GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 4, H413  ■ LGK 3 ■ Store at +15°C to +25°C.	1.09843.5000 1.09843.9025	5 l 4 x 5 l 25 l	<a href="#">inquire</a> <a href="#">inquire</a> <a href="#">inquire</a>



## Neo Products

Cat.No.	Designation	Transport	Ord.No.	Quantity	Price
109016	Neo-Mount® anhydrous mounting medium for microscopy	 <ul style="list-style-type: none"> <li>■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336</li> <li>■ LGK 3 ■ Store at +15°C to +25°C.</li> </ul>	1.09016.0100 1.09016.0500	100 ml 500 ml 6 x 500 ml	inquire inquire inquire

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# Laboratory Water Purification Solutions

Merck Millipore offers a broad range of pure and ultrapure **water purification systems and services** designed for scientists working in pharmaceutical, clinical, academic, industrial, research, and government laboratories – in both validated and non-validated environments.

We offer complete solutions designed to meet your laboratory water needs. Our Lab Water experts will take the time required to evaluate your unique situation and to propose the best-adapted solution.

In the following pages you will see why an appropriate laboratory water installation is key to the success of your laboratory experiments and also discover some of the water purification solutions that we propose.

Please do not hesitate to contact us for technical advice or additional technical information and brochures. You will also find useful information on our website:

[www.merckmillipore.com/labwater](http://www.merckmillipore.com/labwater)



Milli-Q® Integral system with Q-POD® and E-POD® dispensers



Elix® Advantage system with E-POD® dispenser



Milli-Q® Advantage A10® system with Q-POD® dispenser

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# The Importance of Water Purification in Laboratory Applications

## Water: the Most Commonly Used Reagent

Nearly all labs use a common reagent in their work: high purity water. Because it is so ubiquitous, water can have a profound effect on practically every phase of life science and analytical research. Purification of water used in the lab is therefore crucial.

### Use of high purity water in analytical chemistry

In **analytical chemistry**, sample preparation often requires the use of high purity water. Whether for **inorganic analysis** (involving instruments for atomic absorption, ICP, ICP-Mass Spectrometry, ion chromatography or titrators), or **organic analysis** (instruments for UHPLC, HPLC, GC and mass spectrometry hyphenated techniques), sample preparation is a significant step in the analytical procedure. In preparing samples, it is important to guard against contamination that can occur due to poor-quality procedures, use of inadequate water quality, or improper rinsing of containers and filters.



High purity water is also required in the **analysis itself**. Most methods require running a blank and diluting standards in order to calibrate the instruments before dosing any substances. In HPLC, high purity solvents will optimize analytical results, column performance and instrument fluidics. The benefits of using particulate-free high purity water include increased column lifetime, no artifact peaks, superior resolution and sensitivity, and separation reproducibility. This water also prevents damage to pumps and injectors, as well as plugging of column and frits, which causes an increase in back pressure.



### Use of high purity water in life sciences

In life science research, the presence of bacteria by-products or the bacteria themselves, can impact experiments significantly.

In the **genomics field**, nuclease-free water is required in order to prevent sample degradation and maintain integrity of the RNA and DNA collected and studied. Now, newer ultrafiltration techniques also provide scientists with nuclease-free water, providing an alternative to time-consuming, cumbersome DEPC-treatment, which adds ionic and organic contamination to the treated water.

In **protein research**, where it is crucial to prevent degradation or contamination of



the protein sample, freshly-produced, high resistivity, low organic content, protease-free and bacteria-free water is required. In protein separation with 2D-PAGE or nano-LC, for example, reagent quality (including that of the high purity water) is determinant. For the protein or peptide analysis steps that use MALDI-

ToF-MS or MS/MS, extremely pure reagents are also required in order to avoid pollution of the mass spectrometer ionization chambers, as well as interferences in the mass analysis.

In **cell culture** and **cell biology experiments**, the use of endotoxin-free media is a prerequisite. Although laboratories systematically select high quality reagent powder to reconstitute media, often the same care is not taken in the selection of the right quality water.

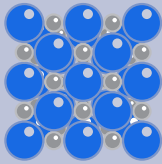
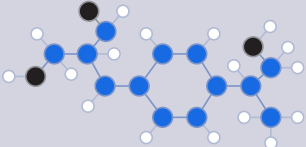
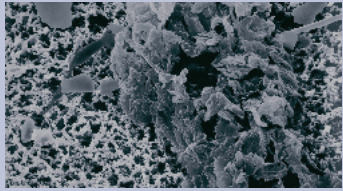
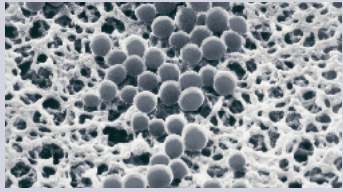
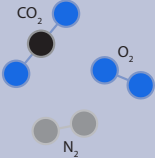
Endotoxin-free water is a key factor in the preparation of endotoxin-free media. Such water can be obtained from a water purification system specifically designed for this purpose – such as the Merck Millipore Milli-Q® Integral or Milli-Q® Advantage A10® ultrapure water systems, when equipped with an ultrafiltration cartridge (BioPak® filter) at the point of use.

## Learn More

For more information, please visit our website: [www.merckmillipore.com/labwater](http://www.merckmillipore.com/labwater) or phone your local Merck Millipore office to request a free brochure

# How Water Contaminants Impact Test Results

Five major classes of water contaminants are present in both natural and tap water:

Contaminant	Components	Effect	
<b>Inorganic Ions</b>	<ul style="list-style-type: none"> <li>– Cations: sodium, calcium, magnesium, iron</li> <li>– Anions: bicarbonate, chloride, sulfate</li> </ul>	Can affect organic and biochemical reactions; can interact with ion or metal analyses.	
<b>Organics</b>	<ul style="list-style-type: none"> <li>– Dissolved organic molecules in tap water are of biological origin (plant decay releases humic/fluvic acids, tannins and lignin); and of manmade origin (agricultural, industrial and consumer activities).</li> <li>– Man-made contaminants, such as phthalate esters, can leach into water from PVC pipes.</li> </ul>	<ul style="list-style-type: none"> <li>– Can affect biological experiments (cell culture) and disturb analytical techniques.</li> <li>– In water used in Liquid Chromatography eluents, contaminants can cause baseline instability, decrease sensitivity and resolution and reduce column lifetime.</li> </ul>	
<b>Particulates and Colloids</b>	<ul style="list-style-type: none"> <li>Soft Particulates: vegetal debris</li> <li>Hard Particulates: sand, rock</li> <li>Colloids</li> </ul>	Can interfere with instrument operation.	
<b>Bacteria and Their By-Products</b>	Live microorganisms in tap water (Harmful bacteria are removed by the chlorination process).	Can cause issues themselves or through their by-products (pyrogens, nucleases, alkaline phosphatase).	
<b>Gases</b>	Natural water contains dissolved gases (nitrogen, oxygen, carbon dioxide)	Oxygen can affect specific biochemical reactions; nitrogen can form bubbles that are detrimental to particulate counting or spectrophotometric measurements.	

## Monitoring of water contaminants

Two classes of contaminants, inorganic salts and dissolved organics, are known to affect most laboratory experiments, and it is therefore important to monitor them online in laboratory water systems.

Merck Millipore takes these needs into consideration, and offers water purification systems that allow advanced water quality monitoring with high precision resistivity monitors for sensitive ionic detection, and Total Oxidizable Carbon (TOC) meters for prevention of organic breakthrough.

## Learn More

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# Overview of Water Purification Technologies

Several purification technologies are commonly used to remove and control the level of contaminants in water. No one technology can remove 100% of the five classes of contaminants. Therefore, Merck Millipore water purification systems utilize a combination of technologies to produce pure and ultrapure water.

## 1. Pretreatment step: pure water purification

The pure water purification step removes the bulk of the contaminants originally present in water to produce water with quality superior to double distilled water. It involves three major technologies: reverse osmosis, electrodeionization, and irradiation with germicidal UV.

### Reverse Osmosis (RO)

Reverse osmosis constitutes an excellent first purification step because it has the ability to remove a fair percentage of the major classes of contaminants present in potable tap water. RO will typically remove more than 97% of the ions, more than 99% of organics with molecular weight above 200 Dalton and more than 99% of the colloids, particulates and bacteria. The RO membrane being sensitive to particulates, chlorine and CaCO<sub>3</sub> deposits, an adequate protection is provided by the Progard® cartridge located upstream of the RO membrane.

### Electrodeionization (EDI)

The RO purification step is followed by the Elix® module, an electrodeionization (EDI) patented device combining electrodes, selective anionic and cationic permeable membranes, and ion-exchange resins. The ion-exchange resin beads in the EDI module are permanently regenerated by a weak electric current, enabling its operation for several years without any maintenance. The Elix® module is able to remove most of the remaining inorganic and organic ions from the RO permeate.

The combination of RO and EDI is a very powerful pretreatment. It provides Type 2 water on a consistent and reliable basis, with water resistivity > 5 MΩ·cm (typically 10–15 MΩ·cm) and TOC < 30 ppb (measured online).

### Germicidal UV

A low pressure mercury lamp, emitting light at 254 nm wavelength, placed at the Elix® module outlet, inactivates microorganisms and prevents bacterial growth and contamination in the pure water produced, just before storage in the reservoir. An optional programmable 254 nm UV lamp in the reservoir maintains low bacterial contamination in the stored pure water and prevents biofilm development.

## 2. Polishing step: ultrapure water production

Pure water momentarily stored in an adequately designed reservoir can be used directly for the glassware washing process, or further purified for critical chromatography applications. Polishing steps typically combine three purification technologies: ion-exchange resins, activated carbon, and UV photooxidation, often followed by the use of a final filter at the point of water delivery, i.e. point of use.

### Ion-exchange resins

Ion-exchange resins are small (< 1.2 mm) polystyrene-based porous beads with ion-exchange binding sites covalently bound on the surface and inside the beads. Merck Millipore Jetpore® ion-exchange resins are characterized by high-binding capacity, fast ion-exchange kinetics to reach high resistivity and low TOC release. The purpose of the ion-exchange resins is to remove ions from the water, producing water with an 18.2 MΩ·cm resistivity.

### Synthetic activated carbon

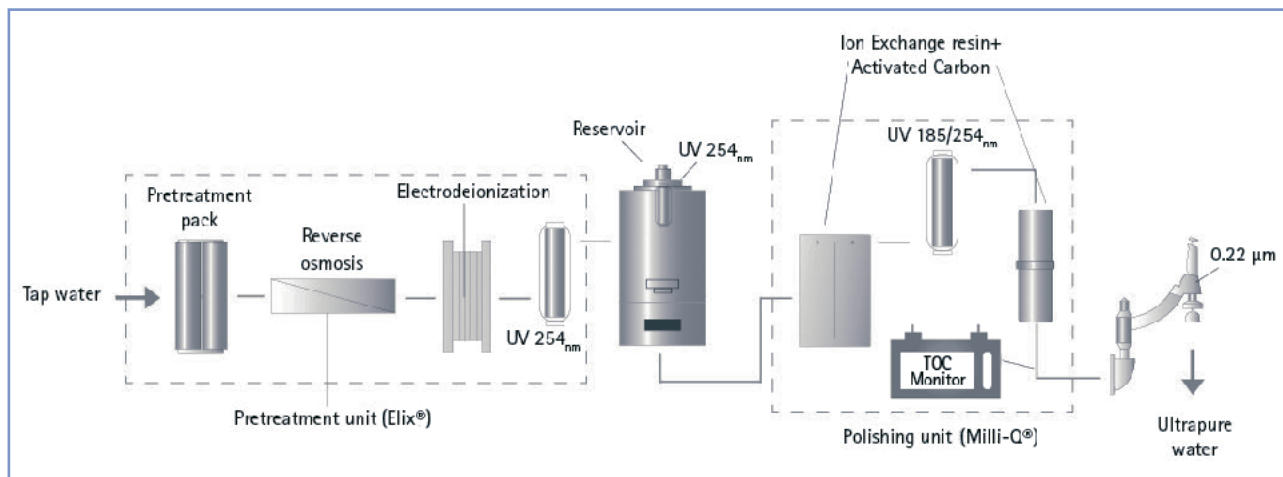
The synthetic activated carbon is made of porous beads with a large developed surface (> 1,000 m<sup>2</sup>/g) and binds organic molecules to the pores by Van der Waals forces, π-π or hydrophobic interactions.

### UV photooxidation

A dual wavelength UV lamp (185 and 254 nm) oxidizes organics dissolved in water, so that they become electrically charged, and are afterwards removed by ion-exchange resins. This technology allows reduction of the organics to a TOC level below 5 ppb.

The combination of the three polishing technologies described above, ion-exchange resins, activated carbon, and UV photooxidation, yields water with high resistivity (18.2 MΩ·cm) and low TOC level (< 5 ppb).





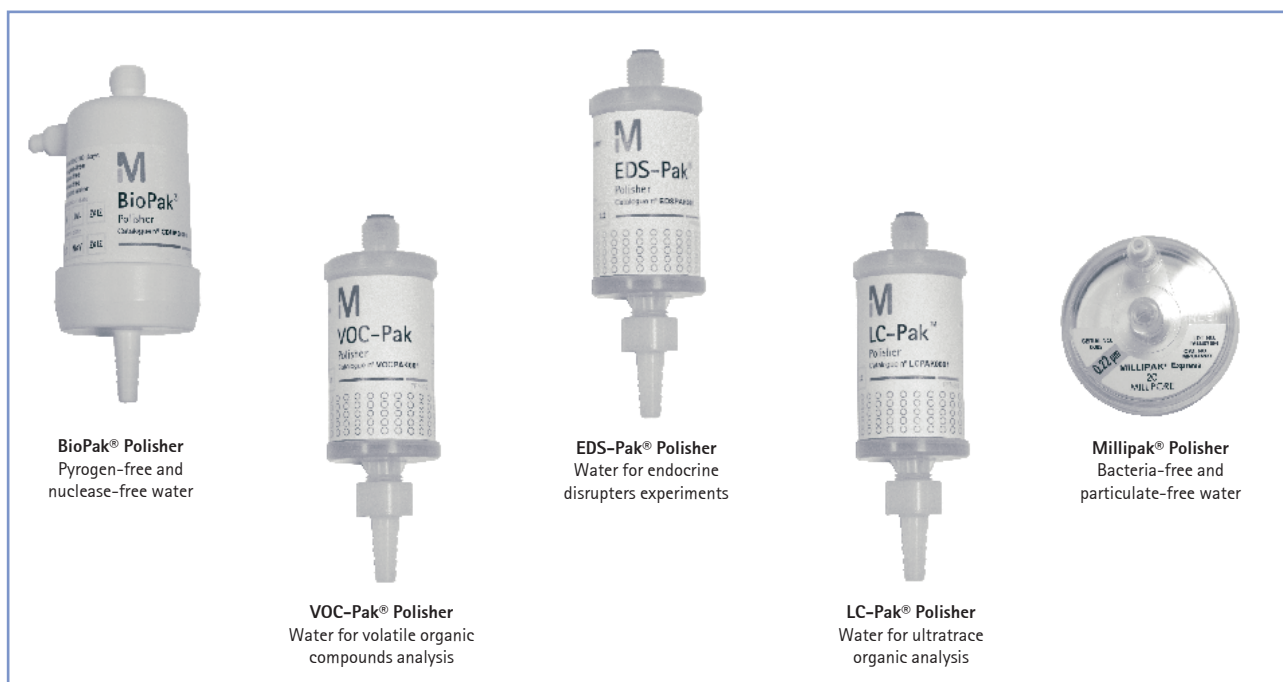
Schematic of a water purification chain that delivers ultrapure water

### 3. Point-of-use cartridges

Finally a point-of-use (POU) cartridge can be placed at the end of the water purification chain, with two major purposes:

- Removing the contaminants most critical for the experimentation right before water is delivered and used.
- Preventing retro-contamination of the purification chain from airborne sources. The final purification cartridge is selected according to the requirements of the instruments or applications used in the laboratory.

Merck Millipore's range of Application Pak point-of-use cartridges includes the following:



#### Learn More

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## Laboratory Water Quality Types

Norms define different laboratory water grades for both technical and economical reasons. The purpose of these norms is to ensure that the right quality water is used for a specific application, while limiting laboratory operating costs – Type 1 water is more expensive to produce than Type 2 or Type 3 water. A careful selection of technologies is required to achieve the water quality needed.

### Type 3

Type 3 water is the lowest laboratory water grade, recommended for glassware rinsing, heating baths and filling autoclaves, or to feed Type 1 water systems.

### Type 2

Type 2 water is the grade used in general laboratory applications such as buffer and microbiological culture media preparation; as feed to Type 1 water systems, clinical analyzers, cell culture incubators and weatherometers; and for preparation of reagents for chemical analysis or synthesis.

### Type 1

Type 1 water is the grade required for critical laboratory applications such as mobile phase preparation for HPLC or IC; preparation of blanks, standard and sample dilution in HPLC,

IC, GC, AA, ICP-MS and other advanced analytical techniques; preparation of buffers and culture media for mammalian cell culture; production of reagents for molecular biology applications (DNA sequencing, PCR); and preparation of solutions for electrophoresis and blotting. Using Type 1 water for Type 2 water applications is a common laboratory practice in order to decrease the risk of artifact generation during experimental procedures.

### Laboratory Water Specifications

Different published norms define the quality required for specific laboratory water applications: ASTM and ISO® 3696 for laboratory applications; CLSI® guidelines for clinical laboratories. Some laboratories will also use norms defined in the European or the US Pharmacopoeia.

The table below gives minimum specifications for different water types.\*

Contaminant	Parameter and unit	Type 3	Type 2	Type 1
Ions	Resistivity (MΩ·cm)	> 0.05	> 1.0	> 18.0
Organics	TOC (ppb)	< 200	< 50	< 10
Pyrogens	EU/ml	NA	NA	< 0.03
Particulates	Particulates > 0.2 µm (units/ml)	NA	NA	< 1
Colloids	Silica (ppb)	< 1,000	< 100	< 10
Bacteria	Bacteria (cfu/ml)	< 1,000	< 100	< 1

\*These values are provided only as guidelines, as some specific laboratory applications may require a quality superior to the quality indicated by the norms.

### Learn More

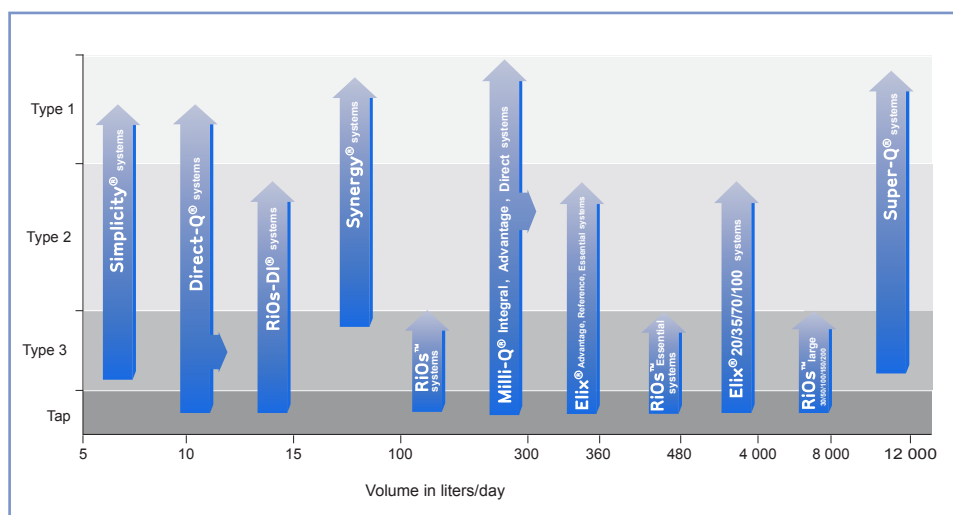
For more information, please visit our website: [www.merckmillipore.com/labwater](http://www.merckmillipore.com/labwater) or phone your local Merck Millipore office to request a free brochure

## Overview of Merck Millipore's Water Purification System Portfolio

Merck Millipore's range of water purification systems is designed to provide laboratories with systems covering the three different water types in an efficient and economical way that includes adapted monitoring and quality assurance. The graph below shows a summary of the systems available,

and can be used as a starting point when selecting a lab water purification system. Merck Millipore application specialists are available at all stages of the lab water selection process to answer questions and ensure that system design best suits a specific laboratory's needs.

### Water Quality



In addition to our portfolio of water purification systems, Merck Millipore also offers a wide range of consumables and accessories for use with our equipment. Please visit our website for details.

### Learn More

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# Merck Millipore Pure and Ultrapure Water Purification Systems

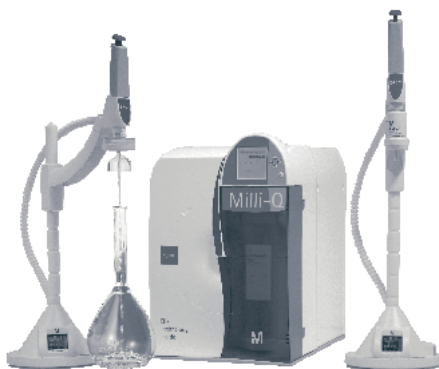
## Milli-Q® Integral Water Purification Systems

Integrated pure and ultrapure water at your fingertips

The Milli-Q® Integral is the most advanced ultrapure water purification system in the Merck Millipore portfolio. Producing from a few liters to a few hundred liters per day, this “2-in-1” system covers the needs of both pure and ultrapure water from tap water.

Milli-Q® Integral is a unique product combining the most advanced technologies, such as RO, patented Elix® EDI technology, UV, TOC monitoring, polishing cartridges and more.

Ergonomic Q-POD® (ultrapure) and E-POD® (pure) water dispensers provide optimized water dispense where you need it in the lab.



### Features

- Pure and ultrapure water is available directly from tap water from 60 l/day up to 350 l/day (depending on model).
- Consistent production of superior quality pure water without the need to regenerate a DI tank, thanks to patented Elix® technology.
- Easy pure or ultrapure water delivery in different lab locations thanks to the Q-POD® and E-POD® dispensers.
- Easy and intuitive operation.
- Application-specific water qualities through customized final polishers.
- Built-in resistivity and TOC monitors designed to comply with the most demanding norms, including USP requirements (§ 643 and § 645).
- System manager-specific interface with protection of key set points by a login and password.

### Applications

When the system is equipped with a 0.2 µm filter, the high purity water delivered by the system is suitable for HPLC, LC-MS, MALDI-ToF-MS, IC, ICP, AA and most of the analytical techniques commonly used in the laboratory. When an ultrafiltration cartridge (BioPak®) is utilized at the point-of-use, the water is suitable for genomics applications (quality at least

equivalent to DEPC-treated water) and cell culture. The water produced following the system’s pretreatment step may be used for regular laboratory needs, such as buffer and reagent preparation, microbiology media preparation, histology, dissolution testing (with UV detection) and rinsing of glassware.

## Milli-Q® Integral System Water Specifications

The Milli-Q® Integral system is designed to be fed by potable tap water as described in US-EPA, EP, and WHO norms.

### Ultrapure (Type 1) Water Quality

Milli-Q® water (sourced from a Q-POD® unit)

Parameter	Value	Unit
Resistivity	18.2	MΩ-cm @ 25 °C
TOC	< 5	ppb (µg/l)
Bacteria	< 0.1 (*)	cfu/ml
Particulates > 0.2 µm	< 1 (*)	Particulates/ml
Pyrogens (Endotoxins)	< 0.001 (**)	EU/ml
RNases	< 0.01 (**)	ng/ml
DNases	< 4 (**)	pg/µl

(\*) With Millipak® filter with Millipore Express® membrane or BioPak® filter as Application Pak  
 (\*\*) With BioPak® filter as Application Pak

The Milli-Q® Integral system is designed to produce ultrapure water in agreement with the quantitative specifications of Type I water as described in ISO® 3696, ASTM® D1193, and of EP and USP Purified Water, as well as the CLSI® – CLRW. A compliance report, with test details, is available upon request.

### Pure (Type 2) Water Quality

Elix® water (at Elix® module outlet)

Parameter	Value	Unit
Resistivity	> 5	MΩ-cm @ 25 °C
TOC	< 30	ppb (µg/l)

Note: if pure water is sourced from an E-POD®, the following water quality specifications are achieved:

Parameter	Value	Unit
Bacteria	< 0.1 (*)	cfu/ml
Particulates > 0.2 µm	< 1 (*)	Particulates/ml
Pyrogens (Endotoxins)	< 0.001 (**)	EU/ml
RNases	< 0.01 (**)	ng/ml
DNases	< 4 (**)	pg/µl

(\*) With Millipak® filter with Millipore Express® membrane or BioPak® filter as Application Pak  
 (\*\*) With BioPak® filter as Application Pak

Resistivity, TOC, and bacteria levels match the requirements of Type 2 water as described in ISO® 3696, ASTM® D1193 (Type II resistivity, TOC, heterotrophic bacteria count [HBC] Table I specification), and purified water as described in USP, EP. A compliance report, with test details, is available upon request.

### Learn More

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## Milli-Q® Advantage A10® Water Purification System

### User-adapted ultrapure water

The Milli-Q® Advantage A10® system was designed to deliver ultrapure water adapted to every user's needs.

Using an existing source of pure water as feed, the Milli-Q® Advantage A10® system delivers high-quality ultrapure water (resistivity value: 18.2 MΩ·cm @ 25 °C; TOC ≤ 5 ppb). Two separate components – the Milli-Q® water production unit and the Q-POD® ultrapure water delivery unit – provide an ultrapure water solution adapted to today's laboratory environments.



### Features

- The Milli-Q® production unit is a compact system that can be placed either on the bench, under the bench or on a wall—wherever it best suits you.
- The Q-POD® (Quality-Point-of-Delivery) unit provides final polishing at the point of use, delivering ultrapure water adapted to specific needs. The Q-POD® interface simplifies operation and displays essential data for complete user reassurance.
- The Q-POD® unit is always within reach, and its convenient and adaptable dispensing enables the user to work both intuitively and precisely. The user can select either a very precise volume with the autofill key or manually press the plunger.
- The Q-POD® unit's multicolor graphic display allows easy interaction with the system and provides information about water quantity and quality.

### Applications

Q-POD® technology empowers you with convenient and flexible dispensing options. Up to three Q-POD® units can be used with each Milli-Q® Advantage A10® system at different locations within the same laboratory. Depending on your application, specific contaminants can affect your results. The Milli-Q® Advantage A10® system offers a unique range of final purifiers. Depending on your application, you choose the appropriate Application Pak to remove the specific contaminants that may affect your results.

### Learn More

For more information, please visit our website: [www.merckmillipore.com/labwater](http://www.merckmillipore.com/labwater) or phone your local Merck Millipore office to request a free brochure

For example, the Millipak® filter with the Millipore Express® membrane (0.22 μm) produces particulate and bacteria-free ultrapure water for analytical applications such as spectrophotometry, spectroscopy, and chromatography. The BioPak® ultrafilter, while removing particulates and bacteria, produces pyrogen- and nuclease-free ultrapure water for biochemical applications.

## Milli-Q® Advantage A10® System Water Specifications

### Feed Water Specifications

Parameter	Value & Unit
Feed water quality	Elix®, RiOs™, distilled or DI water with conductivity < 100 μS/cm and TOC < 50 ppb
Feed water connection	½ in Gaz M
Feed water pressure*	0–0.3 bar
Feed water temperature	5–35 °C

\* For pressure above 0.3 bar, a pressure regulator needs to be installed upstream the system; for pressures between 0 and –0.2 bar, the system will operate, but product flow may be lower.

### Product Water Quality

Parameter	Value & Unit
Manual dispense flow rate	Adjustable between 50 and 2,000 ml/min
Automatic dispense volume	100 ml 250 ml to 5 l by 250 ml increments 5 l to 60 l by 1 l increments
Volumetric dispense accuracy	1 % for volumes between 250 ml and 60 l
Volumetric dispense dispersion	CV < 1 % for volumes between 250 ml and 60 l
Resistivity*	18.2 MΩ·cm at 25 °C
TOC**	≤ 5 ppb (μg/l)
Bacteria***	< 0.1 cfu/ml
Pyrogens (endotoxins)****	< 0.001 EU/ml (pyrogen-free)
RNases****	< 0.01 ng/ml (RNase-free)
DNases****	< 4 μl (DNase-free)

\* Resistivity can be displayed temperature-compensated at 25 °C or non-temperature compensated as required by USP.

\*\* TOC spec – test conditions: Milli-Q® Advantage A10® system equipped with Q-Gard® T1 pack and Quantum® TEX cartridge, feed water produced by Elix® system with resistivity > 1 MΩ·cm at 25 °C, TOC < 30 ppb. Product water quality may vary due to local feed water conditions.

\*\*\* Results with Millipak® Express 40 or BioPak® final polisher in place.

\*\*\*\* Results with BioPak® final polisher in place.

## Millitrack® Compliance e-Solution for Milli-Q® Advantage A10® and Milli-Q® Integral systems

The e-Solution today for the regulated lab of tomorrow

### Making compliance easy

Activation of the Millitrack® Compliance e-Solution combined with Qualification Services on our Milli-Q® systems will provide you with a ready-to-use fully-compliant water purification solution.

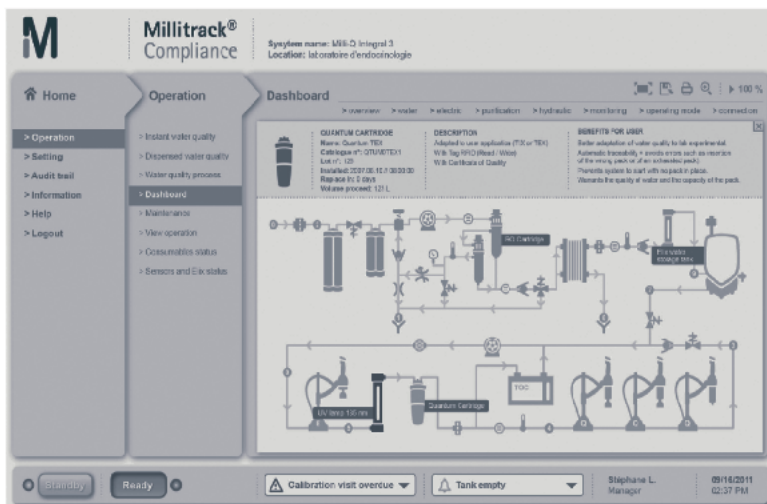
As lab water system users in regulated industries continue to move to zero-paper solutions in compliance with guidelines such as the FDA's Title 21 CFR Part 11 (or similar requirements set by other global regulatory organizations), Millitrack® Compliance provides the perfect solution for your needs.

### Optimizing productivity

At the same time, laboratory managers also need an e-solution that will facilitate daily work in the lab and optimize department productivity.

The Millitrack® Compliance e-Solution is designed to give you complete control over Milli-Q® Advantage A10® and Milli-Q® Integral water systems. Users benefit from:

- Remote monitoring with essential information at a glance
- Multiple system access from a single connection point
- Automatic data recording



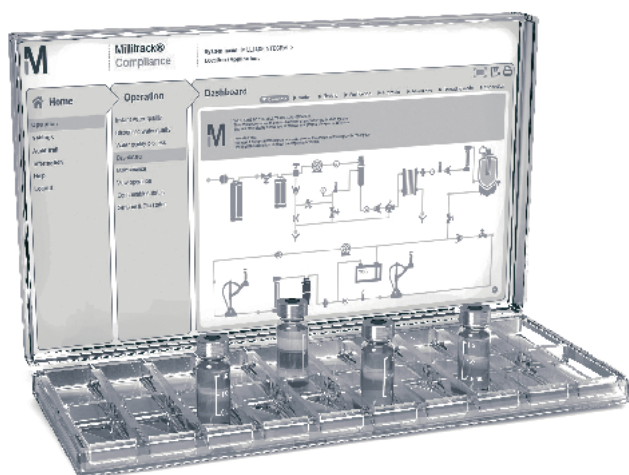
- Reduced costs as there are no human errors
- Traceability of water system data
- Minimal downtime thanks to advanced diagnostics
- Easy maintenance

In response to the variety of water purification system data tracking needs that our customers may have, Merck Millipore also offers several other Millitrack® e-Solutions, including:

- Millitrack® Basic software for Milli-Q® Integral and Milli-Q® Advantage A10® systems
- Millitrack® Lite software for Milli-Q® Direct, Milli-Q® Reference, Elix® Advantage, and Elix® Reference systems
- Millitrack® Essential software for AFS®, Elix®, and RiOs™ Essential systems

These additional Millitrack® e-Solutions offer users the following key benefits:

- Less downtime:
  - Full control over your water purification system
  - Remote monitoring with essential information at a glance
  - Easy maintenance
- Increased productivity:
  - Multiple system access from a single connection point
  - Automatic data recording
  - Reduced costs due to human errors
- Facilitated accreditation:
  - Data reliability
  - Full traceability
  - Easy archiving



### Learn More

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## Milli-Q® Direct Water Purification Systems

Pure and ultrapure water directly from tap water

The Milli-Q® Direct system is designed for ultrapure (Type 1) water needs up to 200 l/day and pure (Type 3) water needs up to 350 l/day.

From pure water, the Milli-Q® Direct system produces ultrapure water adapted to your specific applications and exceeding the requirements of the most demanding norms. Users benefit from manual and volumetric water dispense at low and high flow rate.



### Features

- Validated Progard® pretreatment cartridge extends the lifetime of the RO cartridge.
- Reject recirculation loop recycles reject water treated by the Progard® cartridge to minimize tap water use and extend Progard® lifetime, while avoiding fouling or scaling issues that might shorten the RO cartridge lifetime.
- Unique system adaptation to feed water temperature avoids flow rate decrease during the wintertime when tap water is colder.
- Unique safety device ensures that only low ionic permeate water will be sent to the tank in order to warrant adequate pure water quality and increase the lifetime of the ion-exchange cartridge used to produce ultrapure water.
- Complete process monitoring system systematically checks water temperature, pressure, conductivity and RO rejection using calibrated meters at different steps.

### Learn More

For more information, please visit our website: [www.merckmillipore.com/labwater](http://www.merckmillipore.com/labwater) or phone your local Merck Millipore office to request a free brochure

## Milli-Q® Reference Water Purification Systems

The reference for ultrapure water systems

The Milli-Q® Reference system delivers ultrapure (Type 1) water customized to fit a broad range of research areas, making ultrapure water conveniently available in any laboratory, regardless of space limitations or the stringency of regulatory norms.

Water is purified in a first step to reach a resistivity of 18.2 MΩ·cm at 25 °C and a TOC value below 5 ppb. This water is sent through a small recirculation loop to the Application Pak, where a final purification step removes contaminants critical for specific experiments, just before water leaves the system. Users may choose from a variety of available polishing cartridges to remove specific contaminants at the point of delivery. In addition, the Milli-Q® Reference A+ system is equipped with a TOC indicator.



### Features

- The system's volumetric function helps save time for users by providing automatic delivery of the exact water volume needed. The "arm" attached to the main unit is designed to fit the height and shape of all laboratory glassware.
- When preparing solutions, users can select the low flow function to precisely adjust the meniscus in volumetric flasks.
- A graphic screen clearly displays water quality and system status information in the language of your choice (six different languages). A Quick Reference Guide located in the door of the Milli-Q® Reference water system provides additional support for retrieving information.
- Users can save additional space by placing the Milli-Q® Reference system under the bench or by using the wall mounting bracket.



### Direct-Q® Water Purification Systems

Tap to pure and ultrapure water – with easy and convenient dispense!

Direct-Q® systems deliver both pure and ultrapure water directly from tap for use with a wide variety of applications in the lab. The range includes a number of versatile solutions designed for under bench-, bench- or wall-mounting. Systems are available with either a remote or integrated water dispenser.

A built-in 185/254 nm UV lamp reduces the levels of organics for critical applications, and also destroys bacteria. With the appropriate Application Pak, you can fine-tune your ultrapure water, and remove specific contaminants such as bacteria, particulates, pyrogens, nucleases, endocrine disruptors or volatile organic compounds.



#### Features

- Produce Type 1 ultrapure water (18.2 MΩ-cm resistivity at 25 °C and < 10 ppb Total Organic Carbon) on demand directly from potable tap water.
- Available with a built-in 185 and 254 nm UV lamp for production of low TOC water required by organic-sensitive applications.
- Produce Type 3 (Reverse Osmosis) water for basic lab applications at a flow rate of 3, 5, or 8 liters per hour at 15 °C. Type 3 water is easily available from the 6 l built-in reservoir, or the external 30/60 l reservoirs.
- Maintenance reduced to a single cartridge change once or twice a year.
- Ideal for laboratories that do not have easy access to pretreated water and need between 1 and 10 l of ultrapure water per day.
- Alarm warning in case of a sudden drop in the quality of the product water.
- Dispensing adapted to different size laboratory glassware.
- Time-saving fixed volume dispense.

#### Learn More

For more information, please visit our website: [www.merckmillipore.com/labwater](http://www.merckmillipore.com/labwater) or phone your local Merck Millipore office to request a free brochure

### Synergy® Water Purification Systems

Ultrapure water at the point of use – with easy and convenient dispense!

The Synergy® systems are designed for ultrapure (Type 1) water needs up to 100 l/day for laboratories that already have access to purified water and need a point-of-use system to supply high quality ultrapure water at more than 1.5 l/minute. The systems' compact design, along with the versatile remote dispenser, ensures easy installation anywhere in your laboratory, either on the bench or wall-mounted.

For applications requiring very low organic contaminant levels, the Synergy® UV system also incorporates a dual wavelength UV lamp to produce water with < 5 ppb TOC (when feed water TOC is below 50 ppb), making it suitable for HPLC, GC, IC and TOC analyses.

With the Application Pak cartridge of your choice as a final filter, Synergy® systems produce ultrapure water free of pyrogens, nucleases, proteases, VOCs, trace organics, or endocrine disruptors to meet your specific needs.



#### Features

- Produce Type 1 water (18.2 MΩ-cm at 25 °C ultrapure water) on demand from pretreated water (reverse osmosis or demineralized water).
- Maintenance reduced to a single cartridge change once or twice a year, depending on the volume produced and the quality of the pure water feed.
- System designed for users needing between 2 and 100 liters of ultrapure water per day with instant flow rate of 1.5 l/min.
- Quality suitable for HPLC and other spectrophotometric/ spectroscopic analytical techniques for biological, biochemical, and cell culture applications.
- Dispensing adapted to different size laboratory glassware.
- Time-saving fixed-volume dispense.



## Simplicity® Water Purification Systems

Ultrapure water on demand wherever you need it!

The Simplicity® system is designed to produce ultrapure (Type 1) water from pure water for users who need up to 5 l/day, thus economically replacing ultrapure bottled water. A portable, personal ultrapure water purification system, the Simplicity® can be located anywhere in your laboratory. It requires no special installation, no feed water connection and produces ultrapure water on demand from pretreated water. An intuitive color graphic display shows key system parameters at a glance, enabling easy water quality and maintenance warning monitoring.



The Simplicity® UV system also incorporates a dual wavelength 185/254 nm UV lamp to produce water with < 5 ppb TOC (when feed water is below 50 ppb), making it suitable for HPLC, GC, ILC and TOC analyses. Systems are delivered with a Quick Reference Guide for an easy and fast understanding of operational functionality.

### Features

- Produces Type 1 ultrapure water (18.2 MΩ·cm resistivity at 25 °C) on demand from pretreated water (reverse osmosis, distilled or deionized water).
- Compact and portable "nomadic" system requires no plumbing. The Simplicity® system can easily be installed where you need it on your lab bench – and just as easily moved to another location within your lab or elsewhere if necessary.
- The system draws water from a removable, refillable, built-in reservoir, eliminating the need for carboys.
- Flow rate > 0.5 l/min.
- Maintenance reduced to a single cartridge change when needed, based on the resistivity value displayed for the ultrapure water produced.
- Systems designed for users needing between 1 and 5 liters of ultrapure water per day with instant flow rate of 0.5 l/min.
- System comes with or without a UV lamp (depending on the impact of TOC on applications).
- Alarm function in the event of a sudden drop in the quality of the product water guarantees your water quality at all times.
- Dispensing adapted to different size laboratory glassware.

### Learn More

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## Super-Q® Water Purification System

Reagent-grade water purification system producing up to 12 l/min of Type 1 ultrapure water

The Super-Q® System is a high-flow water system designed to provide the "final polish" to water that has been pretreated by reverse osmosis, distillation or deionization. Super-Q® systems consistently produce ultrapure water quality that exceeds Type 1 ASTM®/CAP/CLSI® specifications.

The Super-Q® water system features a modular design for the production of ultrapure water, as well as automatic recirculation of water on an hourly basis to maintain water quality between uses.



Because Super-Q® product water is produced "on demand", there is no need to store water and risk degrading water quality over time.

### Features

- Produces up to 12 l per minute of ultrapure water with a resistivity of 18 MΩ·cm at 25 °C and TOC < 20 ppb.
- Cartridges used in the system have a thermoplastically welded construction, which avoids the use of glues and solvents that can contribute to high TOC (Total Organic Carbon) levels in product water.
- Deionization resin used in the system's purification cartridges is selected to respond to criteria requiring high ion-exchange capacity and rapid rinse-up, as well as low extractable (TOC and particulate levels).
- When not in use, the system can be set on "Standby" allowing the pump to automatically recirculate the water for five minutes every 90 minutes, thus maintaining high water quality between uses.

### Elix® Advantage Water Purification Systems

The best in pure water at your fingertips

The Elix® Advantage system is the first choice of scientists around the world for producing Type 2 pure water in both validated and non-validated environments.

Equipped with the second generation of patented Elix® EDI technology, the Elix® Advantage system produces consistently high-quality pure water at low and predictable running costs.

The ergonomic and versatile E-POD® (Elix® water Point-of-Delivery) dispensers let you benefit comfortably from efficient and reliable pure water delivery, where you need it, when you need it.

Validation services are available for your Elix® Advantage system.



#### Features

- Constant and reliable Type 2 pure water from potable tap water (up to 360 l/day), thanks to complementary water purification techniques, including state-of-the-art Elix® electrodeionization technology.
- Water produced by the systems, with resistivity > 5 MΩ·cm at 25 °C (typically 10–15 MΩ·cm) and TOC < 30 ppb, meets the specifications for your applications.
- Low and predictable running costs, with the self-regenerating Elix® electrodeionization module.
- Up to three E-POD® pure water dispensers can be connected to each Elix® Advantage system, giving you flexibility in water quality needs and lab organization.
- Convenient E-POD® unit(s) provides manual or automatic pure water dispense; high or low water flow (up to 2 l/min) to suit your needs and save time.
- By adding the appropriate E-POD® dispenser Application Pak, pure water can be fine-tuned at dispense to provide organic- and particulate-free\* or pyrogen- and nuclease-free\* water (\* see water quality table).

#### Learn More

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- High-precision monitoring equipment measures key water quality parameters.
- Intuitive system controls allow access to different levels of system information (regular use, maintenance, system management).
- Maintenance procedures are easy and straightforward. RFID technology enables automatic traceability.
- Validation support for your Elix® Advantage system can be provided by trained Merck Millipore Field Service Support Engineers using calibrated equipment and Qualification Workbooks.
- Compliance with the highest Quality Assurance demands. Systems are delivered with a Certificate of Conformity and a Certificate of Calibration for built-in meters; consumables are delivered with a Certificate of Quality.
- When activated, Millitrack® Lite software allows access to an electronic logbook and real-time dashboard, and also provides full traceability and remote monitoring capabilities.

#### Applications

The pure water from the Elix® system can be used for laboratory applications such as reagent and buffer preparation, microbiology media preparation, histology applications, purified water for pharmaceutical applications (according to US, Japanese and European Pharmacopeias), and feed for laboratory equipment (washing machines, clinical analyzers, stability chambers, humidifiers, autoclaves, and weatherometers).

Elix® water is recommended as feed water for all ultrapure water purification systems.

#### Elix® Advantage System Water Specifications

The Elix® Advantage system is designed to meet or exceed requirements as described by ISO® 3696 (Grade 2 water); ASTM® D1193 (Type II resistivity and TOC Table I specifications); and by the United States, European and Japanese Pharmacopeias for Purified Water.

#### Water Quality

Parameter	Value
Resistivity	> 5 MΩ·cm @ 25 °C
TOC	< 30 ppb
Bacteria	< 0.1 cfu/ml*
Particulates > 0.22 µm	< 1 particulate/ml*
Pyrogens (endotoxins)	< 0.001 EU/ml**
RNases	< 0.01 ng/ml**
DNases	< 4 pg/µl**

\* With Millipak® filter with Millipore Express® membrane or BioPak® ultrafilter as Application Pak

\*\* With BioPak® ultrafilter as Application Pak

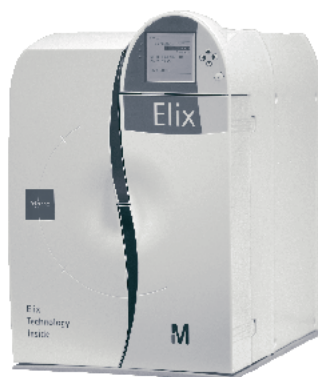
## Elix® Reference Water Purification Systems

The best in pure water

The Elix® Reference system is the best Type 2 pure water solution for discerning scientists around the world in both validated and non-validated environments.

Equipped with the second generation of patented Elix® EDI technology, the Elix® Reference system produces consistently high-quality pure water at low and predictable running costs.

Validation services are available for your Elix® Reference system.



### Features

- Constant and reliable Type 2 pure water from potable tap water (up to 360 l/day) thanks to complementary water purification techniques, including state-of-the-art Elix® electrodeionization technology.
- Water produced by the systems, with resistivity > 5 MΩ-cm at 25 °C (typically 10–15 MΩ-cm) and TOC < 30 ppb, meets the specifications for your applications.
- Low and predictable running costs, with the self-regenerating Elix® electrodeionization module.
- High-precision monitoring equipment measures key water quality parameters.
- Intuitive system controls allow access to different levels of system information (regular use, maintenance, system management).
- Maintenance procedures are easy and straightforward. RFID technology enables automatic traceability.
- Validation support for your Elix® Reference system can be provided by trained Merck Millipore Field Service Support Engineers using calibrated equipment and Qualification Workbooks.
- Compliance with the highest Quality Assurance demands. Elix® Reference systems are delivered with a Certificate of Conformity and a Certificate of Calibration for built-in meters; consumables are delivered with a Certificate of Quality.
- When activated, Millitrack® Lite software allows access to an electronic logbook and real-time dashboard, and also provides full traceability and remote monitoring capabilities.

### Learn More

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## Elix® Essential Water Purification Systems

Consistently pure, reliable water quality for optimal results

The Elix® Essential system is ideal for laboratories needing an economical and user-friendly Type 2 pure water solution.

Patented Elix® EDI technology is combined with complementary water purification techniques, including Progard® pretreatment and reverse osmosis, to produce consistently pure and reliable quality water.

With no resin packs to change and no softener required, the self-regenerating Elix® EDI module lowers running costs.



### Features

- Constant and reliable Type 2 pure water from potable tap water (up to 360 l/day) thanks to complementary water purification techniques, including state-of-the-art Elix® electrodeionization technology.
- Water produced by the systems, with resistivity > 5 MΩ-cm at 25 °C (typically 10–15 MΩ-cm) and TOC < 30 ppb, meets the specifications for your applications.
- Low and predictable running costs, with the self-regenerating Elix® electrodeionization module.
- Intuitive system controls, with system alert and alarm icons shown on a color-coded backlit LCD display.
- Small system footprint enables the best use of the laboratory space.
- Maintenance procedures are easy and straightforward. RFID technology enables automatic traceability.
- When activated, Millitrack® Essential software allows access to an electronic logbook and real-time dashboard, and also provides full traceability and remote monitoring capabilities.

## Large Elix® Water Purification Systems

In addition, Merck Millipore has developed Elix® systems for users requiring larger volumes of Type 2 analytical-grade water, ranging from several hundred to several thousand liters per day. These larger Elix® systems can be integrated into a centralized system and can control all accessories in the distribution loop, serving as the "nerve-center" for the total water purification chain.

### RiOs-DI® Water Purification Systems

Affordable RO-DI pure water solutions

RiOs-DI® systems provide users with a compact solution ideal for low-volume pure water laboratory applications.

The unique, simple "plug-and-use" purification pack enables the production of high quality (> 10 MΩ-cm and < 30 ppb TOC) water from tap water.

The systems have a compact and user-friendly design to make the most efficient use of lab space.



#### Features

- Combining Reverse Osmosis and Deionization, RiOs-DI® systems remove all types of water contaminants (typically > 99%).
- The built-in 254 nm UV lamp\* is ideal for applications that require low bacteria levels.
- The consumable is a unique "all-in-one" pack that includes the pretreatment, reverse osmosis membrane and ion-exchange resin.
- Maintenance is reduced to the quick change of a single cartridge.
- Backlit color display shows resistivity and temperature values, water level in reservoir, and alarms if necessary.
- Integrated, compact 6-liter reservoir; unique flow rate of 3 l/h, typical daily production up to 15 l.

\*This system is also available without a UV lamp.

#### Learn More

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### Milli-DI® Water Purification Systems

The Deionized water solution for basic laboratory needs

The Milli-DI® system is a compact and easy-to-use water purification system that instantly provides deionized water (resistivity > 1 MΩ-cm) directly from tap water.

Suitable for users requiring low volumes of purified water (3 to 5 l/day), this battery-powered system comes with everything needed for easy installation in the lab (includes tubing for 1/2" tap fitting).

Operation and maintenance of the Milli-DI® system is simple: the DI-PAK® purification pack can be easily snapped in and out in seconds without risk of leakage.



#### Features

- Simple installation: battery-powered with no need for electric outlet.
- Complete purification sequence (removal of ions, bacteria and organics).
- Built-in resistivity meter for easy control of water quality.
- Compact and easy-to-use.
- Easy maintenance – purification packs can be changed in seconds.
- Optional 0.22 µm filter produces bacteria-free water.

## RiOs™ Essential Water Purification Systems

A consistent, user-friendly RO pure water solution

RiOs™ Essential systems are ideal for laboratories needing constant production of Type 3 pure water up to 480 l/day. The RiOs™ Essential solution integrates pretreatment and high-performance reverse osmosis (RO) membranes.

Robust RiOs™ Essential systems require very little maintenance thanks to established RO technology and automatic RO self-maintenance functions.



### Features

- Consistent production of Type 3 (RO) pure water with temperature compensation to ensure dependable and constant flow rates from 5 to 24 liters per hour.
- Advanced reverse osmosis technology with high level recovery loop reduces water consumption by 50% or more.
- Intuitive system controls, with system alert and alarm icons shown on a color-coded backlit LCD display.
- Automatic RO self-maintenance functions.
- Ergonomic pack locking system makes Progard® pack changes a snap!
- RFID technology for traceability of Progard® pretreatment packs.
- Small system footprint, allowing multiple installation possibilities.
- When activated, Millitrack® Essential software allows access to an electronic logbook and real-time dashboard, and also provides full traceability and remote monitoring capabilities.

### Learn More

For more information, please visit our website: [www.merckmillipore.com/labwater](http://www.merckmillipore.com/labwater) or phone your local Merck Millipore office to request a free brochure

## RiOs™ Water Purification Systems

Affordable RO pure water solutions

RiOs™ systems are suitable for general, non-critical laboratory applications and provide an ideal solution for Type 3 laboratory-grade water needs.

The systems have a compact and user-friendly design to make the most efficient use of lab space.



### Features

- Systems produce affordable Type 3 water from tap, up to 190 l per day.
- Systems are available with flow rates of 3, 5, or 8 liters per hour to match users' volume needs.
- Efficient removal of > 96% of ionic contaminants and > 99% of other contaminants (organics with MW > 200, bacteria, particles).
- Unique, all-in-one purification cartridge includes pretreatment and the reverse osmosis membrane.
- Maintenance is reduced to the change of a single cartridge once or twice a year.
- Backlit color display shows conductivity and temperature values, water level in reservoir, and alarms if necessary.
- Integrated, compact 6-liter reservoir (RiOs™ 3); connection to a 30 l or 60 l reservoir is possible for higher daily needs.

### Large RiOs™ Water Purification Systems

In addition, Merck Millipore has developed large RiOs™ systems designed to produce up to 8,000 l/day of Type 3 laboratory-grade water from potable water. These systems can be integrated into a centralized system, providing total control of all parameters within the system itself, as well as within the external pure water distribution loop.

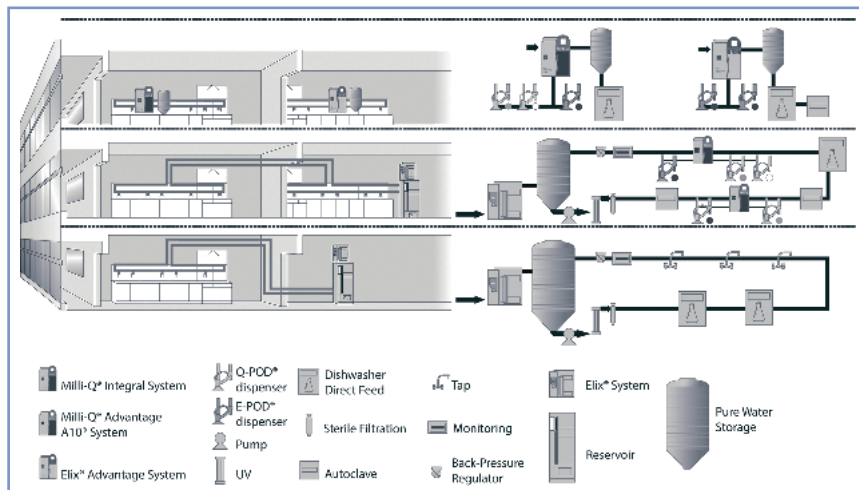
With the latest technologies incorporated in these RiOs™ systems, customers benefit from lower running costs and easier maintenance.



## Merck Millipore Custom Installations

Lab water system for a large laboratory or laboratory building (water needs up to 10,000 L/day)

Designing a new lab water system or retrofitting an existing system requires a thorough understanding and working knowledge of common and emerging contaminants, purification technologies, industry standards, user requirements and water distribution options. Selecting the purification technologies, materials, design and installation configurations best-suited to individual user and departmental needs throughout the facility can be a daunting task. Further complicating the design of a lab water system are usage patterns and purity requirements that can vary widely among labs, floors, and departments within a single facility.



Example of a custom installation on several floors, including some specific point-of-use systems

In planning a water distribution loop that will meet desired water quality and water requirements such as flow rate and pressure needs, Merck Millipore has the engineering expertise to determine the adequate water purification equipment and pump size, based on calculated piping and equipment pressure losses. For example, to maintain optimal microbiological water quality, Merck Millipore ensures that minimum flow velocity throughout the distribution loop will be achieved, and also follows strict design guidelines, such as avoiding piping dead-legs.

At Merck Millipore, we offer a complete range of water purification systems designed to match the needs of small- through large-volume applications. Compatible with any laboratory usage, these systems are economical, easy to use, save water and improve productivity and results.

### Total Pure Water Solutions

Merck Millipore is the partner of choice for total water purification systems – from conception and design through to engineering expertise and technical support services. Merck Millipore works together with end-user scientists, architects, consultants, lab managers, facilities managers, contractors and equipment suppliers throughout a project to meet customers' specific requirements.

### Total Performance

Determining the specific requirements for a laboratory, a suite of laboratories or an entire laboratory building is often the most difficult part of the project. From the earliest stages, Merck Millipore professionals work with all parties, providing advice on key parameters such as water quality and quantity, standards that must be adhered to and considerations for long-term laboratory use.

### Learn More

For more information, please visit our website: [www.merckmillipore.com/labwater](http://www.merckmillipore.com/labwater) or phone your local Merck Millipore office to request a free brochure

### Total Expertise

Merck Millipore provides the expertise throughout the project to ensure that all components are designed and implemented according to strict guidelines – assuring users that the total water purification system will meet the expected performance levels.

### Partnership

The partnership begins with each customer defining their own specific needs: the quality and quantities of water required, practical considerations and requirements for regulatory standards.

### Design

Merck Millipore can provide a specific configuration for a particular design or several options to meet the demands of regulatory bodies as well as valuable advice on choosing the best design to meet customer needs.

### Installation

Merck Millipore can provide the systems and all the necessary components and materials to perform the installation.

### Support

For complete peace of mind, Merck Millipore offers a full range of services for your water purification system that includes maintenance programs, telephone technical support, field service visits, application and scientific support, as well as comprehensive Installation Qualification (IQ) and Operational Qualification (OQ) support.

## Merck Millipore Lab Water Systems for Automatic Instrument Feed (Clinical Analyzers)

Of all the fluidic reagents needed onboard an analyzer, water is the most frequently used. Purified water is employed extensively in biomedical laboratories, in a wide variety of applications ranging from General Chemistry to Enzyme Immunoassays, including Toxicology, Trace Elements analysis, and Molecular testing assays. For each assay, different types of contaminants may interfere with the analysis and alter the test results.

Merck Millipore offers a complete range of water purification systems designed to produce consistent water quality, and which follow the guidelines of the Clinical and Laboratory Standards Institute, Inc. (CLSI®) for Clinical Laboratory Reagent Water (CLRW):

- Resistivity > 10 MΩ·cm @ 25 °C
- Bacteria level < 10 cfu/ml
- Total Organic Carbon (TOC) < 500 ppb
- 0.22 µm filtration

### RiOs-DI® Clinical Water Purification Systems

Consistent and reliable purified water for low-volume clinical analyzers using up to 20 l daily



#### Features

- Efficiently combines reverse osmosis (RO) technology with deionization (DI) resins to produce CLSI® SRW (Special Reagent Water).
- Produces water with a flow rate of 3 l/h in an integrated 6 l reservoir.
- Provides an efficient alternative to buying and storing bottled water.
- Economical and compact system allows substantial cost savings.
- Eliminates the need to constantly manually refill pure water reservoirs or storage tanks.
- Consumable cartridges snap in and out without the use of tools.

#### Learn More

For more information, please visit our website: [www.merckmillipore.com/labwater](http://www.merckmillipore.com/labwater) or phone your local Merck Millipore office to request a free brochure

### AFS® 10E and 15E Water Purification Systems

Incorporating Elix® technology economical and reliable water purification systems for analyzers with pure water needs up to 300 l daily



#### Features

- Produce water with flow rates of 10 and 15 l/h respectively, up to 300 l daily.
- Combine Merck Millipore's state-of-the-art Elix® electrodeionization (EDI) technology with other complementary water purification techniques.
- Designed to be in compliance with CLSI® CLRW quantitative specifications.
- Fit any lab and can be mounted on a bench, wall, or cart.

### Elix® Gulfstream Clinical Water Purification Systems

All-in-one water purification system for clinical analyzers with pure water needs of up to 2,000 l daily



#### Features

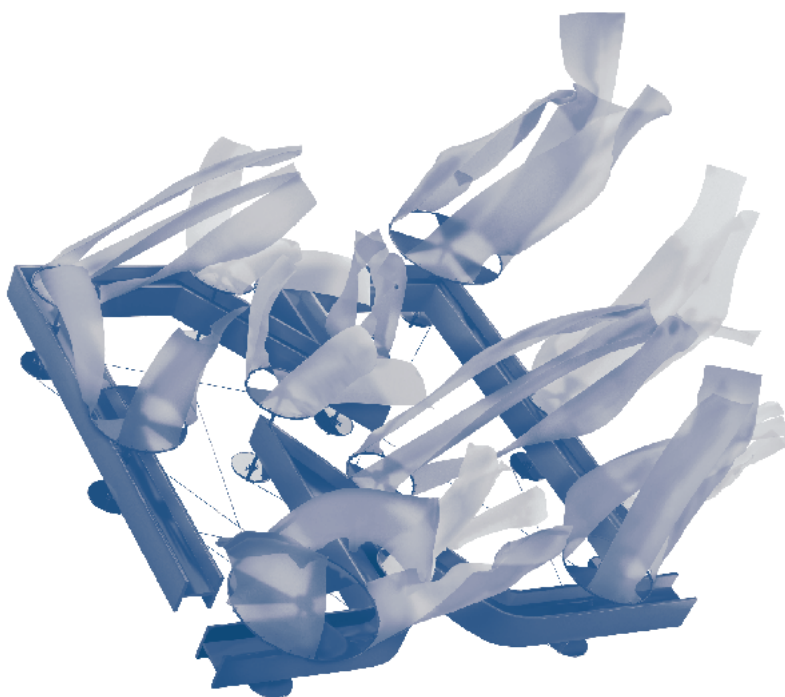
- Designed to be in compliance with CLSI® CLRW quantitative specifications.
- "All-in-one" solution on wheels saves space, and allows easy installation and mobility.
- Patented, proven Elix® electrodeionization (EDI) technology provides consistent water quality, with low and predictable running costs.
- Robust system that requires little maintenance.
- Small footprint.



# Create Peptides without Restrain.

For nearly 30 years, the Novabiochem® brand has offered innovative reagents of unparalleled quality for peptide synthesis and high-throughput organic chemistry. Our extensive range includes more than 1,000 products, such as Boc and Fmoc amino acids, pseudoproline and Dmb-dipeptides, Wang and Rink resins, as well as COMU®\*, HATU, HBTU, PyBOP, and PyOxim coupling reagents.

\* COMU is a registered trademark of Luxembourg Bio Technologies Ltd., Israel



More information

[www.merckmillipore.com/peptides](http://www.merckmillipore.com/peptides)

## N- $\alpha$ -Fmoc protected amino acids

### Alanine [Ala, A]

Cat.No.	Designation	Ord.No.	Quantity	Price
852003	Fmoc-Ala-OH Novabiochem®	8.52003.0025	25 g	inquire
		8.52003.0100	100 g	inquire
		8.52003.0250	250 g	inquire
		8.52003.4001	1 mmo	inquire
		8.52003.4010	10 mmo	inquire
		8.52003.4020	20 mmo	inquire
		8.52003.4021	20 mmo	inquire
852142	Fmoc-D-Ala-OH Novabiochem®	8.52142.0005	5 g	inquire
		8.52142.0025	25 g	inquire
852222	Fmoc-Ala-OPfp Novabiochem®	8.52222.0005	5 g	inquire
852060	Fmoc-(FmocHmb)Ala-OH Novabiochem®	8.52060.0001	1 g	inquire
		8.52060.0005	5 g	inquire
852024	Fmoc- $\beta$ -Ala-OH Novabiochem®	8.52024.0005	5 g	inquire
		8.52024.0025	25 g	inquire
852138	Fmoc-MeAla-OH Novabiochem®	8.52138.0001	1 g	inquire
		8.52138.0005	5 g	inquire
852248	Fmoc-D-MeAla-OH Novabiochem®	8.52248.0001	1 g	inquire
		8.52248.0005	5 g	inquire
852320	Fmoc-L- $\beta$ -Azidoalanine Novabiochem®	8.52320.8100	100 mg	inquire
		8.52320.8500	500 mg	inquire
852321	Fmoc-L- $\gamma$ -azidohomoalanine-OH Novabiochem®	8.52321.8100	100 mg	inquire
		8.52321.8500	500 mg	inquire
852333	(S)-N-Fmoc-alpha-4-n-pentenylalanine Novabiochem®	8.52333.0001	1 g	inquire
		8.52333.8250	250 mg	inquire

### p-Aminobenzoic acid [PABA]

Cat.No.	Designation	Ord.No.	Quantity	Price
852219	Fmoc-PABA-OH Novabiochem®	8.52219.0001	1 g	inquire
		8.52219.0005	5 g	inquire
		8.52219.0025	25 g	inquire

### Aminobutyric acid [Abu]

Cat.No.	Designation	Ord.No.	Quantity	Price
852048	Fmoc-Abu-OH Novabiochem®	8.52048.0001	1 g	inquire
		8.52048.0005	5 g	inquire
		8.52048.0025	25 g	inquire
852043	Fmoc- $\gamma$ -Abu-OH Novabiochem®	8.52043.0001	1 g	inquire
		8.52043.0005	5 g	inquire
		8.52043.0025	25 g	inquire
852352	(2S,3S)-Fmoc-Abu(3-N3)-OH Novabiochem®	8.52352.0001	1 g	inquire
		8.52352.8250	250 mg	inquire

### Aminocoumarin acetic acid [ACA]

Cat.No.	Designation	Ord.No.	Quantity	Price
852309	Fmoc-ACA-OH	8.52309.0001	1 g	inquire
		8.52309.8250	250 mg	inquire

### Aminohexanoic acid [ $\epsilon$ -Ahx]

Cat.No.	Designation	Ord.No.	Quantity	Price
852053	Fmoc- $\epsilon$ -Ahx-OH Novabiochem®	8.52053.0001	1 g	inquire
		8.52053.0005	5 g	inquire
		8.52053.0025	25 g	inquire

# Building Blocks for Solid Phase Synthesis

## Aminoisobutyric acid [Aib]

Cat.No.	Designation	Ord.No.	Quantity	Price
852049	Fmoc-Aib-OH Novabiochem®	8.52049.0001	1 g	inquire
		8.52049.0005	5 g	inquire
		8.52049.0025	25 g	inquire

## Arginine [Arg, R]

Cat.No.	Designation	Ord.No.	Quantity	Price
852067	Fmoc-Arg(Pbf)-OH Novabiochem®	8.52067.0025	25 g	inquire
		8.52067.0100	100 g	inquire
		8.52067.0250	250 g	inquire
		8.52067.4001	1 mmo	inquire
		8.52067.4010	10 mmo	inquire
		8.52067.4020	20 mmo	inquire
		8.52067.4021	20 mmo	inquire
852165	Fmoc-D-Arg(Pbf)-OH Novabiochem®	8.52165.0001	1 g	inquire
		8.52165.0005	5 g	inquire
852034	Fmoc-Arg(Pmc)-OH Novabiochem®	8.52034.0005	5 g	inquire
		8.52034.0025	25 g	inquire
		8.52034.0100	100 g	inquire
852153	Fmoc-D-Arg(Pmc)-OH Novabiochem®	8.52153.0001	1 g	inquire
		8.52153.0005	5 g	inquire
852101	Fmoc-Arg(Boc) <sub>2</sub> -OH Novabiochem®	8.52101.0001	1 g	inquire
		8.52101.0005	5 g	inquire
852134	Fmoc-Arg(Pbf)-OPfp Novabiochem®	8.52134.0005	5 g	inquire
852105	Fmoc-Arg(Me,Pbf)-OH Novabiochem®	8.52105.0001	1 g	inquire
		8.52105.0005	5 g	inquire
852107	Fmoc-ADMA(Pbf)-OH Novabiochem®	8.52107.0001	1 g	inquire
		8.52107.0005	5 g	inquire
852310	Fmoc-SDMA(Boc) <sub>2</sub> -ONa Novabiochem®	8.52310.0001	1 g	inquire
		8.52310.0005	5 g	inquire
852336	Fmoc-L-Agp(Boc) <sub>2</sub> -OH Novabiochem®	8.52336.0001	1 g	inquire
		8.52336.0005	5 g	inquire

## Asparagine [Asn, N]

Cat.No.	Designation	Ord.No.	Quantity	Price
852203	Fmoc-Asn-OH Novabiochem®	8.52203.0005	5 g	inquire
		8.52203.0025	25 g	inquire
		8.52203.0100	100 g	inquire
852236	Fmoc-D-Asn-OH Novabiochem®	8.52236.0005	5 g	inquire
		8.52236.0025	25 g	inquire
852135	Fmoc-Asn(Ac <sub>3</sub> AcNH-β-Glc)-OH Novabiochem®	8.52135.0001	1 g	inquire
		8.52135.8100	100 mg	inquire
		8.52135.8500	500 mg	inquire
852044	FMOC-Asn(Trt)-OH N-α-Fmoc-N-β-trityl-L-asparagine Novabiochem®	8.52044.0025	25 g	inquire
		8.52044.0100	100 g	inquire
		8.52044.0250	250 g	inquire
		8.52044.4001	1 mmo	inquire
		8.52044.4010	10 mmo	inquire
		8.52044.4020	20 mmo	inquire
		8.52044.4021	20 mmo	inquire
852159	Fmoc-D-Asn(Trt)-OH Novabiochem®	8.52159.0001	1 g	inquire
		8.52159.0005	5 g	inquire
		8.52159.0025	25 g	inquire
852132	Fmoc-Asn(Trt)-OPfp Novabiochem®	8.52132.0005	5 g	inquire
852119	Fmoc-Asn(Dmcp)-OH Novabiochem®	8.52119.0001	1 g	inquire
		8.52119.0005	5 g	inquire
852353	Fmoc-N-Me-Asn(Trt)-OH Novabiochem®	8.52353.0001	1 g	inquire
		8.52353.8250	250 mg	inquire

# Building Blocks for Solid Phase Synthesis

## Aspartic acid [Asp, D]

Cat.No.	Designation	Ord.No.	Quantity	Price
852072	Fmoc-Asp-OAll Novabiochem®	8.52072.0001	1 g	inquire
		8.52072.0005	5 g	inquire
852004	Fmoc-Asp(OBzl)-OH Novabiochem®	8.52004.0005	5 g	inquire
		8.52004.0025	25 g	inquire
852037	Fmoc-Asp-OtBu Novabiochem®	8.52037.0001	1 g	inquire
		8.52037.0005	5 g	inquire
852144	Fmoc-D-Asp-OtBu Novabiochem®	8.52144.0001	1 g	inquire
		8.52144.0005	5 g	inquire
852005	Fmoc-Asp(OtBu)-OH Novabiochem®	8.52005.0025	25 g	inquire
		8.52005.0100	100 g	inquire
		8.52005.0250	250 g	inquire
		8.52005.4001	1 mmo	inquire
		8.52005.4010	10 mmo	inquire
		8.52005.4020	20 mmo	inquire
		8.52005.4021	20 mmo	inquire
852154	Fmoc-D-Asp(OtBu)-OH Novabiochem®	8.52154.0001	1 g	inquire
		8.52154.0005	5 g	inquire
		8.52154.0025	25 g	inquire
852125	Fmoc-Asp(OtBu)-OPfp Novabiochem®	8.52125.0001	1 g	inquire
		8.52125.0005	5 g	inquire
852079	Fmoc-Asp-ODmab Novabiochem®	8.52079.0001	1 g	inquire
		8.52079.0005	5 g	inquire
852078	Fmoc-Asp(ODmab)-OH Novabiochem®	8.52078.0001	1 g	inquire
		8.52078.0005	5 g	inquire
		8.52078.0025	25 g	inquire
852086	Fmoc-Asp(O-2-PhiPr)-OH Novabiochem®	8.52086.0001	1 g	inquire
		8.52086.0005	5 g	inquire
852104	Fmoc-Asp(OMpe)-OH Novabiochem®	8.52104.0001	1 g	inquire
		8.52104.0005	5 g	inquire
852220	Fmoc-Asp-OBzl Novabiochem®	8.52220.0001	1 g	inquire
		8.52220.0005	5 g	inquire
852118	Fmoc-Asp(EDANS)-OH Novabiochem®	8.52118.0001	1 g	inquire
		8.52118.8500	500 mg	inquire
852113	Fmoc-Asp(biotinyl-PEG)-OH Novabiochem®	8.52113.0001	1 g	inquire
		8.52113.8500	500 mg	inquire
852122	Fmoc-Asp(OAll)-OH Novabiochem®	8.52122.0005	5 g	inquire
		8.52122.0025	25 g	inquire
852335	Fmoc-Asp-O-2PhiPr	8.52335.0001	1 g	inquire
		8.52335.0005	5 g	inquire
852329	Fmoc-N-Me-Asp(OtBu)-OH	8.52329.0001	1 g	inquire
		8.52329.8250	250 mg	inquire

## Butylglycine

Cat.No.	Designation	Ord.No.	Quantity	Price
852027	Fmoc- $\alpha$ -t-butylglycine Novabiochem®	8.52027.0001	1 g	inquire
		8.52027.0005	5 g	inquire
852235	Fmoc-D- $\alpha$ -t-butylglycine Novabiochem®	8.52235.0001	1 g	inquire
		8.52235.0005	5 g	inquire

## Citrulline [Cit]

Cat.No.	Designation	Ord.No.	Quantity	Price
852025	Fmoc-Cit-OH Novabiochem®	8.52025.0001	1 g	inquire
		8.52025.0005	5 g	inquire
		8.52025.0025	25 g	inquire

## Cyclohexylalanine [Cha]

Cat.No.	Designation	Ord.No.	Quantity	Price
852038	Fmoc-Cha-OH Novabiochem®	8.52038.0001	1 g	inquire
		8.52038.0005	5 g	inquire
		8.52038.0025	25 g	inquire

# Building Blocks for Solid Phase Synthesis

## Cyclohexylalanine [Cha]

Cat.No.	Designation	Ord.No.	Quantity	Price
852162	Fmoc-D-Cha-OH Novabiochem®	8.52162.0001	1 g	inquire
		8.52162.0005	5 g	inquire
		8.52162.0025	25 g	inquire

## Cysteine [Cys, C]

Cat.No.	Designation	Ord.No.	Quantity	Price
852006	Fmoc-Cys(Acm)-OH Novabiochem®	8.52006.0005	5 g	inquire
		8.52006.0025	25 g	inquire
		8.52006.0100	100 g	inquire
		8.52006.4001	1 mmo	inquire
		8.52006.4010	10 mmo	inquire
		8.52006.4020	20 mmo	inquire
		8.52006.4021	20 mmo	inquire
852158	Fmoc-D-Cys(Acm)-OH Novabiochem®	8.52158.0001	1 g	inquire
		8.52158.0005	5 g	inquire
852007	Fmoc-Cys(tBu)-OH Novabiochem®	8.52007.0005	5 g	inquire
		8.52007.0025	25 g	inquire
		8.52007.0100	100 g	inquire
852022	Fmoc-Cys(tButhio)-OH Novabiochem®	8.52022.0005	5 g	inquire
		8.52022.0025	25 g	inquire
852031	Fmoc-Cys(Mmt)-OH Novabiochem®	8.52031.0001	1 g	inquire
		8.52031.0005	5 g	inquire
		8.52031.0025	25 g	inquire
852008	Fmoc-Cys(Trt)-OH Novabiochem®	8.52008.0025	25 g	inquire
		8.52008.0100	100 g	inquire
		8.52008.0250	250 g	inquire
		8.52008.4001	1 mmo	inquire
		8.52008.4010	10 mmo	inquire
		8.52008.4020	20 mmo	inquire
		8.52008.4021	20 mmo	inquire
852143	Fmoc-D-Cys(Trt)-OH Novabiochem®	8.52143.0001	1 g	inquire
		8.52143.0005	5 g	inquire
852126	Fmoc-Cys(Trt)-OPfp Novabiochem®	8.52126.0005	5 g	inquire
852339	Fmoc-Pen(Trt)-OH Novabiochem®	8.52339.0001	1 g	inquire
		8.52339.0005	5 g	inquire
852348	Fmoc-N-Me-Cys(Trt)-OH	8.52348.0001	1 g	inquire
		8.52348.8250	250 mg	inquire
852338	Fmoc-L-thioprolin Novabiochem®	8.52338.0001	1 g	inquire
		8.52338.0005	5 g	inquire
		8.52338.0025	25 g	inquire

## Diaminobutanoic acid [Dab]

Cat.No.	Designation	Ord.No.	Quantity	Price
852092	Fmoc-Dab(Mtt)-OH Novabiochem®	8.52092.0001	1 g	inquire
		8.52092.0005	5 g	inquire
852074	Fmoc-Dab(Boc)-OH Novabiochem®	8.52074.0001	1 g	inquire
		8.52074.0005	5 g	inquire
852084	Fmoc-Dab(ivDde)-OH Novabiochem®	8.52084.0001	1 g	inquire
		8.52084.0005	5 g	inquire
852167	Fmoc-D-Dab(ivDde)-OH Novabiochem®	8.52167.0001	1 g	inquire
		8.52167.0005	5 g	inquire
852374	Fmoc-D-Ile-OH Novabiochem®	8.52374.0001	1 g	inquire

## Diaminopropionic acid [Dpr]

Cat.No.	Designation	Ord.No.	Quantity	Price
852089	Fmoc-Dpr(Mtt)-OH Novabiochem®	8.52089.0001	1 g	inquire
		8.52089.0005	5 g	inquire
852087	Fmoc-Dpr(Boc)-OH Novabiochem®	8.52087.0001	1 g	inquire
		8.52087.0005	5 g	inquire

# Building Blocks for Solid Phase Synthesis

## Diaminopropionic acid [Dpr]

Cat.No.	Designation	Ord.No.	Quantity	Price
852083	Fmoc-Dpr(ivDde)-OH Novabiochem®	8.52083.0001	1 g	inquire
		8.52083.0005	5 g	inquire
852243	Fmoc-D-Dpr(ivDde)-OH Novabiochem®	8.52243.0001	1 g	inquire
		8.52243.0005	5 g	inquire

## Dihydroxyphenylalanine [DOPA]

Cat.No.	Designation	Ord.No.	Quantity	Price
852093	Fmoc-DOPA(acetonide)-OH Novabiochem®	8.52093.0001	1 g	inquire

## Glutamic acid [Glu, E]

Cat.No.	Designation	Ord.No.	Quantity	Price
852073	Fmoc-Glu-OAll Novabiochem®	8.52073.0001	1 g	inquire
		8.52073.0005	5 g	inquire
852204	Fmoc-Glu(OBzl)-OH Novabiochem®	8.52204.0005	5 g	inquire
		8.52204.0025	25 g	inquire
852127	Fmoc-Glu(OtBu)-OPfp Novabiochem®	8.52127.0001	1 g	inquire
		8.52127.0005	5 g	inquire
852035	Fmoc-Glu-OtBu Novabiochem®	8.52035.0001	1 g	inquire
		8.52035.0005	5 g	inquire
852009	Fmoc-Glu(OtBu)-OH Novabiochem®	8.52009.0025	25 g	inquire
		8.52009.0100	100 g	inquire
		8.52009.0250	250 g	inquire
		8.52009.4001	1 mmo	inquire
		8.52009.4010	10 mmo	inquire
		8.52009.4020	20 mmo	inquire
		8.52009.4021	20 mmo	inquire
852155	Fmoc-D-Glu(OtBu)-OH Novabiochem®	8.52155.0001	1 g	inquire
		8.52155.0005	5 g	inquire
		8.52155.0025	25 g	inquire
852077	Fmoc-Glu-ODmab Novabiochem®	8.52077.0001	1 g	inquire
		8.52077.0005	5 g	inquire
852076	Fmoc-Glu(ODmab)-OH Novabiochem®	8.52076.0001	1 g	inquire
		8.52076.0005	5 g	inquire
		8.52076.0025	25 g	inquire
852085	Fmoc-Glu(O-2-PhiPr)-OH Novabiochem®	8.52085.0001	1 g	inquire
		8.52085.0005	5 g	inquire
852098	Fmoc-Glu(EDANS)-OH Novabiochem®	8.52098.0001	1 g	inquire
		8.52098.8500	500 mg	inquire
852102	Fmoc-Glu(biotinyl-PEG)-OH Novabiochem®	8.52102.0001	1 g	inquire
		8.52102.8500	500 mg	inquire
852221	Fmoc-Glu-OBzl Novabiochem®	8.52221.0001	1 g	inquire
		8.52221.0005	5 g	inquire
852117	Fmoc-Glu-O-2-PhiPr Novabiochem®	8.52117.0001	1 g	inquire
852247	Fmoc-D-Glu-ODmab Novabiochem®	8.52247.0001	1 g	inquire
		8.52247.0005	5 g	inquire
852123	Fmoc-Glu(OAll)-OH Novabiochem®	8.52123.0005	5 g	inquire
		8.52123.0025	25 g	inquire
852330	Fmoc-N-Me-Glu(OtBu)-OH	8.52330.0001	1 g	inquire
		8.52330.8250	250 mg	inquire

## Glutamine [Gln, Q]

Cat.No.	Designation	Ord.No.	Quantity	Price
852205	Fmoc-Gln-OH Novabiochem®	8.52205.0005	5 g	inquire
		8.52205.0025	25 g	inquire
		8.52205.0100	100 g	inquire
852237	Fmoc-D-Gln-OH Novabiochem®	8.52237.0001	1 g	inquire
		8.52237.0005	5 g	inquire
		8.52237.0025	25 g	inquire

# Building Blocks for Solid Phase Synthesis

## Glutamine [Gln, Q]

Cat.No.	Designation	Ord.No.	Quantity	Price
852045	Fmoc-Gln(Trt)-OH Novabiochem®	8.52045.0025	25 g	<a href="#">inquire</a>
		8.52045.0100	100 g	<a href="#">inquire</a>
		8.52045.0250	250 g	<a href="#">inquire</a>
		8.52045.4001	1 mmo	<a href="#">inquire</a>
		8.52045.4010	10 mmo	<a href="#">inquire</a>
		8.52045.4020	20 mmo	<a href="#">inquire</a>
		8.52045.4021	20 mmo	<a href="#">inquire</a>
852160	Fmoc-D-Gln(Trt)-OH Novabiochem®	8.52160.0001	1 g	<a href="#">inquire</a>
		8.52160.0005	5 g	<a href="#">inquire</a>
		8.52160.0025	25 g	<a href="#">inquire</a>
852133	Fmoc-Gln(Trt)-OPfp Novabiochem®	8.52133.0001	1 g	<a href="#">inquire</a>
		8.52133.0005	5 g	<a href="#">inquire</a>
852120	Fmoc-Gln(Dmcp)-OH Novabiochem®	8.52120.0001	1 g	<a href="#">inquire</a>
		8.52120.0005	5 g	<a href="#">inquire</a>

## Glycine [Gly, G]

Cat.No.	Designation	Ord.No.	Quantity	Price
852001	Fmoc-Gly-OH Novabiochem®	8.52001.0025	25 g	<a href="#">inquire</a>
		8.52001.0100	100 g	<a href="#">inquire</a>
		8.52001.0250	250 g	<a href="#">inquire</a>
		8.52001.4001	1 mmo	<a href="#">inquire</a>
		8.52001.4010	10 mmo	<a href="#">inquire</a>
		8.52001.4020	20 mmo	<a href="#">inquire</a>
		8.52001.4021	20 mmo	<a href="#">inquire</a>
852128	Fmoc-Gly-OPfp Novabiochem®	8.52128.0001	1 g	<a href="#">inquire</a>
		8.52128.0005	5 g	<a href="#">inquire</a>
852064	Fmoc-(FmocHmb)Gly-OH Novabiochem®	8.52064.0001	1 g	<a href="#">inquire</a>
		8.52064.0005	5 g	<a href="#">inquire</a>
852110	Fmoc-(Dmb)Gly-OH Novabiochem®	8.52110.0001	1 g	<a href="#">inquire</a>
		8.52110.0005	5 g	<a href="#">inquire</a>
852324	Fmoc-L-bishomopropargylglycine Novabiochem®	8.52324.8100	100 mg	<a href="#">inquire</a>
		8.52324.8500	500 mg	<a href="#">inquire</a>
852360	Fmoc-L-propargylglycine Novabiochem®	8.52360.0001	1 g	<a href="#">inquire</a>
		8.52360.0005	5 g	<a href="#">inquire</a>
852323	Fmoc-L-homopropargylglycine Novabiochem®	8.52323.8100	100 mg	<a href="#">inquire</a>
		8.52323.8500	500 mg	<a href="#">inquire</a>

## Histidine [His, H]

Cat.No.	Designation	Ord.No.	Quantity	Price
852052	Fmoc-His(Boc)-OH-CHA Novabiochem®	8.52052.0005	5 g	<a href="#">inquire</a>
		8.52052.0025	25 g	<a href="#">inquire</a>
852211	Fmoc-His(Mtt)-OH Novabiochem®	8.52211.0001	1 g	<a href="#">inquire</a>
		8.52211.0005	5 g	<a href="#">inquire</a>
852032	Fmoc-His(Trt)-OH Novabiochem®	8.52032.0025	25 g	<a href="#">inquire</a>
		8.52032.0100	100 g	<a href="#">inquire</a>
		8.52032.0250	250 g	<a href="#">inquire</a>
		8.52032.4001	1 mmo	<a href="#">inquire</a>
		8.52032.4010	10 mmo	<a href="#">inquire</a>
		8.52032.4020	20 mmo	<a href="#">inquire</a>
		8.52032.4021	20 mmo	<a href="#">inquire</a>
852161	Fmoc-D-His(Trt)-OH Novabiochem®	8.52161.0001	1 g	<a href="#">inquire</a>
		8.52161.0005	5 g	<a href="#">inquire</a>
852258	Fmoc-1-methyl-L-histidine Novabiochem®	8.52258.0001	1 g	<a href="#">inquire</a>
		8.52258.8250	250 mg	<a href="#">inquire</a>
852286	Fmoc-3-methyl-L-histidine Novabiochem®	8.52286.0001	1 g	<a href="#">inquire</a>
		8.52286.8250	250 mg	<a href="#">inquire</a>
852371	Fmoc-His(Clt)-OH Novabiochem®	8.52371.0005	5 g	<a href="#">inquire</a>
		8.52371.0025	25 g	<a href="#">inquire</a>
852354	Fmoc-N-Me-His(Trt)-OH Novabiochem®	8.52354.0001	1 g	<a href="#">inquire</a>
		8.52354.8250	250 mg	<a href="#">inquire</a>



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## Homoarginine [hArg]

Cat.No.	Designation	Ord.No.	Quantity	Price
852267	Fmoc-hArg(Pbf)-OH Novabiochem®	8.52267.0001	1 g	inquire
		8.52267.0005	5 g	inquire

## Homocysteine [hCys]

Cat.No.	Designation	Ord.No.	Quantity	Price
852266	Fmoc-hCys(Trt)-OH Novabiochem®	8.52266.0001	1 g	inquire
		8.52266.0005	5 g	inquire

## Homoglutamic acid [hGlu]

Cat.No.	Designation	Ord.No.	Quantity	Price
852308	Fmoc-homo-Glu(OtBU)-OH	8.52308.0001	1 g	inquire
		8.52308.0005	5 g	inquire
		8.52308.8250	250 mg	inquire

## Homoleucine [hLeu]

Cat.No.	Designation	Ord.No.	Quantity	Price
852327	Fmoc-homo-L-leucine	8.52327.0001	1 g	inquire
		8.52327.0005	5 g	inquire

## Homophenylalanine [hPhe]

Cat.No.	Designation	Ord.No.	Quantity	Price
852328	Fmoc-hPhe-OH Novabiochem®	8.52328.0001	1 g	inquire
		8.52328.0005	5 g	inquire

## Homoserine [Hse]

Cat.No.	Designation	Ord.No.	Quantity	Price
852059	Fmoc-Hse(Trt)-OH Novabiochem®	8.52059.0001	1 g	inquire
		8.52059.0005	5 g	inquire

## Hydroxyproline [Hyp]

Cat.No.	Designation	Ord.No.	Quantity	Price
852033	Fmoc-Hyp-OH Novabiochem®	8.52033.0005	5 g	inquire
		8.52033.0025	25 g	inquire
852036	Fmoc-Hyp(tBu)-OH Novabiochem®	8.52036.0001	1 g	inquire
		8.52036.0005	5 g	inquire
		8.52036.0025	25 g	inquire

## Isoleucine [Ile, I]

Cat.No.	Designation	Ord.No.	Quantity	Price
852010	Fmoc-Ile-OH Novabiochem®	8.52010.0025	25 g	inquire
		8.52010.0100	100 g	inquire
		8.52010.0250	250 g	inquire
		8.52010.4001	1 mmo	inquire
		8.52010.4010	10 mmo	inquire
		8.52010.4020	20 mmo	inquire
		8.52010.4021	20 mmo	inquire
852223	Fmoc-Ile-OPfp Novabiochem®	8.52223.0001	1 g	inquire
		8.52223.0005	5 g	inquire
852231	Fmoc-Melle-OH Novabiochem®	8.52231.0001	1 g	inquire
		8.52231.0005	5 g	inquire

# Building Blocks for Solid Phase Synthesis

## Isonipecotic acid [Isn]

Cat.No.	Designation	Ord.No.	Quantity	Price
852215	Fmoc-Isn-OH Novabiochem®	8.52215.0001	1 g	inquire
		8.52215.0005	5 g	inquire
		8.52215.0025	25 g	inquire

## Leucine [Leu, L]

Cat.No.	Designation	Ord.No.	Quantity	Price
852011	Fmoc-Leu-OH Novabiochem®	8.52011.0025	25 g	inquire
		8.52011.0100	100 g	inquire
		8.52011.0250	250 g	inquire
		8.52011.4001	1 mmo	inquire
		8.52011.4010	10 mmo	inquire
		8.52011.4020	20 mmo	inquire
		8.52011.4021	20 mmo	inquire
852145	Fmoc-D-Leu-OH Novabiochem®	8.52145.0005	5 g	inquire
		8.52145.0025	25 g	inquire
852224	Fmoc-Leu-OPfp Novabiochem®	8.52224.0001	1 g	inquire
		8.52224.0005	5 g	inquire
852061	Fmoc-(FmocHmb)Leu-OH Novabiochem®	8.52061.0001	1 g	inquire
		8.52061.0005	5 g	inquire
852139	Fmoc-MeLeu-OH Novabiochem®	8.52139.0001	1 g	inquire
		8.52139.0005	5 g	inquire

## Lysine [Lys, K]

Cat.No.	Designation	Ord.No.	Quantity	Price
852095	Fmoc-Lys(Mca)-OH Novabiochem®	8.52095.0001	1 g	inquire
		8.52095.8500	500 mg	inquire
852023	Fmoc-Lys-OH Novabiochem®	8.52023.0001	1 g	inquire
		8.52023.0005	5 g	inquire
		8.52023.0025	25 g	inquire
852042	Fmoc-Lys(Ac)-OH Novabiochem®	8.52042.0001	1 g	inquire
		8.52042.0005	5 g	inquire
		8.52042.0025	25 g	inquire
852012	Fmoc-Lys(Boc)-OH Novabiochem®	8.52012.0025	25 g	inquire
		8.52012.0100	100 g	inquire
		8.52012.0250	250 g	inquire
		8.52012.4001	1 mmo	inquire
		8.52012.4010	10 mmo	inquire
		8.52012.4020	20 mmo	inquire
		8.52012.4021	20 mmo	inquire
852146	Fmoc-D-Lys(Boc)-OH Novabiochem®	8.52146.0001	1 g	inquire
		8.52146.0005	5 g	inquire
852129	Fmoc-Lys(Boc)-OPfp Novabiochem®	8.52129.0005	5 g	inquire
852057	Fmoc-Lys(Dde)-OH Novabiochem®	8.52057.0001	1 g	inquire
		8.52057.0005	5 g	inquire
852147	Fmoc-D-Lys(Dde)-OH Novabiochem®	8.52147.0001	1 g	inquire
		8.52147.0005	5 g	inquire
854000	Dde-Lys(Fmoc)-OH Novabiochem®	8.54000.0001	1 g	inquire
		8.54000.0005	5 g	inquire
852041	Fmoc-Lys(Fmoc)-OH Novabiochem®	8.52041.0005	5 g	inquire
		8.52041.0025	25 g	inquire
		8.52041.0100	100 g	inquire
852082	Fmoc-Lys(ivDde)-OH Novabiochem®	8.52082.0001	1 g	inquire
		8.52082.0005	5 g	inquire
852065	Fmoc-Lys(Mtt)-OH Novabiochem®	8.52065.0001	1 g	inquire
		8.52065.0005	5 g	inquire
		8.52065.0025	25 g	inquire
852013	Fmoc-Lys(Z)-OH Novabiochem®	8.52013.0005	5 g	inquire
		8.52013.0025	25 g	inquire
852040	Fmoc-Lys(Tfa)-OH Novabiochem®	8.52040.0005	5 g	inquire
		8.52040.0025	25 g	inquire
852068	Fmoc-(FmocHmb)Lys(Boc)-OH Novabiochem®	8.52068.0001	1 g	inquire
		8.52068.0005	5 g	inquire

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## Lysine [Lys, K]

Cat.No.	Designation	Ord.No.	Quantity	Price
852096	Fmoc-Lys(DabcyI)-OH Novabiochem®	8.52096.0001	1 g	inquire
		8.52096.8500	500 mg	inquire
852097	Fmoc-Lys(biotin)-OH Novabiochem®	8.52097.0001	1 g	inquire
		8.52097.8500	500 mg	inquire
852099	Fmoc-Lys(Dnp)-OH Novabiochem®	8.52099.0001	1 g	inquire
		8.52099.8500	500 mg	inquire
852094	Fmoc-Lys(Mmt)-OH Novabiochem®	8.52094.0001	1 g	inquire
		8.52094.0005	5 g	inquire
852100	Fmoc-Lys(biotinyl-ε-aminocaproyl)-OH Novabiochem®	8.52100.0001	1 g	inquire
		8.52100.8500	500 mg	inquire
852106	Fmoc-Lys(Me,Boc)-OH Novabiochem®	8.52106.0001	1 g	inquire
		8.52106.8500	500 mg	inquire
852111	Fmoc-Lys(Me) <sub>2</sub> -OH HCl Novabiochem®	8.52111.0001	1 g	inquire
		8.52111.0005	5 g	inquire
		8.52111.8500	500 mg	inquire
852112	Fmoc-Lys(Me <sub>3</sub> Cl)-OH Novabiochem®	8.52112.0001	1 g	inquire
		8.52112.0005	5 g	inquire
		8.52112.8500	500 mg	inquire
852124	Fmoc-Lys(Alloc)-OH Novabiochem®	8.52124.0005	5 g	inquire
		8.52124.0025	25 g	inquire
852305	Fmoc-L-allysine ethylene acetal Novabiochem®	8.52305.8100	100 mg	inquire
		8.52305.8500	500 mg	inquire
852326	Fmoc-L-azidolysine Novabiochem®	8.52326.0001	1 g	inquire
		8.52326.8250	250 mg	inquire
852370	ivDde-Lys(Fmoc)-OH Novabiochem®	8.52370.0001	1 g	inquire
		8.52370.0005	5 g	inquire
852369	Fmoc-D-Lys(ivDde)-OH Novabiochem®	8.52369.0001	1 g	inquire
		8.52369.0005	5 g	inquire
852361	Fmoc-N-Me-Lys(Boc)-OH Novabiochem®	8.52361.0001	1 g	inquire
		8.52361.8250	250 mg	inquire
852376	Fmoc-Lys(iPr,Boc)-OH Novabiochem®	8.52376.0001	1 g	inquire
		8.52376.0005	5 g	inquire

## Methionine [Met, M]

Cat.No.	Designation	Ord.No.	Quantity	Price
852002	Fmoc-Met-OH Novabiochem®	8.52002.0025	25 g	inquire
		8.52002.0100	100 g	inquire
		8.52002.0250	250 g	inquire
		8.52002.4001	1 mmo	inquire
		8.52002.4010	10 mmo	inquire
		8.52002.4020	20 mmo	inquire
		8.52002.4021	20 mmo	inquire
852140	Fmoc-D-Met-OH Novabiochem®	8.52140.0005	5 g	inquire
		8.52140.0025	25 g	inquire
852225	Fmoc-Met-OPfp Novabiochem®	8.52225.0001	1 g	inquire
		8.52225.0005	5 g	inquire
852054	Fmoc-Met(O)-OH Novabiochem®	8.52054.0001	1 g	inquire
		8.52054.0005	5 g	inquire
852212	Fmoc-Met(O <sub>2</sub> )-OH Novabiochem®	8.52212.0001	1 g	inquire
		8.52212.0005	5 g	inquire
852362	Fmoc-N-Me-Met-OH Novabiochem®	8.52362.0001	1 g	inquire
		8.52362.0005	5 g	inquire

## Norleucine [Nle]

Cat.No.	Designation	Ord.No.	Quantity	Price
852014	Fmoc-Nle-OH Novabiochem®	8.52014.0005	5 g	inquire
		8.52014.0025	25 g	inquire
852163	Fmoc-D-Nle-OH Novabiochem®	8.52163.0005	5 g	inquire
		8.52163.0025	25 g	inquire

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## Norleucine [Nle]

Cat.No.	Designation	Ord.No.	Quantity	Price
851018	Fmoc-NCS Novabiochem®	8.51018.0005	5 g	inquire
		8.51018.0025	25 g	inquire

## Norvaline [Nva]

Cat.No.	Designation	Ord.No.	Quantity	Price
852047	Fmoc-Nva-OH Novabiochem®	8.52047.0005	5 g	inquire
		8.52047.0025	25 g	inquire
852239	Fmoc-D-Nva-OH Novabiochem®	8.52239.0005	5 g	inquire
		8.52239.0025	25 g	inquire

## Ornithine [Orn]

Cat.No.	Designation	Ord.No.	Quantity	Price
852088	Fmoc-Orn(ivDde)-OH Novabiochem®	8.52088.0001	1 g	inquire
		8.52088.0005	5 g	inquire
		8.52088.0025	25 g	inquire
852015	Fmoc-Orn(Boc)-OH Novabiochem®	8.52015.0005	5 g	inquire
		8.52015.0025	25 g	inquire
852141	Fmoc-D-Orn(Boc)-OH Novabiochem®	8.52141.0001	1 g	inquire
		8.52141.0005	5 g	inquire
		8.52141.0025	25 g	inquire
852075	Fmoc-Orn(Mtt)-OH Novabiochem®	8.52075.0001	1 g	inquire
		8.52075.0005	5 g	inquire
		8.52075.0025	25 g	inquire
852322	Fmoc-L- $\delta$ -azidonorvaline-OH Novabiochem®	8.52322.8100	100 mg	inquire
		8.52322.8500	500 mg	inquire

## Phenylalanine [Phe, F]

Cat.No.	Designation	Ord.No.	Quantity	Price
852016	Fmoc-Phe-OH Novabiochem®	8.52016.0025	25 g	inquire
		8.52016.0100	100 g	inquire
		8.52016.0250	250 g	inquire
		8.52016.4001	1 mmo	inquire
		8.52016.4010	10 mmo	inquire
		8.52016.4020	20 mmo	inquire
852148	Fmoc-D-Phe-OH Novabiochem®	8.52148.0005	5 g	inquire
		8.52148.0025	25 g	inquire
852226	Fmoc-Phe-OPfp Novabiochem®	8.52226.0001	1 g	inquire
		8.52226.0005	5 g	inquire
852081	Fmoc-(FmocHmb)Phe-OH Novabiochem®	8.52081.0001	1 g	inquire
		8.52081.0005	5 g	inquire
852210	Fmoc-Phe(4-Cl)-OH Novabiochem®	8.52210.0001	1 g	inquire
		8.52210.0005	5 g	inquire
852214	Fmoc-Phe(4-F)-OH Novabiochem®	8.52214.0001	1 g	inquire
		8.52214.0005	5 g	inquire
852029	Fmoc-Phe(4-NO <sub>2</sub> )-OH Novabiochem®	8.52029.0001	1 g	inquire
		8.52029.0005	5 g	inquire
		8.52029.0025	25 g	inquire
852137	Fmoc-MePhe-OH Novabiochem®	8.52137.0001	1 g	inquire
		8.52137.0005	5 g	inquire
852287	Fmoc-p-Bz-Phe-OH Fmoc-L-p-benzoylphenylalanine Novabiochem®	8.52287.0001	1 g	inquire
		8.52287.0005	5 g	inquire
852288	Fmoc-Phe(CF <sub>2</sub> PO <sub>3</sub> )-OH Novabiochem®	8.52288.8100	100 mg	inquire
		8.52288.8250	250 mg	inquire
852337	Fmoc-Phe(bis-Boc-4-guanidino)-OH Novabiochem®	8.52337.0001	1 g	inquire
852341	Fmoc-L-4-cyanophenylalanine Novabiochem®	8.52341.0001	1 g	inquire
		8.52341.0005	5 g	inquire
852378	Fmoc-Phe(SO <sub>3</sub> Na)-OH Novabiochem®	8.52378.0001	1 g	inquire
		8.52378.0005	5 g	inquire

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## Phenylglycine [Phg]

Cat.No.	Designation	Ord.No.	Quantity	Price
852213	Fmoc-Phg-OH Novabiochem®	8.52213.0001	1 g	inquire
		8.52213.0005	5 g	inquire
		8.52213.0025	25 g	inquire
852232	Fmoc-D-Phg-OH Novabiochem®	8.52232.0001	1 g	inquire
		8.52232.0005	5 g	inquire
		8.52232.0025	25 g	inquire

## Proline [Pro, P]

Cat.No.	Designation	Ord.No.	Quantity	Price
852017	Fmoc-Pro-OH Novabiochem®	8.52017.0025	25 g	inquire
		8.52017.0100	100 g	inquire
		8.52017.0250	250 g	inquire
		8.52017.4001	1 mmo	inquire
		8.52017.4010	10 mmo	inquire
		8.52017.4020	20 mmo	inquire
		8.52017.4021	20 mmo	inquire
852149	Fmoc-D-Pro-OH Novabiochem®	8.52149.0001	1 g	inquire
		8.52149.0005	5 g	inquire
		8.52149.0025	25 g	inquire
852227	Fmoc-Pro-OPfp Novabiochem®	8.52227.0001	1 g	inquire
		8.52227.0005	5 g	inquire
852208	Fmoc-3,4-dehydro-Pro-OH Novabiochem®	8.52208.0001	1 g	inquire
852351	cis-Fmoc-Pro(4-N3)-OH Novabiochem®	8.52351.0001	1 g	inquire
		8.52351.8250	250 mg	inquire

## Sarcosine [Sar]

Cat.No.	Designation	Ord.No.	Quantity	Price
852055	Fmoc-Sar-OH Novabiochem®	8.52055.0005	5 g	inquire
		8.52055.0025	25 g	inquire

## Selenocysteine [Sec]

Cat.No.	Designation	Ord.No.	Quantity	Price
852346	Fmoc-Sec(pMeOBzl)-OH	8.52346.0001	1 g	inquire
		8.52346.8250	250 mg	inquire
852372	Fmoc-L-selenomethionine Novabiochem®	8.52372.0001	1 g	inquire

## Serine [Ser, S]

Cat.No.	Designation	Ord.No.	Quantity	Price
852028	Fmoc-Ser-OH Novabiochem®	8.52028.0005	5 g	inquire
		8.52028.0025	25 g	inquire
852233	Fmoc-D-Ser-OH Novabiochem®	8.52233.0001	1 g	inquire
		8.52233.0005	5 g	inquire
852018	Fmoc-Ser(Bzl)-OH Novabiochem®	8.52018.0005	5 g	inquire
		8.52018.0025	25 g	inquire
852019	Fmoc-Ser(tBu)-OH Novabiochem®	8.52019.0025	25 g	inquire
		8.52019.0100	100 g	inquire
		8.52019.0250	250 g	inquire
		8.52019.4001	1 mmo	inquire
		8.52019.4010	10 mmo	inquire
		8.52019.4020	20 mmo	inquire
		8.52019.4021	20 mmo	inquire
852156	Fmoc-D-Ser(tBu)-OH Novabiochem®	8.52156.0001	1 g	inquire
		8.52156.0005	5 g	inquire
		8.52156.0025	25 g	inquire
852069	Fmoc-Ser(PO(OBzl)OH)-OH Novabiochem®	8.52069.0001	1 g	inquire
		8.52069.0005	5 g	inquire
852046	Fmoc-Ser(Trt)-OH Novabiochem®	8.52046.0005	5 g	inquire
		8.52046.0025	25 g	inquire
		8.52046.0100	100 g	inquire

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## Serine [Ser, S]

Cat.No.	Designation	Ord.No.	Quantity	Price
852166	Fmoc-D-Ser(Trt)-OH Novabiochem®	8.52166.0001	1 g	inquire
		8.52166.0005	5 g	inquire
		8.52166.0025	25 g	inquire
852244	Fmoc-D-Ser(PO(OBzl)OH)-OH Novabiochem®	8.52244.0001	1 g	inquire
		8.52244.0005	5 g	inquire
852136	Fmoc-Ser(Ac3AcNH- $\alpha$ -Gal)-OH Novabiochem®	8.52136.8100	100 mg	inquire
852289	Fmoc-N-Me-Ser(tBu)-OH Novabiochem®	8.52289.0001	1 g	inquire
		8.52289.0005	5 g	inquire
		8.52289.8250	250 mg	inquire
852349	Fmoc-Ser(Ac3AcNH- $\beta$ -Glc)-OH Novabiochem®	8.52349.8025	25 mg	inquire
		8.52349.8100	100 mg	inquire
852365	Fmoc-Ser(tBu)-OPfp	8.52365.0005	5 g	inquire

## Statine [Sta]

Cat.No.	Designation	Ord.No.	Quantity	Price
852026	Fmoc-Sta-OH Novabiochem®	8.52026.0001	1 g	inquire

## Tetrahydroisoquinoline-3-carboxylic acids [Tic]

Cat.No.	Designation	Ord.No.	Quantity	Price
852062	Fmoc-Tic-OH Novabiochem®	8.52062.0001	1 g	inquire
		8.52062.0005	5 g	inquire
852240	Fmoc-D-Tic-OH Novabiochem®	8.52240.0001	1 g	inquire
		8.52240.0005	5 g	inquire

## Thienylalanine [Thi]

Cat.No.	Designation	Ord.No.	Quantity	Price
852039	Fmoc-Thi-OH Novabiochem®	8.52039.0001	1 g	inquire
		8.52039.0005	5 g	inquire
852238	Fmoc-D-Thi-OH Novabiochem®	8.52238.0001	1 g	inquire
		8.52238.0005	5 g	inquire

## Threonine [Thr, T]

Cat.No.	Designation	Ord.No.	Quantity	Price
852030	Fmoc-Thr-OH Novabiochem®	8.52030.0005	5 g	inquire
		8.52030.0025	25 g	inquire
852234	Fmoc-D-Thr-OH Novabiochem®	8.52234.0001	1 g	inquire
		8.52234.0005	5 g	inquire
852206	Fmoc-Thr(Bzl)-OH Novabiochem®	8.52206.0001	1 g	inquire
		8.52206.0005	5 g	inquire
		8.52206.0025	25 g	inquire
852000	Fmoc-Thr(tBu)-OH Novabiochem®	8.52000.0025	25 g	inquire
		8.52000.0100	100 g	inquire
		8.52000.0250	250 g	inquire
		8.52000.4001	1 mmo	inquire
		8.52000.4010	10 mmo	inquire
		8.52000.4020	20 mmo	inquire
		8.52000.4021	20 mmo	inquire
852157	Fmoc-D-Thr(tBu)-OH Novabiochem®	8.52157.0001	1 g	inquire
		8.52157.0005	5 g	inquire
		8.52157.0025	25 g	inquire
852070	Fmoc-Thr(PO(OBzl)OH)-OH Novabiochem®	8.52070.0001	1 g	inquire
		8.52070.0005	5 g	inquire
852066	Fmoc-Thr(Trt)-OH Novabiochem®	8.52066.0005	5 g	inquire
		8.52066.0025	25 g	inquire
		8.52066.0100	100 g	inquire
852241	Fmoc-D-Thr(Trt)-OH Novabiochem®	8.52241.0001	1 g	inquire
		8.52241.0005	5 g	inquire

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## Threonine [Thr, T]

Cat.No.	Designation	Ord.No.	Quantity	Price
852245	Fmoc-D-Thr(PO(OBzl)OH)-OH Novabiochem®	8.52245.0001	1 g	inquire
		8.52245.0005	5 g	inquire
852229	Fmoc-Thr(Ac <sub>3</sub> AcNH- $\alpha$ -Gal)-OH Novabiochem®	8.52229.8100	100 mg	inquire
852331	Fmoc-N-Me-Thr(tBu)-OH Novabiochem®	8.52331.0001	1 g	inquire
		8.52331.8250	250 mg	inquire
852350	Fmoc-Thr(Ac <sub>3</sub> AcNH- $\beta$ -Glc)-OH Novabiochem®	8.52350.8025	25 mg	inquire
		8.52350.8100	100 mg	inquire
852366	Fmoc-Thr(tBu)-OPfp	8.52366.0005	5 g	inquire

## Tryptophan [Trp, W]

Cat.No.	Designation	Ord.No.	Quantity	Price
852207	Fmoc-Trp-OH Novabiochem®	8.52207.0005	5 g	inquire
		8.52207.0025	25 g	inquire
		8.52207.0100	100 g	inquire
852150	Fmoc-D-Trp-OH Novabiochem®	8.52150.0005	5 g	inquire
		8.52150.0025	25 g	inquire
852050	Fmoc-Trp(Boc)-OH Novabiochem®	8.52050.0025	25 g	inquire
		8.52050.0100	100 g	inquire
		8.52050.0250	250 g	inquire
		8.52050.4001	1 mmo	inquire
		8.52050.4010	10 mmo	inquire
		8.52050.4020	20 mmo	inquire
852164	Fmoc-D-Trp(Boc)-OH Novabiochem®	8.52164.0001	1 g	inquire
		8.52164.0005	5 g	inquire
852131	Fmoc-Trp(Boc)-OPfp Novabiochem®	8.52131.0001	1 g	inquire
		8.52131.0005	5 g	inquire
852344	Fmoc-N-Me-Trp(Boc)-OH	8.52344.0001	1 g	inquire
		8.52344.8250	250 mg	inquire

## Tyrosine [Tyr, Y]

Cat.No.	Designation	Ord.No.	Quantity	Price
852090	Fmoc-Tyr(PO(NMe <sub>2</sub> ) <sub>2</sub> )-OH Novabiochem®	8.52090.0001	1 g	inquire
		8.52090.0005	5 g	inquire
852051	Fmoc-Tyr-OH Novabiochem®	8.52051.0001	1 g	inquire
		8.52051.0005	5 g	inquire
852209	Fmoc-Tyr(2-Br-Z)-OH Novabiochem®	8.52209.0005	5 g	inquire
		8.52209.0025	25 g	inquire
852151	Fmoc-D-Tyr(tBu)-OH Novabiochem®	8.52151.0001	1 g	inquire
		8.52151.0005	5 g	inquire
		8.52151.0025	25 g	inquire
852130	Fmoc-Tyr(tBu)-OPfp Novabiochem®	8.52130.0001	1 g	inquire
		8.52130.0005	5 g	inquire
852080	Fmoc-Tyr(2-ClTrt)-OH Novabiochem®	8.52080.0005	5 g	inquire
		8.52080.0025	25 g	inquire
		8.52080.0100	100 g	inquire
852056	Fmoc-Tyr(Me)-OH Novabiochem®	8.52056.0001	1 g	inquire
		8.52056.0005	5 g	inquire
852058	Fmoc-Tyr(PO <sub>3</sub> H <sub>2</sub> )-OH Novabiochem®	8.52058.0001	1 g	inquire
		8.52058.0005	5 g	inquire
852071	Fmoc-Tyr(PO(OBzl)OH)-OH Novabiochem®	8.52071.0001	1 g	inquire
		8.52071.0005	5 g	inquire
852103	Fmoc-Tyr(SO <sub>3</sub> . NnBu <sub>4</sub> )-OH Novabiochem®	8.52103.0001	1 g	inquire
		8.52103.0005	5 g	inquire
852246	Fmoc-D-Tyr(PO(OBzl)OH)-OH Novabiochem®	8.52246.0001	1 g	inquire
		8.52246.0005	5 g	inquire



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## Tyrosine [Tyr, Y]

Cat.No.	Designation	Ord.No.	Quantity	Price
852020	Fmoc-Tyr(tBu)-OH Novabiochem®	8.52020.0025	25 g	inquire
		8.52020.0100	100 g	inquire
		8.52020.0250	250 g	inquire
		8.52020.4001	1 mmo	inquire
		8.52020.4010	10 mmo	inquire
		8.52020.4020	20 mmo	inquire
		8.52020.4021	20 mmo	inquire
852332	Fmoc-N-Me-Tyr(tBu)-OH Novabiochem®	8.52332.0001	1 g	inquire
		8.52332.8250	250 mg	inquire
852347	Fmoc-Tyr(SO <sub>3</sub> nP)-OH	8.52347.0001	1 g	inquire
		8.52347.0005	5 g	inquire

## Valine [Val, V]

Cat.No.	Designation	Ord.No.	Quantity	Price
852021	Fmoc-Val-OH Novabiochem®	8.52021.0025	25 g	inquire
		8.52021.0100	100 g	inquire
		8.52021.0250	250 g	inquire
		8.52021.4001	1 mmo	inquire
		8.52021.4010	10 mmo	inquire
		8.52021.4020	20 mmo	inquire
		8.52021.4021	20 mmo	inquire
852152	Fmoc-D-Val-OH Novabiochem®	8.52152.0005	5 g	inquire
		8.52152.0025	25 g	inquire
852228	Fmoc-Val-OPfp Novabiochem®	8.52228.0001	1 g	inquire
		8.52228.0005	5 g	inquire
852063	Fmoc-(FmocHmb)Val-OH Novabiochem®	8.52063.0001	1 g	inquire
		8.52063.0005	5 g	inquire
852230	Fmoc-MeVal-OH Novabiochem®	8.52230.0001	1 g	inquire
		8.52230.0005	5 g	inquire

## N- $\alpha$ -Boc protected amino acids

### Alanine [Ala, A]

Cat.No.	Designation	Ord.No.	Quantity	Price
853001	Boc-Ala-OH Novabiochem®	8.53001.0005	5 g	inquire
		8.53001.0025	25 g	inquire
		8.53001.0100	100 g	inquire
853087	Boc-D-Ala-OH Novabiochem®	8.53087.0005	5 g	inquire
		8.53087.0025	25 g	inquire
		8.53087.0100	100 g	inquire
853057	Boc- $\beta$ -Ala-OH Novabiochem®	8.53057.0005	5 g	inquire
		8.53057.0025	25 g	inquire
		8.53057.0100	100 g	inquire
853082	Boc-MeAla-OH Novabiochem®	8.53082.0001	1 g	inquire
		8.53082.0005	5 g	inquire

### Aminobutyric acid [Abu]

Cat.No.	Designation	Ord.No.	Quantity	Price
853058	Boc-Abu-OH Novabiochem®	8.53058.0001	1 g	inquire
		8.53058.0005	5 g	inquire
		8.53058.0025	25 g	inquire
853064	Boc- $\gamma$ -Abu-OH Novabiochem®	8.53064.0005	5 g	inquire
		8.53064.0025	25 g	inquire

### Aminohexanoic acid [ $\epsilon$ -Ahx]

Cat.No.	Designation	Ord.No.	Quantity	Price
853059	Boc- $\epsilon$ -Ahx-OH Novabiochem®	8.53059.0005	5 g	inquire
		8.53059.0025	25 g	inquire

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## Aminoisobutyric acid [Aib]

Cat.No.	Designation	Ord.No.	Quantity	Price
853077	Boc-Aib-OH Novabiochem®	8.53077.0005	5 g	inquire
		8.53077.0025	25 g	inquire

## Arginine [Arg, R]

Cat.No.	Designation	Ord.No.	Quantity	Price
853036	Boc-Arg(di-Z)-OH Novabiochem®	8.53036.0005	5 g	inquire
		8.53036.0025	25 g	inquire
853063	Boc-Arg(Mtr)-OH Novabiochem®	8.53063.0005	5 g	inquire
		8.53063.0025	25 g	inquire
853013	Boc-Arg(Tos)-OH Novabiochem®	8.53013.0005	5 g	inquire
		8.53013.0025	25 g	inquire
		8.53013.0100	100 g	inquire
853037	Boc-D-Arg(Tos)-OH Novabiochem®	8.53037.0001	1 g	inquire
		8.53037.0005	5 g	inquire
		8.53037.0025	25 g	inquire

## Asparagine [Asn, N]

Cat.No.	Designation	Ord.No.	Quantity	Price
853039	Boc-Asn-OH Novabiochem®	8.53039.0005	5 g	inquire
		8.53039.0025	25 g	inquire
		8.53039.0100	100 g	inquire
853088	Boc-D-Asn-OH Novabiochem®	8.53088.0001	1 g	inquire
		8.53088.0005	5 g	inquire
		8.53088.0025	25 g	inquire
853074	Boc-Asn(Trt)-OH Novabiochem®	8.53074.0005	5 g	inquire
		8.53074.0025	25 g	inquire
853007	Boc-Asn(Xan)-OH Novabiochem®	8.53007.0005	5 g	inquire
		8.53007.0025	25 g	inquire
		8.53007.0100	100 g	inquire

## Aspartic acid [Asp, D]

Cat.No.	Designation	Ord.No.	Quantity	Price
853070	Boc-Asp-OH Novabiochem®	8.53070.0005	5 g	inquire
		8.53070.0025	25 g	inquire
		8.53070.0100	100 g	inquire
853014	Boc-Asp-OBzl Novabiochem®	8.53014.0005	5 g	inquire
		8.53014.0025	25 g	inquire
853045	Boc-Asp(OBzl)-OH Novabiochem®	8.53045.0005	5 g	inquire
		8.53045.0025	25 g	inquire
		8.53045.0100	100 g	inquire
853105	Boc-D-Asp(OBzl)-OH Novabiochem®	8.53105.0001	1 g	inquire
		8.53105.0005	5 g	inquire
		8.53105.0025	25 g	inquire
853032	Boc-Asp-OtBu Novabiochem®	8.53032.0001	1 g	inquire
		8.53032.0005	5 g	inquire
		8.53032.0025	25 g	inquire
853048	Boc-Asp(OtBu)-OH . DCHA Novabiochem®	8.53048.0005	5 g	inquire
		8.53048.0025	25 g	inquire
853030	Boc-Asp(OcHx)-OH Novabiochem®	8.53030.0005	5 g	inquire
		8.53030.0025	25 g	inquire
		8.53030.0100	100 g	inquire

## Butylglycine

Cat.No.	Designation	Ord.No.	Quantity	Price
853068	Boc-L- $\alpha$ -t-butylglycine Novabiochem®	8.53068.0001	1 g	inquire
		8.53068.0005	5 g	inquire

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## Cyclohexylalanine [Cha]

Cat.No.	Designation	Ord.No.	Quantity	Price
853072	Boc-Cha-OH . DCHA Novabiochem®	8.53072.0001	1 g	<a href="#">inquire</a>
		8.53072.0005	5 g	<a href="#">inquire</a>
		8.53072.0025	25 g	<a href="#">inquire</a>
853110	Boc-D-Cha-OH . DCHA	8.53110.0001	1 g	<a href="#">inquire</a>
		8.53110.0005	5 g	<a href="#">inquire</a>

## Cysteine [Cys, C]

Cat.No.	Designation	Ord.No.	Quantity	Price
853031	Boc-Cys-OH (cryst) Novabiochem®	8.53031.0001	1 g	<a href="#">inquire</a>
		8.53031.0005	5 g	<a href="#">inquire</a>
		8.53031.0025	25 g	<a href="#">inquire</a>
853049	Boc-Cys(Acm)-OH Novabiochem®	8.53049.0005	5 g	<a href="#">inquire</a>
		8.53049.0025	25 g	<a href="#">inquire</a>
		8.53049.0100	100 g	<a href="#">inquire</a>
853109	Boc-D-Cys(Acm)-OH Novabiochem®	8.53109.0001	1 g	<a href="#">inquire</a>
		8.53109.0005	5 g	<a href="#">inquire</a>
		8.53109.0025	25 g	<a href="#">inquire</a>
853046	Boc-Cys(Bzl)-OH Novabiochem®	8.53046.0005	5 g	<a href="#">inquire</a>
		8.53046.0025	25 g	<a href="#">inquire</a>
		8.53046.0100	100 g	<a href="#">inquire</a>
853050	Boc-Cys(4-MeOBzl)-OH Novabiochem®	8.53050.0005	5 g	<a href="#">inquire</a>
		8.53050.0025	25 g	<a href="#">inquire</a>
		8.53050.0100	100 g	<a href="#">inquire</a>
853033	Boc-Cys(4-MeBzl)-OH Novabiochem®	8.53033.0005	5 g	<a href="#">inquire</a>
		8.53033.0025	25 g	<a href="#">inquire</a>
		8.53033.0100	100 g	<a href="#">inquire</a>
853005	Boc-Cys(Trt)-OH Novabiochem®	8.53005.0005	5 g	<a href="#">inquire</a>
		8.53005.0025	25 g	<a href="#">inquire</a>
		8.53005.0100	100 g	<a href="#">inquire</a>
853115	Boc-D-Cys(Trt)-OH Novabiochem®	8.53115.0001	1 g	<a href="#">inquire</a>
		8.53115.0005	5 g	<a href="#">inquire</a>
		8.53115.0025	25 g	<a href="#">inquire</a>

## Glutamic acid [Glu, E]

Cat.No.	Designation	Ord.No.	Quantity	Price
853066	Boc-Glu-OH Novabiochem®	8.53066.0005	5 g	<a href="#">inquire</a>
		8.53066.0025	25 g	<a href="#">inquire</a>
		8.53066.0100	100 g	<a href="#">inquire</a>
853015	Boc-Glu-OBzl (cryst) Novabiochem®	8.53015.0005	5 g	<a href="#">inquire</a>
		8.53015.0025	25 g	<a href="#">inquire</a>
853113	Boc-D-Glu-OBzl Novabiochem®	8.53113.0001	1 g	<a href="#">inquire</a>
		8.53113.0005	5 g	<a href="#">inquire</a>
		8.53113.0025	25 g	<a href="#">inquire</a>
853010	Boc-Glu(OBzl)-OH (cryst) Novabiochem®	8.53010.0005	5 g	<a href="#">inquire</a>
		8.53010.0025	25 g	<a href="#">inquire</a>
		8.53010.0100	100 g	<a href="#">inquire</a>
853089	Boc-D-Glu(OBzl)-OH Novabiochem®	8.53089.0005	5 g	<a href="#">inquire</a>
		8.53089.0025	25 g	<a href="#">inquire</a>
853028	Boc-Glu-OtBu Novabiochem®	8.53028.0001	1 g	<a href="#">inquire</a>
		8.53028.0005	5 g	<a href="#">inquire</a>
		8.53028.0025	25 g	<a href="#">inquire</a>
853052	Boc-Glu(OtBu)-OH Novabiochem®	8.53052.0005	5 g	<a href="#">inquire</a>
		8.53052.0025	25 g	<a href="#">inquire</a>
853114	Boc-D-Glu(OtBu)-OH Novabiochem®	8.53114.0005	5 g	<a href="#">inquire</a>
		8.53114.0025	25 g	<a href="#">inquire</a>
853029	Boc-Glu(OcHx)-OH Novabiochem®	8.53029.0005	5 g	<a href="#">inquire</a>
		8.53029.0025	25 g	<a href="#">inquire</a>
		8.53029.0100	100 g	<a href="#">inquire</a>

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## Glutamine [Gln, Q]

Cat.No.	Designation	Ord.No.	Quantity	Price
853040	Boc-Gln-OH Novabiochem®	8.53040.0005	5 g	inquire
		8.53040.0025	25 g	inquire
		8.53040.0100	100 g	inquire
853100	Boc-D-Gln-OH Novabiochem®	8.53100.0005	5 g	inquire
		8.53100.0025	25 g	inquire
853075	Boc-Gln(Trt)-OH Novabiochem®	8.53075.0005	5 g	inquire
		8.53075.0025	25 g	inquire
853016	Boc-Gln(Xan)-OH Novabiochem®	8.53016.0005	5 g	inquire
		8.53016.0025	25 g	inquire
		8.53016.0100	100 g	inquire

## Glycine [Gly, G]

Cat.No.	Designation	Ord.No.	Quantity	Price
853000	Boc-Gly-OH Novabiochem®	8.53000.0005	5 g	inquire
		8.53000.0025	25 g	inquire
		8.53000.0100	100 g	inquire

## Histidine [His, H]

Cat.No.	Designation	Ord.No.	Quantity	Price
853044	Boc-His-OH Novabiochem®	8.53044.0005	5 g	inquire
		8.53044.0025	25 g	inquire
		8.53044.0100	100 g	inquire
853090	Boc-D-His-OH Novabiochem®	8.53090.0001	1 g	inquire
		8.53090.0005	5 g	inquire
		8.53090.0025	25 g	inquire
853067	Boc-His(Boc)-OH . DCHA Novabiochem®	8.53067.0005	5 g	inquire
		8.53067.0025	25 g	inquire
853008	Boc-His(Dnp)-OH isopropanol Novabiochem®	8.53008.0005	5 g	inquire
		8.53008.0025	25 g	inquire
		8.53008.0100	100 g	inquire
853041	Boc-His(Tos)-OH Novabiochem®	8.53041.0005	5 g	inquire
		8.53041.0025	25 g	inquire
		8.53041.0100	100 g	inquire
853034	Boc-His(Trt)-OH Novabiochem®	8.53034.0001	1 g	inquire
		8.53034.0005	5 g	inquire
		8.53034.0025	25 g	inquire

## Hydroxyproline [Hyp]

Cat.No.	Designation	Ord.No.	Quantity	Price
853026	Boc-Hyp-OH (cryst) Novabiochem®	8.53026.0005	5 g	inquire
		8.53026.0025	25 g	inquire
		8.53026.0100	100 g	inquire

## Isoleucine [Ile, I]

Cat.No.	Designation	Ord.No.	Quantity	Price
853047	Boc-Ile-OH . 0.5 H <sub>2</sub> O Novabiochem®	8.53047.0005	5 g	inquire
		8.53047.0025	25 g	inquire
		8.53047.0100	100 g	inquire

## Leucine [Leu, L]

Cat.No.	Designation	Ord.No.	Quantity	Price
853002	Boc-Leu-OH . H <sub>2</sub> O Novabiochem®	8.53002.0005	5 g	inquire
		8.53002.0025	25 g	inquire
		8.53002.0100	100 g	inquire
853092	Boc-D-Leu-OH . H <sub>2</sub> O Novabiochem®	8.53092.0005	5 g	inquire
		8.53092.0025	25 g	inquire
853083	Boc-MeLeu-OH Novabiochem®	8.53083.0001	1 g	inquire
		8.53083.0005	5 g	inquire

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## Lysine [Lys, K]

Cat.No.	Designation	Ord.No.	Quantity	Price
853081	Boc-Lys(Me) <sub>2</sub> -OH Novabiochem®	8.53081.0001	1 g	inquire
		8.53081.0005	5 g	inquire
853017	Boc-Lys-OH Novabiochem®	8.53017.0005	5 g	inquire
		8.53017.0025	25 g	inquire
853076	Boc-Lys(Ac)-OH Novabiochem®	8.53076.0001	1 g	inquire
		8.53076.0005	5 g	inquire
853053	Boc-Lys(Boc)-OH . DCHA Novabiochem®	8.53053.0005	5 g	inquire
		8.53053.0025	25 g	inquire
853018	Boc-Lys(2-Cl-Z)-OH (cryst) Novabiochem®	8.53018.0005	5 g	inquire
		8.53018.0025	25 g	inquire
		8.53018.0100	100 g	inquire
853103	Boc-D-Lys(2-Cl-Z)-OH (cryst) Novabiochem®	8.53103.0001	1 g	inquire
		8.53103.0005	5 g	inquire
		8.53103.0025	25 g	inquire
853019	Boc-Lys(Fmoc)-OH Novabiochem®	8.53019.0001	1 g	inquire
		8.53019.0005	5 g	inquire
		8.53019.0025	25 g	inquire
853012	Boc-Lys(Z)-OH (cryst) Novabiochem®	8.53012.0005	5 g	inquire
		8.53012.0025	25 g	inquire
		8.53012.0100	100 g	inquire

## Methionine [Met, M]

Cat.No.	Designation	Ord.No.	Quantity	Price
853054	Boc-Met-OH Novabiochem®	8.53054.0005	5 g	inquire
		8.53054.0025	25 g	inquire
		8.53054.0100	100 g	inquire
853093	Boc-D-Met-OH Novabiochem®	8.53093.0005	5 g	inquire
		8.53093.0025	25 g	inquire
853035	Boc-Met(O)-OH Novabiochem®	8.53035.0001	1 g	inquire
		8.53035.0005	5 g	inquire
		8.53035.0025	25 g	inquire

## Norleucine [Nle]

Cat.No.	Designation	Ord.No.	Quantity	Price
853060	Boc-Nle-OH . DCHA Novabiochem®	8.53060.0001	1 g	inquire
		8.53060.0005	5 g	inquire
		8.53060.0025	25 g	inquire

## Norvaline [Nva]

Cat.No.	Designation	Ord.No.	Quantity	Price
853027	Boc-Nva-OH Novabiochem®	8.53027.0001	1 g	inquire
		8.53027.0005	5 g	inquire
		8.53027.0025	25 g	inquire

## Ornithine [Orn]

Cat.No.	Designation	Ord.No.	Quantity	Price
853025	Boc-Orn(Z)-OH Novabiochem®	8.53025.0005	5 g	inquire
		8.53025.0025	25 g	inquire

## Phenylalanine [Phe, F]

Cat.No.	Designation	Ord.No.	Quantity	Price
853006	Boc-Phe-OH Novabiochem®	8.53006.0005	5 g	inquire
		8.53006.0025	25 g	inquire
		8.53006.0100	100 g	inquire
853094	Boc-D-Phe-OH Novabiochem®	8.53094.0005	1x5g	inquire
		8.53094.0025	25 g	inquire
		8.53094.0100	100 g	inquire

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## Phenylalanine [Phe, F]

Cat.No.	Designation	Ord.No.	Quantity	Price
853084	Boc-MePhe-OH . DCHA Novabiochem®	8.53084.0001	1 g	inquire
		8.53084.0005	5 g	inquire

## Phenylglycine [Phg]

Cat.No.	Designation	Ord.No.	Quantity	Price
853061	Boc-Phg-OH Novabiochem®	8.53061.0001	1 g	inquire
		8.53061.0005	5 g	inquire
		8.53061.0025	25 g	inquire
853101	Boc-D-Phg-OH Novabiochem®	8.53101.0001	1 g	inquire
		8.53101.0005	5 g	inquire
		8.53101.0025	25 g	inquire

## Proline [Pro, P]

Cat.No.	Designation	Ord.No.	Quantity	Price
853003	Boc-Pro-OH Novabiochem®	8.53003.0005	5 g	inquire
		8.53003.0025	25 g	inquire
		8.53003.0100	100 g	inquire
853095	Boc-D-Pro-OH Novabiochem®	8.53095.0001	1 g	inquire
		8.53095.0005	5 g	inquire
		8.53095.0025	25 g	inquire
853069	Boc-3,4-dehydro-Pro-OH Novabiochem®	8.53069.0001	1 g	inquire

## Sarcosine [Sar]

Cat.No.	Designation	Ord.No.	Quantity	Price
853062	Boc-Sar-OH Novabiochem®	8.53062.0005	5 g	inquire
		8.53062.0025	25 g	inquire
		8.53062.0100	100 g	inquire

## Serine [Ser, S]

Cat.No.	Designation	Ord.No.	Quantity	Price
853020	Boc-Ser-OH Novabiochem®	8.53020.0005	5 g	inquire
		8.53020.0025	25 g	inquire
		8.53020.0100	100 g	inquire
853096	Boc-D-Ser-OH Novabiochem®	8.53096.0001	1 g	inquire
		8.53096.0005	5 g	inquire
		8.53096.0025	25 g	inquire
853009	Boc-Ser(Bzl)-OH Novabiochem®	8.53009.0005	5 g	inquire
		8.53009.0025	25 g	inquire
		8.53009.0100	100 g	inquire
853111	Boc-D-Ser(Bzl)-OH Novabiochem®	8.53111.0001	1 g	inquire
		8.53111.0005	5 g	inquire
		8.53111.0025	25 g	inquire
853021	Boc-Ser(tBu)-OH . DCHA Novabiochem®	8.53021.0001	1 g	inquire
		8.53021.0005	5 g	inquire
		8.53021.0025	25 g	inquire
853073	Boc-Ser(Me)-OH Novabiochem®	8.53073.0001	1 g	inquire
		8.53073.0005	5 g	inquire

## Tetrahydroisoquinoline-3-carboxylic acids [Tic]

Cat.No.	Designation	Ord.No.	Quantity	Price
853079	Boc-Tic-OH Novabiochem®	8.53079.0001	1 g	inquire
		8.53079.0005	5 g	inquire

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## Threonine [Thr, T]

Cat.No.	Designation	Ord.No.	Quantity	Price
853065	Boc-Thr-OH Novabiochem®	8.53065.0005	5 g	inquire
		8.53065.0025	25 g	inquire
		8.53065.0100	100 g	inquire
853102	Boc-D-Thr-OH Novabiochem®	8.53102.0001	1 g	inquire
		8.53102.0005	5 g	inquire
		8.53102.0025	25 g	inquire
853004	Boc-Thr(Bzl)-OH Novabiochem®	8.53004.0005	5 g	inquire
		8.53004.0025	25 g	inquire
		8.53004.0100	100 g	inquire
853112	Boc-D-Thr(Bzl)-OH Novabiochem®	8.53112.0001	1 g	inquire
		8.53112.0005	5 g	inquire
853055	Boc-Thr(tBu)-OH Novabiochem®	8.53055.0001	1 g	inquire
		8.53055.0005	5 g	inquire
		8.53055.0025	25 g	inquire

## Tryptophan [Trp, W]

Cat.No.	Designation	Ord.No.	Quantity	Price
853038	Boc-Trp-OH Novabiochem®	8.53038.0005	5 g	inquire
		8.53038.0025	25 g	inquire
		8.53038.0100	100 g	inquire
853086	Boc-D-Trp-OH Novabiochem®	8.53086.0005	5 g	inquire
		8.53086.0025	25 g	inquire
853078	Boc-Trp(Boc)-OH Novabiochem®	8.53078.0005	5 g	inquire
		8.53078.0025	25 g	inquire
853022	Boc-Trp(For)-OH Novabiochem®	8.53022.0005	5 g	inquire
		8.53022.0025	25 g	inquire
		8.53022.0100	100 g	inquire
853108	Boc-D-Trp(For)-OH Novabiochem®	8.53108.0001	1 g	inquire
		8.53108.0005	5 g	inquire

## Tyrosine [Tyr, Y]

Cat.No.	Designation	Ord.No.	Quantity	Price
853043	Boc-Tyr-OH Novabiochem®	8.53043.0005	5 g	inquire
		8.53043.0025	25 g	inquire
		8.53043.0100	100 g	inquire
853099	Boc-D-Tyr-OH Novabiochem®	8.53099.0001	1 g	inquire
		8.53099.0005	5 g	inquire
		8.53099.0025	25 g	inquire
853056	Boc-Tyr(Bzl)-OH Novabiochem®	8.53056.0005	5 g	inquire
		8.53056.0025	25 g	inquire
		8.53056.0100	100 g	inquire
853097	Boc-D-Tyr(Bzl)-OH Novabiochem®	8.53097.0001	1x1g	inquire
		8.53097.0005	5 g	inquire
		8.53097.0025	25 g	inquire
853024	Boc-Tyr(2-Br-Z)-OH Novabiochem®	8.53024.0005	5 g	inquire
		8.53024.0025	25 g	inquire
		8.53024.0100	100 g	inquire
853104	Boc-D-Tyr(2-Br-Z)-OH Novabiochem®	8.53104.0001	1 g	inquire
		8.53104.0005	5 g	inquire
853023	Boc-Tyr(tBu)-OH Novabiochem®	8.53023.0001	1 g	inquire
		8.53023.0005	5 g	inquire
		8.53023.0025	25 g	inquire
853042	Boc-Tyr(2,6-di-Cl-Bzl)-OH Novabiochem®	8.53042.0005	5 g	inquire
		8.53042.0025	25 g	inquire
		8.53042.0100	100 g	inquire
853071	Boc-Tyr(Me)-OH Novabiochem®	8.53071.0001	1 g	inquire
		8.53071.0005	5 g	inquire
853107	Boc-D-Tyr(Me)-OH Novabiochem®	8.53107.0001	1 g	inquire
		8.53107.0005	5 g	inquire



## Valine [Val, V]

Cat.No.	Designation	Ord.No.	Quantity	Price
853011	Boc-Val-OH Novabiochem®	8.53011.0005	5 g	inquire
		8.53011.0025	25 g	inquire
		8.53011.0100	100 g	inquire
853098	Boc-D-Val-OH Novabiochem®	8.53098.0005	5 g	inquire
		8.53098.0025	25 g	inquire
853085	Boc-MeVal-OH Novabiochem®	8.53085.0001	1 g	inquire
		8.53085.0005	5 g	inquire

## Other amino acid derivatives

### Alanine [Ala, A]

Cat.No.	Designation	Ord.No.	Quantity	Price
854084	H-Ala-NH <sub>2</sub> . HCl Novabiochem®	8.54084.0001	1 g	inquire
		8.54084.0005	5 g	inquire
		8.54084.0025	25 g	inquire
854165	H-D-Ala-NH <sub>2</sub> . HCl Novabiochem®	8.54165.0001	1 g	inquire
		8.54165.0005	5 g	inquire
		8.54165.0025	25 g	inquire
854086	H-Ala-OBzl . p-tosylate Novabiochem®	8.54086.0005	5 g	inquire
		8.54086.0025	25 g	inquire
854072	H-Ala-OtBu . HCl Novabiochem®	8.54072.0005	5 g	inquire
		8.54072.0025	25 g	inquire
854167	H-D-Ala-OtBu . HCl Novabiochem®	8.54167.0001	1 g	inquire
		8.54167.0005	5 g	inquire
854080	H-Ala-OMe . HCl Novabiochem®	8.54080.0005	5 g	inquire
		8.54080.0025	25 g	inquire
854168	H-D-Ala-OMe . HCl Novabiochem®	8.54168.0005	5 g	inquire
		8.54168.0025	25 g	inquire
854149	Ac-Ala-OH Novabiochem®	8.54149.0001	1 g	inquire
		8.54149.0005	5 g	inquire
		8.54149.0025	25 g	inquire
854025	Z-Ala-OH Novabiochem®	8.54025.0025	25 g	inquire
		8.54025.0100	100 g	inquire
854152	Z-D-Ala-OH Novabiochem®	8.54152.0005	5 g	inquire
		8.54152.0025	25 g	inquire
		8.54152.0100	100 g	inquire
854085	H-β-Ala-NH <sub>2</sub> . HCl Novabiochem®	8.54085.0001	1 g	inquire
		8.54085.0005	5 g	inquire
		8.54085.0025	25 g	inquire
854127	H-β-Ala-OBzl . p-tosylate Novabiochem®	8.54127.0005	5 g	inquire
		8.54127.0025	25 g	inquire
854128	H-β-Ala-OtBu . HCl Novabiochem®	8.54128.0005	5 g	inquire
		8.54128.0025	25 g	inquire
854087	H-β-Ala-OMe . HCl Novabiochem®	8.54087.0005	5 g	inquire
		8.54087.0025	25 g	inquire
854150	Ac-β-Ala-OH Novabiochem®	8.54150.0001	1 g	inquire
		8.54150.0005	5 g	inquire
		8.54150.0025	25 g	inquire
854034	Z-β-Ala-OH Novabiochem®	8.54034.0025	25 g	inquire
		8.54034.0100	100 g	inquire

### Aminobutyric acid [Abu]

Cat.No.	Designation	Ord.No.	Quantity	Price
854009	H-Abu-OH Novabiochem®	8.54009.0001	1 g	inquire
		8.54009.0005	5 g	inquire
		8.54009.0025	25 g	inquire
854060	Z-γ-Abu-OH Novabiochem®	8.54060.0005	5 g	inquire
		8.54060.0025	25 g	inquire

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## Aminohexanoic acid [ $\epsilon$ -Ahx]

Cat.No.	Designation	Ord.No.	Quantity	Price
854035	Z- $\epsilon$ -Ahx-OH Novabiochem®	8.54035.0005	5 g	inquire
		8.54035.0025	25 g	inquire
		8.54035.0100	100 g	inquire

## Arginine [Arg, R]

Cat.No.	Designation	Ord.No.	Quantity	Price
854088	H-Arg-OMe . 2HCl Novabiochem®	8.54088.0005	5 g	inquire
		8.54088.0025	25 g	inquire
854138	H-Arg(Pmc)-OH Novabiochem®	8.54138.0001	1 g	inquire
		8.54138.0005	5 g	inquire
		8.54138.0025	25 g	inquire
854022	Z-Arg-OH Novabiochem®	8.54022.0025	25 g	inquire
		8.54022.0100	100 g	inquire

## Asparagine [Asn, N]

Cat.No.	Designation	Ord.No.	Quantity	Price
854103	H-Asn-OtBu . HCl Novabiochem®	8.54103.0001	1 g	inquire
		8.54103.0005	5 g	inquire
854143	H-Asn(Trt)-OH Novabiochem®	8.54143.0005	5 g	inquire
		8.54143.0025	25 g	inquire
854029	Z-Asn-OH Novabiochem®	8.54029.0025	25 g	inquire
		8.54029.0100	100 g	inquire
854154	Z-D-Asn-OH Novabiochem®	8.54154.0005	5 g	inquire
		8.54154.0025	25 g	inquire
		8.54154.0100	100 g	inquire
854058	Z-Asn(Trt)-OH Novabiochem®	8.54058.0001	1 g	inquire
		8.54058.0005	5 g	inquire
		8.54058.0025	25 g	inquire

## Aspartic acid [Asp, D]

Cat.No.	Designation	Ord.No.	Quantity	Price
854089	H-Asp-OBzl Novabiochem®	8.54089.0005	5 g	inquire
		8.54089.0025	25 g	inquire
854090	H-Asp(OBzl)-OH Novabiochem®	8.54090.0005	5 g	inquire
		8.54090.0025	25 g	inquire
854132	H-Asp(OBzl)-NH <sub>2</sub> . HCL Novabiochem®	8.54132.0001	1 g	inquire
		8.54132.0005	5 g	inquire
854173	H-D-Asp-OtBu Novabiochem®	8.54173.0001	1 g	inquire
		8.54173.0005	5 g	inquire
		8.54173.0025	25 g	inquire
854061	H-Asp(OtBu)-OH Novabiochem®	8.54061.0005	5 g	inquire
		8.54061.0025	25 g	inquire
854187	H-D-Asp(OtBu)-OH Novabiochem®	8.54187.0001	1 g	inquire
		8.54187.0005	5 g	inquire
854091	H-Asp(OtBu)-OtBu . HCl Novabiochem®	8.54091.0005	5 g	inquire
		8.54091.0025	25 g	inquire
854092	H-Asp(OtBu)-OMe . HCl Novabiochem®	8.54092.0001	1 g	inquire
		8.54092.0005	5 g	inquire
854036	Z-Asp-OH Novabiochem®	8.54036.0025	25 g	inquire
		8.54036.0100	100 g	inquire
854153	Z-D-Asp-OH Novabiochem®	8.54153.0005	5 g	inquire
		8.54153.0025	25 g	inquire
		8.54153.0100	100 g	inquire
854053	Z-Asp-OBzl Novabiochem®	8.54053.0005	5 g	inquire
		8.54053.0025	25 g	inquire
854037	Z-Asp(OBzl)-OH Novabiochem®	8.54037.0005	5 g	inquire
		8.54037.0025	25 g	inquire

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## Aspartic acid [Asp, D]

Cat.No.	Designation	Ord.No.	Quantity	Price
854032	Z-Asp(OtBu)-OH . H <sub>2</sub> O Novabiochem®	8.54032.0005	5 g	inquire
		8.54032.0025	25 g	inquire
		8.54032.0100	100 g	inquire
854164	Z-D-Asp(OtBu)-OHΔH <sub>2</sub> O Novabiochem®	8.54164.0001	1 g	inquire
		8.54164.0005	5 g	inquire
		8.54164.0025	25 g	inquire
854126	H-Asp-OtBu Novabiochem®	8.54126.0001	1 g	inquire
		8.54126.0005	5 g	inquire
		8.54126.0025	25 g	inquire

## Cyclohexylalanine [Cha]

Cat.No.	Designation	Ord.No.	Quantity	Price
854016	H-Cha-OH . HCl Novabiochem®	8.54016.0001	1 g	inquire
		8.54016.0005	5 g	inquire
		8.54016.0025	25 g	inquire
854012	H-D-Cha-OH Novabiochem®	8.54012.0001	1 g	inquire
		8.54012.0005	5 g	inquire
		8.54012.0025	25 g	inquire
854137	H-Cha-OMe . HCl Novabiochem®	8.54137.0001	1 g	inquire
		8.54137.0005	5 g	inquire
		8.54137.0025	25 g	inquire

## Cysteine [Cys, C]

Cat.No.	Designation	Ord.No.	Quantity	Price
854004	H-Cys-OH Novabiochem®	8.54004.0025	25 g	inquire
		8.54004.0100	100 g	inquire
854003	H-D-Cys-OH . HCl . H <sub>2</sub> O Novabiochem®	8.54003.0005	5 g	inquire
		8.54003.0025	25 g	inquire
		8.54003.0100	100 g	inquire
854094	H-Cys(Bzl)-OMe . HCl Novabiochem®	8.54094.0005	5 g	inquire
		8.54094.0025	25 g	inquire
854130	H-Cys(tBu)-OH . HCl Novabiochem®	8.54130.0005	5 g	inquire
		8.54130.0025	25 g	inquire
854125	H-Cys(tButhio)-OH Novabiochem®	8.54125.0005	5 g	inquire
		8.54125.0025	25 g	inquire
854093	H-Cys(Trt)-OH Novabiochem®	8.54093.0005	5 g	inquire
		8.54093.0025	25 g	inquire

## Diaminopropionic acid [Dpr]

Cat.No.	Designation	Ord.No.	Quantity	Price
854146	Trt-Dpr(Fmoc)-OH Novabiochem®	8.54146.0001	1 g	inquire
		8.54146.0005	5 g	inquire

## Glutamic acid [Glu, E]

Cat.No.	Designation	Ord.No.	Quantity	Price
854147	H-Glu-OTMSEt Novabiochem®	8.54147.0001	1 g	inquire
		8.54147.0005	5 g	inquire
854095	H-Glu-OBzl Novabiochem®	8.54095.0005	5 g	inquire
		8.54095.0025	25 g	inquire
854082	H-Glu(OBzl)-OH Novabiochem®	8.54082.0005	5 g	inquire
		8.54082.0025	25 g	inquire
854169	H-D-Glu(OBzl)-OH Novabiochem®	8.54169.0005	5 g	inquire
		8.54169.0025	25 g	inquire
854062	H-Glu(OtBu)-OH Novabiochem®	8.54062.0005	5 g	inquire
		8.54062.0025	25 g	inquire
854188	H-D-Glu(OtBu)-OH Novabiochem®	8.54188.0001	1 g	inquire
		8.54188.0005	5 g	inquire

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## Glutamic acid [Glu, E]

Cat.No.	Designation	Ord.No.	Quantity	Price
854096	H-Glu(OtBu)-OtBu . HCl Novabiochem®	8.54096.0005	5 g	inquire
		8.54096.0025	25 g	inquire
854097	H-Glu(OtBu)-OMe . HCl Novabiochem®	8.54097.0001	1 g	inquire
		8.54097.0005	5 g	inquire
854059	Z-Glu-OBzl Novabiochem®	8.54059.0005	5 g	inquire
		8.54059.0025	25 g	inquire
854054	Z-Glu(OBzl)-OH Novabiochem®	8.54054.0001	1 g	inquire
		8.54054.0005	5 g	inquire
		8.54054.0025	25 g	inquire
854038	Z-Glu-OtBu . DCHA Novabiochem®	8.54038.0005	5 g	inquire
		8.54038.0025	25 g	inquire
854039	Z-Glu(OtBu)-OH Novabiochem®	8.54039.0005	5 g	inquire
		8.54039.0025	25 g	inquire
		8.54039.0100	100 g	inquire

## Glutamine [Gln, Q]

Cat.No.	Designation	Ord.No.	Quantity	Price
854144	H-Gln(Trt)-OH Novabiochem®	8.54144.0005	5 g	inquire
		8.54144.0025	25 g	inquire
854057	Z-Gln(Trt)-OH Novabiochem®	8.54057.0001	1 g	inquire
		8.54057.0005	5 g	inquire
		8.54057.0025	25 g	inquire

## Glycine [Gly, G]

Cat.No.	Designation	Ord.No.	Quantity	Price
854099	H-Gly-OBzl . p-tosylate Novabiochem®	8.54099.0005	5 g	inquire
		8.54099.0025	25 g	inquire
854129	H-Gly-OtBu . AcOH Novabiochem®	8.54129.0005	5 g	inquire
		8.54129.0025	25 g	inquire
854098	H-Gly-NHMe . HCl Novabiochem®	8.54098.0001	1 g	inquire
		8.54098.0005	5 g	inquire
854066	H-Gly-OMe . HCl Novabiochem®	8.54066.0025	25 g	inquire
		8.54066.0100	100 g	inquire
854024	Z-Gly-OH Novabiochem®	8.54024.0025	25 g	inquire
		8.54024.0100	100 g	inquire
814728	N-Cbz-Glycine for synthesis	8.14728.0005	5 g	inquire
		8.14728.0025	25 g	inquire

## Histidine [His, H]

Cat.No.	Designation	Ord.No.	Quantity	Price
854040	Z-His(Z)-OH Novabiochem®	8.54040.0005	5 g	inquire
		8.54040.0025	25 g	inquire
		8.54040.0100	100 g	inquire
854135	H-His(Trt)-OH Novabiochem®	8.54135.0005	5 g	inquire
		8.54135.0025	25 g	inquire

## Homoserine [Hse]

Cat.No.	Designation	Ord.No.	Quantity	Price
854013	H-Hse-OH Novabiochem®	8.54013.0001	1 g	inquire
		8.54013.0005	5 g	inquire
		8.54013.0025	25 g	inquire

## Hydroxyproline [Hyp]

Cat.No.	Designation	Ord.No.	Quantity	Price
854001	H-Hyp-OH Novabiochem®	8.54001.0025	25 g	inquire
		8.54001.0100	100 g	inquire

## Hydroxyproline [Hyp]

Cat.No.	Designation	Ord.No.	Quantity	Price
854100	H-Hyp-OMe . HCl Novabiochem®	8.54100.0005	5 g	inquire
		8.54100.0025	25 g	inquire
854139	H-Hyp(tBu)-OH Novabiochem®	8.54139.0001	1 g	inquire
		8.54139.0005	5 g	inquire
		8.54139.0025	25 g	inquire
854041	Z-Hyp-OH Novabiochem®	8.54041.0005	5 g	inquire
		8.54041.0025	25 g	inquire
		8.54041.0100	100 g	inquire
854056	Z-Hyp(tBu)-OH Novabiochem®	8.54056.0001	1 g	inquire
		8.54056.0005	5 g	inquire
		8.54056.0025	25 g	inquire

## Isoleucine [Ile, I]

Cat.No.	Designation	Ord.No.	Quantity	Price
854142	H-Ile-OtBu . HCl Novabiochem®	8.54142.0005	5 g	inquire
		8.54142.0025	25 g	inquire
854079	H-Ile-OMe . HCl Novabiochem®	8.54079.0005	5 g	inquire
		8.54079.0025	25 g	inquire
854030	Z-Ile-OH (oil) Novabiochem®	8.54030.0025	25 g	inquire
		8.54030.0100	100 g	inquire

## Leucine [Leu, L]

Cat.No.	Designation	Ord.No.	Quantity	Price
854101	H-Leu-OBzl . p-tosylate Novabiochem®	8.54101.0005	5 g	inquire
		8.54101.0025	25 g	inquire
854102	H-Leu-OtBu . HCl Novabiochem®	8.54102.0005	5 g	inquire
		8.54102.0025	25 g	inquire
854071	H-Leu-OMe . HCl Novabiochem®	8.54071.0005	5 g	inquire
		8.54071.0025	25 g	inquire
854170	H-D-Leu-OMe . HCL Novabiochem®	8.54170.0005	5 g	inquire
		8.54170.0025	25 g	inquire
854019	Z-Leu-OH (oil) Novabiochem®	8.54019.0025	25 g	inquire
		8.54019.0100	100 g	inquire

## Lysine [Lys, K]

Cat.No.	Designation	Ord.No.	Quantity	Price
854140	H-Lys(Ac)-OH Novabiochem®	8.54140.0005	5 g	inquire
		8.54140.0025	25 g	inquire
854104	H-Lys(Boc)-OH Novabiochem®	8.54104.0005	5 g	inquire
		8.54104.0025	25 g	inquire
854185	H-D-Lys(Boc)-OH Novabiochem®	8.54185.0001	1 g	inquire
		8.54185.0005	5 g	inquire
854105	H-Lys(Boc)-OtBu . HCl Novabiochem®	8.54105.0001	1 g	inquire
		8.54105.0005	5 g	inquire
		8.54105.0025	25 g	inquire
854106	H-Lys(Boc)-OMe . HCl Novabiochem®	8.54106.0001	1 g	inquire
		8.54106.0005	5 g	inquire
		8.54106.0025	25 g	inquire
854121	H-Lys(Fmoc)-OMe . HCl Novabiochem®	8.54121.0001	1 g	inquire
		8.54121.0005	5 g	inquire
854136	H-Lys(Tfa)-OH Novabiochem®	8.54136.0005	5 g	inquire
		8.54136.0025	25 g	inquire
854075	H-Lys(Z)-OH Novabiochem®	8.54075.0005	5 g	inquire
		8.54075.0025	25 g	inquire
854133	H-Lys(Z)-NH <sub>2</sub> . HCl Novabiochem®	8.54133.0001	1 g	inquire
		8.54133.0005	5 g	inquire
854107	H-Lys(Z)-OBzl . HCl Novabiochem®	8.54107.0005	5 g	inquire
		8.54107.0025	25 g	inquire

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## Lysine [Lys, K]

Cat.No.	Designation	Ord.No.	Quantity	Price
854108	H-Lys(Z)-OtBu . HCL Novabiochem®	8.54108.0005	5 g	<a href="#">inquire</a>
		8.54108.0025	25 g	<a href="#">inquire</a>
854077	H-Lys(Z)-OMe . HCl Novabiochem®	8.54077.0005	5 g	<a href="#">inquire</a>
		8.54077.0025	25 g	<a href="#">inquire</a>
854042	Z-Lys-OH Novabiochem®	8.54042.0005	5 g	<a href="#">inquire</a>
		8.54042.0025	25 g	<a href="#">inquire</a>
		8.54042.0100	100 g	<a href="#">inquire</a>
854052	Z-Lys-OMe . HCl Novabiochem®	8.54052.0001	1 g	<a href="#">inquire</a>
		8.54052.0005	5 g	<a href="#">inquire</a>
854031	Z-Lys(Boc)-OH (cryst) Novabiochem®	8.54031.0005	5 g	<a href="#">inquire</a>
		8.54031.0025	25 g	<a href="#">inquire</a>
		8.54031.0100	100 g	<a href="#">inquire</a>
854161	Z-D-Lys(Boc)-OH (cryst) Novabiochem®	8.54161.0001	1 g	<a href="#">inquire</a>
		8.54161.0005	5 g	<a href="#">inquire</a>
854043	Z-Lys(Z)-OH Novabiochem®	8.54043.0025	25 g	<a href="#">inquire</a>
		8.54043.0100	100 g	<a href="#">inquire</a>

## Methionine [Met, M]

Cat.No.	Designation	Ord.No.	Quantity	Price
854076	H-Met-OMe . HCl Novabiochem®	8.54076.0005	5 g	<a href="#">inquire</a>
		8.54076.0025	25 g	<a href="#">inquire</a>
854172	H-D-Met-OMe . HCl Novabiochem®	8.54172.0005	5 g	<a href="#">inquire</a>
		8.54172.0025	25 g	<a href="#">inquire</a>
854044	Z-Met-OH Novabiochem®	8.54044.0025	25 g	<a href="#">inquire</a>
		8.54044.0100	100 g	<a href="#">inquire</a>
854156	Z-D-Met-OH Novabiochem®	8.54156.0005	5 g	<a href="#">inquire</a>
		8.54156.0025	25 g	<a href="#">inquire</a>
		8.54156.0100	100 g	<a href="#">inquire</a>

## Norleucine [Nle]

Cat.No.	Designation	Ord.No.	Quantity	Price
854007	H-Nle-OH Novabiochem®	8.54007.0005	5 g	<a href="#">inquire</a>
		8.54007.0025	25 g	<a href="#">inquire</a>
		8.54007.0100	100 g	<a href="#">inquire</a>
854045	Z-Nle-OH Novabiochem®	8.54045.0005	5 g	<a href="#">inquire</a>
		8.54045.0025	25 g	<a href="#">inquire</a>

## Norvaline [Nva]

Cat.No.	Designation	Ord.No.	Quantity	Price
854008	H-Nva-OH Novabiochem®	8.54008.0005	5 g	<a href="#">inquire</a>
		8.54008.0025	25 g	<a href="#">inquire</a>
		8.54008.0100	100 g	<a href="#">inquire</a>

## Ornithine [Orn]

Cat.No.	Designation	Ord.No.	Quantity	Price
854145	H-Orn(Boc)-OH Novabiochem®	8.54145.0005	5 g	<a href="#">inquire</a>
		8.54145.0025	25 g	<a href="#">inquire</a>
854171	H-D-Orn(Boc)-OH Novabiochem®	8.54171.0001	1 g	<a href="#">inquire</a>
		8.54171.0005	5 g	<a href="#">inquire</a>
854027	Z-Orn-OH Novabiochem®	8.54027.0005	5 g	<a href="#">inquire</a>
		8.54027.0025	25 g	<a href="#">inquire</a>
854051	Z-Orn(Boc)-OH (cryst) Novabiochem®	8.54051.0005	5 g	<a href="#">inquire</a>
		8.54051.0025	25 g	<a href="#">inquire</a>

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## Penicillamine [Pen]

Cat.No.	Designation	Ord.No.	Quantity	Price
854010	H-Pen-OH Novabiochem®	8.54010.0001	1 g	inquire
		8.54010.0005	5 g	inquire
		8.54010.0025	25 g	inquire

## Phenylalanine [Phe, F]

Cat.No.	Designation	Ord.No.	Quantity	Price
854110	H-Phe-NH <sub>2</sub> . HCl Novabiochem®	8.54110.0005	5 g	inquire
		8.54110.0025	25 g	inquire
854111	H-Phe-OBzl . HCl Novabiochem®	8.54111.0005	5 g	inquire
		8.54111.0025	25 g	inquire
854112	H-Phe-OtBu . HCl Novabiochem®	8.54112.0005	5 g	inquire
		8.54112.0025	25 g	inquire
854174	H-D-Phe-OtBu . HCl Novabiochem®	8.54174.0005	5 g	inquire
		8.54174.0025	25 g	inquire
854064	H-Phe-OMe . HCl Novabiochem®	8.54064.0005	5 g	inquire
		8.54064.0025	25 g	inquire
854175	H-D-Phe-OMe . HCl Novabiochem®	8.54175.0005	5 g	inquire
		8.54175.0025	25 g	inquire
854015	H-Phe(4-Cl)-OH Novabiochem®	8.54015.0001	1 g	inquire
		8.54015.0005	5 g	inquire
854014	H-D-Phe(4-Cl)-OH Novabiochem®	8.54014.0001	1 g	inquire
		8.54014.0005	5 g	inquire
854018	Z-Phe-OH Novabiochem®	8.54018.0025	25 g	inquire
		8.54018.0100	100 g	inquire
854157	Z-D-Phe-OH Novabiochem®	8.54157.0005	5 g	inquire
		8.54157.0025	25 g	inquire
		8.54157.0100	100 g	inquire

## Phenylglycine [Phg]

Cat.No.	Designation	Ord.No.	Quantity	Price
854113	H-Phg-OtBu . HCl Novabiochem®	8.54113.0001	1 g	inquire
		8.54113.0005	5 g	inquire
854114	H-Phg-OMe . HCl Novabiochem®	8.54114.0001	1 g	inquire
		8.54114.0005	5 g	inquire
		8.54114.0025	25 g	inquire
854046	Z-Phg-OH Novabiochem®	8.54046.0001	1 g	inquire
		8.54046.0005	5 g	inquire
		8.54046.0025	25 g	inquire

## Proline [Pro, P]

Cat.No.	Designation	Ord.No.	Quantity	Price
854115	H-Pro-NH <sub>2</sub> Novabiochem®	8.54115.0005	5 g	inquire
		8.54115.0025	25 g	inquire
854176	H-D-Pro-NH <sub>2</sub> Novabiochem®	8.54176.0001	1 g	inquire
		8.54176.0005	5 g	inquire
		8.54176.0025	25 g	inquire
854116	H-Pro-OBzl . HCl Novabiochem®	8.54116.0005	5 g	inquire
		8.54116.0025	25 g	inquire
854117	H-Pro-OtBu . HCl Novabiochem®	8.54117.0005	5 g	inquire
		8.54117.0025	25 g	inquire
854177	H-D-Pro-OtBu . HCl Novabiochem®	8.54177.0001	1 g	inquire
		8.54177.0005	5 g	inquire
854065	H-Pro-OMe . HCl (cryst) Novabiochem®	8.54065.0005	5 g	inquire
		8.54065.0025	25 g	inquire
854178	H-D-Pro-OMe . HCl Novabiochem®	8.54178.0001	1 g	inquire
		8.54178.0005	5 g	inquire
854026	Z-Pro-OH Novabiochem®	8.54026.0025	25 g	inquire
		8.54026.0100	100 g	inquire



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## Proline [Pro, P]

Cat.No.	Designation	Ord.No.	Quantity	Price
854158	Z-D-Pro-OH Novabiochem®	8.54158.0001	1 g	inquire
		8.54158.0005	5 g	inquire
		8.54158.0025	25 g	inquire

## Pyroglutamic acid [Pyr]

Cat.No.	Designation	Ord.No.	Quantity	Price
854002	H-Pyr-OH Novabiochem®	8.54002.0025	25 g	inquire
		8.54002.0100	100 g	inquire
854005	H-D-Pyr-OH Novabiochem®	8.54005.0005	5 g	inquire
		8.54005.0025	25 g	inquire
854193	L-Pyroglutamic acid pentachlorophenyl ester Novabiochem®	8.54193.0001	1 g	inquire
		8.54193.0005	5 g	inquire

## Serine [Ser, S]

Cat.No.	Designation	Ord.No.	Quantity	Price
854109	H-Ser-OBzl . HCL Novabiochem®	8.54109.0005	5 g	inquire
		8.54109.0025	25 g	inquire
854067	H-Ser-OMe . HCl Novabiochem®	8.54067.0005	5 g	inquire
		8.54067.0025	25 g	inquire
854179	H-D-Ser-OMe . HCl Novabiochem®	8.54179.0005	5 g	inquire
		8.54179.0025	25 g	inquire
854070	H-Ser(Bzl)-OH Novabiochem®	8.54070.0005	5 g	inquire
		8.54070.0025	25 g	inquire
854063	H-Ser(tBu)-OH Novabiochem®	8.54063.0005	5 g	inquire
		8.54063.0025	25 g	inquire
854181	H-D-Ser(tBu)-OtBu . HCl Novabiochem®	8.54181.0001	1 g	inquire
		8.54181.0005	5 g	inquire
854073	H-Ser(tBu)-OMe . HCl Novabiochem®	8.54073.0005	5 g	inquire
		8.54073.0025	25 g	inquire
854182	H-D-Ser(tBu)-OMeΔHCl Novabiochem®	8.54182.0001	1 g	inquire
		8.54182.0005	5 g	inquire
854047	Z-Ser-OH Novabiochem®	8.54047.0025	25 g	inquire
		8.54047.0100	100 g	inquire
854159	Z-D-Ser-OH Novabiochem®	8.54159.0005	5 g	inquire
		8.54159.0025	25 g	inquire
		8.54159.0100	100 g	inquire
854048	Z-Ser(Bzl)-OH Novabiochem®	8.54048.0005	5 g	inquire
		8.54048.0025	25 g	inquire
854033	Z-Ser(tBu)-OH Novabiochem®	8.54033.0005	5 g	inquire
		8.54033.0025	25 g	inquire
		8.54033.0100	100 g	inquire
854180	H-D-Ser(tBu)-OH Novabiochem®	8.54180.0001	1 g	inquire
		8.54180.0005	5 g	inquire

## Threonine [Thr, T]

Cat.No.	Designation	Ord.No.	Quantity	Price
854074	H-Thr-OMe . HCl Novabiochem®	8.54074.0005	5 g	inquire
		8.54074.0025	25 g	inquire
854141	H-Thr(Bzl)-OH Novabiochem®	8.54141.0005	5 g	inquire
		8.54141.0025	25 g	inquire
854119	H-Thr(tBu)-OMe . HCl Novabiochem®	8.54119.0005	5 g	inquire
		8.54119.0025	25 g	inquire
854049	Z-Thr-OH Novabiochem®	8.54049.0025	25 g	inquire
		8.54049.0100	100 g	inquire
854020	Z-Thr(tBu)-OH . DCHA Novabiochem®	8.54020.0005	5 g	inquire
		8.54020.0025	25 g	inquire
		8.54020.0100	100 g	inquire
854148	H-Thr-OBzl . oxalate Novabiochem®	8.54148.0005	5 g	inquire
		8.54148.0025	25 g	inquire

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## Threonine [Thr, T]

Cat.No.	Designation	Ord.No.	Quantity	Price
854120	H-Thr(tBu)-OtBu . HCl Novabiochem®	8.54120.0001	1 g	inquire
		8.54120.0005	5 g	inquire

## Tryptophan [Trp, W]

Cat.No.	Designation	Ord.No.	Quantity	Price
854081	H-Trp-OMe . HCl Novabiochem®	8.54081.0005	5 g	inquire
		8.54081.0025	25 g	inquire
854183	H-D-Trp-OMeΔHCl Novabiochem®	8.54183.0005	5 g	inquire
		8.54183.0025	25 g	inquire
854050	Z-Trp-OH Novabiochem®	8.54050.0025	25 g	inquire
		8.54050.0100	100 g	inquire

## Tyrosine [Tyr, Y]

Cat.No.	Designation	Ord.No.	Quantity	Price
854078	H-Tyr-OtBu Novabiochem®	8.54078.0005	5 g	inquire
		8.54078.0025	25 g	inquire
854069	H-Tyr(Bzl)-OH Novabiochem®	8.54069.0005	5 g	inquire
		8.54069.0025	25 g	inquire
854122	H-Tyr(Bzl)-OMe . HCl Novabiochem®	8.54122.0005	5 g	inquire
		8.54122.0025	25 g	inquire
854068	H-Tyr(tBu)-OH Novabiochem®	8.54068.0005	5 g	inquire
		8.54068.0025	25 g	inquire
854184	H-D-Tyr(tBu)-OH Novabiochem®	8.54184.0001	1 g	inquire
		8.54184.0005	5 g	inquire
		8.54184.0025	25 g	inquire
854123	H-Tyr(tBu)-OtBu . HCl Novabiochem®	8.54123.0001	1 g	inquire
		8.54123.0005	5 g	inquire
		8.54123.0025	25 g	inquire
854124	H-Tyr(tBu)-OMe . HCl Novabiochem®	8.54124.0005	5 g	inquire
		8.54124.0025	25 g	inquire
854021	Z-Tyr-OH Novabiochem®	8.54021.0025	25 g	inquire
		8.54021.0100	100 g	inquire

## Valine [Val, V]

Cat.No.	Designation	Ord.No.	Quantity	Price
854134	H-Val-OtBu . HCl Novabiochem®	8.54134.0005	5 g	inquire
		8.54134.0025	25 g	inquire
854118	H-Val-OMe . HCl Novabiochem®	8.54118.0005	5 g	inquire
		8.54118.0025	25 g	inquire
854023	Z-Val-OH Novabiochem®	8.54023.0025	25 g	inquire
		8.54023.0100	100 g	inquire
854160	Z-D-Val-OH Novabiochem®	8.54160.0005	5 g	inquire
		8.54160.0025	25 g	inquire
		8.54160.0100	100 g	inquire

## Pseudoproline (oxazolidine) dipeptides

Cat.No.	Designation	Ord.No.	Quantity	Price
852197	Fmoc-Gly-Thr(psiMe,Mepro)-OH Novabiochem®	8.52197.0001	1 g	inquire
		8.52197.0005	5 g	inquire
852198	Fmoc-Gln(Trt)-Thr(psiMe,Mepro)-OH Novabiochem®	8.52198.0001	1 g	inquire
		8.52198.0005	5 g	inquire
852199	Fmoc-Asp(OtBu)-Thr(psiMe,Mepro)-OH Novabiochem®	8.52199.0001	1 g	inquire
		8.52199.0005	5 g	inquire
852200	Fmoc-Gly-Ser(psiMe,Mepro)-OH Novabiochem®	8.52200.0001	1 g	inquire
		8.52200.0005	5 g	inquire
852175	Fmoc-Ala-Ser(psiMe,Mepro)-OH Novabiochem®	8.52175.0001	1 g	inquire
		8.52175.0005	5 g	inquire

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## Pseudoproline (oxazolidine) dipeptides

Cat.No.	Designation	Ord.No.	Quantity	Price
852180	Fmoc-Ala-Thr(ψMe,Mepro)-OH Novabiochem®	8.52180.0001	1 g	inquire
		8.52180.0005	5 g	inquire
852185	Fmoc-Asn(Trt)-Ser(ψMe,Mepro)-OH Novabiochem®	8.52185.0001	1 g	inquire
		8.52185.0005	5 g	inquire
852186	Fmoc-Asp(OtBu)-Ser(ψMe,Mepro)-OH Novabiochem®	8.52186.0001	1 g	inquire
		8.52186.0005	5 g	inquire
852190	Fmoc-Gln(Trt)-Ser(ψMe,Mepro)-OH Novabiochem®	8.52190.0001	1 g	inquire
		8.52190.0005	5 g	inquire
852177	Fmoc-Glu(OtBu)-Ser(ψMe,Mepro)-OH Novabiochem®	8.52177.0001	1 g	inquire
		8.52177.0005	5 g	inquire
852196	Fmoc-Glu(OtBu)-Thr(ψMe,Mepro)-OH Novabiochem®	8.52196.0001	1 g	inquire
		8.52196.0005	5 g	inquire
852194	Fmoc-Ile-Ser(ψMe,Mepro)-OH Novabiochem®	8.52194.0001	1 g	inquire
		8.52194.0005	5 g	inquire
852193	Fmoc-Ile-Thr(ψMe,Mepro)-OH Novabiochem®	8.52193.0001	1 g	inquire
		8.52193.0005	5 g	inquire
852179	Fmoc-Leu-Ser(ψMe,Mepro)-OH Novabiochem®	8.52179.0001	1 g	inquire
		8.52179.0005	5 g	inquire
852184	Fmoc-Leu-Thr(ψMe,Mepro)-OH Novabiochem®	8.52184.0001	1 g	inquire
		8.52184.0005	5 g	inquire
852178	Fmoc-Lys(Boc)-Ser(ψMe,Mepro)-OH Novabiochem®	8.52178.0001	1 g	inquire
		8.52178.0005	5 g	inquire
852191	Fmoc-Lys(Boc)-Thr(ψMe,Mepro)-OH Novabiochem®	8.52191.0001	1 g	inquire
		8.52191.0005	5 g	inquire
852195	Fmoc-Phe-Ser(ψMe,Mepro)-OH Novabiochem®	8.52195.0001	1 g	inquire
		8.52195.0005	5 g	inquire
852187	Fmoc-Ser(tBu)-Ser(ψMe,Mepro)-OH Novabiochem®	8.52187.0001	1 g	inquire
		8.52187.0005	5 g	inquire
852192	Fmoc-Ser(tBu)-Thr(ψMe,Mepro)-OH Novabiochem®	8.52192.0001	1 g	inquire
		8.52192.0005	5 g	inquire
852189	Fmoc-Tyr(tBu)-Ser(ψMe,Mepro)-OH Novabiochem®	8.52189.0001	1 g	inquire
		8.52189.0005	5 g	inquire
852176	Fmoc-Val-Ser(ψMe,Mepro)-OH Novabiochem®	8.52176.0001	1 g	inquire
		8.52176.0005	5 g	inquire
852181	Fmoc-Val-Thr(ψMe,Mepro)-OH Novabiochem®	8.52181.0001	1 g	inquire
		8.52181.0005	5 g	inquire
852202	Fmoc-Trp(Boc)-Ser(ψMe,Mepro)-OH Novabiochem®	8.52202.0001	1 g	inquire
		8.52202.0005	5 g	inquire
852201	Fmoc-Phe-Thr(ψMe,Mepro)-OH Novabiochem®	8.52201.0001	1 g	inquire
		8.52201.0005	5 g	inquire
852182	Fmoc-Tyr(tBu)-Thr(ψMe,Mepro)-OH Novabiochem®	8.52182.0001	1 g	inquire
		8.52182.0005	5 g	inquire
852183	Fmoc-Asn(Trt)-Thr(ψMe,Mepro)-OH Novabiochem®	8.52183.0001	1 g	inquire
		8.52183.0005	5 g	inquire
852188	Fmoc-Trp(Boc)-Thr(ψMe,Mepro)-OH Novabiochem®	8.52188.0001	1 g	inquire
		8.52188.0005	5 g	inquire

## Dmb and Hmb amino acids and dipeptides

### Hmb-amino acids

Cat.No.	Designation	Ord.No.	Quantity	Price
852060	Fmoc-(FmocHmb)Ala-OH Novabiochem®	8.52060.0001	1 g	inquire
		8.52060.0005	5 g	inquire
852064	Fmoc-(FmocHmb)Gly-OH Novabiochem®	8.52064.0001	1 g	inquire
		8.52064.0005	5 g	inquire
852061	Fmoc-(FmocHmb)Leu-OH Novabiochem®	8.52061.0001	1 g	inquire
		8.52061.0005	5 g	inquire
852068	Fmoc-(FmocHmb)Lys(Boc)-OH Novabiochem®	8.52068.0001	1 g	inquire
		8.52068.0005	5 g	inquire

## Dmb and Hmb amino acids and dipeptides

### Hmb-amino acids

Cat.No.	Designation	Ord.No.	Quantity	Price
852081	Fmoc-(FmocHmb)Phe-OH Novabiochem®	8.52081.0001	1 g	inquire
		8.52081.0005	5 g	inquire
852063	Fmoc-(FmocHmb)Val-OH Novabiochem®	8.52063.0001	1 g	inquire
		8.52063.0005	5 g	inquire
852110	Fmoc-(Dmb)Gly-OH Novabiochem®	8.52110.0001	1 g	inquire
		8.52110.0005	5 g	inquire

### Dmb-dipeptides

Cat.No.	Designation	Ord.No.	Quantity	Price
852108	Fmoc-Ala-(Dmb)Gly-OH Novabiochem®	8.52108.0001	1 g	inquire
		8.52108.0005	5 g	inquire
852109	Fmoc-Gly-(Dmb)Gly-OH Novabiochem®	8.52109.0001	1 g	inquire
		8.52109.0005	5 g	inquire
852114	Fmoc-Ile-(Dmb)Gly-OH Novabiochem®	8.52114.0001	1 g	inquire
		8.52114.0005	5 g	inquire
852121	Fmoc-Leu-(Dmb)Gly-OH Novabiochem®	8.52121.0001	1 g	inquire
		8.52121.0005	5 g	inquire
852115	Fmoc-Asp(OtBu)-(Dmb)Gly-OH Novabiochem®	8.52115.0001	1 g	inquire
		8.52115.0005	5 g	inquire
852116	Fmoc-Val-(Dmb)Gly-OH Novabiochem®	8.52116.0001	1 g	inquire
		8.52116.0005	5 g	inquire

### Isoacyl dipeptides

Cat.No.	Designation	Ord.No.	Quantity	Price
852174	Boc-Ser(Fmoc-Ala)-OH Novabiochem®	8.52174.0001	1 g	inquire
		8.52174.0005	5 g	inquire
852168	Boc-Ser(Fmoc-Gly)-OH Novabiochem®	8.52168.0001	1 g	inquire
		8.52168.0005	5 g	inquire
852169	Boc-Ser(Fmoc-Phe)-OH Novabiochem®	8.52169.0001	1 g	inquire
		8.52169.0005	5 g	inquire
852170	Boc-Thr(Fmoc-Ala)-OH Novabiochem®	8.52170.0001	1 g	inquire
		8.52170.0005	5 g	inquire
852171	Boc-Thr(Fmoc-Gly)-OH Novabiochem®	8.52171.0001	1 g	inquire
		8.52171.0005	5 g	inquire
852172	Boc-Ser(Fmoc-Ser(tBu))-OH Novabiochem®	8.52172.0001	1 g	inquire
		8.52172.0005	5 g	inquire
852173	Boc-Ser(Fmoc-Thr(tBu))-OH Novabiochem®	8.52173.0001	1 g	inquire
		8.52173.0005	5 g	inquire
852249	Boc-Ser(Fmoc-Arg(Pbf))-OH Novabiochem®	8.52249.0001	1 g	inquire
		8.52249.0005	5 g	inquire
852250	Boc-Ser(Fmoc-Ile)-OH Novabiochem®	8.52250.0001	1 g	inquire
		8.52250.0005	5 g	inquire
852257	Boc-Ser(Fmoc-Asn(Trt))-OH Novabiochem®	8.52257.0001	1 g	inquire
		8.52257.0005	5 g	inquire
852256	Boc-Ser(Fmoc-Gln(Trt))-OH Novabiochem®	8.52256.0001	1 g	inquire
		8.52256.0005	5 g	inquire
852252	Boc-Thr(Fmoc-Ile)-OH Novabiochem®	8.52252.0001	1 g	inquire
		8.52252.0005	5 g	inquire
852253	Boc-Thr(Fmoc-Val)-OH Novabiochem®	8.52253.0001	1 g	inquire
		8.52253.0005	5 g	inquire
852290	Boc-Ser(Fmoc-Val)-OH Novabiochem®	8.52290.0001	1 g	inquire
		8.52290.0005	5 g	inquire
852299	Boc-Thr(Fmoc-Thr(tBu))-OH Novabiochem®	8.52299.0001	1 g	inquire
		8.52299.0005	5 g	inquire
852292	Boc-Thr(Fmoc-Met)-OH Novabiochem®	8.52292.0001	1 g	inquire
		8.52292.0005	5 g	inquire

# Building Blocks for Solid Phase Synthesis

## Isoacyl dipeptides

Cat.No.	Designation	Ord.No.	Quantity	Price
852293	Boc-Ser(Fmoc-Met)-OH Novabiochem®	8.52293.0001	1 g	inquire
		8.52293.0005	5 g	inquire
852294	Boc-Thr(Fmoc-Arg(Pbf))-OH Novabiochem®	8.52294.0001	1 g	inquire
		8.52294.0005	5 g	inquire
852295	Boc-Ser(Fmoc-Glu(otBu))-OH Novabiochem®	8.52295.0001	1 g	inquire
		8.52295.0005	5 g	inquire
852296	Boc-Thr(Fmoc-Glu(OtBu))-OH Novabiochem®	8.52296.0001	1 g	inquire
		8.52296.0005	5 g	inquire
852297	Boc-Thr(Fmoc-Asp(OtBu))-OH Novabiochem®	8.52297.0001	1 g	inquire
		8.52297.0005	5 g	inquire
852298	Boc-Ser(Fmoc-Asp(OtBu))-OH Novabiochem®	8.52298.0001	1 g	inquire
		8.52298.0005	5 g	inquire
852262	Boc-Ser(Fmoc-Leu)-OH Novabiochem®	8.52262.0001	1 g	inquire
		8.52262.0005	5 g	inquire
852263	Boc-Thr(Fmoc-Leu)-OH Novabiochem®	8.52263.0001	1 g	inquire
		8.52263.0005	5 g	inquire

## Derivatives for phosphopeptide synthesis

### N- $\alpha$ -Fmoc protected phosphoamino acids

Cat.No.	Designation	Ord.No.	Quantity	Price
852069	Fmoc-Ser(PO(OBzl)OH)-OH Novabiochem®	8.52069.0001	1 g	inquire
		8.52069.0005	5 g	inquire
852070	Fmoc-Thr(PO(OBzl)OH)-OH Novabiochem®	8.52070.0001	1 g	inquire
		8.52070.0005	5 g	inquire
852071	Fmoc-Tyr(PO(OBzl)OH)-OH Novabiochem®	8.52071.0001	1 g	inquire
		8.52071.0005	5 g	inquire
852058	Fmoc-Tyr(PO <sub>3</sub> H <sub>2</sub> )-OH Novabiochem®	8.52058.0001	1 g	inquire
		8.52058.0005	5 g	inquire
852244	Fmoc-D-Ser(PO(OBzl)OH)-OH Novabiochem®	8.52244.0001	1 g	inquire
		8.52244.0005	5 g	inquire
852245	Fmoc-D-Thr(PO(OBzl)OH)-OH Novabiochem®	8.52245.0001	1 g	inquire
		8.52245.0005	5 g	inquire
852246	Fmoc-D-Tyr(PO(OBzl)OH)-OH Novabiochem®	8.52246.0001	1 g	inquire
		8.52246.0005	5 g	inquire
852090	Fmoc-Tyr(PO(NMe <sub>2</sub> ) <sub>2</sub> )-OH Novabiochem®	8.52090.0001	1 g	inquire
		8.52090.0005	5 g	inquire
852288	Fmoc-Phe(CF <sub>2</sub> PO <sub>3</sub> )-OH Novabiochem®	8.52288.8100	100 mg	inquire
		8.52288.8250	250 mg	inquire

### Phosphoramidites

Cat.No.	Designation	Ord.No.	Quantity	Price
851048	Dibenzyl-N,N-diisopropylphosphoramidite Novabiochem®	8.51048.0001	1 g	inquire
		8.51048.8500	500 mg	inquire
851047	Dimethyl-N,N-diisopropylphosphoramidite Novabiochem®	8.51047.0001	1 g	inquire
		8.51047.8500	500 mg	inquire

### Mono-protected diamines

Cat.No.	Designation	Ord.No.	Quantity	Price
851064	mono-Fmoc ethylene diamine hydrochloride Novabiochem®	8.51064.0001	1 g	inquire
		8.51064.0005	5 g	inquire
		8.51064.0025	25 g	inquire
851065	mono-Fmoc 1,3-diaminopropane hydrochloride Novabiochem®	8.51065.0001	1 g	inquire
		8.51065.0005	5 g	inquire
		8.51065.0025	25 g	inquire
851063	mono-Fmoc 1,4-diaminobutane hydrochloride Novabiochem®	8.51063.0001	1 g	inquire
		8.51063.0005	5 g	inquire
		8.51063.0025	25 g	inquire

## Mono-protected diamines

Cat.No.	Designation	Ord.No.	Quantity	Price
851068	mono-Fmoc 1,5-diaminopentane hydrochloride Novabiochem®	8.51068.0001	1 g	inquire
		8.51068.0005	5 g	inquire
		8.51068.0025	25 g	inquire
851066	mono-Fmoc 1,6-diaminohexane hydrochloride Novabiochem®	8.51066.0001	1 g	inquire
		8.51066.0005	5 g	inquire
		8.51066.0025	25 g	inquire
851067	mono-t-Butoxycarbonyl 1,5-diaminopentane toluenesulfonic acid salt Novabiochem®	8.51067.0001	1 g	inquire
		8.51067.0005	5 g	inquire
		8.51067.0025	25 g	inquire

## PEGylation reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
851020	Boc-NH-(PEG) <sub>6</sub> -COOH (30 atoms) Novabiochem®	8.51020.0001	1 g	inquire
851021	N <sub>3</sub> -(PEG) <sub>7</sub> -COOH (33 atoms) Novabiochem®	8.51021.0001	1 g	inquire
851024	Fmoc-NH-(PEG) <sub>11</sub> -COOH (40 atoms) Novabiochem®	8.51024.0001	1 g	inquire
851031	Fmoc-NH-(PEG) <sub>2</sub> -COOH (20 atoms) Novabiochem®	8.51031.0001	1 g	inquire
		8.51031.8500	500 mg	inquire
851032	Trt-NH-(PEG) <sub>2</sub> -NH <sub>2</sub> (15 atoms) Novabiochem®	8.51032.0001	1 g	inquire
851033	Fmoc-NH-(PEG) <sub>27</sub> -COOH (88 atoms) Novabiochem®	8.51033.0001	1 g	inquire
851083	Boc-NH-(PEG) <sub>27</sub> -COOH (88 atoms) Novabiochem®	8.51083.0001	1 g	inquire
851037	Fmoc-NH-(PEG)-COOH (9 atoms) Novabiochem®	8.51037.0001	1 g	inquire
851034	Fmoc-NH-(PEG) <sub>2</sub> -COOH (13 atoms) Novabiochem®	8.51034.0001	1 g	inquire
851035	Fmoc-NH-(PEG) <sub>3</sub> -COOH (16 atoms) Novabiochem®	8.51035.0001	1 g	inquire
851036	Fmoc-NH-(PEG) <sub>4</sub> -COOH (19 atoms) Novabiochem®	8.51036.0001	1 g	inquire
851038	Fmoc-NH-(PEG) <sub>5</sub> -COOH (22 atoms) Novabiochem®	8.51038.0001	1 g	inquire
851039	Boc-NH-(PEG)-COOH . DCHA (9 atoms) Novabiochem®	8.51039.0001	1 g	inquire
851040	Boc-NH-(PEG) <sub>3</sub> -COOH (16 atoms) Novabiochem®	8.51040.0001	1 g	inquire
851041	Boc-NH-(PEG) <sub>5</sub> -COOH (22 atoms) Novabiochem®	8.51041.0001	1 g	inquire
851205	N <sub>3</sub> -PEG-COOK (8 atom) Novabiochem®	8.51205.0001	1 g	inquire
		8.51205.8250	250 mg	inquire

# Labeling Reagents and Resins

## Chromogenic reagents and resins

Cat.No.	Designation	Ord.No.	Quantity	Price
851022	Dabcyl-OSu Novabiochem®	8.51022.0001	1 g	inquire
852095	Fmoc-Lys(Mca)-OH Novabiochem®	8.52095.0001	1 g	inquire
		8.52095.8500	500 mg	inquire
852096	Fmoc-Lys(Dabcyl)-OH Novabiochem®	8.52096.0001	1 g	inquire
		8.52096.8500	500 mg	inquire
852099	Fmoc-Lys(Dnp)-OH Novabiochem®	8.52099.0001	1 g	inquire
		8.52099.8500	500 mg	inquire
852098	Fmoc-Glu(EDANS)-OH Novabiochem®	8.52098.0001	1 g	inquire
		8.52098.8500	500 mg	inquire
851025	5-Carboxyfluorescein Novabiochem®	8.51025.0001	1 g	inquire
		8.51025.8025	25 mg	inquire
		8.51025.8100	100 mg	inquire
851072	6-Carboxyfluorescein Novabiochem®	8.51072.8025	25 mg	inquire
		8.51072.8100	100 mg	inquire
851026	5-Carboxy-tetramethylrhodamine Novabiochem®	8.51026.8010	10 mg	inquire
		8.51026.8050	50 mg	inquire
851073	6-Carboxy-tetramethylrhodamine Novabiochem®	8.51073.8010	10 mg	inquire
		8.51073.8050	50 mg	inquire
851071	Mca-OH Novabiochem®	8.51071.0001	1 g	inquire
		8.51071.0005	5 g	inquire
851030	5(6)-Carboxytetramethylrhodamine Novabiochem®	8.51030.8100	100 mg	inquire
		8.51030.8500	500 mg	inquire
856081	Fmoc-Arg(bis-Boc-resin)-AMC Novabiochem®	8.56081.8500	500 mg	inquire
851082	5(6)-Carboxyfluorescein Novabiochem®	8.51082.0001	1 g	inquire
		8.51082.0005	5 g	inquire
856146	Fmoc-Asp(Wang-resin)-AMC Novabiochem®	8.56146.0001	1 g	inquire
		8.56146.8500	500 mg	inquire
852118	Fmoc-Asp(EDANS)-OH Novabiochem®	8.52118.0001	1 g	inquire
		8.52118.8500	500 mg	inquire
856147	Fmoc-Lys(carbamate wang resin)-AMC Novabiochem®	8.56147.0001	1 g	inquire
		8.56147.8500	500 mg	inquire
855050	Dansyl NovaTag™ resin Novabiochem®	8.55050.8100	100 mg	inquire
		8.55050.8500	500 mg	inquire
855053	Dnp NovaTag™ resin Novabiochem®	8.55053.8100	100 mg	inquire
		8.55053.8500	500 mg	inquire
855052	Mca NovaTag™ resin Novabiochem®	8.55052.8100	100 mg	inquire
		8.55052.8500	500 mg	inquire
855054	EDANS NovaTag™_resin Novabiochem®	8.55054.8100	100 mg	inquire
		8.55054.8500	500 mg	inquire
855057	Universal NovaTag™ resin Novabiochem®	8.55057.0001	1 g	inquire
		8.55057.8500	500 mg	inquire
855058	Universal PEG NovaTag™_resin Novabiochem®	8.55058.0001	1 g	inquire
		8.55058.8500	500 mg	inquire
855143	Azido-NovaTag resin	8.55143.0001	1 g	inquire
		8.55143.8500	500 mg	inquire
852309	Fmoc-ACA-OH	8.52309.0001	1 g	inquire
		8.52309.8250	250 mg	inquire

## Biotinylation reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
851023	Biotin-OSu Novabiochem®	8.51023.0001	1 g	inquire
852097	Fmoc-Lys(biotin)-OH Novabiochem®	8.52097.0001	1 g	inquire
		8.52097.8500	500 mg	inquire
851027	Biotin-ONp Novabiochem®	8.51027.0001	1 g	inquire
852100	Fmoc-Lys(biotinyl-ε-aminocaproyl)-OH Novabiochem®	8.52100.0001	1 g	inquire
		8.52100.8500	500 mg	inquire
852102	Fmoc-Glu(biotinyl-PEG)-OH Novabiochem®	8.52102.0001	1 g	inquire
		8.52102.8500	500 mg	inquire



## Biotinylation reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
851069	2-Biotinyldimedone Novabiochem®	8.51069.0001	1 g	inquire
		8.51069.0005	5 g	inquire
855051	Biotin NovaTag™ resin Novabiochem®	8.55051.0001	1 g	inquire
		8.55051.8500	500 mg	inquire
855055	Biotin-PEG NovaTag™ resin Novabiochem®	8.55055.0001	1 g	inquire
		8.55055.8500	500 mg	inquire
851029	N-Biotinyl-NH-(PEG) <sub>2</sub> -COOH . DIPEA (20 atoms) Novabiochem®	8.51029.0001	1 g	inquire
		8.51029.8500	500 mg	inquire
852113	Fmoc-Asp(biotinyl-PEG)-OH Novabiochem®	8.52113.0001	1 g	inquire
		8.52113.8500	500 mg	inquire
851209	D(+)-Biotin Novabiochem®	8.51209.0001	1 g	inquire
		8.51209.0005	5 g	inquire
		8.51209.0025	25 g	inquire
856193	Fmoc-Lys(biotinyl-ε-aminocaproyl)-NovaSyn® TGR HMP resin	8.56193.0001	1 g	inquire
		8.56193.8250	250 mg	inquire
852340	N-Biotinyl-NH(PEG)11-COOH Novabiochem®	8.52340.0001	1 g	inquire
		8.52340.8250	250 mg	inquire
855145	Fmoc-PEG Biotin NovaTag™ resin Novabiochem®	8.55145.0001	1 g	inquire
		8.55145.8500	500 mg	inquire

## Chemoselective purification reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
851092	4-Nitrophenyl-2-(octadecylsulfonyl)ethylcarbonate Novabiochem®	8.51092.0001	1 g	inquire
		8.51092.8250	250 mg	inquire

## Spin-labeling reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
852342	Fmoc-TOAC-OH	8.52342.8100	100 mg	inquire
		8.52342.8500	500 mg	inquire

## Other labeling reagents

## Chelators

Cat.No.	Designation	Ord.No.	Quantity	Price
851200	DOTA-tris(tert-butyl ester) Novabiochem®	8.51200.8100	100 mg	inquire
		8.51200.8250	250 mg	inquire
851079	HydraLinK 6-Boc-HNA Reagent Novabiochem®	8.51079.8100	100 mg	inquire
		8.51079.8500	500 mg	inquire
851078	HydraLinK 6-Fmoc-HNA Reagent Novabiochem®	8.51078.8100	100 mg	inquire
		8.51078.8500	500 mg	inquire

## Photo-activatable cross-linkers

Cat.No.	Designation	Ord.No.	Quantity	Price
851093	TDBA 4-(3-Trifluoromethyl)-3H-diazirin-3-yl)benzoic acid	8.51093.8025	25 mg	inquire
		8.51093.8100	100 mg	inquire
		8.51093.8250	250 mg	inquire
852287	Fmoc-p-Bz-Phe-OH Fmoc-L-p-benzoylphenylalanine Novabiochem®	8.52287.0001	1 g	inquire
		8.52287.0005	5 g	inquire

## Chemoselective purification reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
851208	IMAC Tag	8.51208.0001	1 g	inquire
		8.51208.8250	250 mg	inquire
851092	4-Nitrophenyl-2-(octadecylsulfonyl)ethylcarbonate Novabiochem®	8.51092.0001	1 g	inquire
		8.51092.8250	250 mg	inquire

# Conjugation and Ligation Reagents

## Building blocks and reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
851017	Boc-amino-oxyacetic acid Novabiochem®	8.51017.0001	1 g	<a href="#">inquire</a>
		8.51017.0005	5 g	<a href="#">inquire</a>
852216	Fmoc-Dpr(Boc-Aoa)-OH Novabiochem®	8.52216.0001	1 g	<a href="#">inquire</a>
		8.52216.0005	5 g	<a href="#">inquire</a>
		8.52216.0025	25 g	<a href="#">inquire</a>
852217	Fmoc-Dpr(Boc-Ser(tBu))-OH Novabiochem®	8.52217.0001	1 g	<a href="#">inquire</a>
		8.52217.0005	5 g	<a href="#">inquire</a>
		8.52217.0025	25 g	<a href="#">inquire</a>
851016	SAMA-OPfp Novabiochem®	8.51016.0001	1 g	<a href="#">inquire</a>
		8.51016.0005	5 g	<a href="#">inquire</a>
851028	Bis-Boc-amino-oxyacetic acid Novabiochem®	8.51028.0001	1 g	<a href="#">inquire</a>
		8.51028.0005	5 g	<a href="#">inquire</a>
852305	Fmoc-L-allysine ethylene acetal Novabiochem®	8.52305.8100	100 mg	<a href="#">inquire</a>
		8.52305.8500	500 mg	<a href="#">inquire</a>
851075	HydraLink SHNH Reagent	8.51075.8025	25 mg	<a href="#">inquire</a>
		8.51075.8100	100 mg	<a href="#">inquire</a>
851076	HydraLink SHTH Reagent	8.51076.8025	25 mg	<a href="#">inquire</a>
		8.51076.8100	100 mg	<a href="#">inquire</a>
851077	HydraLink SFB Reagent	8.51077.8100	100 mg	<a href="#">inquire</a>
852373	Fmoc-Cys(STmp)-OH Novabiochem®	8.52373.0001	1 g	<a href="#">inquire</a>
		8.52373.0005	5 g	<a href="#">inquire</a>

## Resins for peptide thioesters

Cat.No.	Designation	Ord.No.	Quantity	Price
855021	4-Sulfamylbutyryl AM resin Novabiochem®	8.55021.0001	1 g	<a href="#">inquire</a>
		8.55021.0005	5 g	<a href="#">inquire</a>
		8.55021.0025	25 g	<a href="#">inquire</a>
855038	4-Sulfamylbutyryl AM NovaGel Novabiochem®	8.55038.0001	1 g	<a href="#">inquire</a>
		8.55038.0005	5 g	<a href="#">inquire</a>
856068	H-Gly-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56068.0001	1 g	<a href="#">inquire</a>
		8.56068.0005	5 g	<a href="#">inquire</a>
856069	H-Ala-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56069.0001	1 g	<a href="#">inquire</a>
		8.56069.0005	5 g	<a href="#">inquire</a>
856070	H-Gln(Trt)-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56070.0001	1 g	<a href="#">inquire</a>
		8.56070.0005	5 g	<a href="#">inquire</a>
855044	4-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.55044.0001	1 g	<a href="#">inquire</a>
		8.55044.0005	5 g	<a href="#">inquire</a>
856077	H-Leu-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56077.0001	1 g	<a href="#">inquire</a>
		8.56077.0005	5 g	<a href="#">inquire</a>
856076	H-Ile-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56076.0001	1 g	<a href="#">inquire</a>
		8.56076.0005	5 g	<a href="#">inquire</a>
856075	H-Val-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56075.0001	1 g	<a href="#">inquire</a>
		8.56075.0005	5 g	<a href="#">inquire</a>
856074	H-Lys(Boc)-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56074.0001	1 g	<a href="#">inquire</a>
		8.56074.0005	5 g	<a href="#">inquire</a>
856078	H-Asn(Trt)-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56078.0001	1 g	<a href="#">inquire</a>
		8.56078.0005	5 g	<a href="#">inquire</a>
856079	H-Phe-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56079.0001	1 g	<a href="#">inquire</a>
		8.56079.0005	5 g	<a href="#">inquire</a>
856080	H-Thr(tBu)-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56080.0001	1 g	<a href="#">inquire</a>
		8.56080.0005	5 g	<a href="#">inquire</a>
855147	4-Sulfamylbutyryl Rink Amide AM resin Novabiochem®	8.55147.0001	1 g	<a href="#">inquire</a>
		8.55147.0005	5 g	<a href="#">inquire</a>
856191	Fmoc-Ala-4-Sulfamylbutyryl Rink Amide AM resin Novabiochem®	8.56191.0001	1 g	<a href="#">inquire</a>
		8.56191.0005	5 g	<a href="#">inquire</a>
856192	Fmoc-Gly-4-Sulfamylbutyryl Rink Amide AM resin Novabiochem®	8.56192.0001	1 g	<a href="#">inquire</a>
		8.56192.0005	5 g	<a href="#">inquire</a>
855131	Dawson Dbz AM resin (100-200 mesh) 3-(Fmoc-amino)-4-aminobenzoyl AM resin (100-200 mesh) Novabiochem®	8.55131.0001	1 g	<a href="#">inquire</a>
		8.55131.0005	5 g	<a href="#">inquire</a>
		8.55131.0025	25 g	<a href="#">inquire</a>

## Resins for peptide thioesters

Cat.No.	Designation	Ord.No.	Quantity	Price
855142	Dawson Dbz NovaSynTGR resin Novabiochem®	8.55142.0001	1 g	inquire
		8.55142.0005	5 g	inquire

## Resins for the synthesis of peptide aldehydes

Cat.No.	Designation	Ord.No.	Quantity	Price
855049	H-Thr-Gly-NovaSyn® TG resin Novabiochem®	8.55049.0001	1 g	inquire
		8.55049.0005	5 g	inquire
856145	H-Val-H NovaSyn TG resin Novabiochem®	8.56145.0001	1 g	inquire
		8.56145.0005	5 g	inquire
856071	H-Leu-H NovaSyn® TG resin Novabiochem®	8.56071.0001	1 g	inquire
		8.56071.0005	5 g	inquire
856144	H-Phe-H NovaSyn® TG resin Novabiochem®	8.56144.0001	1 g	inquire
		8.56144.0005	5 g	inquire
856072	H-Asp(OtBu)-H NovaSyn® TG resin Novabiochem®	8.56072.0001	1 g	inquire
		8.56072.0005	5 g	inquire
856073	H-Arg(Boc)2-H NovaSyn® TG resin Novabiochem®	8.56073.0001	1 g	inquire
		8.56073.0005	5 g	inquire

## NovaTag™ resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855056	Hydroxylamine NovaTag™ resin Novabiochem®	8.55056.0001	1 g	inquire
		8.55056.8500	500 mg	inquire
855144	Hydroxylamine PEG NovaTag™ resin	8.55144.0001	1 g	inquire
		8.55144.8500	500 mg	inquire

## HydraLinK™ reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
851078	HydraLinK 6-Fmoc-HNA Reagent Novabiochem®	8.51078.8100	100 mg	inquire
		8.51078.8500	500 mg	inquire
851079	HydraLinK 6-Boc-HNA Reagent Novabiochem®	8.51079.8100	100 mg	inquire
		8.51079.8500	500 mg	inquire
851075	HydraLinK SHNH Reagent	8.51075.8025	25 mg	inquire
		8.51075.8100	100 mg	inquire
851076	HydraLinK SHTH Reagent	8.51076.8025	25 mg	inquire
		8.51076.8100	100 mg	inquire
851077	HydraLinK SFB Reagent	8.51077.8100	100 mg	inquire

# Resins for Solid Phase Peptide Synthesis

## Base resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855020	Aminomethylated polystyrene HL (100-200 mesh) Novabiochem®	8.55020.0005	5 g	<a href="#">inquire</a>
		8.55020.0025	25 g	<a href="#">inquire</a>
		8.55020.0100	100 g	<a href="#">inquire</a>
855007	NovaSyn®TG amino resin (90 µm) Novabiochem®	8.55007.0001	1 g	<a href="#">inquire</a>
		8.55007.0005	5 g	<a href="#">inquire</a>
		8.55007.0025	25 g	<a href="#">inquire</a>
855015	Amino PEGA resin Novabiochem®	8.55015.0001	1 g	<a href="#">inquire</a>
		8.55015.0005	5 g	<a href="#">inquire</a>
855115	Aminomethylated polystyrene LL (100-200 mesh) Novabiochem®	8.55115.0005	5 g	<a href="#">inquire</a>
		8.55115.0025	25 g	<a href="#">inquire</a>
		8.55115.0100	100 g	<a href="#">inquire</a>
855126	NovaPEG amino resin Novabiochem®	8.55126.0001	1 g	<a href="#">inquire</a>
		8.55126.0005	5 g	<a href="#">inquire</a>
		8.55126.0025	25 g	<a href="#">inquire</a>

## Resins for Fmoc SPPS of peptide acids

Cat.No.	Designation	Ord.No.	Quantity	Price
855005	NovaSyn®TGA resin (90 µm) Novabiochem®	8.55005.0001	1 g	<a href="#">inquire</a>
		8.55005.0005	5 g	<a href="#">inquire</a>
		8.55005.0025	25 g	<a href="#">inquire</a>
855066	HMPA-PEGA resin Novabiochem®	8.55066.0001	1 g	<a href="#">inquire</a>
		8.55066.0005	5 g	<a href="#">inquire</a>
855002	Wang resin (100-200 mesh) Novabiochem®	8.55002.0005	5 g	<a href="#">inquire</a>
		8.55002.0025	25 g	<a href="#">inquire</a>
		8.55002.0100	100 g	<a href="#">inquire</a>
855121	Wang resin LL (100-200 mesh) Novabiochem®	8.55121.0005	5 g	<a href="#">inquire</a>
		8.55121.0025	25 g	<a href="#">inquire</a>
		8.55121.0100	100 g	<a href="#">inquire</a>
855122	NovaPEG Wang resin Novabiochem®	8.55122.0001	1 g	<a href="#">inquire</a>
		8.55122.0005	5 g	<a href="#">inquire</a>
		8.55122.0025	25 g	<a href="#">inquire</a>
855127	NovaSyn® TGR HMP resin Novabiochem®	8.55127.0001	1 g	<a href="#">inquire</a>
		8.55127.0005	5 g	<a href="#">inquire</a>
855150	HMPA SpheriTide™ resin Novabiochem®	8.55150.0001	1 g	<a href="#">inquire</a>
		8.55150.0005	5 g	<a href="#">inquire</a>
		8.55150.0025	25 g	<a href="#">inquire</a>

## Resins for Fmoc SPPS of peptide amides

Cat.No.	Designation	Ord.No.	Quantity	Price
855016	Rink Amide PEGA resin Novabiochem®	8.55016.0001	1 g	<a href="#">inquire</a>
		8.55016.0005	5 g	<a href="#">inquire</a>
855001	Rink Amide resin (100-200 mesh) Novabiochem®	8.55001.0001	1 g	<a href="#">inquire</a>
		8.55001.0005	5 g	<a href="#">inquire</a>
		8.55001.0025	25 g	<a href="#">inquire</a>
855004	Rink Amide AM resin (200-400 mesh) Novabiochem®	8.55004.0001	1 g	<a href="#">inquire</a>
		8.55004.0005	5 g	<a href="#">inquire</a>
		8.55004.0025	25 g	<a href="#">inquire</a>
855003	Rink Amide MBHA resin (100-200 mesh) Novabiochem®	8.55003.0001	1 g	<a href="#">inquire</a>
		8.55003.0005	5 g	<a href="#">inquire</a>
		8.55003.0025	25 g	<a href="#">inquire</a>
855009	NovaSyn®TGR resin Novabiochem®	8.55009.0001	1 g	<a href="#">inquire</a>
		8.55009.0005	5 g	<a href="#">inquire</a>
		8.55009.0025	25 g	<a href="#">inquire</a>
855031	Rink Amide NovaGel™ Novabiochem®	8.55031.0001	1 g	<a href="#">inquire</a>
		8.55031.0005	5 g	<a href="#">inquire</a>
		8.55031.0025	25 g	<a href="#">inquire</a>
855045	Rink Amide MBHA resin LL (100-200 mesh) Novabiochem®	8.55045.0001	1 g	<a href="#">inquire</a>
		8.55045.0005	5 g	<a href="#">inquire</a>
		8.55045.0025	25 g	<a href="#">inquire</a>
855047	NovaPEG Rink Amide resin Novabiochem®	8.55047.0001	1 g	<a href="#">inquire</a>
		8.55047.0005	5 g	<a href="#">inquire</a>
		8.55047.0025	25 g	<a href="#">inquire</a>

# Resins for Solid Phase Peptide Synthesis

## Resins for Fmoc SPPS of peptide amides

Cat.No.	Designation	Ord.No.	Quantity	Price
855125	NovaPEG Rink Amide resin LL Novabiochem®	8.55125.0001	1 g	inquire
		8.55125.0005	5 g	inquire
855120	Rink Amide AM resin LL (100–200 mesh) Novabiochem®	8.55120.0001	1 g	inquire
		8.55120.0005	5 g	inquire
		8.55120.0025	25 g	inquire
855128	NovaSyn® TGR R resin Novabiochem®	8.55128.0001	1 g	inquire
		8.55128.0005	5 g	inquire
855130	Rink Amide AM resin (100–200 mesh) Novabiochem®	8.55130.0001	1 g	inquire
		8.55130.0005	5 g	inquire
		8.55130.0025	25 g	inquire
855133	Fmoc-PAL AM resin Novabiochem®	8.55133.0001	1 g	inquire
		8.55133.0005	5 g	inquire
855137	PAL-NovaSyn TG resin Novabiochem®	8.55137.0001	1 g	inquire
		8.55137.0005	5 g	inquire
855134	Ramage Amide AM resin Novabiochem®	8.55134.0001	1 g	inquire
		8.55134.0005	5 g	inquire
855149	Rink Amide SpheriTide™ resin Novabiochem®	8.55149.0001	1 g	inquire
		8.55149.0005	5 g	inquire
		8.55149.0025	25 g	inquire
855136	PAL-NovaPEG resin Novabiochem®	8.55136.0001	1 g	inquire
		8.55136.0005	5 g	inquire

## Resins for Fmoc SPPS of protected peptide fragments

Cat.No.	Designation	Ord.No.	Quantity	Price
855017	2-Chlorotriyl chloride resin (100–200 mesh), 1% DVB Novabiochem®	8.55017.0001	1 g	inquire
		8.55017.0005	5 g	inquire
		8.55017.0025	25 g	inquire
855010	NovaSyn®TGT alcohol resin Novabiochem®	8.55010.0001	1 g	inquire
		8.55010.0005	5 g	inquire
		8.55010.0025	25 g	inquire
855013	NovaSyn®TG Sieber resin Novabiochem®	8.55013.0001	1 g	inquire
		8.55013.0005	5 g	inquire
		8.55013.0025	25 g	inquire
855061	HMPB-MBHA resin Novabiochem®	8.55061.0001	1 g	inquire
		8.55061.0005	5 g	inquire
855060	Rink Acid resin (100–200 mesh) Novabiochem®	8.55060.0001	1 g	inquire
		8.55060.0005	5 g	inquire
		8.55060.0025	25 g	inquire
855008	Sieber Amide resin Novabiochem®	8.55008.0001	1 g	inquire
		8.55008.0005	5 g	inquire
		8.55008.0025	25 g	inquire
855124	NovaPEG HMPB resin Novabiochem®	8.55124.0001	1 g	inquire
		8.55124.0005	5 g	inquire

## Resins for Fmoc SPPS of carboxy-modified peptides

Cat.No.	Designation	Ord.No.	Quantity	Price
855087	FMPB NovaGel™ HL Novabiochem®	8.55087.0001	1 g	inquire
		8.55087.0005	1x5gm	inquire
		8.55087.0025	25 g	inquire
855028	FMPB AM resin Novabiochem®	8.55028.0001	1 g	inquire
		8.55028.0005	5 g	inquire
		8.55028.0025	25 g	inquire
855062	NovaSyn® TG HMBA resin Novabiochem®	8.55062.0001	1 g	inquire
		8.55062.0005	5 g	inquire
		8.55062.0025	25 g	inquire
855070	HMBA-PEGA resin Novabiochem®	8.55070.0001	1 g	inquire
		8.55070.0005	5 g	inquire
855018	HMBA-AM resin Novabiochem®	8.55018.0001	1 g	inquire
		8.55018.0005	5 g	inquire
		8.55018.0025	25 g	inquire

# Resins for Solid Phase Peptide Synthesis

## Resins for Fmoc SPPS of carboxy-modified peptides

Cat.No.	Designation	Ord.No.	Quantity	Price
855037	4-Fmoc-hydrazinobenzoyl AM NovaGel™ Novabiochem®	8.55037.0001	1 g	<a href="#">inquire</a>
		8.55037.0005	5 g	<a href="#">inquire</a>
		8.55037.0025	25 g	<a href="#">inquire</a>
855131	Dawson Dbz AM resin (100-200 mesh) 3-(Fmoc-amino)-4-aminobenzoyl AM resin (100-200 mesh) Novabiochem®	8.55131.0001	1 g	<a href="#">inquire</a>
		8.55131.0005	5 g	<a href="#">inquire</a>
		8.55131.0025	25 g	<a href="#">inquire</a>
855049	H-Thr-Gly-NovaSyn® TG resin Novabiochem®	8.55049.0001	1 g	<a href="#">inquire</a>
		8.55049.0005	5 g	<a href="#">inquire</a>
855074	Weinreb AM resin Novabiochem®	8.55074.0001	1 g	<a href="#">inquire</a>
		8.55074.0005	5 g	<a href="#">inquire</a>
		8.55074.0025	25 g	<a href="#">inquire</a>
855142	Dawson Dbz NovaSynTGR resin Novabiochem®	8.55142.0001	1 g	<a href="#">inquire</a>
		8.55142.0005	5 g	<a href="#">inquire</a>

## Resins for Boc SPPS of peptide acids

Cat.No.	Designation	Ord.No.	Quantity	Price
855059	Merrifield resin LL (100-200 mesh) Novabiochem®	8.55059.0005	5 g	<a href="#">inquire</a>
		8.55059.0025	25 g	<a href="#">inquire</a>
		8.55059.0100	100 g	<a href="#">inquire</a>
855011	Merrifield resin HL (100-200 mesh) Novabiochem®	8.55011.0005	5 g	<a href="#">inquire</a>
		8.55011.0025	25 g	<a href="#">inquire</a>
		8.55011.0100	100 g	<a href="#">inquire</a>

## Resins for Boc SPPS of peptide amides

Cat.No.	Designation	Ord.No.	Quantity	Price
855000	MBHA resin LL (100-200 mesh). HCl Novabiochem®	8.55000.0005	5 g	<a href="#">inquire</a>
		8.55000.0025	25 g	<a href="#">inquire</a>
		8.55000.0100	100 g	<a href="#">inquire</a>
855006	MBHA resin HL (100-200 mesh) . HCl Novabiochem®	8.55006.0005	5 g	<a href="#">inquire</a>
		8.55006.0025	25 g	<a href="#">inquire</a>
		8.55006.0100	100 g	<a href="#">inquire</a>

## Resins for Boc SPPS of carboxy-modified peptides

Cat.No.	Designation	Ord.No.	Quantity	Price
855089	Oxime resin LL (100-200 mesh) Novabiochem®	8.55089.0001	1 g	<a href="#">inquire</a>
		8.55089.0005	5 g	<a href="#">inquire</a>
855090	Oxime resin HL (100-200 mesh) Novabiochem®	8.55090.0001	1 g	<a href="#">inquire</a>
		8.55090.0005	5 g	<a href="#">inquire</a>

## Resins for immunology

Cat.No.	Designation	Ord.No.	Quantity	Price
856082	Fmoc <sub>8</sub> -Lys <sub>4</sub> -Lys <sub>2</sub> -Lys-β-Ala-Wang resin Novabiochem®	8.56082.0001	1 g	<a href="#">inquire</a>
		8.56082.8250	250 mg	<a href="#">inquire</a>
856165	Fmoc <sub>8</sub> -Lys <sub>4</sub> -Lys <sub>2</sub> -Lys-Cys(Acm)-β-Ala-Wang resin Novabiochem®	8.56165.0001	1 g	<a href="#">inquire</a>
		8.56165.8250	250 mg	<a href="#">inquire</a>
856083	Fmoc <sub>4</sub> -Lys <sub>2</sub> -Lys-β-Ala-Wang resin Novabiochem®	8.56083.0001	1 g	<a href="#">inquire</a>
		8.56083.8250	250 mg	<a href="#">inquire</a>
855129	NovaSyn® TG PAP RESIN Novabiochem®	8.55129.0001	1 g	<a href="#">inquire</a>
		8.55129.0005	5 g	<a href="#">inquire</a>

## Alkenyl based resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855101	REM resin (50–100 mesh) Novabiochem®	8.55101.0001	1 g	inquire
		8.55101.0005	5 g	inquire
		8.55101.0025	25 g	inquire
855030	Vinylsulfonylmethyl polystyrene Novabiochem®	8.55030.0001	1 g	inquire
		8.55030.0005	5 g	inquire
		8.55030.0025	25 g	inquire

## Br, Cl functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855104	2-(4-Bromomethylphenoxy)ethyl polystyrene HL Novabiochem®	8.55104.0001	1 g	inquire
		8.55104.0005	5 g	inquire
		8.55104.0025	25 g	inquire
855027	(4-Bromomethylphenoxy)methyl polystyrene Novabiochem®	8.55027.0001	1 g	inquire
		8.55027.0005	5 g	inquire
		8.55027.0025	25 g	inquire
855017	2-Chlorotrityl chloride resin (100–200 mesh), 1% DVB Novabiochem®	8.55017.0001	1 g	inquire
		8.55017.0005	5 g	inquire
		8.55017.0025	25 g	inquire
855011	Merrifield resin HL (100–200 mesh) Novabiochem®	8.55011.0005	5 g	inquire
		8.55011.0025	25 g	inquire
		8.55011.0100	100 g	inquire
855059	Merrifield resin LL (100–200 mesh) Novabiochem®	8.55059.0005	5 g	inquire
		8.55059.0025	25 g	inquire
		8.55059.0100	100 g	inquire
855063	NovaSyn TG bromo resin Novabiochem®	8.55063.0001	1 g	inquire
		8.55063.0005	5 g	inquire
		8.55063.0025	25 g	inquire
855010	NovaSyn®TGT alcohol resin Novabiochem®	8.55010.0001	1 g	inquire
		8.55010.0005	5 g	inquire
		8.55010.0025	25 g	inquire
855012	Trityl chloride resin Novabiochem®	8.55012.0001	1 g	inquire
		8.55012.0005	5 g	inquire
		8.55012.0025	25 g	inquire

## Carbonate resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855072	p-Nitrophenyl carbonate Merrifield resin Novabiochem®	8.55072.0001	1 g	inquire
		8.55072.0005	5 g	inquire
		8.55072.0025	25 g	inquire
855019	p-Nitrophenyl carbonate Wang resin Novabiochem®	8.55019.0001	1 g	inquire
		8.55019.0005	5 g	inquire
		8.55019.0025	25 g	inquire

## CHO functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855103	FMPE polystyrene HL Novabiochem®	8.55103.0001	1 g	inquire
		8.55103.0005	5 g	inquire
		8.55103.0025	25 g	inquire
855026	4-Benzyloxybenzaldehyde polystyrene HL Novabiochem®	8.55026.0005	5 g	inquire
		8.55026.0025	25 g	inquire
		8.55026.0100	100 g	inquire
855087	FMPB NovaGel™ HL Novabiochem®	8.55087.0001	1 g	inquire
		8.55087.0005	1x5gm	inquire
		8.55087.0025	25 g	inquire
855035	DFPE polystyrene Novabiochem®	8.55035.0001	1 g	inquire
		8.55035.0005	5 g	inquire
		8.55035.0025	25 g	inquire
855098	(3-Formylindolyl)acetamidomethyl polystyrene Novabiochem®	8.55098.0001	1 g	inquire
		8.55098.0005	5 g	inquire
		8.55098.0025	25 g	inquire



# Resins for Solid Phase Organic Chemistry

## CHO functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855028	FMPB AM resin Novabiochem®	8.55028.0001	1 g	<a href="#">inquire</a>
		8.55028.0005	5 g	<a href="#">inquire</a>
		8.55028.0025	25 g	<a href="#">inquire</a>

## CO<sub>2</sub>H functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855069	Carboxypolystyrene HL (100–200 mesh), 1% DVB Novabiochem®	8.55069.0001	1 g	<a href="#">inquire</a>
		8.55069.0005	5 g	<a href="#">inquire</a>
		8.55069.0025	25 g	<a href="#">inquire</a>
855065	NovaSyn® TG carboxy resin Novabiochem®	8.55065.0001	1 g	<a href="#">inquire</a>
		8.55065.0005	5 g	<a href="#">inquire</a>
		8.55065.0025	25 g	<a href="#">inquire</a>

## Enol functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855079	DHP HM resin (100–200 mesh) Novabiochem®	8.55079.0001	1 g	<a href="#">inquire</a>
		8.55079.0005	5 g	<a href="#">inquire</a>
		8.55079.0025	25 g	<a href="#">inquire</a>

## NH<sub>2</sub>, NH<sub>2</sub>NH functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855020	Aminomethylated polystyrene HL (100–200 mesh) Novabiochem®	8.55020.0005	5 g	<a href="#">inquire</a>
		8.55020.0025	25 g	<a href="#">inquire</a>
		8.55020.0100	100 g	<a href="#">inquire</a>
855084	Aminomethyl NovaGel™ Novabiochem®	8.55084.0001	1 g	<a href="#">inquire</a>
		8.55084.0005	5 g	<a href="#">inquire</a>
		8.55084.0025	25 g	<a href="#">inquire</a>
855115	Aminomethylated polystyrene LL (100–200 mesh) Novabiochem®	8.55115.0005	5 g	<a href="#">inquire</a>
		8.55115.0025	25 g	<a href="#">inquire</a>
		8.55115.0100	100 g	<a href="#">inquire</a>
855126	NovaPEG amino resin Novabiochem®	8.55126.0001	1 g	<a href="#">inquire</a>
		8.55126.0005	5 g	<a href="#">inquire</a>
		8.55126.0025	25 g	<a href="#">inquire</a>
855014	NovaSyn®TG amino resin (130 μm) Novabiochem®	8.55014.0001	1 g	<a href="#">inquire</a>
		8.55014.0005	5 g	<a href="#">inquire</a>
		8.55014.0025	25 g	<a href="#">inquire</a>
855073	NovaSyn TG amino resin HL Novabiochem®	8.55073.0001	1 g	<a href="#">inquire</a>
		8.55073.0005	5 g	<a href="#">inquire</a>
		8.55073.0025	25 g	<a href="#">inquire</a>
855015	Amino PEGA resin Novabiochem®	8.55015.0001	1 g	<a href="#">inquire</a>
		8.55015.0005	5 g	<a href="#">inquire</a>
855006	MBHA resin HL (100–200 mesh) . HCl Novabiochem®	8.55006.0005	5 g	<a href="#">inquire</a>
		8.55006.0025	25 g	<a href="#">inquire</a>
		8.55006.0100	100 g	<a href="#">inquire</a>
855000	MBHA resin LL (100–200 mesh). HCl Novabiochem®	8.55000.0005	5 g	<a href="#">inquire</a>
		8.55000.0025	25 g	<a href="#">inquire</a>
		8.55000.0100	100 g	<a href="#">inquire</a>
855001	Rink Amide resin (100–200 mesh) Novabiochem®	8.55001.0001	1 g	<a href="#">inquire</a>
		8.55001.0005	5 g	<a href="#">inquire</a>
		8.55001.0025	25 g	<a href="#">inquire</a>
855004	Rink Amide AM resin (200–400 mesh) Novabiochem®	8.55004.0001	1 g	<a href="#">inquire</a>
		8.55004.0005	5 g	<a href="#">inquire</a>
		8.55004.0025	25 g	<a href="#">inquire</a>
855003	Rink Amide MBHA resin (100–200 mesh) Novabiochem®	8.55003.0001	1 g	<a href="#">inquire</a>
		8.55003.0005	5 g	<a href="#">inquire</a>
		8.55003.0025	25 g	<a href="#">inquire</a>
855009	NovaSyn®TGR resin Novabiochem®	8.55009.0001	1 g	<a href="#">inquire</a>
		8.55009.0005	5 g	<a href="#">inquire</a>
		8.55009.0025	25 g	<a href="#">inquire</a>

# Resins for Solid Phase Organic Chemistry

## NH<sub>2</sub>, NH<sub>2</sub>NH functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855031	Rink Amide NovaGel™ Novabiochem®	8.55031.0001	1 g	inquire
		8.55031.0005	5 g	inquire
		8.55031.0025	25 g	inquire
855016	Rink Amide PEGA resin Novabiochem®	8.55016.0001	1 g	inquire
		8.55016.0005	5 g	inquire
855118	Knorr Amide MBHA Novabiochem®	8.55118.0005	5 g	inquire
		8.55118.0025	25 g	inquire
		8.55118.0100	100 g	inquire
855119	Rink Amide resin HL (100–200 mesh) Novabiochem®	8.55119.0001	1 g	inquire
		8.55119.0005	5 g	inquire
		8.55119.0025	25 g	inquire
855120	Rink Amide AM resin LL (100–200 mesh) Novabiochem®	8.55120.0001	1 g	inquire
		8.55120.0005	5 g	inquire
		8.55120.0025	25 g	inquire
855047	NovaPEG Rink Amide resin Novabiochem®	8.55047.0001	1 g	inquire
		8.55047.0005	5 g	inquire
		8.55047.0025	25 g	inquire
855125	NovaPEG Rink Amide resin LL Novabiochem®	8.55125.0001	1 g	inquire
		8.55125.0005	5 g	inquire
855128	NovaSyn® TGR R resin Novabiochem®	8.55128.0001	1 g	inquire
		8.55128.0005	5 g	inquire
855130	Rink Amide AM resin (100–200 mesh) Novabiochem®	8.55130.0001	1 g	inquire
		8.55130.0005	5 g	inquire
		8.55130.0025	25 g	inquire
855008	Sieber Amide resin Novabiochem®	8.55008.0001	1 g	inquire
		8.55008.0005	5 g	inquire
		8.55008.0025	25 g	inquire
855013	NovaSyn®TG Sieber resin Novabiochem®	8.55013.0001	1 g	inquire
		8.55013.0005	5 g	inquire
		8.55013.0025	25 g	inquire
855102	{3-[(Ethyl-Fmoc-amino)methyl]-indol-1-yl}-acetyl AM resin Novabiochem®	8.55102.0001	1 g	inquire
		8.55102.0005	5 g	inquire
		8.55102.0025	25 g	inquire
855116	{3-[(Methyl-Fmoc-amino)-methyl]-indol-1-yl}-acetyl AM resin Novabiochem®	8.55116.0001	1 g	inquire
		8.55116.0005	5 g	inquire
		8.55116.0025	25 g	inquire
855117	Hydroxylamine Wang resin Novabiochem®	8.55117.0005	5 g	inquire
		8.55117.0025	25 g	inquire
		8.55117.0100	100 g	inquire
855037	4-Fmoc-hydrazinobenzoyl AM NovaGel™ Novabiochem®	8.55037.0001	1 g	inquire
		8.55037.0005	5 g	inquire
		8.55037.0025	25 g	inquire
855074	Weinreb AM resin Novabiochem®	8.55074.0001	1 g	inquire
		8.55074.0005	5 g	inquire
		8.55074.0025	25 g	inquire
855038	4-Sulfamylbutyryl AM NovaGel Novabiochem®	8.55038.0001	1 g	inquire
		8.55038.0005	5 g	inquire
855021	4-Sulfamylbutyryl AM resin Novabiochem®	8.55021.0001	1 g	inquire
		8.55021.0005	5 g	inquire
		8.55021.0025	25 g	inquire
855044	4-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.55044.0001	1 g	inquire
		8.55044.0005	5 g	inquire
855080	4-Sulfamylbenzoyl AM resin (100–200 mesh) Novabiochem®	8.55080.0001	1 g	inquire
		8.55080.0005	5 g	inquire
		8.55080.0025	25 g	inquire
855081	4-Sulfamylbenzoyl NovaSyn® TG resin Novabiochem®	8.55081.0001	1 g	inquire
		8.55081.0005	5 g	inquire
		8.55081.0025	25 g	inquire
855131	Dawson Dbz AM resin (100–200 mesh) 3-(Fmoc-amino)-4-aminobenzoyl AM resin (100–200 mesh) Novabiochem®	8.55131.0001	1 g	inquire
		8.55131.0005	5 g	inquire
		8.55131.0025	25 g	inquire
855149	Rink Amide Spheri Tide™ resin Novabiochem®	8.55149.0001	1 g	inquire
		8.55149.0005	5 g	inquire
		8.55149.0025	25 g	inquire

# Resins for Solid Phase Organic Chemistry

## NH<sub>2</sub>, NH<sub>2</sub>NH functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855136	PAL-NovaPEG resin Novabiochem®	8.55136.0001	1 g	<a href="#">inquire</a>
		8.55136.0005	5 g	<a href="#">inquire</a>
855152	SEA-PS resin Novabiochem®	8.55152.0001	1 g	<a href="#">inquire</a>
		8.55152.0005	5 g	<a href="#">inquire</a>
856194	H-Gln(Trt)-2-CITrt resin Novabiochem®	8.56194.0001	1 g	<a href="#">inquire</a>
		8.56194.0005	5 g	<a href="#">inquire</a>

## OH functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855075	Wang resin VHL (100-200 mesh) Novabiochem®	8.55075.0005	5 g	<a href="#">inquire</a>
		8.55075.0025	25 g	<a href="#">inquire</a>
		8.55075.0100	100 g	<a href="#">inquire</a>
855094	Trichloroacetimidate Wang resin Novabiochem®	8.55094.0001	1 g	<a href="#">inquire</a>
		8.55094.0005	5 g	<a href="#">inquire</a>
		8.55094.0025	25 g	<a href="#">inquire</a>
855067	NovaSyn® TG HMP resin Novabiochem®	8.55067.0001	1 g	<a href="#">inquire</a>
		8.55067.0005	5 g	<a href="#">inquire</a>
		8.55067.0025	25 g	<a href="#">inquire</a>
855005	NovaSyn®TGA resin (90 µm) Novabiochem®	8.55005.0001	1 g	<a href="#">inquire</a>
		8.55005.0005	5 g	<a href="#">inquire</a>
		8.55005.0025	25 g	<a href="#">inquire</a>
855071	NovaSyn® TGA resin (130 µm) Novabiochem®	8.55071.0001	1 g	<a href="#">inquire</a>
		8.55071.0005	5 g	<a href="#">inquire</a>
		8.55071.0025	25 g	<a href="#">inquire</a>
855085	HMPA-NovaGel™ Novabiochem®	8.55085.0001	1 g	<a href="#">inquire</a>
		8.55085.0005	5 g	<a href="#">inquire</a>
		8.55085.0025	25 g	<a href="#">inquire</a>
855066	HMPA-PEGA resin Novabiochem®	8.55066.0001	1 g	<a href="#">inquire</a>
		8.55066.0005	5 g	<a href="#">inquire</a>
855048	Wang resin co. (100-200 mesh) Novabiochem®	8.55048.0005	5 g	<a href="#">inquire</a>
		8.55048.0025	25 g	<a href="#">inquire</a>
855122	NovaPEG Wang resin Novabiochem®	8.55122.0001	1 g	<a href="#">inquire</a>
		8.55122.0005	5 g	<a href="#">inquire</a>
		8.55122.0025	25 g	<a href="#">inquire</a>
855127	NovaSyn® TGR HMP resin Novabiochem®	8.55127.0001	1 g	<a href="#">inquire</a>
		8.55127.0005	5 g	<a href="#">inquire</a>
855002	Wang resin (100-200 mesh) Novabiochem®	8.55002.0005	5 g	<a href="#">inquire</a>
		8.55002.0025	25 g	<a href="#">inquire</a>
		8.55002.0100	100 g	<a href="#">inquire</a>
855060	Rink Acid resin (100-200 mesh) Novabiochem®	8.55060.0001	1 g	<a href="#">inquire</a>
		8.55060.0005	5 g	<a href="#">inquire</a>
		8.55060.0025	25 g	<a href="#">inquire</a>
855061	HMPB-MBHA resin Novabiochem®	8.55061.0001	1 g	<a href="#">inquire</a>
		8.55061.0005	5 g	<a href="#">inquire</a>
855124	NovaPEG HMPB resin Novabiochem®	8.55124.0001	1 g	<a href="#">inquire</a>
		8.55124.0005	5 g	<a href="#">inquire</a>
855064	NovaSyn® TG hydroxy resin Novabiochem®	8.55064.0001	1 g	<a href="#">inquire</a>
		8.55064.0005	5 g	<a href="#">inquire</a>
		8.55064.0025	25 g	<a href="#">inquire</a>
855068	Hydroxymethyl polystyrene (100-200 mesh), 1% DVB Novabiochem®	8.55068.0005	5 g	<a href="#">inquire</a>
		8.55068.0025	25 g	<a href="#">inquire</a>
		8.55068.0100	100 g	<a href="#">inquire</a>
855062	NovaSyn® TG HMBA resin Novabiochem®	8.55062.0001	1 g	<a href="#">inquire</a>
		8.55062.0005	5 g	<a href="#">inquire</a>
		8.55062.0025	25 g	<a href="#">inquire</a>
855086	HMBA-NovaGel™ Novabiochem®	8.55086.0001	1 g	<a href="#">inquire</a>
		8.55086.0005	5 g	<a href="#">inquire</a>
		8.55086.0025	25 g	<a href="#">inquire</a>
855018	HMBA-AM resin Novabiochem®	8.55018.0001	1 g	<a href="#">inquire</a>
		8.55018.0005	5 g	<a href="#">inquire</a>
		8.55018.0025	25 g	<a href="#">inquire</a>
855070	HMBA-PEGA resin Novabiochem®	8.55070.0001	1 g	<a href="#">inquire</a>
		8.55070.0005	5 g	<a href="#">inquire</a>

# Resins for Solid Phase Organic Chemistry

## OH functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855089	Oxime resin LL (100–200 mesh) Novabiochem®	8.55089.0001	1 g	<a href="#">inquire</a>
		8.55089.0005	5 g	<a href="#">inquire</a>
855090	Oxime resin HL (100–200 mesh) Novabiochem®	8.55090.0001	1 g	<a href="#">inquire</a>
		8.55090.0005	5 g	<a href="#">inquire</a>
855150	HMPA SpheriTide™ resin Novabiochem®	8.55150.0001	1 g	<a href="#">inquire</a>
		8.55150.0005	5 g	<a href="#">inquire</a>
		8.55150.0025	25 g	<a href="#">inquire</a>

## SH functionalized resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855096	Mercaptomethyl polystyrene Novabiochem®	8.55096.0005	5 g	<a href="#">inquire</a>
		8.55096.0025	25 g	<a href="#">inquire</a>

## Silylalkyl resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855039	(4-Methoxyphenyl)diisopropylsilylpropyl polystyrene Novabiochem®	8.55039.0001	1 g	<a href="#">inquire</a>
		8.55039.0005	5 g	<a href="#">inquire</a>
		8.55039.0025	25 g	<a href="#">inquire</a>

## Pre-loaded Resins

### Amino acids attached to 2-chlorotrityl resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856055	H-Ala-2-ClTrt resin Novabiochem®	8.56055.0001	1 g	inquire
		8.56055.0005	5 g	inquire
856142	H-B-Ala-2-ClTrt resin Novabiochem®	8.56142.0001	1 g	inquire
		8.56142.0005	5 g	inquire
856067	H-Arg(Pbf)-2-ClTrt resin Novabiochem®	8.56067.0001	1 g	inquire
		8.56067.0005	5 g	inquire
856140	H-Asn-2-ClTrt resin Novabiochem®	8.56140.0001	1 g	inquire
		8.56140.0005	5 g	inquire
856065	H-Asp(OtBu)-2-ClTrt resin Novabiochem®	8.56065.0001	1 g	inquire
		8.56065.0005	5 g	inquire
856143	H-Cys(Acm)-2-ClTrt resin Novabiochem®	8.56143.0001	1 g	inquire
		8.56143.0005	5 g	inquire
856061	H-Cys(Trt)-2-ClTrt resin Novabiochem®	8.56061.0001	1 g	inquire
		8.56061.0005	5 g	inquire
856063	H-Glu(OtBu)-2-ClTrt resin Novabiochem®	8.56063.0001	1 g	inquire
		8.56063.0005	5 g	inquire
856053	H-Gly-2-ClTrt resin Novabiochem®	8.56053.0001	1 g	inquire
		8.56053.0005	5 g	inquire
856056	H-His(Trt)-2-ClTrt resin Novabiochem®	8.56056.0001	1 g	inquire
		8.56056.0005	5 g	inquire
856136	H-Ile-2-ClTrt resin Novabiochem®	8.56136.0001	1 g	inquire
		8.56136.0005	5 g	inquire
856060	H-Leu-2-ClTrt resin Novabiochem®	8.56060.0001	1 g	inquire
		8.56060.0005	5 g	inquire
856054	H-Lys(Boc)-2-ClTrt resin Novabiochem®	8.56054.0001	1 g	inquire
		8.56054.0005	5 g	inquire
856138	H-Met-2-ClTrt resin Novabiochem®	8.56138.0001	1 g	inquire
		8.56138.0005	5 g	inquire
856059	H-Phe-2-ClTrt resin Novabiochem®	8.56059.0001	1 g	inquire
		8.56059.0005	5 g	inquire
856057	H-Pro-2-ClTrt resin Novabiochem®	8.56057.0001	1 g	inquire
		8.56057.0005	5 g	inquire
856064	H-Ser(tBu)-2-ClTrt resin Novabiochem®	8.56064.0001	1 g	inquire
		8.56064.0005	5 g	inquire
856062	H-Thr(tBu)-2-ClTrt resin Novabiochem®	8.56062.0001	1 g	inquire
		8.56062.0005	5 g	inquire
856141	H-Trp(Boc)-2-ClTrt resin Novabiochem®	8.56141.0001	1 g	inquire
		8.56141.0005	5 g	inquire
856066	H-Tyr(tBu)-2-ClTrt resin Novabiochem®	8.56066.0001	1 g	inquire
		8.56066.0005	5 g	inquire
856058	H-Val-2-ClTrt resin Novabiochem®	8.56058.0001	1 g	inquire
		8.56058.0005	5 g	inquire
856195	H-Asn(Trt)-2-ClTrt resin Novabiochem®	8.56195.0001	1 g	inquire
		8.56195.0005	5 g	inquire

### Amino alcohols attached to 2-chlorotrityl resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856088	Glycinol 2-chlorotrityl resin Novabiochem®	8.56088.0001	1 g	inquire
		8.56088.0005	5 g	inquire
		8.56088.0025	25 g	inquire
856098	O-t-Butylthreoninol 2-chlorotrityl resin Novabiochem®	8.56098.0001	1 g	inquire
		8.56098.0005	5 g	inquire
		8.56098.0025	25 g	inquire

### Acids attached to resins

Cat.No.	Designation	Ord.No.	Quantity	Price
856096	Bromoacetic acid 2-chlorotrityl resin Novabiochem®	8.56096.0001	1 g	inquire
		8.56096.0005	5 g	inquire
		8.56096.0025	25 g	inquire

## Amino aldehydes attached to H-Thr-Gly-NovaSyn® TG resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856071	H-Leu-H NovaSyn® TG resin Novabiochem®	8.56071.0001	1 g	inquire
		8.56071.0005	5 g	inquire
856144	H-Phe-H NovaSyn® TG resin Novabiochem®	8.56144.0001	1 g	inquire
		8.56144.0005	5 g	inquire
856072	H-Asp(OtBu)-H NovaSyn® TG resin Novabiochem®	8.56072.0001	1 g	inquire
		8.56072.0005	5 g	inquire
856073	H-Arg(Boc)2-H NovaSyn® TG resin Novabiochem®	8.56073.0001	1 g	inquire
		8.56073.0005	5 g	inquire
856145	H-Val-H NovaSyn TG resin Novabiochem®	8.56145.0001	1 g	inquire
		8.56145.0005	5 g	inquire

## Amino thiols attached to 2-chlorotrityl resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856000	Cysteamine 2-chlorotrityl resin Novabiochem®	8.56000.0001	1 g	inquire
		8.56000.0005	5 g	inquire
		8.56000.0025	25 g	inquire

## Amino thiols attached to 4-methoxytrityl resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856095	4-Aminobutanethiol 4-methoxytrityl resin Novabiochem®	8.56095.0001	1 g	inquire
		8.56095.0005	5 g	inquire
		8.56095.0025	25 g	inquire
856087	Cysteamine 4-methoxytrityl resin Novabiochem®	8.56087.0001	1 g	inquire
		8.56087.0005	5 g	inquire
		8.56087.0025	25 g	inquire

## Diamines attached to trityl resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856093	Bis-(2-aminoethyl)-ether trityl resin Novabiochem®	8.56093.0001	1 g	inquire
		8.56093.0005	5 g	inquire
		8.56093.0025	25 g	inquire
856097	O-Bis-(aminoethyl)ethylene glycol trityl resin Novabiochem®	8.56097.0001	1 g	inquire
		8.56097.0005	5 g	inquire
		8.56097.0025	25 g	inquire
856092	1,4-Bis-(aminomethyl)-benzene trityl resin Novabiochem®	8.56092.0001	1 g	inquire
		8.56092.0005	5 g	inquire
		8.56092.0025	25 g	inquire
856094	1,3-Bis-(aminomethyl)-benzene trityl resin Novabiochem®	8.56094.0001	1 g	inquire
		8.56094.0005	5 g	inquire
		8.56094.0025	25 g	inquire
856085	1,4-Diaminobutane trityl resin Novabiochem®	8.56085.0001	1 g	inquire
		8.56085.0005	5 g	inquire
		8.56085.0025	25 g	inquire
856084	1,2-Diaminoethane trityl resin Novabiochem®	8.56084.0001	1 g	inquire
		8.56084.0005	5 g	inquire
		8.56084.0025	25 g	inquire
856086	1,6-Diaminohexane trityl resin Novabiochem®	8.56086.0001	1 g	inquire
		8.56086.0005	5 g	inquire
		8.56086.0025	25 g	inquire
856090	1,5-Diaminopentane trityl resin Novabiochem®	8.56090.0001	1 g	inquire
		8.56090.0005	5 g	inquire
		8.56090.0025	25 g	inquire
856089	1,3-Diaminopropane trityl resin Novabiochem®	8.56089.0001	1 g	inquire
		8.56089.0005	5 g	inquire
		8.56089.0025	25 g	inquire
856091	Piperazine trityl resin Novabiochem®	8.56091.0001	1 g	inquire
		8.56091.0005	5 g	inquire
		8.56091.0025	25 g	inquire

# Pre-loaded Resins

## N- $\alpha$ -Fmoc protected amino acids attached to NovaSyn® TGA resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856026	Fmoc-Ala-NovaSyn® TGA Novabiochem®	8.56026.0001	1 g	<a href="#">inquire</a>
		8.56026.0005	5 g	<a href="#">inquire</a>
856042	Fmoc-Arg(Pbf)-NovaSyn® TGA Novabiochem®	8.56042.0001	1 g	<a href="#">inquire</a>
		8.56042.0005	5 g	<a href="#">inquire</a>
856039	Fmoc-Asn(Trt)-NovaSyn® TGA Novabiochem®	8.56039.0001	1 g	<a href="#">inquire</a>
		8.56039.0005	5 g	<a href="#">inquire</a>
856027	Fmoc-Asp(OtBu)-NovaSyn® TGA Novabiochem®	8.56027.0001	1 g	<a href="#">inquire</a>
		8.56027.0005	5 g	<a href="#">inquire</a>
856028	Fmoc-Cys(Trt)-NovaSyn® TGA Novabiochem®	8.56028.0001	1 g	<a href="#">inquire</a>
		8.56028.0005	5 g	<a href="#">inquire</a>
856040	Fmoc-Gln(Trt)-NovaSyn® TGA Novabiochem®	8.56040.0001	1 g	<a href="#">inquire</a>
		8.56040.0005	5 g	<a href="#">inquire</a>
856029	Fmoc-Glu(OtBu)-NovaSyn TGA Novabiochem®	8.56029.0001	1 g	<a href="#">inquire</a>
		8.56029.0005	5 g	<a href="#">inquire</a>
856030	Fmoc-Ile-NovaSyn® TGA Novabiochem®	8.56030.0001	1 g	<a href="#">inquire</a>
		8.56030.0005	5 g	<a href="#">inquire</a>
856031	Fmoc-Leu-NovaSyn® TGA Novabiochem®	8.56031.0001	1 g	<a href="#">inquire</a>
		8.56031.0005	5 g	<a href="#">inquire</a>
856032	Fmoc-Lys(Boc)-NovaSyn® TGA Novabiochem®	8.56032.0001	1 g	<a href="#">inquire</a>
		8.56032.0005	5 g	<a href="#">inquire</a>
856033	Fmoc-Met-NovaSyn® TGA Novabiochem®	8.56033.0001	1 g	<a href="#">inquire</a>
		8.56033.0005	5 g	<a href="#">inquire</a>
856034	Fmoc-Phe-NovaSyn® TGA Novabiochem®	8.56034.0001	1 g	<a href="#">inquire</a>
		8.56034.0005	5 g	<a href="#">inquire</a>
856035	Fmoc-Ser(tBu)-NovaSyn® TGA Novabiochem®	8.56035.0001	1 g	<a href="#">inquire</a>
		8.56035.0005	5 g	<a href="#">inquire</a>
856036	Fmoc-Thr(tBu)-NovaSyn® TGA Novabiochem®	8.56036.0001	1 g	<a href="#">inquire</a>
		8.56036.0005	5 g	<a href="#">inquire</a>
856037	Fmoc-Tyr(tBu)-NovaSyn® TGA Novabiochem®	8.56037.0001	1 g	<a href="#">inquire</a>
		8.56037.0005	5 g	<a href="#">inquire</a>
856038	Fmoc-Val-NovaSyn® TGA Novabiochem®	8.56038.0001	1 g	<a href="#">inquire</a>
		8.56038.0005	5 g	<a href="#">inquire</a>
856041	Fmoc-Trp(Boc)-NovaSyn® TGA Novabiochem®	8.56041.0001	1 g	<a href="#">inquire</a>
		8.56041.0005	5 g	<a href="#">inquire</a>
856025	Fmoc-Asp(NovaSyn® TGA)-OAll Novabiochem®	8.56025.0001	1 g	<a href="#">inquire</a>
		8.56025.0005	5 g	<a href="#">inquire</a>
856043	Fmoc-Glu(NovaSyn®TGA)-OAll Novabiochem®	8.56043.0001	1 g	<a href="#">inquire</a>
		8.56043.0005	5 g	<a href="#">inquire</a>
856125	Fmoc-Ala-NovaSyn® TGT Novabiochem®	8.56125.0001	1 g	<a href="#">inquire</a>
		8.56125.0005	5 g	<a href="#">inquire</a>
856126	Fmoc-Asn(Trt)-NovaSyn® TGT Novabiochem®	8.56126.0001	1 g	<a href="#">inquire</a>
		8.56126.0005	5 g	<a href="#">inquire</a>
856127	Fmoc-Asp(OtBu)-NovaSyn® TGT Novabiochem®	8.56127.0001	1 g	<a href="#">inquire</a>
		8.56127.0005	5 g	<a href="#">inquire</a>
856044	Fmoc-Cys(Trt)-NovaSyn® TGT Novabiochem®	8.56044.0001	1 g	<a href="#">inquire</a>
		8.56044.0005	5 g	<a href="#">inquire</a>
856128	Fmoc-Gln(Trt)-NovaSyn® TGT Novabiochem®	8.56128.0001	1 g	<a href="#">inquire</a>
		8.56128.0005	5 g	<a href="#">inquire</a>
856129	Fmoc-Glu(OtBu)-NovaSyn® TGT Novabiochem®	8.56129.0001	1 g	<a href="#">inquire</a>
		8.56129.0005	5 g	<a href="#">inquire</a>
856045	Fmoc-Gly-NovaSyn® TGT Novabiochem®	8.56045.0001	1 g	<a href="#">inquire</a>
		8.56045.0005	5 g	<a href="#">inquire</a>
856046	Fmoc-His(Trt)-NovaSyn® TGT Novabiochem®	8.56046.0001	1 g	<a href="#">inquire</a>
		8.56046.0005	5 g	<a href="#">inquire</a>
856130	Fmoc-Ile-NovaSyn TGT Novabiochem®	8.56130.0001	1 g	<a href="#">inquire</a>
		8.56130.0005	5 g	<a href="#">inquire</a>
856047	Fmoc-Leu-NovaSyn® TGT Novabiochem®	8.56047.0001	1 g	<a href="#">inquire</a>
		8.56047.0005	5 g	<a href="#">inquire</a>
856048	Fmoc-Lys(Boc)-NovaSyn® TGT Novabiochem®	8.56048.0001	1 g	<a href="#">inquire</a>
		8.56048.0005	5 g	<a href="#">inquire</a>



N- $\alpha$ -Fmoc protected amino acids attached to NovaSyn® TGA resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856131	Fmoc-Met-NovaSyn® TGT Novabiochem®	8.56131.0001	1 g	inquire
		8.56131.0005	5 g	inquire
856132	Fmoc-Phe-NovaSyn® TGT Novabiochem®	8.56132.0001	1 g	inquire
		8.56132.0005	5 g	inquire
856049	Fmoc-Pro-NovaSyn® TGT Novabiochem®	8.56049.0001	1 g	inquire
		8.56049.0005	5 g	inquire
856133	Fmoc-Ser(tBu)-NovaSyn® TGT Novabiochem®	8.56133.0001	1 g	inquire
		8.56133.0005	5 g	inquire
856050	Fmoc-Thr(tBu)-NovaSyn® TGT Novabiochem®	8.56050.0001	1 g	inquire
		8.56050.0005	5 g	inquire
856134	Fmoc-Trp-NovaSyn® TGT	8.56134.0001	1 g	inquire
		8.56134.0005	5 g	inquire
856135	Fmoc-Tyr(tBu)-NovaSyn TGT Novabiochem®	8.56135.0001	1 g	inquire
		8.56135.0005	5 g	inquire
856051	Fmoc-Val-NovaSyn® TGT Novabiochem®	8.56051.0001	1 g	inquire
		8.56051.0005	5 g	inquire
856052	Fmoc-Arg(Pbf)-NovaSyn® TGT Novabiochem®	8.56052.0001	1 g	inquire
		8.56052.0005	5 g	inquire
856190	Fmoc-Trp(Boc)-NovaSyn® TGT resin Novabiochem®	8.56190.0001	1 g	inquire
		8.56190.0005	5 g	inquire

## Amino acids attached to sulfamylbutyryl resins

Cat.No.	Designation	Ord.No.	Quantity	Price
856068	H-Gly-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56068.0001	1 g	inquire
		8.56068.0005	5 g	inquire
856069	H-Ala-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56069.0001	1 g	inquire
		8.56069.0005	5 g	inquire
856070	H-Gln(Trt)-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56070.0001	1 g	inquire
		8.56070.0005	5 g	inquire
856076	H-Ile-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56076.0001	1 g	inquire
		8.56076.0005	5 g	inquire
856077	H-Leu-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56077.0001	1 g	inquire
		8.56077.0005	5 g	inquire
856075	H-Val-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56075.0001	1 g	inquire
		8.56075.0005	5 g	inquire
856074	H-Lys(Boc)-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56074.0001	1 g	inquire
		8.56074.0005	5 g	inquire
856078	H-Asn(Trt)-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56078.0001	1 g	inquire
		8.56078.0005	5 g	inquire
856079	H-Phe-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56079.0001	1 g	inquire
		8.56079.0005	5 g	inquire
856080	H-Thr(tBu)-Sulfamylbutyryl NovaSyn® TG resin Novabiochem®	8.56080.0001	1 g	inquire
		8.56080.0005	5 g	inquire

N- $\alpha$ -Fmoc protected amino acids attached to Wang resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856100	Fmoc- $\beta$ -Ala-Wang resin (100-200 mesh) Novabiochem®	8.56100.0001	1 g	inquire
		8.56100.0005	5 g	inquire
856001	Fmoc-Ala-Wang resin (100-200 mesh) Novabiochem®	8.56001.0001	1 g	inquire
		8.56001.0005	5 g	inquire
856150	Fmoc-D-Ala-Wang resin Novabiochem®	8.56150.0001	1 g	inquire
		8.56150.0005	5 g	inquire
856002	Fmoc-Arg(Pbf)-Wang resin (100-200 mesh) Novabiochem®	8.56002.0001	1 g	inquire
		8.56002.0005	5 g	inquire
856003	Fmoc-Arg(Pmc)-Wang resin (100-200 mesh) Novabiochem®	8.56003.0001	1 g	inquire
		8.56003.0005	5 g	inquire
856004	Fmoc-Asn(Trt)-Wang resin (100-200 mesh) Novabiochem®	8.56004.0001	1 g	inquire
		8.56004.0005	5 g	inquire

# Pre-loaded Resins

## N- $\alpha$ -Fmoc protected amino acids attached to Wang resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856155	Fmoc-D-Asn(Trt)-Wang resin Novabiochem®	8.56155.0001	1 g	<a href="#">inquire</a>
		8.56155.0005	5 g	<a href="#">inquire</a>
856005	Fmoc-Asp(OtBu)-Wang resin (100-200 mesh) Novabiochem®	8.56005.0001	1 g	<a href="#">inquire</a>
		8.56005.0005	5 g	<a href="#">inquire</a>
856159	Fmoc-D-Asp(OtBu)-Wang resin Novabiochem®	8.56159.0001	1 g	<a href="#">inquire</a>
		8.56159.0005	5 g	<a href="#">inquire</a>
856101	Fmoc-Cys(Acm)-Wang resin (100-200 mesh) Novabiochem®	8.56101.0001	1 g	<a href="#">inquire</a>
		8.56101.0005	5 g	<a href="#">inquire</a>
856157	Fmoc-D-Cys(Acm)-Wang resin Novabiochem®	8.56157.0001	1 g	<a href="#">inquire</a>
		8.56157.0005	5 g	<a href="#">inquire</a>
856102	Fmoc-Cys(tButhio)-Wang resin (100-200 mesh) Novabiochem®	8.56102.0001	1 g	<a href="#">inquire</a>
		8.56102.0005	5 g	<a href="#">inquire</a>
856006	Fmoc-Cys(Trt)-Wang resin (100-200 mesh) Novabiochem®	8.56006.0001	1 g	<a href="#">inquire</a>
		8.56006.0005	5 g	<a href="#">inquire</a>
856007	Fmoc-Gln(Trt)-Wang resin (100-200 mesh) Novabiochem®	8.56007.0001	1 g	<a href="#">inquire</a>
		8.56007.0005	5 g	<a href="#">inquire</a>
856156	Fmoc-D-Gln(Trt)-Wang resin Novabiochem®	8.56156.0001	1 g	<a href="#">inquire</a>
		8.56156.0005	5 g	<a href="#">inquire</a>
856008	Fmoc-Glu(OtBu)-Wang resin (100-200 mesh) Novabiochem®	8.56008.0001	1 g	<a href="#">inquire</a>
		8.56008.0005	5 g	<a href="#">inquire</a>
856158	Fmoc-D-Glu(OtBu)-Wang resin Novabiochem®	8.56158.0001	1 g	<a href="#">inquire</a>
		8.56158.0005	5 g	<a href="#">inquire</a>
856009	Fmoc-Gly-Wang resin (100-200 mesh) Novabiochem®	8.56009.0001	1 g	<a href="#">inquire</a>
		8.56009.0005	5 g	<a href="#">inquire</a>
856010	Fmoc-His(Trt)-Wang resin (100-200 mesh) Novabiochem®	8.56010.0001	1 g	<a href="#">inquire</a>
		8.56010.0005	5 g	<a href="#">inquire</a>
856011	Fmoc-Ile-Wang resin (100-200 mesh) Novabiochem®	8.56011.0001	1 g	<a href="#">inquire</a>
		8.56011.0005	5 g	<a href="#">inquire</a>
856012	Fmoc-Leu-Wang resin (100-200 mesh) Novabiochem®	8.56012.0001	1 g	<a href="#">inquire</a>
		8.56012.0005	5 g	<a href="#">inquire</a>
856148	Fmoc-D-Leu-Wang resin Novabiochem®	8.56148.0001	1 g	<a href="#">inquire</a>
		8.56148.0005	5 g	<a href="#">inquire</a>
856013	Fmoc-Lys(Boc)-Wang resin (100-200 mesh) Novabiochem®	8.56013.0001	1 g	<a href="#">inquire</a>
		8.56013.0005	5 g	<a href="#">inquire</a>
856153	Fmoc-D-Lys(Boc)-Wang resin Novabiochem®	8.56153.0001	1 g	<a href="#">inquire</a>
		8.56153.0005	5 g	<a href="#">inquire</a>
856021	Fmoc-Lys(Mtt)-Wang resin (100-200 mesh) Novabiochem®	8.56021.0001	1 g	<a href="#">inquire</a>
		8.56021.0005	5 g	<a href="#">inquire</a>
856014	Fmoc-Met-Wang resin (100-200 mesh) Novabiochem®	8.56014.0001	1 g	<a href="#">inquire</a>
		8.56014.0005	5 g	<a href="#">inquire</a>
856151	Fmoc-D-Met-Wang resin Novabiochem®	8.56151.0001	1 g	<a href="#">inquire</a>
		8.56151.0005	5 g	<a href="#">inquire</a>
856015	Fmoc-Phe-Wang resin (100-200 mesh) Novabiochem®	8.56015.0001	1 g	<a href="#">inquire</a>
		8.56015.0005	5 g	<a href="#">inquire</a>
856149	Fmoc-D-Phe-Wang resin Novabiochem®	8.56149.0001	1 g	<a href="#">inquire</a>
		8.56149.0005	5 g	<a href="#">inquire</a>
856016	Fmoc-Ser(tBu)-Wang resin (100-200 mesh) Novabiochem®	8.56016.0001	1 g	<a href="#">inquire</a>
		8.56016.0005	5 g	<a href="#">inquire</a>
856161	Fmoc-D-Ser(tBu)-Wang resin Novabiochem®	8.56161.0001	1 g	<a href="#">inquire</a>
		8.56161.0005	5 g	<a href="#">inquire</a>
856017	Fmoc-Thr(tBu)-Wang resin (100-200 mesh) Novabiochem®	8.56017.0001	1 g	<a href="#">inquire</a>
		8.56017.0005	5 g	<a href="#">inquire</a>
856160	Fmoc-D-Thr(tBu)-Wang resin Novabiochem®	8.56160.0001	1 g	<a href="#">inquire</a>
		8.56160.0005	5 g	<a href="#">inquire</a>
856018	Fmoc-Trp(Boc)-Wang resin (100-200 mesh) Novabiochem®	8.56018.0001	1 g	<a href="#">inquire</a>
		8.56018.0005	5 g	<a href="#">inquire</a>
856019	Fmoc-Tyr(tBu)-Wang resin (100-200 mesh) Novabiochem®	8.56019.0001	1 g	<a href="#">inquire</a>
		8.56019.0005	5 g	<a href="#">inquire</a>
856154	Fmoc-D-Tyr(tBu)-Wang resin Novabiochem®	8.56154.0001	1 g	<a href="#">inquire</a>
		8.56154.0005	5 g	<a href="#">inquire</a>

N- $\alpha$ -Fmoc protected amino acids attached to Wang resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856020	Fmoc-Val-Wang resin (100-200 mesh) Novabiochem®	8.56020.0001	1 g	inquire
		8.56020.0005	5 g	inquire
856152	Fmoc-D-Val-Wang resin Novabiochem®	8.56152.0001	1 g	inquire
		8.56152.0005	5 g	inquire
856024	Fmoc-Glu(Wang resin)-OAll Novabiochem®	8.56024.0001	1 g	inquire
		8.56024.0005	5 g	inquire
856023	Fmoc-Asp(Wang resin)-OAll (100-200 mesh) Novabiochem®	8.56023.0001	1 g	inquire
		8.56023.0005	5 g	inquire
856022	Fmoc-Glu(Wang resin)-ODmab (100-200 mesh) Novabiochem®	8.56022.0001	1 g	inquire
		8.56022.0005	5 g	inquire
856163	Fmoc-D-Trp(Boc)-Wang resin (100-200 mesh) Novabiochem®	8.56163.0001	1 g	inquire
		8.56163.0005	5 g	inquire
856164	Fmoc-D-Arg(Pbf)-Wang resin (100-200 mesh) Novabiochem®	8.56164.0001	1 g	inquire
		8.56164.0005	5 g	inquire
856146	Fmoc-Asp(Wang-resin)-AMC Novabiochem®	8.56146.0001	1 g	inquire
		8.56146.8500	500 mg	inquire
856147	Fmoc-Lys(carbamate wang resin)-AMC Novabiochem®	8.56147.0001	1 g	inquire
		8.56147.8500	500 mg	inquire
856186	Fmoc-Lys(ivDde)-Wang resin (100-200 mesh) Novabiochem®	8.56186.0001	1 g	inquire
		8.56186.0005	5 g	inquire
856103	Fmoc-Asp(OtBu)-Wang resin LL Novabiochem®	8.56103.0001	1 g	inquire
		8.56103.0005	5 g	inquire
856104	Fmoc-Ala-Wang resin LL Novabiochem®	8.56104.0001	1 g	inquire
		8.56104.0005	5 g	inquire
856105	Fmoc-Arg(Pbf)-Wang resin LL Novabiochem®	8.56105.0001	1 g	inquire
		8.56105.0005	5 g	inquire
856106	Fmoc-Asn(Trt)-Wang resin LL Novabiochem®	8.56106.0001	1 g	inquire
		8.56106.0005	5 g	inquire
856107	Fmoc-Cys(Trt)-Wang resin LL Novabiochem®	8.56107.0001	1 g	inquire
		8.56107.0005	5 g	inquire
856108	Fmoc-Gln(Trt)-Wang resin LL Novabiochem®	8.56108.0001	1 g	inquire
		8.56108.0005	5 g	inquire
856109	Fmoc-Glu(OtBu)-Wang resin LL Novabiochem®	8.56109.0001	1 g	inquire
		8.56109.0005	5 g	inquire
856110	Fmoc-Gly-Wang resin LL Novabiochem®	8.56110.0001	1 g	inquire
		8.56110.0005	5 g	inquire
856111	Fmoc-Ile-Wang resin LL Novabiochem®	8.56111.0001	1 g	inquire
		8.56111.0005	5 g	inquire
856112	Fmoc-Leu-Wang resin LL Novabiochem®	8.56112.0001	1 g	inquire
		8.56112.0005	5 g	inquire
856113	Fmoc-Lys(Boc)-Wang resin LL Novabiochem®	8.56113.0001	1 g	inquire
		8.56113.0005	5 g	inquire
856114	Fmoc-Met-Wang resin LL Novabiochem®	8.56114.0001	1 g	inquire
		8.56114.0005	5 g	inquire
856115	Fmoc-Phe-Wang resin LL Novabiochem®	8.56115.0001	1 g	inquire
		8.56115.0005	5 g	inquire
856116	Fmoc-Ser(tBu)-Wang resin LL Novabiochem®	8.56116.0001	1 g	inquire
		8.56116.0005	5 g	inquire
856117	Fmoc-Thr(tBu)-Wang resin LL Novabiochem®	8.56117.0001	1 g	inquire
		8.56117.0005	5 g	inquire
856118	Fmoc-Trp(Boc)-Wang resin LL Novabiochem®	8.56118.0001	1 g	inquire
		8.56118.0005	5 g	inquire
856119	Fmoc-Tyr(tBu)-Wang resin LL Novabiochem®	8.56119.0001	1 g	inquire
		8.56119.0005	5 g	inquire
856120	Fmoc-Val-Wang resin LL Novabiochem®	8.56120.0001	1 g	inquire
		8.56120.0005	5 g	inquire
856121	Fmoc-Asp(Wang resin LL)-OAll Novabiochem®	8.56121.0001	1 g	inquire
		8.56121.0005	5 g	inquire
856123	Fmoc-Asp(Wang resin LL)-ODmab Novabiochem®	8.56123.0001	1 g	inquire
		8.56123.0005	5 g	inquire

## Pre-loaded Resins

### N- $\alpha$ -Fmoc protected amino acids attached to Wang resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856122	Fmoc-Glu(Wang resin LL)-OAll Novabiochem®	8.56122.0001	1 g	inquire
		8.56122.0005	5 g	inquire
856124	Fmoc-Glu(Wang resin LL)-ODmab Novabiochem®	8.56124.0001	1 g	inquire
		8.56124.0005	5 g	inquire

### Amino acids attached to HMPB NovaPEG resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856166	H-Ala-HMPB NovaPEG resin Novabiochem®	8.56166.0001	1 g	inquire
		8.56166.0005	5 g	inquire
856167	H-Arg(Pbf)-HMPB NovaPEG resin Novabiochem®	8.56167.0001	1 g	inquire
		8.56167.0005	5 g	inquire
856168	H-Asn(Trt)-HMPB NovaPEG resin Novabiochem®	8.56168.0001	1 g	inquire
		8.56168.0005	5 g	inquire
856169	H-Asp(OtBu)-HMPB NovaPEG resin Novabiochem®	8.56169.0001	1 g	inquire
		8.56169.0005	5 g	inquire
856170	H-Cys(Trt)-HMPB NovaPEG resin Novabiochem®	8.56170.0001	1 g	inquire
		8.56170.0005	5 g	inquire
856171	H-Gln(Trt)-HMPB NovaPEG resin Novabiochem®	8.56171.0001	1 g	inquire
		8.56171.0005	5 g	inquire
856172	H-Glu(OtBu)-HMPB NovaPEG resin Novabiochem®	8.56172.0001	1 g	inquire
		8.56172.0005	5 g	inquire
856173	H-Gly-HMPB NovaPEG resin Novabiochem®	8.56173.0001	1 g	inquire
		8.56173.0005	5 g	inquire
856174	H-His(Trt)-HMPB NovaPEG resin Novabiochem®	8.56174.0001	1 g	inquire
		8.56174.0005	5 g	inquire
856175	H-Ile-HMPB NovaPEG resin Novabiochem®	8.56175.0001	1 g	inquire
		8.56175.0005	5 g	inquire
856176	H-Leu-HMPB NovaPEG resin Novabiochem®	8.56176.0001	1 g	inquire
		8.56176.0005	5 g	inquire
856177	H-Lys(Boc)-HMPB NovaPEG resin Novabiochem®	8.56177.0001	1 g	inquire
		8.56177.0005	5 g	inquire
856178	H-Met-HMPB NovaPEG resin Novabiochem®	8.56178.0001	1 g	inquire
		8.56178.0005	5 g	inquire
856179	H-Phe-HMPB NovaPEG resin Novabiochem®	8.56179.0001	1 g	inquire
		8.56179.0005	5 g	inquire
856181	H-Ser(OtBu)-HMPB NovaPEG resin Novabiochem®	8.56181.0001	1 g	inquire
		8.56181.0005	5 g	inquire
856182	H-Thr(OtBu)-HMPB NovaPEG resin Novabiochem®	8.56182.0001	1 g	inquire
		8.56182.0005	5 g	inquire
856183	H-Trp(Boc)-HMPB NovaPEG resin Novabiochem®	8.56183.0001	1 g	inquire
		8.56183.0005	5 g	inquire
856184	H-Tyr(OtBu)-HMPB NovaPEG resin Novabiochem®	8.56184.0001	1 g	inquire
		8.56184.0005	5 g	inquire
856185	H-Val-HMPB NovaPEG resin Novabiochem®	8.56185.0001	1 g	inquire
		8.56185.0005	5 g	inquire

### Amino acids attached to Trt NovaPEG resin

Cat.No.	Designation	Ord.No.	Quantity	Price
856187	H-Cys(Trt)-Trityl NovaPEG resin Novabiochem®	8.56187.0001	1 g	inquire
		8.56187.0005	5 g	inquire
856188	H-His(Trt)-Trityl NovaPEG resin Novabiochem®	8.56188.0001	1 g	inquire
		8.56188.0005	5 g	inquire
856189	H-Pro-Trityl-NovaPEG resin Novabiochem®	8.56189.0001	1 g	inquire
		8.56189.0005	5 g	inquire

## Linkers for solid phase synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
851001	FMOC-RINK LINKER p-[(R,S)- $\alpha$ -[1-(9H-Fluoren-9-yl)-methoxyformamido]-2,4-dimethoxybenzyl]-phenoxyacetic acid Novabiochem®	8.51001.0001	1 g	inquire
		8.51001.0005	5 g	inquire
		8.51001.0025	25 g	inquire
851002	3-Carboxypropanesulfonamide Novabiochem®	8.51002.0001	1 g	inquire
		8.51002.0005	5 g	inquire
		8.51002.0025	25 g	inquire
851049	Hydroxyethyl photolinker Novabiochem®	8.51049.0001	1 g	inquire
		8.51049.0005	5 g	inquire
851043	3-(4-Hydroxymethylphenoxy)propionic acid Novabiochem®	8.51043.0005	5 g	inquire
		8.51043.0025	25 g	inquire
851042	HMBA Novabiochem®	8.51042.0005	5 g	inquire
		8.51042.0025	25 g	inquire
851000	HMPA 4-Hydroxymethylphenoxyacetic acid Novabiochem®	8.51000.0005	5 g	inquire
		8.51000.0025	25 g	inquire
851046	HMPB Novabiochem®	8.51046.0001	1 g	inquire
		8.51046.0005	5 g	inquire
		8.51046.0025	25 g	inquire
851044	3-Methoxy-4-formylphenol Novabiochem®	8.51044.0005	5 g	inquire
		8.51044.0025	25 g	inquire
851003	4-(4-Formyl-3,5-dimethoxyphenoxy)butyric acid Novabiochem®	8.51003.0001	1 g	inquire
		8.51003.0005	5 g	inquire
		8.51003.0025	25 g	inquire
855140	Fmoc-PAL-Linker	8.55140.0001	1 g	inquire
		8.55140.0005	5 g	inquire

## Coupling reagents and additives

Cat.No.	Designation	Ord.No.	Quantity	Price
851004	BOP Benzotriazole-1-yl-oxy-tris-(dimethylamino)-phosphonium hexafluorophosphate Novabiochem®	8.51004.0005	5 g	inquire
		8.51004.0025	25 g	inquire
		8.51004.0100	100 g	inquire
851054	CDI 1,1'-Carbonyldiimidazole Novabiochem®	8.51054.0025	25 g	inquire
		8.51054.0100	100 g	inquire
851055	DMAP 4-(Dimethylamino)pyridine Novabiochem®	8.51055.0025	25 g	inquire
		8.51055.0100	100 g	inquire
851005	DSC N,N'-Disuccinimidyl carbonate Novabiochem®	8.51005.0005	5 g	inquire
		8.51005.0025	25 g	inquire
		8.51005.0100	100 g	inquire
851006	HBTU 2-(1H-Benzotriazole-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate Novabiochem®	8.51006.0005	5 g	inquire
		8.51006.0025	25 g	inquire
		8.51006.0100	100 g	inquire
851056	HOSu Novabiochem®	8.51056.0025	25 g	inquire
		8.51056.0100	100 g	inquire
851011	MSNT Novabiochem®	8.51011.0001	1 g	inquire
		8.51011.0005	5 g	inquire
		8.51011.0025	25 g	inquire
851009	PyBOP Novabiochem®	8.51009.0005	5 g	inquire
		8.51009.0025	25 g	inquire
		8.51009.0100	100 g	inquire
851010	PyBroP Novabiochem®	8.51010.0005	5 g	inquire
		8.51010.0025	25 g	inquire
		8.51010.0100	100 g	inquire
851008	TBTU 2-(1H-Benzotriazole-1-yl)-1,1,3,3-tetramethylaminium tetrafluoroborate Novabiochem®	8.51008.0005	5 g	inquire
		8.51008.0025	25 g	inquire
		8.51008.0100	100 g	inquire
851007	WSC · HCl 1-Ethyl-3-(3'-dimethylaminopropyl)carbodiimide · HCl Novabiochem®	8.51007.0005	5 g	inquire
		8.51007.0025	25 g	inquire
851012	HCTU O-(1H-6-Chlorobenzotriazole-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate Novabiochem®	8.51012.0005	5 g	inquire
		8.51012.0025	25 g	inquire
		8.51012.0100	100 g	inquire
851013	HATU Novabiochem®	8.51013.0005	5 g	inquire
		8.51013.0025	25 g	inquire

# Condensation Reagents and Linkers

## Coupling reagents and additives

Cat.No.	Designation	Ord.No.	Quantity	Price
851086	Oxyrna Pure Novabiochem®	8.51086.0025	25 g	<a href="#">inquire</a>
		8.51086.0100	100 g	<a href="#">inquire</a>
851085	COMU 1-[[1-(Cyano-2-ethoxy-2-oxoethylideneaminoxy) dimethylaminomorpholino] uronium hexafluorophosphate Novabiochem®	8.51085.0005	5 g	<a href="#">inquire</a>
		8.51085.0025	25 g	<a href="#">inquire</a>
		8.51085.0100	100 g	<a href="#">inquire</a>
851087	PyClock 6-Chloro-benzotriazole-1-yloxy-tris-pyrrolidinophosphonium hexafluorophosphate Novabiochem®	8.51087.0005	5 g	<a href="#">inquire</a>
		8.51087.0025	25 g	<a href="#">inquire</a>
		8.51087.0100	100 g	<a href="#">inquire</a>
851088	TOTU Novabiochem®	8.51088.0005	5 g	<a href="#">inquire</a>
		8.51088.0025	25 g	<a href="#">inquire</a>
		8.51088.0100	100 g	<a href="#">inquire</a>
851090	TFFH Tetramethylfluoroformamidinium hexafluorophosphate Novabiochem®	8.51090.0001	1 g	<a href="#">inquire</a>
		8.51090.0005	5 g	<a href="#">inquire</a>
		8.51090.0025	25 g	<a href="#">inquire</a>
851091	DEPBT 3-(Diethoxy-phosphoryloxy)-1,2,3-benzo[d]triazin-4(3H)-one Novabiochem®	8.51091.0005	5 g	<a href="#">inquire</a>
		8.51091.0025	25 g	<a href="#">inquire</a>
		8.51091.0100	100 g	<a href="#">inquire</a>
851095	PyOxim Novabiochem®	8.51095.0005	5 g	<a href="#">inquire</a>
		8.51095.0025	25 g	<a href="#">inquire</a>
		8.51095.0100	100 g	<a href="#">inquire</a>
851206	TSTU	8.51206.0005	5 g	<a href="#">inquire</a>
		8.51206.0025	25 g	<a href="#">inquire</a>

## Reagents for the introduction of protecting groups

Cat.No.	Designation	Ord.No.	Quantity	Price
851061	2-Chlorotryl chloride Novabiochem®	8.51061.0025	25 g	<a href="#">inquire</a>
851060	4-Methyltryl chloride Novabiochem®	8.51060.0025	25 g	<a href="#">inquire</a>
851015	Dde-OH Novabiochem®	8.51015.0005	5 g	<a href="#">inquire</a>
		8.51015.0025	25 g	<a href="#">inquire</a>
		8.51015.0100	100 g	<a href="#">inquire</a>
851062	Dmab-OH Novabiochem®	8.51062.0001	1 g	<a href="#">inquire</a>
		8.51062.0005	5 g	<a href="#">inquire</a>
		8.51062.0025	25 g	<a href="#">inquire</a>
851059	Ddz-hydrazide Novabiochem®	8.51059.0005	5 g	<a href="#">inquire</a>
		8.51059.0025	25 g	<a href="#">inquire</a>
851014	Fmoc-OSu Novabiochem®	8.51014.0005	5 g	<a href="#">inquire</a>
		8.51014.0025	25 g	<a href="#">inquire</a>
		8.51014.0100	100 g	<a href="#">inquire</a>
851016	SAMA-OPfp Novabiochem®	8.51016.0001	1 g	<a href="#">inquire</a>
		8.51016.0005	5 g	<a href="#">inquire</a>
851057	Z(2-Cl)-OSu Novabiochem®	8.51057.0005	5 g	<a href="#">inquire</a>
		8.51057.0025	25 g	<a href="#">inquire</a>
		8.51057.0100	100 g	<a href="#">inquire</a>
851058	Z-OSu Novabiochem®	8.51058.0025	25 g	<a href="#">inquire</a>
		8.51058.0100	100 g	<a href="#">inquire</a>
852259	(9-Fluorenylmethyl) chloroformate Novabiochem®	8.52259.0025	25 g	<a href="#">inquire</a>
		8.52259.0100	100 g	<a href="#">inquire</a>
852261	Di-tert-butyl dicarbonate Novabiochem®	8.52261.0025	25 g	<a href="#">inquire</a>
		8.52261.0100	100 g	<a href="#">inquire</a>
851094	Fmoc-Oxyrna Novabiochem®	8.51094.0005	5 g	<a href="#">inquire</a>
		8.51094.0025	25 g	<a href="#">inquire</a>
851201	4-Nitrophenyl formate	8.51201.0001	1 g	<a href="#">inquire</a>
		8.51201.0005	5 g	<a href="#">inquire</a>
		8.51201.0025	25 g	<a href="#">inquire</a>
851210	1-Acetylimidazole Novabiochem®	8.51210.0005	5 g	<a href="#">inquire</a>
		8.51210.0025	25 g	<a href="#">inquire</a>
		8.51210.0100	100 g	<a href="#">inquire</a>
852345	Fmoc-Gla(OtBu)2-OH	8.52345.8100	100 mg	<a href="#">inquire</a>
		8.52345.8500	500 mg	<a href="#">inquire</a>

## Condensation Reagents and Linkers

### Other reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
851080	Bis-Boc-thiourea Novabiochem®	8.51080.0001	1 g	<a href="#">inquire</a>
		8.51080.0005	5 g	<a href="#">inquire</a>
851097	6-Azido-hexanoic acid Novabiochem®	8.51097.0001	1 g	<a href="#">inquire</a>
		8.51097.0005	5 g	<a href="#">inquire</a>
851018	Fmoc-NCS Novabiochem®	8.51018.0005	5 g	<a href="#">inquire</a>
		8.51018.0025	25 g	<a href="#">inquire</a>



# Resins for Solution Phase Organic Chemistry

## Scavenger resins

Cat.No.	Designation	Ord.No.	Quantity	Price
855109	Sulfonic acid resin MP Novabiochem®	8.55109.0005	5 g	inquire
		8.55109.0025	25 g	inquire
		8.55109.0100	100 g	inquire
855026	4-Benzyloxybenzaldehyde polystyrene HL Novabiochem®	8.55026.0005	5 g	inquire
		8.55026.0025	25 g	inquire
		8.55026.0100	100 g	inquire
855095	N-Methylisatoic anhydride polystyrene HL Novabiochem®	8.55095.0005	5 g	inquire
		8.55095.0025	25 g	inquire
		8.55095.0100	100 g	inquire
855108	MP-anhydride resin EHL Novabiochem®	8.55108.0005	5 g	inquire
		8.55108.0025	25 g	inquire
		8.55108.0100	100 g	inquire
855022	Methylisocyanate polystyrene HL Novabiochem®	8.55022.0005	5 g	inquire
855088	Methylisothiocyanate polystyrene HL Novabiochem®	8.55088.0005	5 g	inquire
		8.55088.0025	25 g	inquire
		8.55088.0100	100 g	inquire
855077	N-(2-Aminoethyl)aminomethyl polystyrene Novabiochem®	8.55077.0005	5 g	inquire
		8.55077.0025	25 g	inquire
		8.55077.0100	100 g	inquire
855076	Aminomethylated polystyrene EHL (200–400 mesh), 2% DVB Novabiochem®	8.55076.0005	5 g	inquire
		8.55076.0025	25 g	inquire
		8.55076.0100	100 g	inquire
855025	N-(2-Mercaptoethyl)aminomethyl polystyrene Novabiochem®	8.55025.0005	5 g	inquire
		8.55025.0025	25 g	inquire
		8.55025.0100	100 g	inquire
855078	Methylthiourea polystyrene (200–400 mesh), 2% DVB Novabiochem®	8.55078.0005	5 g	inquire
		8.55078.0025	25 g	inquire
		8.55078.0100	100 g	inquire
855023	Tris-(2-aminoethyl)-amine polystyrene HL Novabiochem®	8.55023.0005	5 g	inquire
		8.55023.0025	25 g	inquire
		8.55023.0100	100 g	inquire
855091	3-[4-(Tritylmercapto)phenyl]propionyl AM resin Novabiochem®	8.55091.0005	5 g	inquire
		8.55091.0025	25 g	inquire
855096	Mercaptomethyl polystyrene Novabiochem®	8.55096.0005	5 g	inquire
		8.55096.0025	25 g	inquire
855110	N'-N-Diethanolaminomethyl polystyrene Novabiochem®	8.55110.0001	1 g	inquire
		8.55110.0005	5 g	inquire

## Immobilized reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
855033	TBD-methyl polystyrene Novabiochem®	8.55033.0005	5 g	inquire
		8.55033.0025	25 g	inquire
855024	Morpholinomethyl polystyrene HL Novabiochem®	8.55024.0005	5 g	inquire
		8.55024.0025	25 g	inquire
		8.55024.0100	100 g	inquire
855083	Piperidine-4-carboxylic acid polyamine resin HL (200–400 mesh) Novabiochem®	8.55083.0005	5 g	inquire
		8.55083.0025	25 g	inquire
		8.55083.0100	100 g	inquire
855082	Piperidinomethyl polystyrene HL Novabiochem®	8.55082.0005	5 g	inquire
		8.55082.0025	25 g	inquire
		8.55082.0100	100 g	inquire
855092	Piperazinomethyl polystyrene Novabiochem®	8.55092.0005	5 g	inquire
		8.55092.0025	25 g	inquire
855106	4-(Methylazoamino)phenoxyethyl polystyrene Novabiochem®	8.55106.0001	1 g	inquire
		8.55106.0005	5 g	inquire
		8.55106.0025	25 g	inquire
855113	4-(Benzylaminoazo)phenoxyethyl polystyrene Novabiochem®	8.55113.0001	1 g	inquire
		8.55113.0005	5 g	inquire
		8.55113.0025	25 g	inquire
855100	(Polystyrylmethyl)trimethylammonium metaperiodate Novabiochem®	8.55100.0005	5 g	inquire
		8.55100.0025	25 g	inquire
		8.55100.0100	100 g	inquire

## Immobilized reagents

Cat.No.	Designation	Ord.No.	Quantity	Price
855043	IBX polystyrene Novabiochem®	8.55043.0001	1 g	inquire
		8.55043.0005	5 g	inquire
		8.55043.0025	25 g	inquire
855034	(Polystyrylmethyl)trimethylammonium cyanoborohydride Novabiochem®	8.55034.0005	5 g	inquire
		8.55034.0025	25 g	inquire
		8.55034.0100	100 g	inquire
855041	HOBt-6-carboxamidomethyl polystyrene Novabiochem®	8.55041.0005	5 g	inquire
		8.55041.0025	25 g	inquire
		8.55041.0100	100 g	inquire
855029	N-Cyclohexylcarbodiimide,N'-methyl polystyrene Novabiochem®	8.55029.0005	5 g	inquire
		8.55029.0025	25 g	inquire
		8.55029.0100	100 g	inquire
855036	Ethoxycarbonylazocarboxymethyl polystyrene Novabiochem®	8.55036.0005	5 g	inquire
		8.55036.0025	25 g	inquire
		8.55036.0100	100 g	inquire
855046	IIDQ-polystyrene Novabiochem®	8.55046.0005	5 g	inquire
		8.55046.0025	25 g	inquire
855032	Triphenylphosphine polystyrene Novabiochem®	8.55032.0005	5 g	inquire
		8.55032.0025	25 g	inquire
855105	Di(n-butyl)phenylphosphine polystyrene Novabiochem®	8.55105.0001	1 g	inquire
		8.55105.0005	5 g	inquire
855107	TEMPO polystyrene Novabiochem®	8.55107.0005	5 g	inquire
		8.55107.0025	25 g	inquire
		8.55107.0100	100 g	inquire
855042	Sulfonyl chloride polystyrene Novabiochem®	8.55042.0005	5 g	inquire
		8.55042.0025	25 g	inquire
		8.55042.0100	100 g	inquire

## Activators

Cat.No.	Designation	Ord.No.	Quantity	Price
857000	Activator solution, 0.25M 5-(Ethylthio)-1H-Tetrazole in ACN Novabiochem®	8.57000.0450	450 ml	inquire
			6 x 450 ml	inquire
		8.57000.1000	1 l	inquire
		8.57000.2500	2.5 l	inquire
		8.57000.4000	4 l	inquire
857001	Activator Reagent, 0.3M BMT in ACN Novabiochem®	8.57001.1000	1 l	inquire
		8.57001.2500	2.5 l	inquire
857002	Capping Reagent A, 20% (v/v) n-Methylimidazole in ACN Novabiochem®	8.57002.0500	500 ml	inquire
		8.57002.1000	1 l	inquire
		8.57002.2500	2.5 l	inquire
		8.57002.4000	4 l	inquire
857005	Capping Reagent B1, 40% (v/v) Acetic anhydride in ACN Novabiochem®	8.57005.0200	200 ml	inquire
		8.57005.0500	500 ml	inquire
857006	Capping Reagent B2, 60% (v/v) Lutidine in ACN, Novabiochem®	8.57006.0200	200 ml	inquire
		8.57006.0500	500 ml	inquire
857007	Deblocking Reagent, 3% (v/v) Dichloroacetic acid in Toluene, Novabiochem®	8.57007.1000	1 l	inquire
		8.57007.2500	2.5 l	inquire
		8.57007.4000	4 l	inquire
857008	Oxidizing Reagent, 0,05M Iod in Pyridine, Novabiochem®	8.57008.1000	1 l	inquire
		8.57008.2500	2.5 l	inquire
857010	DEA/ACN Mix, 20% (v/v) DEA in ACN, Novabiochem®	8.57010.0500	500 ml	inquire
857011	Capping Reagent A, Tetrahydrofuran : Acetic Anhydride : Pyridine ( 77:12:11 (w/w/w) Novabiochem®	8.57011.0200	200 ml	inquire
			12 x 200 ml	inquire
		8.57011.0450	450 ml	inquire
		6 x 450 ml	inquire	
857012	Capping Reagent B, 1-Methylimidazol : Tetrahydrofuran (18 : 82 (w/w) Novabiochem®	8.57012.0200	200 ml	inquire
			12 x 200 ml	inquire
		8.57012.0450	450 ml	inquire
			6 x 450 ml	inquire
		8.57012.1000	1 l	inquire
		4 l	inquire	

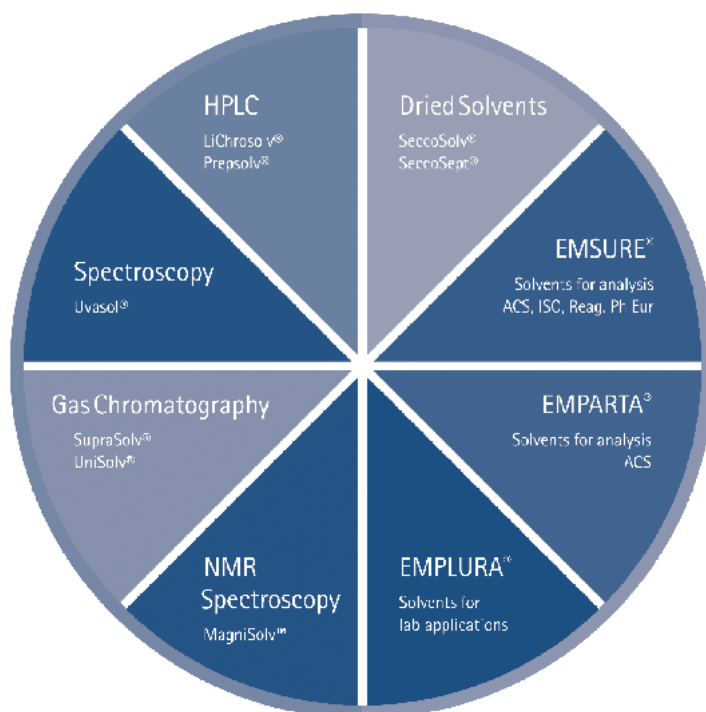
# Resins for Solution Phase Organic Chemistry

## Activators

Cat.No.	Designation	Ord.No.	Quantity	Price
857013	Oxidizing Reagent B, 0,02M iodine in THF : Pyridine : Water (69 22 11(w/w/w) Novabiochem®	8.57013.0200	200 ml	<a href="#">inquire</a>
		8.57013.0450	12 x 200 ml	<a href="#">inquire</a>
			450 ml	<a href="#">inquire</a>
		8.57014.4000	6 x 450 ml	<a href="#">inquire</a>
			4 l	<a href="#">inquire</a>
857014	Deblocking Reagent B, Trichloroacetic Acid : Dichloromethane (2 : 98(w/w) Novabiochem®	8.57014.4000	4 x 4 l	<a href="#">inquire</a>

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# Solvents for Instrumental Analysis

## Solvents for liquid chromatography (HPLC), LiChrosolv®

Cat.No.	Designation	Ord.No.	Quantity	Price	
100020	Acetone for liquid chromatography LiChrosolv®	1.00020.1000	1 l	inquire	
			6 x 1 l	inquire	
		1.00020.2500	2.5 l	inquire	
			4 x 2.5 l	inquire	
		1.00020.4000	4 l	inquire	
		1.00020.5000	5 l	inquire	
			4 x 5 l	inquire	
			10 l	inquire	
100030	Acetonitrile gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur	1.00030.1000	1 l	inquire	
			6 x 1 l	inquire	
		1.00030.2500	2.5 l	inquire	
			4 x 2.5 l	inquire	
		1.00030.4000	4 l	inquire	
		1.00030.5000	5 l	inquire	
			4 x 5 l	inquire	
			10 l	inquire	
			30 l	inquire	
			185 l	inquire	
100029	Acetonitrile hypergrade for LC-MS LiChrosolv®	1.00029.1000	1 l	inquire	
			6 x 1 l	inquire	
		1.00029.2500	2.5 l	inquire	
			4 x 2.5 l	inquire	
			10 l	inquire	
			30 l	inquire	
114291	Acetonitrile isocratic grade for liquid chromatography LiChrosolv®	1.14291.1000	1 l	inquire	
			6 x 1 l	inquire	
		1.14291.2500	2.5 l	inquire	
			4 x 2.5 l	inquire	
		1.14291.4000	4 l	inquire	
		1.14291.5000	5 l	inquire	
			4 x 5 l	inquire	
			10 l	inquire	
			30 l	inquire	
			185 l	inquire	
480672	Acetonitrile with 0.05% (v:v) Trifluoroacetic acid LiChrosolv®	4.80672.2500	2.5 l	inquire	
			4 x 2.5 l	inquire	
480448	Acetonitrile with 0.1% (v:v) trifluoroacetic acid for liquid chromatography LiChrosolv®	4.80448.2500	2.5 l	inquire	
			4.80448.4000	4 l	inquire
			4.80448.9030	30 l	inquire
			4.80448.9185	185 l	inquire
101988	1-Butanol for liquid chromatography LiChrosolv®	1.01988.1000	1 l	inquire	
			1.01988.2500	2.5 l	inquire
101845	tert-Butyl methyl ether for liquid chromatography LiChrosolv®	1.01845.1000	1 l	inquire	
				6 x 1 l	inquire
			1.01845.2500	2.5 l	inquire
				4 x 2.5 l	inquire
			10 l	inquire	
101692	1-Chlorobutane for liquid chromatography LiChrosolv®	1.01692.1000	1 l	inquire	
102444	Chloroform for liquid chromatography LiChrosolv®	1.02444.1000	1 l	inquire	
				6 x 1 l	inquire
			1.02444.2500	2.5 l	inquire
				4 x 2.5 l	inquire
			4 l	inquire	
102827	Cyclohexane for liquid chromatography LiChrosolv®	1.02827.1000	1 l	inquire	
				6 x 1 l	inquire
			1.02827.2500	2.5 l	inquire
			4 x 2.5 l	inquire	
113713	1,2-Dichloroethane for liquid chromatography LiChrosolv®	1.13713.1000	1 l	inquire	
106044	Dichloromethane for liquid chromatography LiChrosolv®	1.06044.1000	1 l	inquire	
				6 x 1 l	inquire
			1.06044.2500	2.5 l	inquire
				4 x 2.5 l	inquire
			1.06044.4000	4 l	inquire
			1.06044.9010	10 l	inquire
			30 l	inquire	
			1.06044.9030	30 l	inquire
103132	1,4-Dioxane for liquid chromatography LiChrosolv®	1.03132.1000	1 l	inquire	
			1.03132.2500	2.5 l	inquire

## Solvents for liquid chromatography (HPLC), LiChrosolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
111727	Ethanol gradient grade for liquid chromatography LiChrosolv®	1.11727.0500	500 ml	inquire
		1.11727.1000	1 l	inquire
			6 x 1 l	inquire
		1.11727.2500	2.5 l	inquire
			4 x 2.5 l	inquire
			4 l	inquire
		1.11727.4000	4 l	inquire
		1.11727.9030	30 l	inquire
100868	Ethyl acetate for liquid chromatography LiChrosolv®	1.00868.1000	1 l	inquire
			6 x 1 l	inquire
		1.00868.2500	2.5 l	inquire
			4 x 2.5 l	inquire
			4 l	inquire
		1.00868.4000	4 l	inquire
		1.00868.9010	10 l	inquire
104390	n-Heptane for liquid chromatography LiChrosolv®	1.04390.1000	1 l	inquire
			6 x 1 l	inquire
		1.04390.2500	2.5 l	inquire
			4 x 2.5 l	inquire
			10 l	inquire
		1.04390.9030	30 l	inquire
104391	n-Hexane for liquid chromatography LiChrosolv®	1.04391.1000	1 l	inquire
			6 x 1 l	inquire
		1.04391.2500	2.5 l	inquire
			4 x 2.5 l	inquire
			4 l	inquire
			5 l	inquire
			10 l	inquire
		1.04391.9030	30 l	inquire
104335	Isohexane for liquid chromatography LiChrosolv®	1.04335.2500	2.5 l	inquire
			4 x 2.5 l	inquire
104717	Isooctane for liquid chromatography LiChrosolv®	1.04717.1000	1 l	inquire
			6 x 1 l	inquire
			2.5 l	inquire
		1.04717.2500	2.5 l	inquire
			4 x 2.5 l	inquire
106018	Methanol for liquid chromatography LiChrosolv®	1.06018.1000	1 l	inquire
			6 x 1 l	inquire
		1.06018.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06018.4000	4 l	inquire
		1.06018.5000	5 l	inquire
			4 x 5 l	inquire
			10 l	inquire
		1.06018.9030	30 l	inquire
		1.06018.9185	185 l	inquire
106007	Methanol gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur	1.06007.1000	1 l	inquire
			6 x 1 l	inquire
		1.06007.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06007.4000	4 l	inquire
		1.06007.5000	5 l	inquire
			4 x 5 l	inquire
			10 l	inquire
		1.06007.9030	30 l	inquire
		1.06007.9185	185 l	inquire
106035	Methanol hypergrade for LC-MS LiChrosolv®	1.06035.1000	1 l	inquire
			6 x 1 l	inquire
		1.06035.2500	2.5 l	inquire
			4 x 2.5 l	inquire
480508	Methanol:Water 30:70 (v:v) LiChrosolv®	4.80508.9030	30 l	inquire
101024	1-Propanol for liquid chromatography LiChrosolv®	1.01024.1000	1 l	inquire
			6 x 1 l	inquire
		1.01024.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01024.4000	4 l	inquire

# Solvents for Instrumental Analysis

## Solvents for liquid chromatography (HPLC), LiChrosolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
101040	2-Propanol gradient grade for liquid chromatography LiChrosolv®	1.01040.1000	1 l	inquire
			6 x 1 l	inquire
		1.01040.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01040.4000	4 l	inquire
		1.01040.5000	5 l	inquire
			4 x 5 l	inquire
			10 l	inquire
	30 l	inquire		
108101	Tetrahydrofuran for liquid chromatography LiChrosolv®	1.08101.1000	1 l	inquire
			6 x 1 l	inquire
		1.08101.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.08101.4000	4 l	inquire
		1.08101.9010	10 l	inquire
	30 l	inquire		
108327	Toluene for liquid chromatography LiChrosolv®	1.08327.1000	1 l	inquire
		1.08327.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.08327.4000	4 l	inquire
115333	Water for chromatography LiChrosolv®	1.15333.1000	1 l	inquire
			6 x 1 l	inquire
		1.15333.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.15333.4000	4 l	inquire
		1.15333.9010	10 l	inquire
		1.15333.9030	30 l	inquire
480170	Water with 0.05% (v:v) trifluoroacetic acid for liquid chromatography LiChrosolv®	4.80170.2500	2.5 l	inquire
		4.80170.4000	4 l	inquire
480112	Water with 0.1% (v:v) trifluoroacetic acid for liquid chromatography LiChrosolv®	4.80112.2500	2.5 l	inquire
		4.80112.4000	4 l	inquire
		4.80112.9030	30 l	inquire

## Solvents, LiChrosolv® for LC-MS

Cat.No.	Designation	Ord.No.	Quantity	Price
100029	Acetonitrile hypergrade for LC-MS LiChrosolv®	1.00029.1000	1 l	inquire
			6 x 1 l	inquire
		1.00029.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00029.9010	10 l	inquire
	30 l	inquire		
106035	Methanol hypergrade for LC-MS LiChrosolv®	1.06035.1000	1 l	inquire
			6 x 1 l	inquire
		1.06035.2500	2.5 l	inquire
			4 x 2.5 l	inquire
115333	Water for chromatography LiChrosolv®	1.15333.1000	1 l	inquire
			6 x 1 l	inquire
		1.15333.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.15333.4000	4 l	inquire
		1.15333.9010	10 l	inquire
		1.15333.9030	30 l	inquire
	185 l	inquire		

## Solvents, LiChrosolv® for Fast Chromatography®

Cat.No.	Designation	Ord.No.	Quantity	Price
100030	Acetonitrile gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur	1.00030.1000	1 l	inquire
			6 x 1 l	inquire
		1.00030.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00030.4000	4 l	inquire
		1.00030.5000	5 l	inquire
			4 x 5 l	inquire
		1.00030.9010	10 l	inquire
		1.00030.9030	30 l	inquire
		1.00030.9185	185 l	inquire



## Solvents, LiChrosolv® for Fast Chromatography®

Cat.No.	Designation	Ord.No.	Quantity	Price
100029	Acetonitrile hypergrade for LC-MS LiChrosolv®	1.00029.1000	1 l	inquire
			6 x 1 l	inquire
		1.00029.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00029.9010	10 l	inquire
		1.00029.9030	30 l	inquire
106007	Methanol gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur	1.06007.1000	1 l	inquire
			6 x 1 l	inquire
		1.06007.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06007.4000	4 l	inquire
		1.06007.5000	5 l	inquire
			4 x 5 l	inquire
		1.06007.9010	10 l	inquire
		1.06007.9030	30 l	inquire
		1.06007.9185	185 l	inquire
106035	Methanol hypergrade for LC-MS LiChrosolv®	1.06035.1000	1 l	inquire
			6 x 1 l	inquire
		1.06035.2500	2.5 l	inquire
			4 x 2.5 l	inquire
115333	Water for chromatography LiChrosolv®	1.15333.1000	1 l	inquire
			6 x 1 l	inquire
		1.15333.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.15333.4000	4 l	inquire
		1.15333.9010	10 l	inquire
		1.15333.9030	30 l	inquire
		1.15333.9185	185 l	inquire

## Solvents for preparative chromatography, Prepsolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
113358	Acetonitrile for preparative chromatography Prepsolv®	1.13358.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.13358.9030	30 l	inquire
		1.13358.9185	185 l	inquire
113353	Ethyl acetate for preparative chromatography Prepsolv®	1.13353.9030	30 l	inquire
104394	n-Hexane for preparative chromatography Prepsolv®	1.04394.9030	30 l	inquire
113351	Methanol for preparative chromatography Prepsolv®	1.13351.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.13351.4000	4 l	inquire
		1.13351.9030	30 l	inquire
		1.13351.9185	185 l	inquire
113350	2-Propanol for preparative chromatography Prepsolv®	1.13350.2500	2.5 l	inquire
			4 x 2.5 l	inquire

## Solvents for gas chromatography via GC-ECD (e.g. pesticide residue analysis), SupraSolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
100012	Acetone for gas chromatography ECD and FID SupraSolv®	1.00012.1000	1 l	inquire
			6 x 1 l	inquire
		1.00012.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00012.4000	4 l	inquire
			4 x 4 l	inquire
		1.00012.9030	30 l	inquire
100017	Acetonitrile for gas chromatography ECD and FID SupraSolv®	1.00017.1000	1 l	inquire
			6 x 1 l	inquire
		1.00017.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00017.4000	4 l	inquire
			4 x 4 l	inquire
101995	tert-Butyl methyl ether for gas chromatography ECD and FID SupraSolv®	1.01995.1000	1 l	inquire
			6 x 1 l	inquire
		1.01995.2500	2.5 l	inquire
			4 x 2.5 l	inquire

# Solvents for Instrumental Analysis

## Solvents for gas chromatography via GC-ECD (e.g. pesticide residue analysis), SupraSolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
102432	Chloroform for gas chromatography ECD and FID SupraSolv®	1.02432.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.02432.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
102817	Cyclohexane for gas chromatography ECD and FID SupraSolv®	1.02817.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.02817.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.02817.4000	4 l	<a href="#">inquire</a>
	4 x 4 l	<a href="#">inquire</a>		
	10 l	<a href="#">inquire</a>		
106054	Dichloromethane for gas chromatography ECD and FID SupraSolv®	1.06054.1000	1 l	<a href="#">inquire</a>
			2.5 l	<a href="#">inquire</a>
		1.06054.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
		1.06054.9010	10 l	<a href="#">inquire</a>
100931	Diethyl ether for gas chromatography ECD and FID SupraSolv®	1.00931.1000	1 l	<a href="#">inquire</a>
		1.00931.2500	2.5 l	<a href="#">inquire</a>
110983	N,N-Dimethylformamide for gas chromatography ECD and FID SupraSolv®	1.10983.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.10983.2500	2.5 l	<a href="#">inquire</a>
	4 x 2.5 l	<a href="#">inquire</a>		
102371	Ethanol for gas chromatography ECD and FID SupraSolv®	1.02371.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.02371.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
	4 l	<a href="#">inquire</a>		
110972	Ethyl acetate for gas chromatography ECD and FID SupraSolv®	1.10972.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.10972.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.10972.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
	10 l	<a href="#">inquire</a>		
	30 l	<a href="#">inquire</a>		
104371	n-Hexane for gas chromatography ECD and FID SupraSolv®	1.04371.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.04371.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.04371.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
	10 l	<a href="#">inquire</a>		
	30 l	<a href="#">inquire</a>		
104340	Isohexane for gas chromatography ECD and FID SupraSolv®	1.04340.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
115440	Isooctane for gas chromatography ECD and FID SupraSolv®	1.15440.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.15440.2500	2.5 l	<a href="#">inquire</a>
	4 x 2.5 l	<a href="#">inquire</a>		
106011	Methanol for gas chromatography ECD and FID SupraSolv®	1.06011.1000	1 l	<a href="#">inquire</a>
			2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.06011.4000	4 l	<a href="#">inquire</a>
100882	n-Pentane for gas chromatography ECD and FID SupraSolv®	1.00882.1000	1 l	<a href="#">inquire</a>
			2.5 l	<a href="#">inquire</a>
		1.00882.4000	4 l	<a href="#">inquire</a>
101772	Petroleum benzine boiling range 40–60°C for gas chromatography ECD and FID SupraSolv®	1.01772.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.01772.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.01772.4000	4 l	<a href="#">inquire</a>
	4 x 4 l	<a href="#">inquire</a>		
	10 l	<a href="#">inquire</a>		
	30 l	<a href="#">inquire</a>		
100998	2-Propanol for gas chromatography ECD and FID SupraSolv®	1.00998.1000	1 l	<a href="#">inquire</a>
			2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>

## Solvents for gas chromatography via GC-ECD (e.g. pesticide residue analysis), SupraSolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
108389	Toluene for gas chromatography ECD and FID SupraSolv®	1.08389.1000	1 l	inquire
		1.08389.2500	2.5 l	inquire
		1.08389.4000	4 l	inquire
		1.08389.9010	10 l	inquire

## Solvents for gas chromatography via GC-MS

Cat.No.	Designation	Ord.No.	Quantity	Price
100789	Ethyl acetate for gas chromatography MS SupraSolv®	1.00789.1000	1 l	inquire
		1.00789.2500	2.5 l	inquire
100667	Cyclohexane for gas chromatography MS SupraSolv®	1.00667.1000	1 l	inquire
		1.00667.2500	2.5 l	inquire
100837	Methanol for gas chromatography MS SupraSolv®	1.00837.1000	1 l	inquire
		1.00837.2500	2.5 l	inquire
100658	Acetone for gas chromatography MS SupraSolv®	1.00658.1000	1 l	inquire
		1.00658.2500	2.5 l	inquire
100665	Acetonitrile for gas chromatography MS SupraSolv®	1.00665.1000	1 l	inquire
		1.00665.2500	2.5 l	inquire
100668	Dichloromethane for gas chromatography MS SupraSolv®	1.00668.1000	1 l	inquire
		1.00668.2500	2.5 l	inquire
100795	n-Hexane for gas chromatography MS SupraSolv®	1.00795.1000	1 l	inquire
		1.00795.2500	2.5 l	inquire
100849	Toluene for gas chromatography MS SupraSolv®	1.00849.1000	1 l	inquire
		1.00849.2500	2.5 l	inquire

## Solvents for organic trace analysis via GC-ECD, GC-FID and GC-MS, UniSolv®

Cat.No.	Designation	Ord.No.	Quantity	Price	
106454	Dichloromethane for organic trace analysis UniSolv®	1.06454.1000	1 l	inquire	
104369	n-Hexane for organic trace analysis UniSolv®	1.04369.1000	1 l	inquire	
			6 x 1 l	inquire	
			2.5 l	inquire	
			4 x 2.5 l	inquire	
			1.07288.1000	1 l	inquire
				6 x 1 l	inquire
2.5 l	inquire				
			4 x 2.5 l	inquire	
			1.16740.1000	1 l	inquire
				6 x 1 l	inquire
2.5 l	inquire				
			4 x 2.5 l	inquire	
			1.08388.1000	1 l	inquire
				2.5 l	inquire

## Solvents for headspace gas chromatography, SupraSolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
100399	N,N-Dimethylacetamide for headspace gas chromatography SupraSolv®	1.00399.0500	0.5 l	inquire
			6 x 0.5 l	inquire
			1 l	inquire
100202	N,N-Dimethylformamide for headspace gas chromatography SupraSolv®	1.00202.0500	0.5 l	inquire
			6 x 0.5 l	inquire
			1 l	inquire
			2.5 l	inquire
101900	Dimethyl sulfoxide for headspace gas chromatography SupraSolv®	1.01900.0500	0.5 l	inquire
			6 x 0.5 l	inquire
			1 l	inquire
			2.5 l	inquire
100577	Water for headspace gas chromatography SupraSolv®	1.00577.1000	1 l	inquire
			2.5 l	inquire

# Solvents for Instrumental Analysis

## Reference substances for gas chromatography

Cat.No.	Designation	Ord.No.	Quantity	Price
109646	Benzene reference substance for gas chromatography	1.09646.0005	5 ml	inquire
109656	D-Camphor reference substance for gas chromatography	1.09656.0005	5 g	inquire
109667	Cyclohexanol reference substance for gas chromatography	1.09667.0005	5 ml	inquire
109603	n-Decane reference substance for gas chromatography	1.09603.0005	5 ml	inquire
109658	n-Dodecane reference substance for gas chromatography	1.09658.0005	5 ml	inquire
109635	Ethylbenzene reference substance for gas chromatography	1.09635.0005	5 ml	inquire
109709	Ethyl methyl ketone reference substance for gas chromatography	1.09709.0005	5 ml	inquire
109604	n-Heptadecane reference substance for gas chromatography	1.09604.0005	5 ml	inquire
109686	n-Heptane reference substance for gas chromatography	1.09686.0005	5 ml	inquire
109605	n-Hexadecane reference substance for gas chromatography	1.09605.0005	5 ml	inquire
109687	n-Hexane reference substance for gas chromatography	1.09687.0005	5 ml	inquire
109643	2-Methylbutane reference substance for gas chromatography	1.09643.0005	5 ml	inquire
109637	Methyl decanoate reference substance for gas chromatography	1.09637.0005	5 ml	inquire
109703	3-Methylhexane reference substance for gas chromatography	1.09703.0005	5 ml	inquire
109693	Methyl laurate reference substance for gas chromatography	1.09693.0005	5 ml	inquire
109754	Methyl margarate reference substance for gas chromatography	1.09754.0005	5 ml	inquire
109736	Methyl myristate reference substance for gas chromatography	1.09736.0005	5 ml	inquire
109633	Methyl octanoate reference substance for gas chromatography	1.09633.0005	5 ml	inquire
109743	Methyl oleate reference substance for gas chromatography	1.09743.0005	5 ml	inquire
109602	Methyl stearate reference substance for gas-chromatography	1.09602.0005	5 g	inquire
109606	n-Octadecane reference substance for gas chromatography	1.09606.0005	5 ml	inquire
109716	n-Octane reference substance for gas chromatography	1.09716.0005	5 ml	inquire
109607	n-Pentadecane reference substance for gas chromatography	1.09607.0005	5 ml	inquire
109719	n-Pentane reference substance for gas chromatography	1.09719.0005	5 ml	inquire
109608	n-Tetradecane reference substance for gas chromatography	1.09608.0005	5 ml	inquire
109768	Toluene reference substance for gas chromatography	1.09768.0005	5 ml	inquire
109609	n-Tridecane reference substance for gas chromatography	1.09609.0005	5 ml	inquire
109794	n-Undecane reference substance for gas chromatography	1.09794.0005	5 ml	inquire
109797	m-Xylene reference substance for gas chromatography	1.09797.0005	5 ml	inquire
109798	o-Xylene reference substance for gas chromatography	1.09798.0005	5 ml	inquire
109799	p-Xylene reference substance for gas chromatography	1.09799.0005	5 ml	inquire

## Solvents for UV, IR and fluorescence spectroscopy, Uvasol®

Cat.No.	Designation	Ord.No.	Quantity	Price
100022	Acetone for spectroscopy Uvasol®	1.00022.0500	500 ml	inquire
			6 x 500 ml	inquire
			2.5 l	inquire
100016	Acetonitrile for spectroscopy Uvasol®	1.00016.1000	1 l	inquire
			6 x 1 l	inquire
			2.5 l	inquire
101989	1-Butanol for spectroscopy Uvasol®	1.01989.0500	500 ml	inquire
			6 x 500 ml	inquire
			1 l	inquire
101984	tert-Butyl methyl ether for spectroscopy Uvasol®	1.01984.1000	6 x 1 l	inquire
			1 l	inquire
102210	Carbon disulfide for spectroscopy Uvasol®	1.02210.1000	1 l	inquire
102447	Chloroform for spectroscopy Uvasol®	1.02447.0500	500 ml	inquire
			6 x 500 ml	inquire
			2.5 l	inquire
			4 x 2.5 l	inquire

## Solvents for UV, IR and fluorescence spectroscopy, Uvasol®

Cat.No.	Designation	Ord.No.	Quantity	Price
102822	Cyclohexane for spectroscopy Uvasol®	1.02822.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.02822.2500	2.5 l	inquire
			4 x 2.5 l	inquire
106048	Dichloromethane for spectroscopy Uvasol®	1.06048.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.06048.2500	2.5 l	inquire
			4 x 2.5 l	inquire
100930	Diethyl ether for spectroscopy Uvasol®	1.00930.1000	1 l	inquire
			6 x 1 l	inquire
102937	N,N-Dimethylformamide for spectroscopy Uvasol®	1.02937.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.02937.2500	2.5 l	inquire
			4 x 2.5 l	inquire
102950	Dimethyl sulfoxide for spectroscopy Uvasol®	1.02950.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.02950.2500	2.5 l	inquire
			4 x 2.5 l	inquire
100980	Ethanol for spectroscopy Uvasol®	1.00980.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.00980.2500	2.5 l	inquire
			4 x 2.5 l	inquire
100863	Ethyl acetate for spectroscopy Uvasol®	1.00863.0500	500 ml	inquire
			2.5 l	inquire
		1.00863.2500	4 x 2.5 l	inquire
104366	n-Heptane for spectroscopy Uvasol®	1.04366.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.04366.2500	2.5 l	inquire
			4 x 2.5 l	inquire
104372	n-Hexane for spectroscopy Uvasol®	1.04372.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.04372.2500	2.5 l	inquire
			4 x 2.5 l	inquire
104718	Isooctane for spectroscopy Uvasol®	1.04718.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.04718.2500	2.5 l	inquire
			4 x 2.5 l	inquire
106002	Methanol for spectroscopy Uvasol®	1.06002.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.06002.2500	2.5 l	inquire
			4 x 2.5 l	inquire
106056	2-Methylbutane for spectroscopy Uvasol®	1.06056.1000	1 l	inquire
			6 x 1 l	inquire
107179	n-Pentane for spectroscopy Uvasol®	1.07179.1000	1 l	inquire
			6 x 1 l	inquire
104907	POTASSIUM BROMIDE UVASOL F/ IR SPECTROSCOPY Uvasol®	1.04907.0100	100 g	inquire
		1.04907.0500	500 g	inquire
100993	2-Propanol for spectroscopy Uvasol®	1.00993.1000	1 l	inquire
			6 x 1 l	inquire
		1.00993.2500	2.5 l	inquire
			4 x 2.5 l	inquire
100965	Tetrachloroethylene for spectroscopy Uvasol®	1.00965.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.00965.2500	2.5 l	inquire
			4 x 2.5 l	inquire
108110	Tetrahydrofuran for spectroscopy Uvasol®	1.08110.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.08110.2500	2.5 l	inquire
			4 x 2.5 l	inquire
108331	Toluene for spectroscopy Uvasol®	1.08331.1000	1 l	inquire
			6 x 1 l	inquire
108239	1,1,2-Trichlorotrifluoroethane for IR spectroscopy Uvasol®	1.08239.2500	2.5 l	inquire
108262	Trifluoroacetic acid for spectroscopy Uvasol®	1.08262.0025	25 ml	inquire
		1.08262.0100	100 ml	inquire
		1.08262.1000	1 l	inquire
		1.08262.2500	2.5 l	inquire

# Solvents for Instrumental Analysis

## Deuterated solvents for NMR spectroscopy, MagniSolv™

Cat.No.	Designation	Ord.No.	Quantity	Price
815035	Acetic acid-D1 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15035.0025	25 ml	inquire
815036	Acetic acid-D4 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15036.0009	10x0.75 ml	inquire
		8.15036.0010	10 ml	inquire
100021	Acetone-D6 deuteration degree min. 99.9% for NMR spectroscopy MagniSolv™	1.00021.0005	10x 0.5 ml	inquire
		1.00021.0009	10x0.75 ml	inquire
		1.00021.0010	10 ml	inquire
		1.00021.0025	25 ml	inquire
		1.00021.0100	100 ml	inquire
111969	Acetone-D6 deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™	1.11969.0009	10x0.75 ml	inquire
102904	Acetonitrile-D3 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	1.02904.0010	10 ml	inquire
100220	Acetonitrile-D3 deuteration degree min. 99.8% for NMR spectroscopy MagniSolv™	1.00220.0010	10 ml	inquire
113753	Acetonitrile-D3 deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™	1.13753.0001	1 ml	inquire
		1.13753.0009	10x0.75 ml	inquire
815008	Ammonia-D3 26% solution in D <sub>2</sub> O deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15008.0010	10 ml	inquire
		8.15008.0025	25 ml	inquire
101789	Benzene-D6 deuteration degree min. 99.6% for NMR spectroscopy MagniSolv™	1.01789.0009	10x0.75 ml	inquire
		1.01789.0010	10 ml	inquire
		1.01789.0100	100 ml	inquire
101766	Benzene-D6 deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™	1.01766.0009	10x0.75 ml	inquire
		1.01766.0010	10 ml	inquire
815014	tert-Butanol-D1 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	8.15014.0025	25 ml	inquire
103296	Chloroform-D1 0.03 vol.% TMS, deuteration degree min. 99.8% for NMR spectroscopy (stabilized with silver) MagniSolv™	1.03296.0025	25 ml	inquire
		1.03296.0100	100 ml	inquire
		1.03296.0500	500 ml	inquire
102450	Chloroform-D1 deuteration degree min. 99.8% for NMR spectroscopy MagniSolv™	1.02450.0025	25 ml	inquire
		1.02450.0100	100 ml	inquire
		1.02450.0500	500 ml	inquire
103420	Chloroform-D1 deuteration degree min. 99.8% for NMR spectroscopy (stabilized with silver) MagniSolv™	1.03420.0025	25 ml	inquire
		1.03420.0100	100 ml	inquire
		1.03420.0500	500 ml	inquire
102446	Chloroform-D1 deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™	1.02446.0009	10x0.75 ml	inquire
		1.02446.0010	10 ml	inquire
		1.02446.0025	25 ml	inquire
		1.02446.0100	100 ml	inquire
113359	Chloroform-D1 with TMS (1 vol.%), deuteration degree min. 99.5 % for NMR spectroscopy (stabilized with silver) MagniSolv™	1.13359.0025	25 ml	inquire
		1.13359.0100	100 ml	inquire
815023	Cumene-D12 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	8.15023.0001	1 ml	inquire
815024	Cyclohexane-D12 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15024.0005	10 x 0.5ml	inquire
		8.15024.0006	5 ml	inquire
		8.15024.0009	10x0.75 ml	inquire
815027	n-Decane-D22 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	8.15027.0001	1 ml	inquire
815016	Deuterium chloride 20% solution in D <sub>2</sub> O deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15016.0025	25 ml	inquire
815017	Deuterium chloride 20% solution in D <sub>2</sub> O deuteration degree min. 99.95% for NMR spectroscopy MagniSolv™	8.15017.0010	10 ml	inquire
815018	Deuterium chloride 38% solution in D <sub>2</sub> O deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15018.0010	10 ml	inquire
		8.15018.0050	50 ml	inquire
113366	Deuterium oxide deuteration degree min. 99.9% for NMR spectroscopy MagniSolv™	1.13366.0009	10x0.75 ml	inquire
		1.13366.0010	10 ml	inquire
		1.13366.0025	25 ml	inquire
		1.13366.0100	100 ml	inquire
		1.13366.0500	500 ml	inquire
103428	Deuterium oxide deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™	1.03428.0005	10x 0.5 ml	inquire
		1.03428.0009	10x0.75 ml	inquire
		1.03428.0010	10 ml	inquire
		1.03428.0100	100 ml	inquire
815029	1,2-Dichlorobenzene-D4 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	8.15029.0005	5 ml	inquire
113720	Dichloromethane-D2 deuteration degree min. 99.8% for NMR spectroscopy MagniSolv™	1.13720.0009	10x0.75 ml	inquire
		1.13720.0010	10 ml	inquire
104200	Dichloromethane-D2 deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™	1.04200.0005	10 x 0.5ml	inquire
		1.04200.0009	10x0.75 ml	inquire
		1.04200.0010	10 ml	inquire

## Deuterated solvents for NMR spectroscopy, MagniSolv™

Cat.No.	Designation	Ord.No.	Quantity	Price
815031	Diethyl ether-D10 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	8.15031.0001	1 ml	inquire
815032	N,N-Dimethylacetamide-D9 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	8.15032.0001	1 ml	inquire
111656	Dimethylformamide-D7 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	1.11656.0001	1 ml	inquire
		1.11656.0009	10x0.75 ml	inquire
815034	Dimethyl sulfate-D6 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15034.0005	5 ml	inquire
103424	Dimethyl sulfoxide-D6 deuteration degree min. 99.8% for NMR spectroscopy MagniSolv™	1.03424.0005	10x 0.5 ml	inquire
		1.03424.0009	10x0.75 ml	inquire
		1.03424.0010	10 ml	inquire
		1.03424.0011	10 ml	inquire
		1.03424.0025	25 ml	inquire
		1.03424.0050	50 ml	inquire
		1.03424.0100	100 ml	inquire
103562	Dimethyl sulfoxide-D6 deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™	1.03562.0005	10x 0.5 ml	inquire
		1.03562.0009	10x0.75 ml	inquire
		1.03562.0010	10 ml	inquire
		1.03562.0025	25 ml	inquire
103591	Dimethyl sulfoxide-D6 with TMS (0.03 vol.%), deuteration degree min. 99.8% for NMR spectroscopy MagniSolv™	1.03591.0050	50 ml	inquire
		1.03591.0100	100 ml	inquire
103592	Dimethyl sulfoxide-D6 with TMS (0.03 vol.%), deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™	1.03592.0005	5 ml	inquire
		1.03592.0025	25 ml	inquire
103587	Dimethyl sulfoxide-D6 with TMS (0.1 vol.%), deuteration degree min. 99.9% for NMR spectroscopy MagniSolv™	1.03587.0006	10x0.6 ml	inquire
		1.03587.0025	25 ml	inquire
		1.03587.0100	100 ml	inquire
815037	Ethanol-D1 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15037.0050	50 ml	inquire
103450	Ethanol-D6 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	1.03450.0001	1 ml	inquire
113365	Formic acid-D2 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	1.13365.0010	10 ml	inquire
815041	1,1,1,3,3,3-Hexafluoro-2-propanol-D2 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15041.0001	1 ml	inquire
		8.15041.0005	5 ml	inquire
815043	n-Hexane-D14 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	8.15043.0001	1 ml	inquire
815048	Lithium aluminium deuteride deuteration degree min. 98% for NMR spectroscopy MagniSolv™	8.15048.0005	5 g	inquire
815051	Methanol-D1 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15051.0050	50 ml	inquire
		8.15051.0100	100 ml	inquire
815052	Methanol-D3 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15052.0001	1 ml	inquire
		8.15052.0005	5 ml	inquire
106028	Methanol-D4 deuteration degree min. 99.8 % for NMR spectroscopy MagniSolv™	1.06028.0001	1 ml	inquire
		1.06028.0005	10x 0.5 ml	inquire
		1.06028.0009	10x0.75 ml	inquire
		1.06028.0010	10 ml	inquire
		1.06028.0025	25 ml	inquire
		1.06028.0100	100 ml	inquire
106025	Methanol-D4 deuteration degree min. 99.95% for NMR spectroscopy MagniSolv™	1.06025.0005	10x 0.5 ml	inquire
		1.06025.0009	10x0.75 ml	inquire
815053	Methylcyclohexane-D14 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15053.0005	5 ml	inquire
815000	Naphthalene-D8 deuteration degree min. 98% for NMR spectroscopy MagniSolv™	8.15000.0001	1 g	inquire
815001	Nitrobenzene-D5 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15001.0010	10 ml	inquire
102914	Nitromethane-D3 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	1.02914.0002	2x 0.75 ml	inquire
815002	n-Octane-D18 deuteration degree min. 99% for NMR spectroscopy MagniSolv™	8.15002.0001	1 ml	inquire
815003	Phenol-D6 deuteration degree min. 98% for NMR spectroscopy MagniSolv™	8.15003.0005	5 g	inquire
815058	Phosphoric acid-D3 85% solution in D <sub>2</sub> O deuteration degree min. 99% for NMR spectroscopy MagniSolv™	8.15058.0010	10 ml	inquire
815044	2-Propanol-D1 deuteration degree min. 98% for NMR spectroscopy MagniSolv™	8.15044.0025	25 ml	inquire
815045	2-Propanol-D8 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15045.0005	5 ml	inquire
107475	Pyridine-D5 deuteration degree min 99.8% for NMR spectroscopy MagniSolv™	1.07475.0009	10x0.75 ml	inquire
		1.07475.0010	10 ml	inquire
815055	Sodiumdeuterium oxide 30% solution in D <sub>2</sub> O deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15055.0025	25 ml	inquire
815061	Styrene-D8 deuteration degree min. 98% for NMR spectroscopy MagniSolv™	8.15061.0001	1 ml	inquire
		8.15061.0010	10 ml	inquire



# Solvents for Instrumental Analysis

## Deuterated solvents for NMR spectroscopy, MagniSolv™

Cat.No.	Designation	Ord.No.	Quantity	Price
815060	Sulfuric acid-D2 96% solution in D <sub>2</sub> O deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15060.0025	25 ml	<a href="#">inquire</a>
		8.15060.0050	50 ml	<a href="#">inquire</a>
103495	1,1,2,2-Tetrachloroethane-D2 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	1.03495.0009	10x0.75 ml	<a href="#">inquire</a>
		1.03495.0025	25 ml	<a href="#">inquire</a>
113364	Tetrahydrofuran-D8 deuteration degree min 99.5% for NMR spectroscopy MagniSolv™	1.13364.0001	1 ml	<a href="#">inquire</a>
		1.13364.0009	10x0.75 ml	<a href="#">inquire</a>
		1.13364.0010	10 ml	<a href="#">inquire</a>
108183	Tetramethylsilane for the calibration of NMR spectra for NMR spectroscopy MagniSolv™	1.08183.0100	100 ml	<a href="#">inquire</a>
113368	Toluene-D8 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	1.13368.0010	10 ml	<a href="#">inquire</a>
113363	Trifluoroacetic acid-D1 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	1.13363.0010	10 ml	<a href="#">inquire</a>
108652	3-(Trimethylsilyl)propionic acid-D4 sodium salt deuteration degree min. 98% for NMR spectroscopy MagniSolv™	1.08652.0001	1 g	<a href="#">inquire</a>
815005	p-Xylene-D10 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™	8.15005.0010	10 ml	<a href="#">inquire</a>

# Solvents for Classical Analysis and Synthesis

## Dried solvents, SeccoSolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
100299	Acetone dried (max. 0.0075% H <sub>2</sub> O) SeccoSolv®	1.00299.0161	150 ml	inquire
		1.00299.0500	500 ml	inquire
		1.00299.1001	1 l	inquire
			6 x 1 l	inquire
100004	Acetonitrile dried (max. 0.005 % H <sub>2</sub> O) SeccoSolv®	1.00004.0161	150 ml	inquire
		1.00004.0500	500 ml	inquire
		1.00004.1001	1 l	inquire
			6 x 1 l	inquire
112636	Acetonitrile for DNA synthesis	1.12636.0050	50 ml	inquire
		1.12636.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.12636.4000	4 l	inquire
			4 x 4 l	inquire
		1.12636.9033	30 l	inquire
1.12636.9185	185 l	inquire		
113212	Acetonitrile for DNA synthesis (≤ 30 ppm H <sub>2</sub> O)	1.13212.2500	2.5 l	inquire
		1.13212.4000	4 x 2.5 l	inquire
			4 l	inquire
1.13212.9185	185 l	inquire		
102395	Chloroform dried (max. 0.003% H <sub>2</sub> O) SeccoSolv®	1.02395.1001	1 l 6 x 1 l	inquire inquire
106051	Dichloromethane dried (max. 0.004% H <sub>2</sub> O) SeccoSolv®	1.06051.0161	150 ml	inquire
		1.06051.0500	12 x 150 ml	inquire
			500 ml	inquire
		1.06051.1001	6 x 500 ml 1 l 6 x 1 l	inquire inquire inquire
100929	Diethyl ether dried (max. 0.005 % H <sub>2</sub> O) SeccoSolv®	1.00929.0161	150 ml	inquire
		1.00929.0500	12 x 150 ml	inquire
			500 ml	inquire
		1.00929.1000	6 x 500 ml	inquire
			1 l	inquire
1.00929.1001	6 x 1 l 1 l 6 x 1 l	inquire inquire inquire		
102375	N,N-Dimethylformamide dried (max. 0.003% H <sub>2</sub> O) SeccoSolv®	1.02375.0161	150 ml	inquire
		1.02375.1001	1 l	inquire
			6 x 1 l	inquire
		1.02375.2500	2.5 l 4 x 2.5 l	inquire inquire
102931	Dimethyl sulfoxide dried (max. 0.025% H <sub>2</sub> O) SeccoSolv®	1.02931.0161	150 ml	inquire
		1.02931.0500	12 x 150 ml	inquire
			500 ml	inquire
		1.02931.1000	6 x 500 ml	inquire
			1 l	inquire
		1.02931.1001	6 x 1 l	inquire
			1 l	inquire
		1.02931.2500	6 x 1 l	inquire
2.5 l	inquire			
1.02931.9033	4 x 2.5 l 30 l	inquire inquire		
103110	1,4-Dioxane dried SeccoSolv®	1.03110.0161	150 ml	inquire
		1.03110.0500	12 x 150 ml	inquire
			500 ml	inquire
		1.03110.1001	6 x 500 ml 1 l 6 x 1 l	inquire inquire inquire
100990	Ethanol dried (max. 0.01 % H <sub>2</sub> O) SeccoSolv®	1.00990.0161	150 ml	inquire
		1.00990.0500	12 x 150 ml	inquire
			500 ml	inquire
		1.00990.1001	6 x 500 ml 1 l 6 x 1 l	inquire inquire inquire
102396	Ethyl acetate dried (max. 0.003% H <sub>2</sub> O) SeccoSolv®	1.02396.1001	1 l 6 x 1 l	inquire inquire
104373	n-Hexane dried (max. 0.004% H <sub>2</sub> O) SeccoSolv®	1.04373.0500	500 ml 6 x 500 ml	inquire inquire

# Solvents for Classical Analysis and Synthesis

## Dried solvents, SeccoSolv®

Cat.No.	Designation	Ord.No.	Quantity	Price
104715	Isooctane dried (max. 0.003% H <sub>2</sub> O) SeccoSolv®	1.04715.0500	500 ml	<a href="#">inquire</a>
			6 x 500 ml	<a href="#">inquire</a>
106012	Methanol dried (max. 0.003% H <sub>2</sub> O) SeccoSolv®	1.06012.0161	150 ml	<a href="#">inquire</a>
			500 ml	<a href="#">inquire</a>
		1.06012.0500	6 x 500 ml	<a href="#">inquire</a>
			1 l	<a href="#">inquire</a>
		1.06012.1000	6 x 1 l	<a href="#">inquire</a>
			1 l	<a href="#">inquire</a>
		1.06012.1001	6 x 1 l	<a href="#">inquire</a>
			2.5 l	<a href="#">inquire</a>
1.06012.2500	4 x 2.5 l	<a href="#">inquire</a>		
1.06012.6010	10 l	<a href="#">inquire</a>		
100994	2-Propanol dried (max. 0.005% H <sub>2</sub> O) SeccoSolv®	1.00994.0161	150 ml	<a href="#">inquire</a>
		1.00994.0500	500 ml	<a href="#">inquire</a>
		1.00994.1001	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
107463	Pyridine dried (max. 0.0075 % H <sub>2</sub> O) SeccoSolv®	1.07463.0161	150 ml	<a href="#">inquire</a>
			12 x 150 ml	<a href="#">inquire</a>
		1.07463.0500	500 ml	<a href="#">inquire</a>
			6 x 500 ml	<a href="#">inquire</a>
1.07463.1001	1 l	<a href="#">inquire</a>		
		6 x 1 l	<a href="#">inquire</a>	
108107	Tetrahydrofuran dried (max. 0.005 % H <sub>2</sub> O) SeccoSolv®	1.08107.0161	150 ml	<a href="#">inquire</a>
			12 x 150 ml	<a href="#">inquire</a>
		1.08107.0500	500 ml	<a href="#">inquire</a>
			6 x 500 ml	<a href="#">inquire</a>
		1.08107.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.08107.1001	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
1.08107.9013	10 l	<a href="#">inquire</a>		
108326	Toluene dried (max. 0.005% H <sub>2</sub> O) SeccoSolv®	1.08326.0161	150 ml	<a href="#">inquire</a>
			12 x 150 ml	<a href="#">inquire</a>
		1.08326.0500	500 ml	<a href="#">inquire</a>
			6 x 500 ml	<a href="#">inquire</a>
		1.08326.1001	1 l	<a href="#">inquire</a>
	6 x 1 l	<a href="#">inquire</a>		

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
822251	Acetone EMPLURA®	8.22251.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		8.22251.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		8.22251.9025	25 l	<a href="#">inquire</a>
115500	Acetonitrile EMPLURA®	1.15500.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.15500.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.15500.6025	25 l	<a href="#">inquire</a>
1.15500.9190	190 l	<a href="#">inquire</a>		
800028	Acetophenone for synthesis	8.00028.0100	100 ml	<a href="#">inquire</a>
		8.00028.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
800023	Acetylacetone for synthesis	8.00023.0005	5 ml	<a href="#">inquire</a>
		8.00023.0250	250 ml	<a href="#">inquire</a>
		8.00023.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
818700	n-Amyl acetate EMPLURA®	8.18700.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		8.18700.5000	5 l	<a href="#">inquire</a>
807500	n-Amyl alcohol for synthesis	8.07500.0100	100 ml	<a href="#">inquire</a>
		8.07500.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		8.07500.2500	2.5 l	<a href="#">inquire</a>
	4 x 2.5 l	<a href="#">inquire</a>		

# Solvents for Classical Analysis and Synthesis

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
806193	tert-Amyl alcohol EMPLURA®	8.06193.1000	1 l	inquire
			6 x 1 l	inquire
801452	Anisole for synthesis	8.01452.0100	100 ml	inquire
			8.01452.0500	500 ml
		8.01452.1000	1 l	inquire
			6 x 1 l	inquire
		8.01452.2500	2.5 l	inquire
			8.01452.9025	25 l
101782	Benzene EMPLURA®	1.01782.1000	1 l	inquire
			6 x 1 l	inquire
		1.01782.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01782.6025	25 l	inquire
801800	Benzonitrile for synthesis	8.01800.0100	100 ml	inquire
		8.01800.0500	500 ml	inquire
		8.01800.1000	1 l	inquire
822259	Benzyl alcohol for synthesis	8.22259.0100	100 ml	inquire
			8.22259.1000	1 l
		8.22259.2500	6 x 1 l	inquire
			2.5 l	inquire
		8.22259.9025	4 x 2.5 l	inquire
801678	Bis(2-chloroethyl) ether for synthesis	8.01678.0250	250 ml	inquire
		8.01678.1000	1 l	inquire
801786	Bromobenzene for synthesis	8.01786.0005	5 ml	inquire
		8.01786.0250	250 ml	inquire
		8.01786.1000	1 l	inquire
		8.01786.9026	25 l	inquire
801627	1-Bromo-3-chloropropane for synthesis	8.01627.0250	250 ml	inquire
		8.01627.1000	1 l	inquire
818702	Bromoform (stabilised with 2-methyl-2-butene) for synthesis	8.18702.0250	250 ml	inquire
		8.18702.1000	1 l	inquire
822262	1-Butanol EMPLURA®	8.22262.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22262.5000	5 l	inquire
			4 x 5 l	inquire
822263	2-Butanol EMPLURA®	8.22263.1000	1 l	inquire
			6 x 1 l	inquire
		8.22263.2500	2.5 l	inquire
822264	tert-Butanol EMPLURA®	8.22264.1000	1 l	inquire
			6 x 1 l	inquire
		8.22264.5000	5 l	inquire
			4 x 5 l	inquire
821014	[2-(2-Butoxyethoxy)ethyl] acetate for synthesis	8.21014.0100	100 ml	inquire
			8.21014.1000	1 l
		8.21014.2500	2.5 l	inquire
			4 x 2.5 l	inquire
801395	2-Butoxyethyl acetate for synthesis	8.01395.1000	1 l	inquire
		8.01395.2500	2.5 l	inquire
101974	n-Butyl acetate EMPLURA®	1.01974.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01974.6025	25 l	inquire
802189	tert-Butyl acetate for synthesis	1.01974.9190	190 l	inquire
		8.02189.0250	250 ml	inquire
820055	Butyl formate for synthesis	8.02189.1000	1 l	inquire
		8.20055.0100	100 ml	inquire
820055	Butyl formate for synthesis	8.20055.0500	500 ml	inquire
		101843	tert-Butyl methyl ether EMPLURA®	1.01843.2500
101843	tert-Butyl methyl ether EMPLURA®	1.01843.2500	4 x 2.5 l	inquire
			25 l	inquire
		1.01843.6190	190 l	inquire
		1.01843.9011	10 l	inquire

# Solvents for Classical Analysis and Synthesis

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
801661	γ-Butyrolactone for synthesis	8.01661.0100	100 ml	inquire
		8.01661.1000	1 l	inquire
			6 x 1 l	inquire
		8.01661.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.01661.9025	25 l	inquire
801791	Chlorobenzene for synthesis	8.01791.0100	100 ml	inquire
		8.01791.1000	1 l	inquire
			6 x 1 l	inquire
		8.01791.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.01791.9025	25 l	inquire
822265	Chloroform EMPLURA®	8.22265.1000	1 l	inquire
			6 x 1 l	inquire
		8.22265.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22265.9025	25 l	inquire
802681	Cumene for synthesis	8.02681.0100	100 ml	inquire
		8.02681.1000	1 l	inquire
102832	Cyclohexane EMPLURA®	1.02832.1000	1 l	inquire
			6 x 1 l	inquire
		1.02832.2500	2.5 l	inquire
			4 x 2.5 l	inquire
			25 l	inquire
		1.02832.6025	25 l	inquire
		1.02832.9190	190 l	inquire
822328	Cyclohexanol for synthesis	8.22328.0100	100 ml	inquire
		8.22328.1000	1 l	inquire
			6 x 1 l	inquire
		8.22328.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22328.9025	25 l	inquire
102888	Cyclohexanone EMPLURA®	1.02888.1000	1 l	inquire
			6 x 1 l	inquire
		1.02888.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.02888.6010	10 l	inquire
			25 l	inquire
		1.02888.9191	190 l	inquire
818770	Cyclopentane for synthesis	8.18770.0100	100 ml	inquire
		8.18770.0500	500 ml	inquire
		8.18770.2500	2.5 l	inquire
802670	Cyclopentanone for synthesis	8.02670.0250	250 ml	inquire
		8.02670.1000	1 l	inquire
		8.02670.2500	2.5 l	inquire
803101	Decahydronaphthalene (mixture of cis- and trans isomers) for synthesis	8.03101.0100	100 ml	inquire
		8.03101.1000	1 l	inquire
			6 x 1 l	inquire
		8.03101.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.03101.9025	25 kg	inquire
820383	n-Decane for synthesis	8.20383.0250	250 ml	inquire
			6 x 250 ml	inquire
		8.20383.1000	1 l	inquire
			6 x 1 l	inquire
803463	1-Decanol for synthesis	8.03463.0100	100 ml	inquire
		8.03463.1000	1 l	inquire
			6 x 1 l	inquire
		8.03463.9026	25 l	inquire
801522	Dibenzyl ether for synthesis	8.01522.0100	100 ml	inquire
		8.01522.1000	1 l	inquire
800952	1,2-Dibromoethane for synthesis	8.00952.0250	250 ml	inquire
		8.00952.1000	1 l	inquire
			6 x 1 l	inquire
810278	Dibromomethane (stabilised) for synthesis	8.10278.0100	100 ml	inquire
		8.10278.0250	250 ml	inquire
		8.10278.2500	2.5 l	inquire

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## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
802892	Dibutyl ether for synthesis	8.02892.0100	100 ml	inquire
		8.02892.1000	1 l	inquire
		8.02892.2500	2.5 l	inquire
803238	1,2-Dichlorobenzene for synthesis	8.03238.0100	100 ml	inquire
		8.03238.1000	1 l	inquire
			6 x 1 l	inquire
		8.03238.2500	2.5 l	inquire
			4 x 2.5 l	inquire
803225	1,3-Dichlorobenzene for synthesis	8.03225.0005	5 ml	inquire
		8.03225.0250	250 ml	inquire
100955	1,2-Dichloroethane EMPLURA®	1.00955.1000	1 l	inquire
			6 x 1 l	inquire
		1.00955.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00955.6025	25 l	inquire
		190 l	inquire	
803209	1,1-Dichloroethylene (stabilised with hydroquinone monomethyl ether) for synthesis	8.03209.0100	100 ml	inquire
		8.03209.1000	1 l	inquire
822271	Dichloromethane EMPLURA®	8.22271.1000	1 l	inquire
			6 x 1 l	inquire
		8.22271.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22271.9025	25 l	inquire
		190 l	inquire	
803116	Diethanolamine for synthesis	8.03116.1000	1 l	inquire
			6 x 1 l	inquire
		8.03116.5000	5 l	inquire
			4 x 5 l	inquire
		50 l	inquire	
803214	N,N-Diethylacetamide for synthesis	8.03214.0025	25 ml	inquire
		8.03214.0100	100 ml	inquire
802898	Diethyl carbonate for synthesis	8.02898.0100	100 ml	inquire
		8.02898.0500	500 ml	inquire
		8.02898.1000	1 l	inquire
803131	Diethylene glycol for synthesis	8.03131.1000	1 l	inquire
			6 x 1 l	inquire
		8.03131.5000	5 l	inquire
			4 x 5 l	inquire
		25 l	inquire	
802933	Diethylene glycol dibutyl ether for synthesis	8.02933.0250	250 ml	inquire
		8.02933.1000	1 l	inquire
802932	Diethylene glycol diethyl ether for synthesis	8.02932.0250	250 ml	inquire
		8.02932.1000	1 l	inquire
802934	Diethylene glycol dimethyl ether (stabilised) for synthesis	8.02934.0250	250 ml	inquire
		8.02934.1000	1 l	inquire
		8.02934.2500	2.5 l	inquire
803129	Diethylene glycol monobutyl ether for synthesis	8.03129.1000	1 l	inquire
			6 x 1 l	inquire
		8.03129.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		25 l	inquire	
803127	Diethylene glycol monoethyl ether for synthesis	8.03127.1000	1 l	inquire
			6 x 1 l	inquire
		8.03127.2500	2.5 l	inquire
		25 l	inquire	
818382	Diethylene glycol mono-n-hexyl ether for synthesis	8.18382.0100	100 ml	inquire
		8.18382.0500	500 ml	inquire
803128	Diethylene glycol monomethyl ether for synthesis	8.03128.1000	1 l	inquire
			6 x 1 l	inquire
		8.03128.2500	2.5 l	inquire
			4 x 2.5 l	inquire
100923	Diethyl ether EMPLURA®	1.00923.1000	1 l	inquire
			6 x 1 l	inquire
		1.00923.5000	5 l	inquire
			4 x 5 l	inquire
		25 l	inquire	

# Solvents for Classical Analysis and Synthesis

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
821752	N,N-Diethylformamide for synthesis	8.21752.0010	10 ml	<a href="#">inquire</a>
		8.21752.0100	100 ml	<a href="#">inquire</a>
		8.21752.0250	250 ml	<a href="#">inquire</a>
803605	Diethyl ketone for synthesis	8.03605.0100	100 ml	<a href="#">inquire</a>
		8.03605.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
810261	Diisoamyl ether (stabilized) for synthesis	8.10261.0250	250 ml	<a href="#">inquire</a>
		8.10261.1000	1 l	<a href="#">inquire</a>
818831	Diisobutyl ketone for synthesis	8.18831.0100	100 ml	<a href="#">inquire</a>
		8.18831.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
800866	Diisopropyl ether (stabilized with 2,6-di-tert-butyl-4-methylphenol (BHT)) for synthesis	8.00866.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		8.00866.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
800866		8.00866.9040	40 kg	<a href="#">inquire</a>
802936	2,2-Dimethoxypropane for synthesis	8.02936.0100	100 ml	<a href="#">inquire</a>
		8.02936.0500	500 ml	<a href="#">inquire</a>
		8.02936.1000	1 l	<a href="#">inquire</a>
803235	N,N-Dimethylacetamide for synthesis	8.03235.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		8.03235.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
803235		8.03235.9026	25 l	<a href="#">inquire</a>
800097	Dimethyl adipate for synthesis	8.00097.0250	250 ml	<a href="#">inquire</a>
		8.00097.1000	1 l	<a href="#">inquire</a>
803525	Dimethyl carbonate for synthesis	8.03525.0100	100 ml	<a href="#">inquire</a>
		8.03525.1000	1 l	<a href="#">inquire</a>
		8.03525.2500	2.5 l	<a href="#">inquire</a>
822275	N,N-Dimethylformamide EMPLURA®	8.22275.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		8.22275.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		8.22275.6010	10 l	<a href="#">inquire</a>
822275		8.22275.6025	25 l	<a href="#">inquire</a>
818212	1,3-Dimethyl-2-imidazolidinone for synthesis	8.18212.0100	100 ml	<a href="#">inquire</a>
		8.18212.0500	500 ml	<a href="#">inquire</a>
116743	Dimethyl sulfoxide EMPLURA®	1.16743.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.16743.6025	25 l	<a href="#">inquire</a>
103115	1,4-Dioxane EMPLURA®	1.03115.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.03115.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.03115.6025	25 l	<a href="#">inquire</a>
103115		1.03115.9191	190 l	<a href="#">inquire</a>
803265	Dipropylene glycol (mixture of isomers) for synthesis	8.03265.1000	1 l	<a href="#">inquire</a>
843825	Dipropylene glycol dimethyl ether (mixture of isomers) for synthesis	8.43825.0250	250 ml	<a href="#">inquire</a>
		8.43825.1000	1 l	<a href="#">inquire</a>
818533	Dipropylene glycol monomethyl ether (mixture of isomers) for synthesis	8.18533.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
818533		8.18533.2500	2.5 l	<a href="#">inquire</a>
818760	Ethanol absolute EMPLURA®	8.18760.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		8.18760.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		8.18760.9025	25 l	<a href="#">inquire</a>
818760		8.18760.9180	180 l	<a href="#">inquire</a>
800849	Ethanolamine for synthesis	8.00849.0100	100 ml	<a href="#">inquire</a>
		8.00849.0500	500 ml	<a href="#">inquire</a>
		8.00849.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		8.00849.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
800849		8.00849.9025	25 l	<a href="#">inquire</a>



# Solvents for Classical Analysis and Synthesis

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
800857	2-Ethoxyethanol (stabilised) for synthesis	8.00857.1000	1 l	inquire
			6 x 1 l	inquire
		8.00857.2500	2.5 l	inquire
			4 x 2.5 l	inquire
800857.9025			25 l	inquire
800187	2-Ethoxyethyl acetate for synthesis	8.00187.0100	100 ml	inquire
		8.00187.1000	1 l	inquire
822277	Ethyl acetate EMPLURA®	8.22277.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22277.5000	5 l	inquire
			4 x 5 l	inquire
801372	Ethylbenzene for synthesis	8.01372.0100	100 ml	inquire
		8.01372.1000	1 l	inquire
			6 x 1 l	inquire
801813	Ethyl benzoate for synthesis	8.01813.0250	250 ml	inquire
		8.01813.1000	1 l	inquire
800947	Ethylenediamine for synthesis	8.00947.0100	100 ml	inquire
		8.00947.0500	500 ml	inquire
			6 x 500 ml	inquire
		8.00947.1000	1 l	inquire
			6 x 1 l	inquire
		8.00947.2500	2.5 l	inquire
			4 x 2.5 l	inquire
8.00947.9051	50 l	inquire		
100949	Ethylene glycol EMPLURA®	1.00949.1000	1 l	inquire
			6 x 1 l	inquire
		1.00949.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00949.6025	25 l	inquire
1.00949.6190	190 l	inquire		
800950	Ethylene glycol diacetate for synthesis	8.00950.0100	100 ml	inquire
		8.00950.0500	500 ml	inquire
820390	Ethylene glycol diethyl ether for synthesis	8.20390.0050	50 ml	inquire
		8.20390.0250	250 ml	inquire
800856	Ethylene glycol dimethyl ether for synthesis	8.00856.1000	1 l	inquire
			6 x 1 l	inquire
		8.00856.2500	2.5 l	inquire
			4 x 2.5 l	inquire
8.00856.6010	10 l	inquire		
801554	Ethylene glycol monobutyl ether for synthesis	8.01554.1000	1 l	inquire
			6 x 1 l	inquire
		8.01554.2500	2.5 l	inquire
			4 x 2.5 l	inquire
8.01554.6025	25 l	inquire		
807480	Ethylene glycol monoisopropyl ether for synthesis	8.07480.1000	1 l	inquire
807291	Ethylene glycol monophenyl ether for synthesis	8.07291.1000	1 l	inquire
			6 x 1 l	inquire
		8.07291.2500	2.5 l	inquire
			4 x 2.5 l	inquire
8.07291.9025	25 kg	inquire		
800891	Ethyl formate for synthesis	8.00891.0100	100 ml	inquire
		8.00891.1000	1 l	inquire
		8.00891.2500	2.5 l	inquire
800990	2-Ethyl-1-hexanol for synthesis	8.00990.0100	100 ml	inquire
		8.00990.1000	1 l	inquire
			6 x 1 l	inquire
		8.00990.2500	2.5 l	inquire
			4 x 2.5 l	inquire
8.00990.9025	25 l	inquire		
106014	Ethyl methyl ketone (2-butanone) EMPLURA®	1.06014.1000	1 l	inquire
			6 x 1 l	inquire
		1.06014.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06014.6010	10 l	inquire
		1.06014.6025	25 l	inquire
		1.06014.9011	10 l	inquire
1.06014.9190	190 l	inquire		

# Solvents for Classical Analysis and Synthesis

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
801295	4-Ethylmorpholine for synthesis	8.01295.0250	250 ml	inquire
800956	1-Ethylpiperidine for synthesis	8.00956.0250	250 ml	inquire
		8.00956.1000	1 l	inquire
104008	Formamide EMPLURA®	1.04008.1000	1 l	inquire
		1.04008.2500	2.5 l	inquire
		1.04008.9025	25 l	inquire
818582	N-Formylmorpholine for synthesis	8.18582.0100	100 ml	inquire
		8.18582.0500	500 ml	inquire
818730	N-Formylpiperidine for synthesis	8.18730.0100	100 ml	inquire
		8.18730.0500	500 ml	inquire
804015	Furfuryl alcohol for synthesis	8.04015.0100	100 ml	inquire
		8.04015.1000	1 l	inquire
			6 x 1 l	inquire
104365	n-Heptane EMPLURA®	1.04365.1000	1 l	inquire
			6 x 1 l	inquire
		1.04365.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04365.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04365.6025	25 l	inquire
		1.04365.6190	190 l	inquire
		1.04365.9011	10 l	inquire
820624	1-Heptanol for synthesis	8.20624.0100	100 ml	inquire
		8.20624.0500	500 ml	inquire
		8.20624.1000	1 l	inquire
820621	3-Heptanone for synthesis	8.20621.0250	250 ml	inquire
		8.20621.1000	1 l	inquire
804521	Hexafluoroacetone sesquihydrate for synthesis	8.04521.0005	5 ml	inquire
804515	1,1,1,3,3,3-Hexafluoro-2-propanol for synthesis	8.04515.0025	25 ml	inquire
		8.04515.0100	100 ml	inquire
			6 x 100 ml	inquire
104306	n-Hexane about 85% EMPLURA®	1.04306.1000	4 l	inquire
		1.04306.2500	2.5 l	inquire
104368	n-Hexane EMPLURA®	1.04368.1000	1 l	inquire
			6 x 1 l	inquire
		1.04368.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04368.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04368.6010	10 l	inquire
		1.04368.6025	25 l	inquire
		1.04368.6190	190 l	inquire
		1.04368.9011	10 l	inquire
		1.04368.9190	190 l	inquire
804393	1-Hexanol for synthesis	8.04393.0100	100 ml	inquire
		8.04393.1000	1 l	inquire
			6 x 1 l	inquire
		8.04393.2500	2.5 l	inquire
			4 x 2.5 l	inquire
804512	4-Hydroxy-4-methyl-2-pentanone for synthesis	8.04512.0100	100 ml	inquire
		8.04512.1000	1 l	inquire
			6 x 1 l	inquire
		8.04512.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.04512.6025	25 l	inquire
843982	Indium(III)-sulfate, anhydrous for synthesis	8.43982.0025	25 g	inquire
		8.43982.0100	100 g	inquire
101231	Isoamyl acetate EMPLURA®	1.01231.1000	1 l	inquire
			6 x 1 l	inquire
		1.01231.6025	25 l	inquire
818969	Isoamyl alcohol for synthesis	8.18969.1000	1 l	inquire
822255	Isoamyl alcohol (mixture of isomers) EMPLURA®	8.22255.1000	1 l	inquire
			6 x 1 l	inquire
		8.22255.2500	2.5 l	inquire
			4 x 2.5 l	inquire

# Solvents for Classical Analysis and Synthesis

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
100985	Isobutanol (isobutyl alcohol) EMPLURA®	1.00985.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00985.6025	25 l	inquire
		1.00985.9190	190 l	inquire
820557	Isobutyl acetate for synthesis	8.20557.0100	100 ml	inquire
		8.20557.1000	1 l	inquire
820820	Isobutyl methyl ketone EMPLURA®	8.20820.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.20820.6010	10 l	inquire
		8.20820.6025	25 l	inquire
		8.20820.9190	190 l	inquire
821627	Isooctane for synthesis	8.21627.1000	1 l	inquire
			6 x 1 l	inquire
820560	Isopropyl acetate for synthesis	8.20560.0100	100 ml	inquire
		8.20560.1000	1 l	inquire
			6 x 1 l	inquire
		8.20560.2500	2.5 l	inquire
			4 x 2.5 l	inquire
805966	Isopropyl methyl ketone for synthesis	8.05966.0250	250 ml	inquire
		8.05966.1000	1 l	inquire
843954	Lithium bis(trimethylsilyl)amide for synthesis	8.43954.0050	50 g	inquire
		8.43954.0250	250 g	inquire
805890	Mesitylene for synthesis	8.05890.0250	250 ml	inquire
		8.05890.1000	1 l	inquire
822283	Methanol EMPLURA®	8.22283.1000	1 l	inquire
		8.22283.2500	2.5 l	inquire
		8.22283.5000	5 l	inquire
		8.22283.9011	10 l	inquire
		8.22283.9025	25 l	inquire
		8.22283.9180	180 l	inquire
806061	2-Methoxyethyl acetate for synthesis	8.06061.0100	100 ml	inquire
		8.06061.1000	1 l	inquire
			6 x 1 l	inquire
		8.06061.2500	2.5 l	inquire
			4 x 2.5 l	inquire
116738	1-Methoxy-2-propanol EMPLURA®	1.16738.1000	1 l	inquire
			6 x 1 l	inquire
		1.16738.6025	25 l	inquire
		1.16738.9190	190 l	inquire
843813	3-Methoxy-1-propanol for synthesis	8.43813.0010	10 ml	inquire
		8.43813.0050	50 ml	inquire
818532	(1-Methoxy-2-propyl) acetate (stabilised with 2,6-di-tert-butyl-4-methyl-phenol) for synthesis	8.18532.1000	1 l	inquire
		8.18532.2500	2.5 l	inquire
822319	N-Methylacetamide for synthesis	8.22319.0100	100 ml	inquire
		8.22319.0500	500 ml	inquire
809711	Methyl acetate for synthesis	8.09711.1000	1 l	inquire
			6 x 1 l	inquire
		8.09711.2500	2.5 l	inquire
			4 x 2.5 l	inquire
800107	Methyl acetoacetate for synthesis	8.00107.0100	100 ml	inquire
		8.00107.1000	1 l	inquire
106059	Methyl benzoate EMPLURA®	1.06059.1000	1 l	inquire
			6 x 1 l	inquire
		1.06059.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06059.6025	25 l	inquire
822330	Methyl benzoate for synthesis	8.22330.0100	100 ml	inquire
		8.22330.1000	1 l	inquire
		8.22330.2500	2.5 l	inquire
806031	2-Methyl-1-butanol for synthesis	8.06031.0100	100 ml	inquire
		8.06031.0500	500 ml	inquire
		8.06031.1000	1 l	inquire

# Solvents for Classical Analysis and Synthesis

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
806147	Methylcyclohexane for synthesis	8.06147.0100	100 ml	<a href="#">inquire</a>
		8.06147.1000	1 l	<a href="#">inquire</a>
		8.06147.2500	6 x 1 l	<a href="#">inquire</a>
			2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
8.06147.6010	10 l	<a href="#">inquire</a>		
818663	5-Methyl-3-heptanone for synthesis	8.18663.0100	100 ml	<a href="#">inquire</a>
		8.18663.1000	1 l	<a href="#">inquire</a>
820818	2-Methylpentane for synthesis	8.20818.0100	100 ml	<a href="#">inquire</a>
		8.20818.0500	500 ml	<a href="#">inquire</a>
805965	Methyl propyl ketone for synthesis	8.05965.0100	100 ml	<a href="#">inquire</a>
		8.05965.0500	500 ml	<a href="#">inquire</a>
814536	Methyl propyl ketone for synthesis	8.14536.1000	1 l	<a href="#">inquire</a>
		8.14536.2500	2.5 l	<a href="#">inquire</a>
809722	2-Methylpyridine for synthesis	8.09722.0100	100 ml	<a href="#">inquire</a>
		8.09722.0500	500 ml	<a href="#">inquire</a>
		8.09722.1000	1 l	<a href="#">inquire</a>
807048	3-Methylpyridine for synthesis	8.07048.0250	250 ml	<a href="#">inquire</a>
		8.07048.1000	1 l	<a href="#">inquire</a>
807049	4-Methylpyridine for synthesis	8.07049.0010	10 ml	<a href="#">inquire</a>
		8.07049.0100	100 ml	<a href="#">inquire</a>
		8.07049.0500	500 ml	<a href="#">inquire</a>
		6 x 500 ml	<a href="#">inquire</a>	
806072	1-Methyl-2-pyrrolidone EMPLURA®	8.06072.1000	1 l	<a href="#">inquire</a>
		8.06072.2500	6 x 1 l	<a href="#">inquire</a>
			2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		8.06072.6025	25 l	<a href="#">inquire</a>
		8.06072.9011	10 l	<a href="#">inquire</a>
8.06072.9025	25 l	<a href="#">inquire</a>		
108292	2-Methyltetrahydrofuran EMPLURA®	1.08292.1000	1 l	<a href="#">inquire</a>
		1.08292.2500	2.5 l	<a href="#">inquire</a>
		1.08292.4000	4 l	<a href="#">inquire</a>
821093	2-Methyltetrahydrofuran (stabilised with 2,6-di-tert-butyl-4-methylphenol) for synthesis	8.21093.0005	5 ml	<a href="#">inquire</a>
		8.21093.0250	250 ml	<a href="#">inquire</a>
		8.21093.1000	1 l	<a href="#">inquire</a>
806127	Morpholine for synthesis	8.06127.0100	100 ml	<a href="#">inquire</a>
		8.06127.0500	500 ml	<a href="#">inquire</a>
		8.06127.1000	1 l	<a href="#">inquire</a>
		8.06127.2500	2.5 l	<a href="#">inquire</a>
		8.06127.9025	25 l	<a href="#">inquire</a>
806770	Nitrobenzene for synthesis	8.06770.0100	100 ml	<a href="#">inquire</a>
		8.06770.1000	1 l	<a href="#">inquire</a>
		8.06770.2500	6 x 1 l	<a href="#">inquire</a>
			2.5 l	<a href="#">inquire</a>
8.06770.9033	4 x 2.5 l 33 kg	<a href="#">inquire</a>		
806843	Nitroethane for synthesis	8.06843.0100	100 ml	<a href="#">inquire</a>
		8.06843.0500	500 ml	<a href="#">inquire</a>
820894	Nitromethane for synthesis	8.20894.0250	250 ml	<a href="#">inquire</a>
		8.20894.1000	1 l	<a href="#">inquire</a>
		6 x 1 l	<a href="#">inquire</a>	
806851	1-Nitropropane for synthesis	8.06851.0250	250 ml	<a href="#">inquire</a>
		8.06851.1000	1 l	<a href="#">inquire</a>
806838	n-Nonane for synthesis	8.06838.0100	100 ml	<a href="#">inquire</a>
		8.06838.0250	250 ml	<a href="#">inquire</a>
		8.06838.1000	1 l	<a href="#">inquire</a>
806866	1-Nonanol for synthesis	8.06866.0100	100 ml	<a href="#">inquire</a>
		8.06866.0250	250 ml	<a href="#">inquire</a>
806910	n-Octane for synthesis	8.06910.0100	100 ml	<a href="#">inquire</a>
		8.06910.0250	250 ml	<a href="#">inquire</a>
		8.06910.1000	6 x 250 ml	<a href="#">inquire</a>
			1 l	<a href="#">inquire</a>
6 x 1 l	<a href="#">inquire</a>			

# Solvents for Classical Analysis and Synthesis

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
100991	1-Octanol EMPLURA®	1.00991.1000	1 l	inquire
			6 x 1 l	inquire
		1.00991.6025	25 l	inquire
820931	1-Octanol for synthesis	8.20931.0100	100 ml	inquire
		8.20931.1000	1 l	inquire
			6 x 1 l	inquire
		8.20931.2500	2.5 l	inquire
		8.20931.9025	4 x 2.5 l	inquire
		25 l	inquire	
820925	2-Octanol for synthesis	8.20925.0100	100 ml	inquire
		8.20925.1000	1 l	inquire
		8.20925.2500	2.5 l	inquire
820957	n-Pentane EMPLURA®	8.20957.1000	1 l	inquire
			6 x 1 l	inquire
		8.20957.2500	2.5 l	inquire
		8.20957.9025	4 x 2.5 l	inquire
		25 l	inquire	
107176	n-Pentane about 95% EMPLURA®	1.07176.1000	1 l	inquire
			6 x 1 l	inquire
		1.07176.5000	5 l	inquire
			4 x 5 l	inquire
		1.07176.6025	25 l	inquire
		190 l	inquire	
807501	2-Pentanol for synthesis	8.07501.0100	100 ml	inquire
		8.07501.0500	500 ml	inquire
101773	Petroleum benzine boiling range 40–80°C EMPLURA®	1.01773.1000	1 l	inquire
			6 x 1 l	inquire
		1.01773.5000	5 l	inquire
			4 x 5 l	inquire
		10 l	inquire	
		25 l	inquire	
100910	Petroleum benzine boiling range 50–70°C EMPLURA®	1.00910.1000	1 l	inquire
			6 x 1 l	inquire
		1.00910.5000	5 l	inquire
			4 x 5 l	inquire
		25 l	inquire	
101770	Petroleum benzine boiling range 100–140°C (naphtha benzine) EMPLURA®	1.01770.1000	1 l	inquire
			6 x 1 l	inquire
		1.01770.5000	5 l	inquire
			4 x 5 l	inquire
		25 l	inquire	
843648	Phenetole for synthesis	8.43648.0100	100 ml	inquire
		8.43648.0500	500 ml	inquire
807006	2-Phenylethanol for synthesis	8.07006.0005	5 ml	inquire
		8.07006.0250	250 ml	inquire
		8.07006.1000	1 l	inquire
		8.07006.9025	6 x 1 l	inquire
		25 kg	inquire	
822299	Piperidine for synthesis	8.22299.0100	100 ml	inquire
		8.22299.0500	500 ml	inquire
			6 x 500 ml	inquire
		8.22299.2500	2.5 l	inquire
		4 x 2.5 l	inquire	
807483	Polyethylene glycol 200 for synthesis	8.07483.1000	1 l	inquire
		8.07483.5000	6 x 1 l	inquire
		5 l	inquire	
807484	Polyethylene glycol 300 for synthesis	8.07484.1000	1 l	inquire
		8.07484.5000	6 x 1 l	inquire
		5 l	inquire	
807485	Polyethylene glycol 400 for synthesis	8.07485.1000	1 l	inquire
		8.07485.5000	6 x 1 l	inquire
		5 l	inquire	
807486	Polyethylene glycol 600 for synthesis	8.07486.1000	1 l	inquire
		8.07486.5001	6 x 1 l	inquire
		5 l	inquire	
843867	Polyvinyl alcohol, fully hydrolyzed (Mw approx. 200000) for synthesis	8.43867.0100	100 g	inquire
		8.43867.1000	1 kg	inquire

# Solvents for Classical Analysis and Synthesis

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
843865	Polyvinyl alcohol, fully hydrolyzed (Mw approx.15000) for synthesis	8.43865.0100	100 g	inquire
		8.43865.1000	1 kg	inquire
822324	1,2-Propanediol EMPLURA®	8.22324.1000	1 l	inquire
			6 x 1 l	inquire
		8.22324.5000	5 l	inquire
			4 x 5 l	inquire
807481	1,3-Propanediol for synthesis	8.07481.0005	5 ml	inquire
		8.07481.0250	250 ml	inquire
		8.07481.1000	1 l	inquire
100996	1-Propanol EMPLURA®	1.00996.1000	1 l	inquire
			6 x 1 l	inquire
		1.00996.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00996.6025	25 l	inquire
		1.00996.9190	190 l	inquire
818766	2-Propanol EMPLURA®	8.18766.1000	1 l	inquire
			6 x 1 l	inquire
		8.18766.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.18766.9011	10 l	inquire
		8.18766.9025	25 l	inquire
		8.18766.9180	180 l	inquire
803183	Propyl acetate for synthesis	8.03183.0100	100 ml	inquire
		8.03183.1000	1 l	inquire
807051	Propylene carbonate for synthesis	8.07051.0100	100 ml	inquire
		8.07051.1000	1 l	inquire
			6 x 1 l	inquire
		8.07051.9025	25 l	inquire
		8.07051.9200	200 l	inquire
107462	Pyridine EMPLURA®	1.07462.1000	1 l	inquire
			6 x 1 l	inquire
		1.07462.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.07462.6026	25 l	inquire
		1.07462.9190	190 l	inquire
807494	Pyrrolidine for synthesis	8.07494.0005	5 ml	inquire
		8.07494.0250	250 ml	inquire
		8.07494.1000	1 l	inquire
807041	2-Pyrrolidone for synthesis	8.07041.0005	5 ml	inquire
		8.07041.0250	250 ml	inquire
		8.07041.1000	1 l	inquire
802407	Quinoline for synthesis	8.02407.0005	5 ml	inquire
		8.02407.0250	250 ml	inquire
			1 l	inquire
			6 x 1 l	inquire
807993	Sulfolane for synthesis	8.07993.0250	250 ml	inquire
		8.07993.1000	1 l	inquire
100964	Tetrachloroethylene EMPLURA®	1.00964.1000	1 l	inquire
			6 x 1 l	inquire
		1.00964.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00964.6025	25 l	inquire
		1.00964.9190	190 l	inquire
808619	Tetraethylene glycol for synthesis	8.08619.1000	1 l	inquire
			6 x 1 l	inquire
820959	Tetraethylene glycol dimethyl ether for synthesis	8.20959.0250	250 ml	inquire
		8.20959.1000	1 l	inquire
108114	Tetrahydrofuran EMPLURA®	1.08114.1000	1 l	inquire
			6 x 1 l	inquire
		1.08114.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.08114.6025	25 l	inquire
			1.08114.6190	190 l
		1.08114.9190	190 l	inquire
822307	Tetrahydrofurfuryl alcohol for synthesis	8.22307.0100	100 ml	inquire
		8.22307.1000	1 l	inquire
		8.22307.2500	2.5 l	inquire

# Solvents for Classical Analysis and Synthesis

## Solvents EMPLURA® and for synthesis

Cat.No.	Designation	Ord.No.	Quantity	Price
809733	1,2,3,4-Tetrahydronaphthalene for synthesis	8.09733.0100	100 ml	inquire
		8.09733.1000	1 l	inquire
			6 x 1 l	inquire
		8.09733.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.09733.9025	25 kg	inquire
808205	Tetramethylurea for synthesis	8.08205.0100	100 ml	inquire
		8.08205.0250	250 ml	inquire
808157	Thiophene for synthesis	8.08157.0005	5 ml	inquire
		8.08157.0250	250 ml	inquire
		8.08157.1000	1 l	inquire
108323	Toluene EMPLURA®	1.08323.1000	1 l	inquire
			6 x 1 l	inquire
		1.08323.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.08323.6025	25 l	inquire
		1.08323.6190	190 l	inquire
		1.08323.9011	10 l	inquire
		1.08323.9190	190 l	inquire
821152	1,2,4-Trichlorobenzene for synthesis	8.21152.0100	100 ml	inquire
		8.21152.1000	1 l	inquire
		8.21152.2500	2.5 l	inquire
100958	Trichloroethylene EMPLURA®	1.00958.1000	1 l	inquire
		1.00958.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00958.6025	25 l	inquire
		1.00958.9190	190 l	inquire
808245	Triethylene glycol for synthesis	8.08245.1000	1 l	inquire
			6 x 1 l	inquire
		8.08245.2500	2.5 l	inquire
			4 x 2.5 l	inquire
808249	Triethylene glycol dimethyl ether (stabilised) for synthesis	8.08249.0250	250 ml	inquire
821141	Triethyl phosphate for synthesis	8.21141.0100	100 ml	inquire
		8.21141.1000	1 l	inquire
808259	2,2,2-Trifluoroethanol for synthesis	8.08259.0100	100 ml	inquire
		8.08259.0250	250 ml	inquire
		8.08259.1000	1 l	inquire
821184	Trimethyl phosphate for synthesis	8.21184.0100	100 ml	inquire
		8.21184.0500	500 ml	inquire
		8.21184.2500	2.5 l	inquire
822267	2,4,6-Trimethylpyridine for synthesis	8.22267.0050	50 ml	inquire
		8.22267.0250	250 ml	inquire
		8.22267.1000	1 l	inquire
822337	m-Xylene for synthesis	8.22337.1000	1 l	inquire
		8.22337.2500	2.5 l	inquire
808697	o-Xylene for synthesis	8.08697.1000	1 l	inquire
			4 x 1 l	inquire
		8.08697.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.08697.6010	10 l	inquire
808691	p-Xylene for synthesis	8.08691.1000	1 l	inquire
			6 x 1 l	inquire
		8.08691.2500	2.5 l	inquire
			4 x 2.5 l	inquire

## Solvents for lab-applications, EMPLURA®

Cat.No.	Designation	Ord.No.	Quantity	Price
822251	Acetone EMPLURA®	8.22251.1000	1 l	inquire
			6 x 1 l	inquire
		8.22251.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22251.9025	25 l	inquire



# Solvents for Classical Analysis and Synthesis

## Solvents for lab-applications, EMPLURA®

Cat.No.	Designation	Ord.No.	Quantity	Price
115500	Acetonitrile EMPLURA®	1.15500.1000	1 l	inquire
			6 x 1 l	inquire
		1.15500.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.15500.6025	25 l	inquire
		1.15500.9190	190 l	inquire
818700	n-Amyl acetate EMPLURA®	8.18700.1000	1 l	inquire
			6 x 1 l	inquire
		8.18700.5000	5 l	inquire
806193	tert-Amyl alcohol EMPLURA®	8.06193.1000	1 l	inquire
			6 x 1 l	inquire
101782	Benzene EMPLURA®	1.01782.1000	1 l	inquire
			6 x 1 l	inquire
		1.01782.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01782.6025	25 l	inquire
822262	1-Butanol EMPLURA®	8.22262.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22262.5000	5 l	inquire
			4 x 5 l	inquire
		8.22262.9025	25 l	inquire
822263	2-Butanol EMPLURA®	8.22263.1000	1 l	inquire
			6 x 1 l	inquire
		8.22263.2500	2.5 l	inquire
			4 x 2.5 l	inquire
822264	tert-Butanol EMPLURA®	8.22264.1000	1 l	inquire
			6 x 1 l	inquire
		8.22264.5000	5 l	inquire
			4 x 5 l	inquire
		8.22264.9025	25 l	inquire
101974	n-Butyl acetate EMPLURA®	1.01974.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01974.6025	25 l	inquire
		1.01974.9190	190 l	inquire
101843	tert-Butyl methyl ether EMPLURA®	1.01843.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01843.6025	25 l	inquire
		1.01843.6190	190 l	inquire
		1.01843.9011	10 l	inquire
822265	Chloroform EMPLURA®	8.22265.1000	1 l	inquire
			6 x 1 l	inquire
		8.22265.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22265.9025	25 l	inquire
102832	Cyclohexane EMPLURA®	1.02832.1000	1 l	inquire
			6 x 1 l	inquire
		1.02832.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.02832.6025	25 l	inquire
		1.02832.9190	190 l	inquire
102888	Cyclohexanone EMPLURA®	1.02888.1000	1 l	inquire
			6 x 1 l	inquire
		1.02888.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.02888.6010	10 l	inquire
		1.02888.6025	25 l	inquire
		1.02888.9191	190 l	inquire
100955	1,2-Dichloroethane EMPLURA®	1.00955.1000	1 l	inquire
			6 x 1 l	inquire
		1.00955.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00955.6025	25 l	inquire
		1.00955.9190	190 l	inquire
822271	Dichloromethane EMPLURA®	8.22271.1000	1 l	inquire
			6 x 1 l	inquire
		8.22271.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22271.9025	25 l	inquire
		8.22271.9190	190 l	inquire

# Solvents for Classical Analysis and Synthesis

## Solvents for lab-applications, EMPLURA®

Cat.No.	Designation	Ord.No.	Quantity	Price
843957	Diethyl disulfide for synthesis	8.43957.0250	250 ml	inquire
		8.43957.1000	1 l	inquire
100923	Diethyl ether EMPLURA®	1.00923.1000	1 l	inquire
			6 x 1 l	inquire
		1.00923.5000	5 l	inquire
			4 x 5 l	inquire
1.00923.6025		1.00923.6025	25 l	inquire
822275	N,N-Dimethylformamide EMPLURA®	8.22275.1000	1 l	inquire
			6 x 1 l	inquire
		8.22275.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22275.6010	10 l	inquire
8.22275.6025	25 l	inquire		
116743	Dimethyl sulfoxide EMPLURA®	1.16743.1000	1 l	inquire
			6 x 1 l	inquire
1.16743.6025	25 l	inquire		
103115	1,4-Dioxane EMPLURA®	1.03115.1000	1 l	inquire
			6 x 1 l	inquire
		1.03115.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.03115.6025	25 l	inquire
1.03115.9191	190 l	inquire		
818760	Ethanol absolute EMPLURA®	8.18760.1000	1 l	inquire
			6 x 1 l	inquire
		8.18760.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.18760.9025	25 l	inquire
8.18760.9180	180 l	inquire		
822277	Ethyl acetate EMPLURA®	8.22277.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.22277.5000	5 l	inquire
			4 x 5 l	inquire
100949	Ethylene glycol EMPLURA®	1.00949.1000	1 l	inquire
			6 x 1 l	inquire
		1.00949.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00949.6025	25 l	inquire
1.00949.6190	190 l	inquire		
843947	Ethylene glycol monopropylether for synthesis	8.43947.0250	250 ml	inquire
		8.43947.1000	1 l	inquire
843946	Ethyl 3-ethoxypropionate for synthesis	8.43946.0250	250 ml	inquire
		8.43946.1000	1 l	inquire
106014	Ethyl methyl ketone (2-butanone) EMPLURA®	1.06014.1000	1 l	inquire
			6 x 1 l	inquire
		1.06014.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06014.6010	10 l	inquire
		1.06014.6025	25 l	inquire
		1.06014.9011	10 l	inquire
1.06014.9190	190 l	inquire		
104008	Formamide EMPLURA®	1.04008.1000	1 l	inquire
		1.04008.2500	2.5 l	inquire
		1.04008.9025	25 l	inquire
843961	D-Glucuronic acid for synthese	8.43961.0010	10 g	inquire
		8.43961.0025	25 g	inquire
104365	n-Heptane EMPLURA®	1.04365.1000	1 l	inquire
			6 x 1 l	inquire
		1.04365.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04365.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04365.6025	25 l	inquire
1.04365.6190	190 l	inquire		
1.04365.9011	10 l	inquire		
104306	n-Hexane about 85% EMPLURA®	1.04306.1000	4 l	inquire
		1.04306.2500	2.5 l	inquire

# Solvents for Classical Analysis and Synthesis

## Solvents for lab-applications, EMPLURA®

Cat.No.	Designation	Ord.No.	Quantity	Price
104368	n-Hexane EMPLURA®	1.04368.1000	1 l	inquire
			6 x 1 l	inquire
		1.04368.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04368.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04368.6010	10 l	inquire
		1.04368.6025	25 l	inquire
		1.04368.6190	190 l	inquire
			10 l	inquire
	190 l	inquire		
101231	Isoamyl acetate EMPLURA®	1.01231.1000	1 l	inquire
			6 x 1 l	inquire
		1.01231.6025	25 l	inquire
822255	Isoamyl alcohol (mixture of isomers) EMPLURA®	8.22255.1000	1 l	inquire
			6 x 1 l	inquire
		8.22255.2500	2.5 l	inquire
		4 x 2.5 l	inquire	
100978	Isoamyl alcohol (mixture of isomers) for determination of fat acc. to Gerber	1.00978.1000	1 l	inquire
		1.00978.6010	10 l	inquire
100985	Isobutanol (isobutyl alcohol) EMPLURA®	1.00985.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00985.6025	25 l	inquire
		1.00985.9190	190 l	inquire
820820	Isobutyl methyl ketone EMPLURA®	8.20820.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.20820.6010	10 l	inquire
		8.20820.6025	25 l	inquire
		8.20820.9190	190 l	inquire
822283	Methanol EMPLURA®	8.22283.1000	1 l	inquire
		8.22283.2500	2.5 l	inquire
		8.22283.5000	5 l	inquire
		8.22283.9011	10 l	inquire
		8.22283.9025	25 l	inquire
		8.22283.9180	180 l	inquire
116738	1-Methoxy-2-propanol EMPLURA®	1.16738.1000	1 l	inquire
			6 x 1 l	inquire
		1.16738.6025	25 l	inquire
		1.16738.9190	190 l	inquire
106059	Methyl benzoate EMPLURA®	1.06059.1000	1 l	inquire
			6 x 1 l	inquire
		1.06059.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		25 l	inquire	
806072	1-Methyl-2-pyrrolidone EMPLURA®	8.06072.1000	1 l	inquire
			6 x 1 l	inquire
		8.06072.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.06072.6025	25 l	inquire
		8.06072.9011	10 l	inquire
		8.06072.9025	25 l	inquire
100574	1-Methyl-2-pyrrolidone for Peptide Synthesis	1.00574.2500	2.5 l	inquire
		1.00574.4000	4 l	inquire
108292	2-Methyltetrahydrofuran EMPLURA®	1.08292.1000	1 l	inquire
		1.08292.2500	2.5 l	inquire
		1.08292.4000	4 l	inquire
100991	1-Octanol EMPLURA®	1.00991.1000	1 l	inquire
			6 x 1 l	inquire
		1.00991.6025	25 l	inquire
820957	n-Pentane EMPLURA®	8.20957.1000	1 l	inquire
			6 x 1 l	inquire
		8.20957.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		25 l	inquire	

# Solvents for Classical Analysis and Synthesis

## Solvents for lab-applications, EMPLURA®

Cat.No.	Designation	Ord.No.	Quantity	Price
107176	n-Pentane about 95% EMPLURA®	1.07176.1000	1 l	inquire
			6 x 1 l	inquire
		1.07176.5000	5 l	inquire
			4 x 5 l	inquire
		1.07176.6025	25 l	inquire
		1.07176.9190	190 l	inquire
100915	Petroleum benzine boiling range to about 40°C EMPLURA®	1.00915.1000	1 l	inquire
			6 x 1 l	inquire
		1.00915.5000	5 l	inquire
			4 x 5 l	inquire
		1.00915.6025	25 l	inquire
101773	Petroleum benzine boiling range 40–80°C EMPLURA®	1.01773.1000	1 l	inquire
			6 x 1 l	inquire
		1.01773.5000	5 l	inquire
			4 x 5 l	inquire
		1.01773.6010	10 l	inquire
		1.01773.6025	25 l	inquire
100910	Petroleum benzine boiling range 50–70°C EMPLURA®	1.00910.1000	1 l	inquire
			6 x 1 l	inquire
		1.00910.5000	5 l	inquire
			4 x 5 l	inquire
		1.00910.6025	25 l	inquire
814562	Petroleum benzine boiling range 70–90°C EMPLURA®	8.14562.1000	1 l	inquire
			6 x 1 l	inquire
101770	Petroleum benzine boiling range 100–140°C (naphtha benzine) EMPLURA®	1.01770.1000	1 l	inquire
			6 x 1 l	inquire
		1.01770.5000	5 l	inquire
			4 x 5 l	inquire
		1.01770.6025	25 l	inquire
814563	Petroleum benzine boiling range 140–180°C EMPLURA®	8.14563.1000	1 l	inquire
			6 x 1 l	inquire
822324	1,2-Propanediol EMPLURA®	8.22324.1000	1 l	inquire
			6 x 1 l	inquire
		8.22324.5000	5 l	inquire
			4 x 5 l	inquire
100996	1-Propanol EMPLURA®	1.00996.1000	1 l	inquire
			6 x 1 l	inquire
		1.00996.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00996.6025	25 l	inquire
		1.00996.9190	190 l	inquire
818766	2-Propanol EMPLURA®	8.18766.1000	1 l	inquire
			6 x 1 l	inquire
		8.18766.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		8.18766.9011	10 l	inquire
			8.18766.9025	25 l
		8.18766.9180	180 l	inquire
107462	Pyridine EMPLURA®	1.07462.1000	1 l	inquire
			6 x 1 l	inquire
		1.07462.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.07462.6026	25 l	inquire
		1.07462.9190	190 l	inquire
100964	Tetrachloroethylene EMPLURA®	1.00964.1000	1 l	inquire
			6 x 1 l	inquire
		1.00964.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00964.6025	25 l	inquire
		1.00964.9190	190 l	inquire
108114	Tetrahydrofuran EMPLURA®	1.08114.1000	1 l	inquire
			6 x 1 l	inquire
		1.08114.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.08114.6025	25 l	inquire
			1.08114.6190	190 l
		1.08114.9190	190 l	inquire
843950	Tetrahydropyran for synthesis	8.43950.0250	250 ml	inquire
		8.43950.1000	1 l	inquire

# Solvents for Classical Analysis and Synthesis

## Solvents for lab-applications, EMPLURA®

Cat.No.	Designation	Ord.No.	Quantity	Price
108323	Toluene EMPLURA®	1.08323.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.08323.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.08323.6025	25 l	<a href="#">inquire</a>
		1.08323.6190	190 l	<a href="#">inquire</a>
		1.08323.9011	10 l	<a href="#">inquire</a>
1.08323.9190	190 l	<a href="#">inquire</a>		
100958	Trichloroethylene EMPLURA®	1.00958.1000	1 l	<a href="#">inquire</a>
			2.5 l	<a href="#">inquire</a>
		1.00958.2500	4 x 2.5 l	<a href="#">inquire</a>
			25 l	<a href="#">inquire</a>
		1.00958.9190	190 l	<a href="#">inquire</a>
822341	Triethanolamine EMPLURA®	8.22341.5000	5 l	<a href="#">inquire</a>
			4 x 5 l	<a href="#">inquire</a>
		8.22341.9026	25 l	<a href="#">inquire</a>

## Solvents for Analysis EMPARTA® ACS

Cat.No.	Designation	Ord.No.	Quantity	Price
107021	Acetone for analysis EMPARTA® ACS	1.07021.2511	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.07021.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
107024	Chloroform for analysis EMPARTA® ACS	1.07024.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.07024.4000	4 l	<a href="#">inquire</a>
107020	Dichloromethane for analysis EMPARTA® ACS	1.07020.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.07020.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
107026	Diethyl ether absolute for analysis EMPARTA® ACS	1.07026.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.07026.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
107026	Diethyl ether absolute for analysis EMPARTA® ACS	1.07026.5000	5 l	<a href="#">inquire</a>
			4 x 5 l	<a href="#">inquire</a>
		1.07026.6010	10 l	<a href="#">inquire</a>
			4 x 10 l	<a href="#">inquire</a>
103034	N,N-Dimethylformamide EMPARTA®	1.03034.1000	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.03034.1011	1 l	<a href="#">inquire</a>
			6 x 1 l	<a href="#">inquire</a>
		1.03034.2500	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.03034.2511	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.03034.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
1.03034.6025	25 l	<a href="#">inquire</a>		
	4 x 25 l	<a href="#">inquire</a>		
107017	Ethanol absolute for analysis EMPARTA® ACS	1.07017.2511	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.07017.4000	4 l	<a href="#">inquire</a>
			4 x 4 l	<a href="#">inquire</a>
1.07017.9026	25 l	<a href="#">inquire</a>		
107023	n-Hexane absolute for analysis EMPARTA® ACS	1.07023.2511	2.5 l	<a href="#">inquire</a>
			4 l	<a href="#">inquire</a>
		1.07023.4000	4 x 4 l	<a href="#">inquire</a>
			25 l	<a href="#">inquire</a>
107018	Methanol for analysis EMPARTA® ACS	1.07018.2511	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.07018.4000	4 l	<a href="#">inquire</a>
			1.07018.9026	25 l
107022	2-Propanol for analysis EMPARTA® ACS	1.07022.2511	2.5 l	<a href="#">inquire</a>
			4 x 2.5 l	<a href="#">inquire</a>
		1.07022.4000	4 l	<a href="#">inquire</a>
			1.07022.9026	25 l

# Solvents for Classical Analysis and Synthesis

## Solvents for Analysis EMPARTA® ACS

Cat.No.	Designation	Ord.No.	Quantity	Price
107025	Tetrahydrofuran for analysis EMPARTA® ACS	1.07025.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.07025.4000	4 l	inquire
			4 x 4 l	inquire
107019	Toluene for analysis EMPARTA® ACS	1.07019.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.07019.2511	2.5 l	inquire
			1.07019.4000	4 l

## Solvents for Analysis EMSURE® ACS, ISO, Reag. PhEur

Cat.No.	Designation	Ord.No.	Quantity	Price
100014	Acetone for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.00014.1000	1 l	inquire
			6 x 1 l	inquire
		1.00014.1011	1 l	inquire
			6 x 1 l	inquire
		1.00014.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00014.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00014.4000	4 l	inquire
			1.00014.5000	5 l
		1.00014.6010	4 x 5 l	inquire
			10 l	inquire
		1.00014.6025	25 l	inquire
		1.00014.6190	190 l	inquire
1.00014.9025	25 l	inquire		
1.00014.9180	180 l	inquire		
100003	Acetonitrile for analysis EMSURE® ACS,Reag. Ph Eur	1.00003.1000	1 l	inquire
			6 x 1 l	inquire
		1.00003.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00003.4000	4 l	inquire
		1.00003.6010	10 l	inquire
		1.00003.6025	25 l	inquire
1.00003.9025	25 l	inquire		
109600	Acetylacetone for analysis EMSURE®	1.09600.0100	100 ml	inquire
		1.09600.0500	500 ml	inquire
100975	n-Amyl alcohol (Pentan-1-ol) for analysis EMSURE®	1.00975.1000	1 l	inquire
			6 x 1 l	inquire
		1.00975.2500	2.5 l	inquire
101261	Aniline for analysis EMSURE®	1.01261.1000	1 l	inquire
			6 x 1 l	inquire
101783	Benzene for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.01783.1000	1 l	inquire
			6 x 1 l	inquire
		1.01783.2500	2.5 l	inquire
			4 x 2.5 l	inquire
109626	Benzyl alcohol for analysis EMSURE®	1.09626.1000	1 l	inquire
			6 x 1 l	inquire
		1.09626.2500	2.5 l	inquire
			4 x 2.5 l	inquire
1.09626.4000	4 l	inquire		
	1.09626.6025	25 l	inquire	
101990	1-Butanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.01990.1000	1 l	inquire
			6 x 1 l	inquire
		1.01990.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01990.4000	4 l	inquire
		1.01990.6010	10 l	inquire
1.01990.6025	25 l	inquire		
109630	2-Butanol for analysis EMSURE®	1.09630.1000	1 l	inquire
			6 x 1 l	inquire
		1.09630.2500	2.5 l	inquire
			4 x 2.5 l	inquire
1.09630.9025	25 l	inquire		

# Solvents for Classical Analysis and Synthesis

## Solvents for Analysis EMSURE® ACS, ISO, Reag. PhEur

Cat.No.	Designation	Ord.No.	Quantity	Price
109629	tert-Butanol for analysis EMSURE® ACS,Reag. Ph Eur	1.09629.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.09629.5000	5 l	inquire
			4 x 5 l	inquire
		1.09629.9025	25 l	inquire
109652	n-Butyl acetate for analysis EMSURE®	1.09652.1000	1 l	inquire
			6 x 1 l	inquire
		1.09652.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.09652.4000	4 l	inquire
		1.09652.6010	10 l	inquire
101849	tert-Butyl methyl ether for analysis EMSURE® ACS	1.01849.1000	1 l	inquire
			6 x 1 l	inquire
		1.01849.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01849.4000	4 l	inquire
		1.01849.9190	190 l	inquire
102445	Chloroform for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.02445.0250	250 ml	inquire
			1 l	inquire
			6 x 1 l	inquire
		1.02445.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.02445.4000	4 l	inquire
			10 l	inquire
		1.02445.6025	25 l	inquire
		1.02445.9190	190 l	inquire
109666	Cyclohexane for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.09666.1000	1 l	inquire
			6 x 1 l	inquire
		1.09666.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.09666.2511	2.5 l	inquire
			4 l	inquire
			4 x 4 l	inquire
		1.09666.6010	10 l	inquire
		1.09666.6025	25 l	inquire
		1.09666.9190	190 l	inquire
102930	1,2-Dichlorobenzene for extraction analysis EMSURE®	1.02930.1000	1 l	inquire
			2.5 l	inquire
106050	Dichloromethane for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.06050.1000	1 l	inquire
			6 x 1 l	inquire
		1.06050.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06050.4000	4 l	inquire
			10 l	inquire
		1.06050.6025	25 l	inquire
			25 l	inquire
		1.06050.9190	190 l	inquire
116205	Diethanolamine for analysis EMSURE®	1.16205.1000	1 l	inquire
			6 x 1 l	inquire
100921	Diethyl ether for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.00921.1000	1 l	inquire
			6 x 1 l	inquire
		1.00921.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00921.4000	4 l	inquire
			4 x 4 l	inquire
		1.00921.5000	5 l	inquire
			4 x 5 l	inquire
		1.00921.6010	10 l	inquire
			25 l	inquire
		1.00921.6025	25 l	inquire
		1.00921.6190	190 l	inquire
		1.00921.9025	25 l	inquire
		1.00921.9190	190 l	inquire
100867	Diisopropyl ether for analysis EMSURE® ACS,Reag. Ph Eur	1.00867.1000	1 l	inquire
			6 x 1 l	inquire
		1.00867.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00867.4000	4 l	inquire
			4 x 4 l	inquire
		1.00867.6010	10 l	inquire



# Solvents for Classical Analysis and Synthesis

## Solvents for Analysis EMSURE® ACS, ISO, Reag. PhEur

Cat.No.	Designation	Ord.No.	Quantity	Price
103053	N,N-Dimethylformamide for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.03053.1000	1 l	inquire
			6 x 1 l	inquire
		1.03053.1011	1 l	inquire
			6 x 1 l	inquire
		1.03053.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.03053.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.03053.4000	4 l	inquire
			4 x 4 l	inquire
102952	Dimethyl sulfoxide for analysis EMSURE® ACS	1.02952.1000	1 l	inquire
			6 x 1 l	inquire
		1.02952.1011	1 l	inquire
			6 x 1 l	inquire
		1.02952.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.02952.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.02952.4000	4 l	inquire
			4 x 4 l	inquire
109671	1,4-Dioxane for analysis EMSURE® ACS,ISO	1.09671.0250	250 ml	inquire
		1.09671.1000	1 l	inquire
			6 x 1 l	inquire
		1.09671.2500	2.5 l	inquire
			4 x 2.5 l	inquire
100983	Ethanol absolute for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.00983.1000	1 l	inquire
			6 x 1 l	inquire
		1.00983.1011	1 l	inquire
			6 x 1 l	inquire
		1.00983.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00983.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00983.4000	4 l	inquire
			4 x 4 l	inquire
		1.00983.5000	5 l	inquire
			4 x 5 l	inquire
		1.00983.6010	10 l	inquire
1.00983.6025	25 l	inquire		
1.00983.9025	25 l	inquire		
1.00983.9180	180 l	inquire		
100974	Ethanol denatured with about 1% methyl ethyl ketone for analysis EMSURE®	1.00974.1011	1 l	inquire
			6 x 1 l	inquire
		1.00974.2500	2.5 l	inquire
		1.00974.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00974.4000	4 l	inquire
		1.00974.6025	25 l	inquire
		1.00974.9025	25 l	inquire
159010	Ethanol 96% EMSURE® Reag. Ph Eur	1.59010.0500	500 ml	inquire
		1.59010.2500	2.5 l	inquire
			4 x 2.5 l	inquire
100845	Ethanolamine for analysis EMSURE®	1.00845.1000	1 l	inquire
		1.00845.2500	2.5 l	inquire
109623	Ethyl acetate for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.09623.1000	1 l	inquire
			6 x 1 l	inquire
		1.09623.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.09623.2511	2.5 l	inquire
			6 x 2.5 l	inquire
		1.09623.4000	4 l	inquire
			4 x 4 l	inquire
		1.09623.6010	10 l	inquire
		1.09623.6025	25 l	inquire
1.09623.9026	25 l	inquire		
1.09623.9181	180 l	inquire		

# Solvents for Classical Analysis and Synthesis

## Solvents for Analysis EMSURE® ACS, ISO, Reag. PhEur

Cat.No.	Designation	Ord.No.	Quantity	Price
109621	Ethylene glycol for analysis EMSURE® Reag. Ph Eur, Reag. USP	1.09621.1000	1 l	inquire
			6 x 1 l	inquire
		1.09621.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.09621.4000	4 l	inquire
			4 x 4 l	inquire
		1.09621.6010	10 l	inquire
		1.09621.9180	180 l	inquire
100859	Ethylene glycol monomethyl ether for analysis EMSURE® ACS, Reag. Ph Eur	1.00859.1000	1 l	inquire
			6 x 1 l	inquire
		1.00859.2500	2.5 l	inquire
			4 x 2.5 l	inquire
1.00859.9025	25 kg	inquire		
109708	Ethyl methyl ketone for analysis EMSURE® ACS, Reag. Ph Eur	1.09708.1000	1 l	inquire
			6 x 1 l	inquire
		1.09708.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.09708.4000	4 l	inquire
		1.09708.6025	25 l	inquire
1.09708.9190	190 l	inquire		
109684	Formamide for analysis EMSURE® ACS, Reag. Ph Eur	1.09684.1000	1 l	inquire
			6 x 1 l	inquire
		1.09684.2500	2.5 l	inquire
	4 x 2.5 l	inquire		
104092	Glycerol for analysis EMSURE® ACS, Reag. Ph Eur	1.04092.1000	1 l	inquire
			6 x 1 l	inquire
		1.04092.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04092.2511	2.5 l	inquire
		1.04092.4000	4 l	inquire
1.04092.9010	10 l	inquire		
104094	Glycerol 85% for analysis EMSURE® Reag. Ph Eur	1.04094.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.04094.1000	1 l	inquire
			6 x 1 l	inquire
		1.04094.2500	2.5 l	inquire
			4 x 2.5 l	inquire
1.04094.9026	25 l	inquire		
104379	n-Heptane for analysis EMSURE® Reag. Ph Eur	1.04379.1000	1 l	inquire
			6 x 1 l	inquire
		1.04379.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04379.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04379.4000	4 l	inquire
			4 x 4 l	inquire
1.04379.6010	10 l	inquire		
1.04379.6025	25 l	inquire		
1.04379.9190	190 l	inquire		
104367	n-Hexane for analysis EMSURE® ACS	1.04367.1000	1 l	inquire
			6 x 1 l	inquire
		1.04367.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04367.2511	2.5 l	inquire
			4 x 2.5 l	inquire
1.04367.6010	10 l	inquire		
1.04367.6025	25 l	inquire		
1.04367.9190	190 l	inquire		
104374	n-Hexane for analysis EMSURE® ACS, Reag. Ph Eur	1.04374.1000	1 l	inquire
			6 x 1 l	inquire
		1.04374.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04374.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04374.4000	4 l	inquire
		1.04374.4004	4 x 4 l	inquire
1.04374.6010	10 l	inquire		
1.04374.6025	25 l	inquire		

# Solvents for Classical Analysis and Synthesis

## Solvents for Analysis EMSURE® ACS, ISO, Reag. Ph Eur

Cat.No.	Designation	Ord.No.	Quantity	Price
100979	Isoamyl alcohol for analysis EMSURE® ACS, Reag. Ph Eur	1.00979.1000	1 l	inquire
			6 x 1 l	inquire
		1.00979.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00979.4000	4 l	inquire
		1.00979.9025	25 l	inquire
100984	Isobutanol for analysis EMSURE® ACS, Reag. Ph Eur	1.00984.1000	1 l	inquire
			6 x 1 l	inquire
		1.00984.2500	2.5 l	inquire
			4 x 2.5 l	inquire
106146	Isobutyl methyl ketone for extraction analysis EMSURE® ACS, Reag. Ph Eur	1.06146.1000	1 l	inquire
			6 x 1 l	inquire
		1.06146.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06146.4000	4 l	inquire
		1.06146.6025	25 l	inquire
104333	Isohexane for analysis EMSURE®	1.04333.1000	1 l	inquire
			6 x 1 l	inquire
		1.04333.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04333.9190	190 l	inquire
104727	Isooctane for analysis EMSURE® ACS, Reag. Ph Eur	1.04727.1000	1 l	inquire
			6 x 1 l	inquire
		1.04727.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.04727.4000	4 l	inquire
			4 x 4 l	inquire
		1.04727.6010	10 l	inquire
		1.04727.6025	25 l	inquire
106009	Methanol for analysis EMSURE® ACS, ISO, Reag. Ph Eur	1.06009.1000	1 l	inquire
			6 x 1 l	inquire
		1.06009.1011	1 l	inquire
			6 x 1 l	inquire
		1.06009.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06009.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.06009.4000	4 l	inquire
			5 l	inquire
		1.06009.5000	4 x 5 l	inquire
			10 l	inquire
	10 l	inquire		
	25 l	inquire		
	25 l	inquire		
	180 l	inquire		
107177	n-Pentane for analysis EMSURE®	1.07177.1000	1 l	inquire
			6 x 1 l	inquire
		1.07177.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.07177.4000	4 l	inquire
			10 l	inquire
		1.07177.9190	190 l	inquire
109718	Petroleum for analysis EMSURE®	1.09718.1000	1 l	inquire
			6 x 1 l	inquire
		1.09718.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.09718.6025	25 l	inquire
101775	Petroleum benzene for analysis boiling range 40–60°C EMSURE® ACS, ISO	1.01775.1000	1 l	inquire
			6 x 1 l	inquire
		1.01775.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01775.4000	4 l	inquire
			4 x 4 l	inquire
		1.01775.5000	5 l	inquire
			4 x 5 l	inquire
		1.01775.6010	10 l	inquire
			10 l	inquire
	25 l	inquire		
	25 l	inquire		
	190 l	inquire		
101786	Petroleum benzene boiling range 30–50°C for analysis EMSURE®	1.01786.1000	1 l	inquire
			2.5 l	inquire
		1.01786.2500	4 x 2.5 l	inquire

# Solvents for Classical Analysis and Synthesis

## Solvents for Analysis EMSURE® ACS, ISO, Reag. PhEur

Cat.No.	Designation	Ord.No.	Quantity	Price
101774	Petroleum benzene boiling range 60–80°C for analysis EMSURE®	1.01774.1000	1 l	inquire
			6 x 1 l	inquire
		1.01774.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.01774.5000	5 l	inquire
			4 x 5 l	inquire
101774.6010		1.01774.6010	10 l	inquire
		1.01774.6025	25 l	inquire
101777	Petroleum benzene boiling range 80–100°C for analysis EMSURE®	1.01777.1000	1 l	inquire
			6 x 1 l	inquire
101781	Petroleum benzene boiling range 100–120°C for analysis EMSURE® Reag. Ph Eur	1.01781.1000	1 l	inquire
			6 x 1 l	inquire
109724	Piperidine for analysis EMSURE®	1.09724.0100	100 ml	inquire
		1.09724.0500	500 ml	inquire
100997	1-Propanol for analysis EMSURE® ACS,Reag. Ph Eur	1.00997.1000	1 l	inquire
			6 x 1 l	inquire
		1.00997.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.00997.4000	4 l	inquire
		1.00997.6025	25 l	inquire
109634	2-Propanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.09634.1000	1 l	inquire
			6 x 1 l	inquire
		1.09634.1011	1 l	inquire
			6 x 1 l	inquire
		1.09634.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.09634.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.09634.4000	4 l	inquire
			4 x 4 l	inquire
		1.09634.5000	5 l	inquire
			4 x 5 l	inquire
		1.09634.6010	10 l	inquire
		1.09634.6025	25 l	inquire
1.09634.6190	190 l	inquire		
1.09634.9025	25 l	inquire		
1.09634.9180	180 l	inquire		
109728	Pyridine for analysis EMSURE® ACS,Reag. Ph Eur	1.09728.0100	100 ml	inquire
		1.09728.0500	500 ml	inquire
			6 x 500 ml	inquire
		1.09728.1000	1 l	inquire
			6 x 1 l	inquire
		1.09728.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.09728.4000	4 l	inquire
			4 x 4 l	inquire
		1.09728.6025	25 l	inquire
1.09728.9190	190 lt	inquire		
109731	Tetrahydrofuran for analysis EMSURE® ACS,Reag. Ph Eur	1.09731.1000	1 l	inquire
			6 x 1 l	inquire
		1.09731.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.09731.4000	4 l	inquire
			4 x 4 l	inquire
		1.09731.6010	10 l	inquire
		1.09731.6025	25 l	inquire
1.09731.9190	190 l	inquire		
108325	Toluene for analysis EMSURE® ACS,ISO,Reag. Ph Eur	1.08325.1000	1 l	inquire
			6 x 1 l	inquire
		1.08325.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.08325.2511	2.5 l	inquire
			4 x 2.5 l	inquire
		1.08325.4000	4 l	inquire
1.08325.6010	10 l	inquire		
1.08325.6025	25 l	inquire		
1.08325.9185	185 l	inquire		
1.08325.9190	190 l	inquire		

# Solvents for Classical Analysis and Synthesis

## Solvents for Analysis EMSURE® ACS, ISO, Reag. PhEur

Cat.No.	Designation	Ord.No.	Quantity	Price
111872	Trichloroethylene for analysis EMSURE® ACS,Reag. Ph Eur	1.11872.1000	1 l	inquire
			6 x 1 l	inquire
		1.11872.2500	2.5 l	inquire
			4 x 2.5 l	inquire
109795	n-Undecane for analysis EMSURE®	1.09795.0100	100 ml	inquire
116754	Water for analysis EMSURE®	1.16754.4000	4 l	inquire
		1.16754.5000	5 l	inquire
			4 x 5 l	inquire
		1.16754.9010	10 l	inquire
108661	Xylene for analysis EMSURE® ACS,ISO,Reag.Ph Eur	1.08661.1000	1 l	inquire
		1.08661.2500	2.5 l	inquire
		1.08661.2511	2.5 l	inquire
		1.08661.4000	4 l	inquire
			4 x 4 l	inquire
		1.08661.6010	10 l	inquire
		1.08661.6025	25 l	inquire
		1.08661.9025	25 l	inquire
		1.08661.9190	190 l	inquire
108684	p-Xylene for analysis EMSURE® ISO	1.08684.1000	1 l	inquire
			6 x 1 l	inquire
		1.08684.2500	2.5 l	inquire
			4 x 2.5 l	inquire
		1.08684.9025	25 l	inquire

## Safety accessories for bottles



1.08801.0001

Bottle key for opening and closing bottles with S 40 and S 28 screw caps



1.09996.0001

Adapter S 40, e.g. for direct connection to HPLC instruments



1.03830.0001

HPLC bottle adapter with 3 tube connections ID 3.2 mm, solvents supply by Merck-bottles



1.03831.0001

HPLC bottle adapter S 40 with 3 tube connections for solvents disposal (exhaust air filter not included)



1.03832.0001

Air valve for HPLC bottle adapter S 40



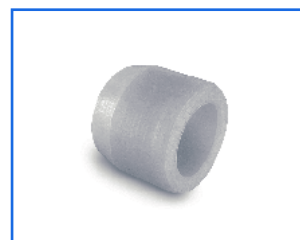
1.03833.0001

Exhaust air filter for HPLC bottle adapter S 40, disposal



1.03834.0001

Fittings for capillaries with 3.2 mm OD (pack of 10)



1.03835.0001

PTFE-ferrule for capillaries with 3.2 mm OD (pack of 10)



1.03836.0001

Blanking plugs (pack of 10)



1.00801.0001

Label set acc. to GHS with 20 blank adhesive labels, adhesive pictograms and signal words

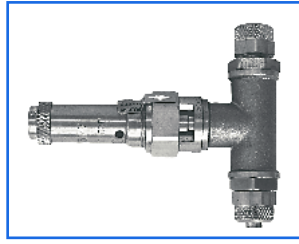


Safety carriers for Merck Millipore glass bottles

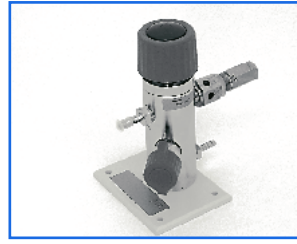
## Safety accessories for barrels and drums



**1.08803.0001**  
Drum & barrel key



**9.67100.9004**  
Pressure safety device



**9.67100.9100**  
Pressure reducer  
with integrated overpressure relief



**1.07070.0001**  
Antistatic device  
(3 cables in box)



**9.67106.0001**  
Stainless steel clamp for filling nozzle  
attachment to drums



**9.67107.0001**  
Stainless steel clamp for filling  
nozzle attachment to walls

## Withdrawal systems for barrels and drums



**1.01114.0001**  
Withdrawal system  
for 10 l and 25 l stainless steel drums



**1.01123.0001**  
Withdrawal system  
for 10 l and 30 l stainless steel barrels



**1.06710.0001**  
Withdrawal system for stainless steel  
drums and barrels with inert gas  
pressurizing (dip tube orderable  
additionally)



**1.19171.0001**  
Withdrawal system for solvents with  
manual pressure build-up for 200 l  
drums and barrels



Threaded adapters

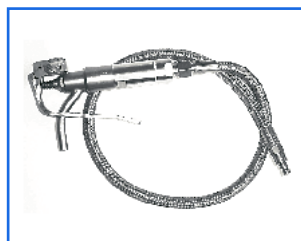


**9.67100.9002**  
Threaded adapter (vertical connectors)



**9.67100.9003**  
Threaded adapter (horizontal connectors)

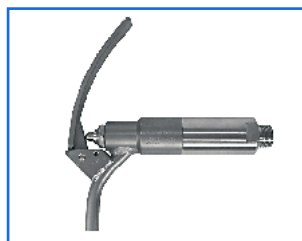
Filling nozzles and taps



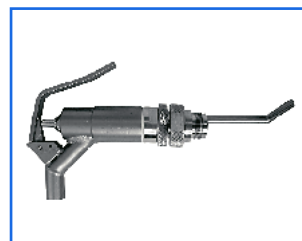
**9.67100.9090**  
Filling nozzle with tubing



**9.67100.1090**  
Filling nozzle



**9.67100.1084**  
Filling nozzle for wall attachment



**1.09070.0001**  
Tap for withdrawal  
out of horizontal containers

Tubings



**9.67100.9051**  
Gas feeding tube



Stainless steel coated teflon tubings  
with several connectors  
(special lengths on request)

## Dip tubes



Dip tube  
for stainless steel barrels and drums  
for 2" threaded adapter

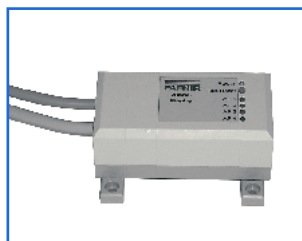


**9.67100.1026**  
Dip tube for combi containers

## Level sensors



**9.67100.2001**  
Level sensor for bottles  
(solvent supply)



**9.67100.2004**  
Display for bottle level sensors

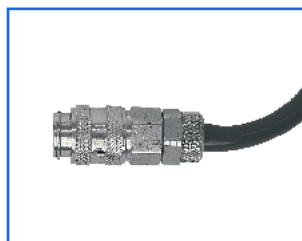


Level Sensor System for continuous level  
detection incl. graphical display with  
optical and audible signal

## Adapters and reducers



**1.01111.0001**  
Reducer  
2 inch to S 40



**9.67100.1052**  
Coupling (female) with tube connection



**9.67100.1061**  
Nipple (male) with tube connection

## Spare parts and optional products



**9.67100.1079**  
Pump ball with quick connector



O-Ring sealing

# Solvents – Safety accessories & withdrawal systems

## Solvent withdrawal systems

Cat.No.	Designation	Ord.No.	Quantity	Price
101114	Withdrawal system for solvents with manual pressure build-up for 10 l and 25 l stainless steel drums with 2" connection	1.01114.0001	1 unit	inquire
101123	Withdrawal system for solvents with manual pressure build-up for 10 l and 30 l stainless steel barrels	1.01123.0001	1 unit	inquire
119171	Withdrawal system for solvents with manual pressure build-up for 200 L drums and barrels	1.19171.0001	1 unit	inquire
106710	Withdrawal system for stainless steel barrels and drums with threaded adapter and flexible lines, for gas pressurizing, additionally necessary: dip tube suit the particular type of container	1.06710.0001	1 set	inquire

## Threaded adapter

Cat.No.	Designation	Ord.No.	Quantity	Price
902619	Threaded adapter (2") (stainless steel) with 2 horizontal rapid-action connectors	9.67100.9003	1 unit	inquire
902330	Threaded adapter (2") (stainless steel) with 2 vertical rapid-action connectors	9.67100.9002	1 unit	inquire

## Dip tubes

Cat.No.	Designation	Ord.No.	Quantity	Price
902332	Dip tube for 10 l stainless steel barrel for withdrawal system Cat. No. 1.01123.0001	9.67100.1011	1 unit	inquire
901748	Dip tube for 10 l stainless steel barrel for withdrawal systems with 2" thread adapter	9.67100.1040	1 unit	inquire
902334	Dip tube for 10 l stainless steel drum for withdrawal system Cat. No. 1.01114.0001	9.67100.1012	1 unit	inquire
902335	Dip tube for 10 l stainless steel drum for withdrawal systems with 2" thread adapter	9.67100.1010	1 unit	inquire
941862	Dip tube for 25 l combi container for withdrawal system Cat. No. 1.01114.0001	9.67100.1026	1 unit	inquire
902333	Dip tube for 25 l stainless steel drum for withdrawal system Cat. No. 1.01114.0001	9.67100.1028	1 unit	inquire
901756	Dip tube for 25 l stainless steel drum for withdrawal systems with 2" thread adapter	9.67100.1025	1 unit	inquire
902331	Dip tube for 30 l stainless steel barrel for withdrawal system Cat. No. 1.01123.0001	9.67100.1029	1 unit	inquire
901747	Dip tube for 30 l stainless steel barrel for withdrawal systems with 2" thread adapter	9.67100.1041	1 unit	inquire
902592	Dip tube for 185 l stainless steel barrel for withdrawal systems with 2" thread adapter	9.67100.1185	1 unit	inquire
902591	Dip tube for 190 l stainless steel drum for withdrawal systems with 2" thread adapter	9.67100.1190	1 unit	inquire

## Filling nozzles and taps

Cat.No.	Designation	Ord.No.	Quantity	Price
960212	Filling nozzle (stainless steel) self-closing, with stainless steel-coated PTFE-tube (80 cm) and rapid action connector	9.67100.9090	1 unit	inquire
947916	Filling nozzle (stainless steel) with stainless steel-coated PTFE-tube (125 cm) with larger rapid-action connector, for large containers, connectable only to threaded adapter 9.67100.9006	9.67100.9065	1 unit	inquire
960210	Filling nozzle (tap) self-closing, for 10-30 L drums and barrels, with thread G3/8	9.67100.1090	1 unit	inquire
949159	Filling nozzle (tap), self-closing, with G3/8" thread for wall attachment	9.67100.1084	1 unit	inquire
112937	Tap (PE) attachable, self-venting, for 5 l, 10 l and 25 l PE canisters with KS 60x6 external thread	1.12937.0001	1 unit	inquire
112938	Tap (PE) self-venting, for vessels with 3/4" internal thread (2" to 3/4" reducer supplied)	1.12938.0001	1 unit	inquire
109070	Tap (stainless steel) attachable, self-closing, for vessels with 3/4" internal thread	1.09070.0001	1 unit	inquire

## Product and gas tubings

Cat.No.	Designation	Ord.No.	Quantity	Price
958650	Spiral gas feeding tube (Nylon) with rapid action-connector, FFKM sealing, length: 180 cm	9.67100.9051	1 unit	inquire
902451	Stainless steel-coated PTFE tube (80 cm) with 2 rapid-action connectors (1x coupling, 1x nipple)	9.67100.9058	1 unit	inquire
946740	Stainless steel-coated PTFE-tube (80 cm) with 3/8" threaded connector and pipe connector (O.D. 10 mm)	9.67100.9056	1 unit	inquire
902450	Stainless steel-coated PTFE-tube (80 cm) with rapid-action connector and pipe connector (O.D. 10 mm)	9.67100.9057	1 unit	inquire
942896	Stainless steel-coated PTFE-tube (80 cm) with rapid-action coupling and pipe connector (O.D. 10 mm)	9.67100.9062	1 unit	inquire

# Solvents – Safety accessories & withdrawal systems

## Product and gas tubings

Cat.No.	Designation	Ord.No.	Quantity	Price
948501	Stainless steel-coated PTFE-tube (80 cm) with rapid-action nipple and threaded connector G 3/8	9.67100.9052	1 unit	inquire
942898	Stainless steel-coated PTFE-tube (100 cm) with pipe connector (O.D. 10 mm) on both sides	9.67100.9061	1 unit	inquire

## Adapters and Reducers

Cat.No.	Designation	Ord.No.	Quantity	Price
963389	Adapter with S40 thread, with level sensor for emptying Merck solvents in bottles	9.67100.2001	1 unit	inquire
963390	Adapter with S40 thread with sensor for filling Merck bottles	9.67100.2002	1 unit	inquire
167206	Bottle adapter (PTFE), S40 (bottle thread) to GL45 (outer thread)	1.67206.0001	1 unit	inquire
902262	Coupling part between tube (6x8 mm) and pipe (O.D. 10 mm)	9.67100.1055	1 unit	inquire
902266	Rapid-action connecting nipple (gas side) with 3/8" thread	9.67100.1051	1 unit	inquire
902265	Rapid-action connector for gas feed tube (8x6 mm) or for system venting	9.67100.1052	1 unit	inquire
902282	Rapid-action connector for product tube (8 x 6 mm)	9.67100.1061	1 unit	inquire
902267	Rapid-action connector (product side) with 3/8" thread	9.67100.1050	1 unit	inquire
928891	Rapid-action connector for product tube 3x1.5 mm	9.67100.1076	1 unit	inquire
902822	Rapid-action nipple with tube connection 6x4 mm	9.67100.1064	1 unit	inquire
902693	Reducer (PE) from S 40 to S 38	9.67207.0001	1 unit	inquire
902694	Reducer (PE) from S40 to GL45	9.67206.0001	1 unit	inquire
901922	Reducer (PE) from S 56x4 to 2" thread (2" coarse to 2" fine thread)	9.67202.0000	1 unit	inquire
953745	Reducer (PP) S56 x 4 to G 3/4	9.67211.0001	1 unit	inquire
167207	Reducer (PTFE) from S40 to S38	1.67207.0001	1 unit	inquire
902090	Reducer (stainless steel) from 2" to 3/4" thread	9.67204.0000	1 unit	inquire
101111	Reducer (stainless steel) from 2" to S40 thread	1.01111.0001	1 unit	inquire
927705	Union elbow connector for metric tube to metric tube (o.d. 10 mm)	9.67100.1073	1 unit	inquire

## Safety accessories for barrels and drums

Cat.No.	Designation	Ord.No.	Quantity	Price
107070	Antistatic device for earthing metal containers when dispensing and filling flammable solvents	1.07070.0001	1 unit	inquire
902885	Cabinet wall duct 55 mm with 10 mm tubing connections on both sides, 22 mm diameter, 115 mm length	9.67100.1067	1 unit	inquire
902888	Hood wall duct with tube connector (OD 10 mm) for G 3/8 internal thread	9.67100.1069	1 unit	inquire
902698	Pressure safety device 0.5 bar with 2 tube connections (6x8 mm)	9.67100.9004	1 unit	inquire
964205	Reducing valve, 0.2 bar with 2 tube connections 6 x 8 mm and integrated excess pressure safety device 0.5 bar	9.67100.9100	1 unit	inquire
967106	Stainless steel clamp for filling nozzle attachment to stainless steel drums	9.67106.0001	1 unit	inquire
967107	Stainless steel clamp for filling nozzle attachment to walls	9.67107.0001	1 unit	inquire

## Safety accessories for bottles

Cat.No.	Designation	Ord.No.	Quantity	Price
109996	Adapter S 40 for the direct aspiration of solvents through tubes of 3 mm O.D. from bottles with S 40 thread	1.09996.0001	1 unit	inquire
103832	Air valve for HPLC bottle adapter S40	1.03832.0001	10 units	inquire
103836	Blanking plug for capillary connections with 3.2 mm I.D., for HPLC bottle adapter S40 (pack of 10)	1.03836.0001	10 units	inquire
964204	Display and alarm device for bottle level sensor	9.67100.2004	1 unit	inquire
103833	Exhaust air filter for HPLC bottle adapter S40, disposal	1.03833.0001	1 unit	inquire
103834	Fittings for capillaries with 3.2 mm O.D., for HPLC bottle adapter S40 (pack of 10)	1.03834.0001	10 units	inquire
103831	HPLC bottle adapter S40 with 3 tube connections and 1 connection for exhaust air filter, solvents disposal	1.03831.0001	1 unit	inquire
103830	HPLC-bottle adapter with 3 tube connections ID 3.2 mm, solvents supply by Merck-bottles	1.03830.0001	1 unit	inquire

# Solvents - Safety accessories & withdrawal systems

## Safety accessories for bottles

Cat.No.	Designation	Ord.No.	Quantity	Price
103835	PTFE-ferrule for capillaries with 3.2 mm O.D., for HPLC bottle adapter S40 (pack of 10)	1.03835.0001	10 units	inquire
963533	Safety carrier for Merck 2.5 L glass bottles	9.20078.0001	1 unit	inquire
120080	Safety carrier for Merck 4 L glass bottles	1.20080.0001	1 unit	inquire
140140	Safety carrier for 4l glass bottles (Merck Millipore) V2013	1.40140.0001	1 unit	inquire
965700	Safety stand for 2,5 l Merck PE bottles	9.67213.0001	1 unit	inquire
902319	Wire carrier for Merck wide-necked PE bottles (4 l to 10 l volume)	9.79490.0001	5 units	inquire

## Opening Aids

Cat.No.	Designation	Ord.No.	Quantity	Price
108801	Bottle key for opening and closing bottles with S 40 and S 28 screw caps	1.08801.0001	5 units	inquire
108804	Container key for opening containers with KS 60x6 screw cap	1.08804.0001	1 unit	inquire
108803	Drum key for opening and closing containers with 2" and 3/4" screw caps	1.08803.0001	1 unit	inquire
109998	Glass rods (plastic-coated) for opening Titrisol® glass ampoules	1.09998.0010	10 units	inquire

## Labels

Cat.No.	Designation	Ord.No.	Quantity	Price
100801	Label set acc. GHS with 20 blank adhesive labels 80 x 110 mm, 168 adhesive hazard pictograms, 40 adhesive signal words, package insert with H- and P-statements	1.00801.0001	1 set	inquire
108899	Labels Geöffnet am /verw. bis (only German text) 100 adhesive labels	1.08899.0001	100 units	inquire

## Replacement parts

Cat.No.	Designation	Ord.No.	Quantity	Price
901919	Hand pump ball for withdrawal systems Cat. No. 1.01114.0001	9.67114.0000	1 unit	inquire
946627	Hand pump ball with rapid-action connector	9.67100.1079	1 unit	inquire
901781	Seal (O-ring 14x2.5 mm) for withdrawal systems Cat. Nos. 1.01114.0001 and 1.01123.0001	9.67100.1048	1 unit	inquire
901782	Seal (O-ring 56x3.6 mm) for withdrawal systems Cat.Nos. 1.01114.0001 and 1.01123.0001	9.67100.1047	1 unit	inquire

## Packaging - Bottles

Cat.No.	Designation	Ord.No.	Quantity	Price
946535	Glass bottle, 1 l, wide-necked, Thread S60 in UN-approved transport box	9.33108.1121	6 units	inquire
902666	Glass bottle 2.5 l in single UN-approved transport packaging, 1 bottle	9.11121.2501	1 unit	inquire
110647	Glass bottles, 50 ml	1.10647.0001	6 units	inquire
110390	Glass bottles, 100 ml with S 28 screw cap, in UN-approved transport box	1.10390.0001	6 units	inquire
110391	Glass bottles 250 ml with S 40 screw cap, in UN-approved transport box	1.10391.0001	6 units	inquire
113313	Glass bottles, 500 ml PE-coated with S 40 screw cap	1.13313.0001	6 units	inquire
110392	Glass bottles, 500 ml with S 40 screw cap, in UN-approved transport box	1.10392.0001	6 units	inquire
113314	Glass bottles 1 l PE-coated with S 40 screw cap	1.13314.0001	6 units	inquire
110393	Glass bottles, 1 l with S 40 screw cap, in UN-approved transport box	1.10393.0001	6 units	inquire
110394	Glass bottles 2.5 l with S 40 screw cap, in UN-approved transport box	1.10394.0001	4 units	inquire
110188	Plastic bottle, 500 ml with S40 screw cap, in UN-approved transport box	1.10188.0001	6 units	inquire
110178	Plastic bottle, 1 l with S40 screw cap, in UN-approved transport box	1.10178.0001	6 units	inquire
110646	Reagent bottles, 100 ml	1.10646.0001	6 units	inquire

## Packaging - Large vessels and containers

Cat.No.	Designation	Ord.No.	Quantity	Price
902507	Combi vessel, 10 l metal drum with PE liner, lacquered blue, with 2" coarse thread	9.43442.1013	1 unit	inquire
902762	Combi vessel, 25 l metal drum with PE inliner, lacquered blue, with 2" coarse thread and 3/4" thread	9.43442.1025	1 unit	inquire

# Solvents – Safety accessories & withdrawal systems

## Packaging – Large vessels and containers

Cat.No.	Designation	Ord.No.	Quantity	Price
902766	PE canister, 25 l with KS 60x6 external thread	9.54528.1025	1 unit	inquire
902504	Stainless steel barrel, 10 l with 2" and 3/4" threaded opening	9.43441.1010	1 unit	inquire
902505	Stainless steel barrel, 30 l with 2" and 3/4" threaded opening	9.43441.1030	1 unit	inquire
902501	Stainless steel drum, 10 l with 2" threaded opening	9.43441.1012	1 unit	inquire
902503	Stainless steel drum, 25 l with 2" threaded opening	9.43441.1028	1 unit	inquire
902502	Stainless steel drum, 190 l with 2" and 3/4" threaded opening	9.43441.1190	1 unit	inquire

## Absorbents for Spilled Liquids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
591	101568	Chemizorb® Granules	591	101569	Chemizorb® Hg	592	102051	Chemizorb® Powder
591	101591	Chemizorb® HF	591	101595	Chemizorb® H <sup>+</sup>			
591	112576	Chemizorb® Hg	591	101596	Chemizorb® OH <sup>-</sup>			

## Absorption agents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
330	101562	Absorption tube for CO <sub>2</sub>	591	102204	Charcoal wood	1424	106839	Sodalime pellets with indicator
330	106107	Absorption tube for H <sub>2</sub> O	591	101568	Chemizorb® Granules	173	101564	Sodium hydroxide on support
590	102186	Charcoal activated	591	112576	Chemizorb® Hg			
590	102514	Charcoal activated	592	102051	Chemizorb® Powder			

Absorption media → Chemizorb® Hg page 591

Absorption tube → page 93

Absorption tube for arsenic → page 52

### 101562 Absorption tube for CO<sub>2</sub> (sodium hydroxide on support)

**Carbon dioxide absorption**

- Solub. in H<sub>2</sub>O (20 °C) partly soluble
- pH value 13.8 (50 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 800 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 +

P310

- LGK 8B
- HS-No. 3824 90 97 ■ Disposal 14
- ADR-RID UN 1823 Natriumhydroxid, fest, 8, II
- IMDG-Code UN 1823 SODIUM HYDROXIDE, SOLID, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1823 SODIUM HYDROXIDE, SOLID, 8, II

Length 15 cm, diameter 2 cm, for tubing connection 3 mm OD or 8-10 mm ID

**Specification**

 Absorption capacity for CO<sub>2</sub>..... ≥ 50.0 %

Ord.No.	Packaging	Quantity	Price
1.01562.0003	Plastic tube	3 units	inquire

### 106107 Absorption tube for H<sub>2</sub>O (molecular sieve 0.3 nm with indicator)

- HS-No. 3824 90 97
- Length 15 cm, diameter 2 cm, for tubing connection 3 mm OD or 8-10 mm ID Colour

changes from brown to yellowish

Ord.No.	Packaging	Quantity	Price
1.06107.0003	Plastic can	3 units	inquire

ACA → 2-Amino-2-cyanoacetamide page 384

ACAC → page 315

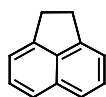
Ac-B-Ala-OH → page 247

Ac-Ala-OH → page 247

Accessories for Photometer and TR 205

Thermoreactor → page 93

### 814312 Acenaphthene for synthesis


 C<sub>12</sub>H<sub>10</sub>
**1,8-Ethylenenaphthalene**

- CAS-No. 83-32-9 ■ EC-No. 201-469-6
- Vapour pressure < 0.005 hPa (20 °C)
- Spec. density 1.15 g/cm<sup>3</sup> (20 °C)
- Flash point 135 °C ■ Solub. in H<sub>2</sub>O 0.007 g/l (25 °C) ■ M = 154.21 g/mol ■ Melting point 95 °C

- Boiling point 278 °C (1013 hPa)
- Ignition temp. >450 °C
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat > 16000 mg/kg
- LGK 10 - 13
- HS-No. 2902 90 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ACENAPHTHENE), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ACENAPHTHENE), 9, III,

Marine Pollutant: P

- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ACENAPHTHENE), 9, III

**Specification**

 Assay (GC, area%)..... ≥ 96,0 Area %  
 Melting range (lower value)..... ≥ 91 °C  
 Melting range (upper value)..... ≤ 95 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14312.0100	Glass bottle	100 g	inquire

ACES → N-(2-Acetamido)-2-aminoethanesulfonic acid page 332

Acetal → Acetaldehyde diethyl acetal page 331

### Acetaldehyde


 C<sub>2</sub>H<sub>4</sub>O

 CH<sub>3</sub>CHO

**Ethanal, Acetic Aldehyde, Ethyl Aldehyde**

- CAS-No. 75-07-0 ■ EC-No. 200-836-8
- Refractive index 1.3316 (20 °C, 589 nm)
- Vapour pressure 1006 hPa (20 °C)
- Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4 - 57 % (V) ■ Flash point -20 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) miscible in all proportions
- M = 44.05 g/mol ■ pH value 5 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -123 °C
- Boiling point 20.4 °C (1013 hPa)
- Ignition temp. 140 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 1, H224; Carcinogenicity, Category 2, H351; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210,

P233, P281, P305 + P351 + P338, P308 + P313

- LC50 rat 24 mg/l
- LD50 oral rat 661 mg/kg
- EC-Index-No. 605-003-00-6 ■ LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2912 12 00
- ADR-RID UN 1089 Acetaldehyd, 3, I ■ IMDG-Code UN 1089 ACETALDEHYDE, 3, I
- IATA-DGR UN 1089 ACETALDEHYDE, 3, I

### 800004 Acetaldehyde for synthesis

**Specification**

 Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 5°C/ 4°C)..... 0.799 - 0.801

Ord.No.	Packaging	Quantity	Price
8.00004.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.00004.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00004.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire



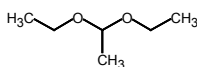
**845001 Acetaldehyde for pharma synthesis, non-GMP****Specification**

Colour (visual).....colourless  
 Appearance of substance (visual).....clear  
 Assay (GC, area%).....≥ 99.5 % (a/a)  
 Density (d 5°C/ 4°C).....0.799 - 0.801  
 Crotonaldehyde (GC, area%).....≤ 0.10 % (a/a)  
 Praldehyde (GC, area%).....≤ 0.10 % (a/a)

Acetic acid (GC, area%).....≤ 0.25 % (a/a)  
 Aldol (GC, area%).....≤ 0.10 % (a/a)  
 Pd (Palladium) (ICP MS).....lot specific result ppm  
 Cu (Copper) (ICP MS).....lot specific result ppm  
 Acetic acid (GC).....lot specific result %  
 Methyl acetate (GC).....lot specific result %

Acetone (GC).....lot specific result %

Ord.No.	Packaging	Quantity	Price
8.45001.0100	Glass bottle	100 ml	inquire
8.45001.0500	Glass bottle	500 ml	inquire
8.45001.1000	Glass bottle	1 l	inquire

**801366 Acetaldehyde diethyl acetal for synthesis**C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>CH<sub>3</sub>CH(OC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>

Acetal, 1,1-Diethoxyethane, Diethyl acetal

■ CAS-No. 105-57-7 ■ EC-No. 203-310-6  
 ■ Refractive index 1.3825 (20 °C, 589 nm)  
 ■ Vapour pressure 20.3 hPa (20 °C)  
 ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 10.4 % (V) ■ Flash point -21 °C ■ Solub. in H<sub>2</sub>O 46 g/l (25 °C) ■ M = 118.17 g/mol

■ Melting point -100 °C ■ Boiling point 102 °C (1013 hPa) ■ Ignition temp. 230 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P210, P233, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 4570 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ EC-Index-No. 605-015-00-1 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2911 00 00 ■ Disposal 1  
 ■ ADR-RID UN 1088 Acetal, 3, II ■ IMDG-Code UN

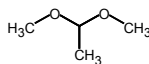
1088 ACETAL, 3, II

■ IATA-DGR UN 1088 ACETAL, 3, II

**Specification**

Assay (GC, area%).....≥ 98 %  
 Density (d 20 °C/ 4 °C).....0.826 - 0.830  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.01366.0002	Glass bottle	2 ml	inquire
8.01366.0005	Glass bottle	5 ml	inquire
8.01366.0250	Glass bottle	250 ml	inquire

**Acetaldehyde dimethyl acetal**C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>CH<sub>3</sub>CH(OCH<sub>3</sub>)<sub>2</sub>

Dimethyl acetal, 1,1-Dimethoxyethane

■ CAS-No. 534-15-6 ■ EC-No. 208-589-8  
 ■ Refractive index 1.3665 (20 °C, 589 nm)

■ Vapour pressure 200 hPa (20 °C)  
 ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Flash point -17 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 90.12 g/mol ■ Melting point -113 °C  
 ■ Boiling point 63 - 65 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P233  
 ■ LD50 oral rat 6500 mg/kg ■ LD50 dermal rabbit

20000 mg/kg

■ EC-Index-No. 605-007-00-8 ■ LGK 3  
 ■ HS-No. 2911 00 00 ■ Disposal 1  
 ■ ADR-RID UN 2377 1,1-Dimethoxyethan, 3, II  
 ■ IMDG-Code UN 2377 1,1-DIMETHOXYETHANE, 3, II  
 ■ IATA-DGR UN 2377 1,1-DIMETHOXYETHANE, 3, II

**820002 Acetaldehyde dimethyl acetal for synthesis****Specification**

Assay (GC, area%).....≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C).....0,850 - 0,853  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.20002.0025	Glass bottle	25 ml	inquire
8.20002.0100	Glass bottle	100 ml	inquire

**845087 Acetaldehyde dimethyl acetal for pharma synthesis, non-GMP****Specification**

Colour (visual).....colourless  
 Appearance of substance (visual).....clear  
 Assay (GC, area%).....≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C).....0,850 - 0,853

Water (K. F.).....≤ 0,30 % (m)  
 Identity (IR).....passes test  
 Methanol (GC).....lot specific result

Ord.No.	Packaging	Quantity	Price
8.45087.0025	Glass bottle	25 ml	inquire
8.45087.0100	Glass bottle	100 ml	inquire

Acetaldehyde ethylene acetal → 2-Methyl-1,3-dioxolane page 1148

Acetaldehyde oxim → Acetaldoxime page 331

**841085 Acetaldoxime (mixture of cis and trans isomers) for synthesis**C<sub>2</sub>H<sub>5</sub>NO

Acetaldehyde oxim

■ CAS-No. 107-29-9 ■ EC-No. 203-479-6  
 ■ Vapour pressure 13 hPa (25 °C)  
 ■ Spec. density 0.969 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4.2 - 50 % (V) ■ Flash point 40 °C ■ Solub. in H<sub>2</sub>O 185 g/l (25 °C) ■ M = 59.07 g/mol  
 ■ Boiling point 115 °C ■ Ignition temp. 380 °C  
 ■ WGK 1

■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Oral, H302, P210, P304 + P340, P309 + P310  
 ■ LC50 rat 8.8 mg/l  
 ■ LD50 oral rat 740 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2928 00 90 ■ Disposal 3  
 ■ ADR-RID UN 2332 Acetaldehydoxim, 3, III  
 ■ IMDG-Code UN 2332 ACETALDEHYDE OXIME, 3, III

■ IATA-DGR UN 2332 ACETALDEHYDE OXIME, 3, III

**Specification**

Assay isomers (GC, area%).....≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C).....0.963 - 0.967  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41085.0050	Glass bottle	50 ml	inquire
8.41085.0250	Glass bottle	250 ml	inquire

Acetales → Aldehydes

**822343 Acetamide for synthesis**C<sub>2</sub>H<sub>5</sub>NOCH<sub>3</sub>CONH<sub>2</sub>

Acetic acid amide

■ CAS-No. 60-35-5 ■ EC-No. 200-473-5  
 ■ Vapour pressure 1.33 hPa (65 °C)  
 ■ Spec. density 1.159 g/cm<sup>3</sup> (20 °C) ■ Solub. in

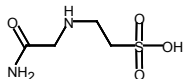
H<sub>2</sub>O 2200 g/l (20 °C) ■ M = 59.06 g/mol  
 ■ pH value 7 (H<sub>2</sub>O) ■ Melting point 78 - 81 °C  
 ■ Boiling point 221 - 222 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Carcinogenicity, Category 2, H351, P281, P308 + P313  
 ■ LD50 oral rat 7000 mg/kg  
 ■ EC-Index-No. 616-022-00-4 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 9

**Specification**

Assay (GC, area%).....≥ 99,0 Area %  
 Melting range (lower value).....≥ 77 °C  
 Melting range (upper value).....≤ 80 °C  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.22343.0100	Plastic bottle	100 g	inquire
8.22343.1000	Plastic bottle	1 kg	inquire

## 115226 N-(2-Acetamido)-2-aminoethanesulfonic acid buffer substance ACES

C<sub>4</sub>H<sub>10</sub>N<sub>2</sub>O<sub>5</sub>S

ACES

- CAS-No. 7365-82-4 ■ EC-No. 230-908-4
- Solub. in H<sub>2</sub>O 40 g/l (20 °C) ■ M = 182.2 g/mol
- pH value 3.9 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 270 - 295 °C

- Bulk density 400 kg/m<sup>3</sup>
  - WGK 2
  - LGK 10 - 13
  - HS-No. 2924 19 00 ■ Disposal 3
- Properties: pK<sub>a</sub> (20 °C) = 6.88.

**Specification**

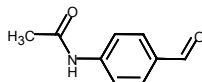
Identity (IR-spectrum) ..... conforms  
 Assay (alkalimetric) ..... ≥ 99.0 %  
 UV-Absorption (250 nm; 2 %; 1 cm; water) ..... ≤ 0.05  
 Chloride (Cl) ..... ≤ 0.05 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.005 %  
 Loss on drying (105 °C) ..... ≤ 0.2%  
 Biological buffer, pK<sub>a</sub> at 20 °C ..... 6.8 - 7.0

Ord.No.	Packaging	Quantity	Price
1.15226.0025	Plastic bottle	25 g	inquire
1.15226.0250	Plastic bottle	250 g	inquire
1.15226.9010	Plastic drum	10 kg	inquire

p-Acetamidoaniline → 4'-Aminoacetanilide page 376

## 800106 4-Acetamidobenzaldehyde for synthesis

C<sub>9</sub>H<sub>9</sub>NO<sub>2</sub>(CH<sub>3</sub>CONH)C<sub>6</sub>H<sub>4</sub>CHO  
4-Formylacetanilide

- CAS-No. 122-85-0 ■ EC-No. 204-579-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 163.17 g/mol
- Melting point 152 - 155 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

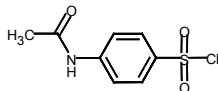
**Specification**

Assay (HPLC, area%) ..... ≥ 97,0 Area %

Melting range (lower value) ..... ≥ 152 °C  
 Melting range (upper value) ..... ≤ 155 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00106.0010	Plastic bottle	10 g	inquire

## 841026 4-Acetamidobenzenesulfonyl chloride for synthesis

C<sub>8</sub>H<sub>8</sub>ClNO<sub>2</sub>SCH<sub>3</sub>CONH(C<sub>6</sub>H<sub>4</sub>)SO<sub>2</sub>Cl

N-Acetylsulfanilyl chloride

- CAS-No. 121-60-8 ■ EC-No. 204-485-1
- Flash point >112 °C ■ M = 233.66 g/mol
- Melting point 146 °C (decomposition)
- WGK 2

- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat > 3200 mg/kg
- LGK 8A
- HS-No. 2924 29 98 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(4-ACETAMIDOBENZOLSULFONYLCHLORID), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(4-ACETAMIDOBENZENESULFONYL CHLORIDE), 8, II

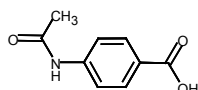
■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(4-ACETAMIDOBENZENESULFONYL CHLORIDE), 8, II

**Specification**

Assay (argentometric) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 140 °C  
 Melting range (upper value) ..... ≤ 143 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41026.0250	Glass bottle	250 g	inquire

## 814572 4-Acetamidobenzoic acid for synthesis

C<sub>9</sub>H<sub>9</sub>NO<sub>3</sub>

■ CAS-No. 556-08-1 ■ EC-No. 209-114-7

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 179.17 g/mol ■ Melting point 259 - 262 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 4

**Specification**

Assay (HPLC, area%) ..... ≥ 99,0 Area %

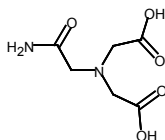
Melting range (lower value) ..... ≥ 259 °C  
 Melting range (upper value) ..... ≤ 262 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14572.0025	Plastic bottle	25 g	inquire

Acetamidocycanoacetic acid ethyl ester → Ethyl acetamidocycanoacetate page 847

2-Acetamidofluorene → N-Fluoren-2-ylacetamide page 894

## 841227 N-(2-Acetamido)-iminodiacetic acid for synthesis

C<sub>6</sub>H<sub>10</sub>N<sub>2</sub>O<sub>5</sub>

- CAS-No. 26239-55-4 ■ EC-No. 247-530-0
- M = 190.15 g/mol ■ Melting point 210 - 215 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

**Specification**

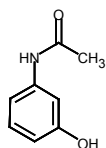
Assay (HClO<sub>4</sub>) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41227.0025	Plastic bottle	25 g	inquire

Acetamidomalonic acid diethyl ester → Diethyl acetamidomalonate page 737

2-Acetamido-3-mercaptopropionic acid → N-Acetyl-L-cysteine page 346

## 841293 3-Acetamidophenol for synthesis

C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>

3-Hydroxyacetanilide

- CAS-No. 621-42-1 ■ EC-No. 210-687-0
- M = 151.16 g/mol ■ pH value 6 - 7 (H<sub>2</sub>O) (saturated solution)
- Melting point 147 - 150 °C
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 2924 29 98 ■ Disposal 3

**Specification**

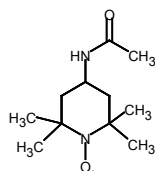
Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 147 °C  
 Melting range (upper value) ..... ≤ 150 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41293.0025	Plastic bottle	25 g	inquire

4-Acetamidophenol → 4'-Hydroxyacetanilide page 976

4-Acetamido-2,2,6,6-TEMPO → 4-Acetamido-2,2,6,6-tetramethyl-N-piperidinyloxy page 333

## 814721 4-Acetamido-2,2,6,6-tetramethyl-N-piperidyloxy (free radical) for synthesis

C<sub>11</sub>H<sub>21</sub>N<sub>2</sub>O<sub>2</sub>

## 4-Acetamido-2,2,6,6-TEMPO

- CAS-No. 14691-89-5 ■ EC-No. 423-840-3
- Spec. density 1 g/cm<sup>3</sup> ■ M = 213.3 g/mol
- Melting point 141 - 144 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- EC-Index-No. 616-172-00-0 ■ LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

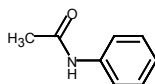
## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 141 °C  
 Melting range (upper value) ..... ≤ 144 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14721.0001	Glass bottle	1 g	inquire
8.14721.0010	Glass bottle	10 g	inquire

4-Acetamidotoluene → 4'-Methylacetanilide page 1128

## Acetanilide

C<sub>8</sub>H<sub>9</sub>NOCH<sub>3</sub>CONHC<sub>6</sub>H<sub>5</sub>

N-Phenylacetamide

- CAS-No. 103-84-4 ■ EC-No. 203-150-7
- Vapour pressure 0.002 hPa (20 °C)
- Spec. density 1.22 g/cm<sup>3</sup> (20 °C)
- Flash point 173 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 5 g/l (20 °C) ■ M = 135.16 g/mol
- pH value 5 - 7 (10 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 115 °C ■ Bulk density 370 kg/m<sup>3</sup>
- Boiling point 304 °C (1013 hPa)

- Ignition temp. 540 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 800 mg/kg
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3
- Test substance for CHN in elemental analysis.

## 822344 Acetanilide for synthesis

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 112 °C  
 Melting range (upper value) ..... ≤ 115 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22344.0100	Plastic bottle	100 g	inquire
8.22344.0500	Plastic bottle	500 g	inquire

## 100011 Acetanilide test substance for elementary analysis

## Specification

Identity (IR-spectrum) ..... passes test  
 Carbon (C) (mean value tenfold determination) ..... 70.9 - 71.3 %  
 Carbon (C) (standard deviation (coefficient of variation)) .....  
 Oxygen (O) (mean value tenfold determination) ..... 11.6 - 12.0 %

Oxygen (O) (standard deviation (coefficient of variation)) .....  
 Nitrogen (N) (mean value tenfold determination) ..... 10.2 - 10.6 %  
 Nitrogen (N) (standard deviation (coefficient of variation)) .....  
 Hydrogen (H) (mean value tenfold determination) ..... 6.6 - 6.8 %

Hydrogen (H) (standard deviation (coefficient of variation)) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.00011.0005	Glass bottle	5 g	inquire

2-Acetanilole → 2'-Methoxyacetophenone page 1114

## Acetates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
407	101115	Ammonium acetate	652	102711	Copper(II) acetate monohydrate	1406	824435	Rhodium(II) acetate dimer (46.5% Rh)
407	101116	Ammonium acetate	1074	107375	Lead(II) acetate trihydrate	1420	801504	Silver acetate
408	116103	Ammonium acetate	1075	107414	Lead(II) hydroxide acetate	1423	818003	Silver trifluoroacetate
430	101704	Barium acetate	1086	105819	Magnesium acetate tetrahydrate	165	106264	Sodium acetate
559	102002	Cadmium acetate dihydrate	1094	843828	Manganese(II) acetate	1425	106268	Sodium acetate
559	102003	Cadmium acetate dihydrate	1094	843487	Manganese(II)acetate tetrahydrate	1431	841122	Sodium chlorodifluoroacetate
561	109325	Calcium acetate hydrate	1103	104410	Mercury(II) acetate	1456	821164	Sodium trifluoroacetate
647	102529	Cobalt(II) acetate tetrahydrate	1107	804482	Mercury(II) trifluoroacetate	1640	108802	Zinc acetate dihydrate
652	102710	Copper(II) acetate monohydrate	1365	841002	Potassium thioacetate			

109951 Acetic acid for 500 ml, c(CH<sub>3</sub>COOH) = 1 mol/l (1 N) Titrisol®

Methane carboxylic acid solution, Methylformic acid solution

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4 - 19.9 % (V) acetic acid ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.5 (20 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -25 °C
- Boiling point 102 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P260, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2915 21 00 ■ Disposal 28
- ADR-RID UN 2790 Essigsäure, Lösung, 8, II

- IMDG-Code UN 2790 ACETIC ACID SOLUTION, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2790 ACETIC ACID SOLUTION, 8, II

## Specification

Concentration after dilution to 0.5 liter: c(CH<sub>3</sub>COOH) = 1 mol/l  
 Amount-of-substance concentration ... 1.000 mol/l  
 The concentration of this solution was determined with sodium hydroxide standard solution (Merck article number 1.09137) standardized by hydrochloric acid against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20 °C

was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09951.0001	Glass ampoule	1 amp	inquire

# Acetic

## 109944 Acetic acid for 1000 ml, c(CH<sub>3</sub>COOH) = 0.1 mol/l (0.1 N) Titrisol®

Methane carboxylic acid solution, Methylformic acid solution

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338
- LGK 8 B
- HS-No. 2915 21 00 ■ Disposal 28
- ADR-RID UN 2790 Essigsäure, Lösung, 8, III
- IMDG-Code UN 2790 ACETIC ACID SOLUTION, 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2790 ACETIC ACID SOLUTION, 8, III

### Specification

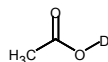
Concentration after dilution to 1 liter: c(CH<sub>3</sub>COOH) = 0.1 mol/l

Amount-of-substance concentration ....0.100 mol/l  
The concentration of this solution was determined with sodium hydroxide standard solution (Merck article number 1.09141) standardized against volumetric standard potassium hydrogen phthalate (Merck article number 1.02400). The determined titer at 20°C was 1.000 with an

expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 84L (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium hydrogen phthalate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09944.0001	Glass ampoule	1 amp	inquire

## 815035 Acetic acid-D1 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™



C<sub>2</sub>H<sub>3</sub>D<sub>2</sub>O<sub>2</sub>

- CAS-No. 758-12-3 ■ EC-No. 212-059-1
- Refractive index 1.37 (20 °C) ■ Vapour pressure 15.4 hPa (20 °C) ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4 - 19.9 % (V)
- Flash point 37 °C ■ Kin. viscosity 1.17 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 61.06 g/mol ■ pH value 2.5 (50 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point 17 °C  
■ Boiling point 116 - 118 °C (1013 hPa)  
■ Ignition temp. 485 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314, P210, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 11.4 mg/l
- LD50 oral rat 3310 mg/kg ■ LD50 dermal rabbit 1060 mg/kg
- EC-Index-No. 607-002-00-6 ■ LGK 3

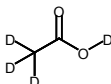
- HS-No. 2845 90 10 ■ Disposal 4
- ADR-RID UN 2789 Eisessig, 8 (3), II ■ IMDG-Code UN 2789 ACETIC ACID, GLACIAL, 8 (3), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2789 ACETIC ACID, GLACIAL, 8 (3), II

### Specification

Deuteration degree..... ≥ 99.5 %

Ord.No.	Packaging	Quantity	Price
8.15035.0025	Glass bottle	25 ml	inquire

## 815036 Acetic acid-D4 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™



C<sub>2</sub>D<sub>4</sub>O<sub>2</sub>

- CAS-No. 1186-52-3 ■ EC-No. 214-693-4
- Vapour pressure 15 hPa (20 °C)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4 - 19.9 % (V) ■ Flash point 39 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 64.08 g/mol
- pH value 2.5 (50 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 17 °C ■ Boiling point 116 - 118 °C

(1013 hPa) ■ Ignition temp. 485 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314, P210, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 11.4 mg/l
- LD50 oral rat 3310 mg/kg ■ LD50 dermal rabbit 1060 mg/kg
- LGK 3
- HS-No. 2845 90 10 ■ Disposal 4
- ADR-RID UN 2789 Eisessig, 8 (3), II ■ IMDG-Code UN 2789 ACETIC ACID, GLACIAL, 8 (3), II,

Segregation Group: 1 (Acids)

- IATA-DGR UN 2789 ACETIC ACID, GLACIAL, 8 (3), II

### Specification

Deuteration degree..... ≥ 99.5 %  
Water (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O)..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
8.15036.0009	Glass ampoule	10x0.75 ml	inquire
8.15036.0010	Glass ampoule	10 ml	inquire

## 199061 Acetic acid 1 mol/l prepared from raw materials acc. Ph Eur Titripur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 2915 21 00 ■ Disposal 4

### Specification

The Acetic acid used for manufacture conforms

Ph. Eur., BP, JP, NF.

Colony forming units (in raw material water, according Ph. Eur.)..... ≤ 100 CFU/ml  
This volumetric solution was checked by means of sodium hydroxide 1 mol/l against Potassium hydrogen phthalate Merck volumetric standard.  
Amount-of-substance concentration .....0.990 -

1.010 mol/l

raw material acetic acid

The raw material water conforms Ph. Eur.

Ord.No.	Packaging	Quantity	Price
1.99061.9025	Plastic container	25 l	inquire

## 159166 Acetic acid 30% for analysis Reag. Ph Eur



Methane carboxylic acid solution, Methylformic acid solution

- Spec. density 1.039 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4 - 19.9 % (V) acetic acid
- Flash point >100 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P260, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LGK 8 A
- HS-No. 2915 21 00 ■ Disposal 4
- ADR-RID UN 2790 Essigsäure, Lösung, 8, III
- IMDG-Code UN 2790 ACETIC ACID SOLUTION, 8,

III, Segregation Group: 1 (Acids)

- IATA-DGR UN 2790 ACETIC ACID SOLUTION, 8, III

### Specification

Assay..... 29.0 - 31.0 % (w/v)

Ord.No.	Packaging	Quantity	Price
1.59166.0500	Glass bottle	500 ml	inquire

## 100062 Acetic acid 96% for analysis EMSURE®



## Ethanoic acid

- Vapour pressure 15.2 hPa (20 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 6.1 (20 °C) ■ El. dipole moment 1.5 (20 °C) ■ Explosive limit 4 - 19.9 % (V)
- Flash point 39 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 2.5 (10 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. 38 g/m<sup>3</sup> (20 °C) Air
- Melting point 16.6 °C ■ Boiling point 117.9 °C (1013 hPa) ■ Evaporation number 24
- Ignition temp. 463 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3 ■ Store at +15°C to +25°C.
- HS-No. 2915 21 00 ■ Disposal 4
- ADR-RID UN 2789 Essigsäure, Lösung, 8 (3), II
- IMDG-Code UN 2789 ACETIC ACID SOLUTION, 8 (3), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2789 ACETIC ACID SOLUTION, 8 (3), II

## Specification

Assay (alkalimetric) .....	≥ 96.0 %
Colour .....	≤ 10 Hazen
Acetaldehyde .....	≤ 2 ppm
Chloride (Cl) .....	≤ 0.5 ppm
Phosphate (PO <sub>4</sub> ) .....	≤ 0.5 ppm
Sulphate (SO <sub>4</sub> ) .....	≤ 0.5 ppm
Ag (Silver) .....	≤ 0.010 ppm
Al (Aluminium) .....	≤ 0.050 ppm
As (Arsenic) .....	≤ 0.01 ppm
Au (Gold) .....	≤ 0.010 ppm
B (Boron) .....	≤ 0.100 ppm
Ba (Barium) .....	≤ 0.010 ppm
Be (Beryllium) .....	≤ 0.020 ppm
Bi (Bismuth) .....	≤ 0.100 ppm
Ca (Calcium) .....	≤ 0.200 ppm
Cd (Cadmium) .....	≤ 0.050 ppm
Co (Cobalt) .....	≤ 0.010 ppm
Cr (Chromium) .....	≤ 0.020 ppm
Cu (Copper) .....	≤ 0.020 ppm
Fe (Iron) .....	≤ 0.100 ppm
Ga (Gallium) .....	≤ 0.050 ppm
Ge (Germanium) .....	≤ 0.050 ppm
In (Indium) .....	≤ 0.050 ppm
K (Potassium) .....	≤ 0.100 ppm
Li (Lithium) .....	≤ 0.010 ppm
Mg (Magnesium) .....	≤ 0.050 ppm
Mn (Manganese) .....	≤ 0.010 ppm
Mo (Molybdenum) .....	≤ 0.020 ppm
Na (Sodium) .....	≤ 0.500 ppm

Ni (Nickel) .....	≤ 0.020 ppm
Pb (Lead) .....	≤ 0.020 ppm
Pt (Platinum) .....	≤ 0.100 ppm
Sn (Tin) .....	≤ 0.050 ppm
Sr (Strontium) .....	≤ 0.010 ppm
Ti (Titanium) .....	≤ 0.100 ppm
Tl (Thallium) .....	≤ 0.050 ppm
V (Vanadium) .....	≤ 0.010 ppm
Zn (Zinc) .....	≤ 0.050 ppm
Zr (Zirconium) .....	≤ 0.100 ppm
Indifference against chromic acid .....	conforms
Substances reducing potassium permanganate .....	conforms
Evaporation residue .....	≤ 5 ppm
Dilution test .....	conforms
Date of expiry: see product label	

Ord.No.	Packaging	Quantity	Price
1.00062.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00062.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00062.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00062.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00062.9025	Plastic container	25 l	inquire

## 818755 Acetic acid 99-100% for synthesis

C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>CH<sub>3</sub>COOH

## Ethanoic acid

- CAS-No. 64-19-7 ■ EC-No. 200-580-7
- Refractive index 1.37 (20 °C) ■ Vapour pressure 15.4 hPa (20 °C) ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 6.1 (20 °C)
- El. dipole moment 1.5 (20 °C) ■ Explosive limit 4 - 19.9 % (V) ■ Flash point 39 °C
- Kin. viscosity 1.17 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 60.05 g/mol
- pH value 2.5 (50 g/l, H<sub>2</sub>O, 20 °C)

- Saturation conc. 38 g/m<sup>3</sup> (20 °C) Air
- Melting point 17 °C ■ Boiling point 116 - 118 °C (1013 hPa) ■ Evaporation number 24
- Ignition temp. 485 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P307 + P310, P305 + P351 + P338
- LC50 rat 11.4 mg/l
- LD50 oral rat 3310 mg/kg ■ LD50 dermal rabbit 1060 mg/kg
- EC-Index-No. 607-002-00-6 ■ LGK 3 ■ Store at +15°C to +25°C.
- HS-No. 2915 21 00
- ADR-RID UN 2789 Eisessig, 8 (3), II ■ IMDG-

Code UN 2789 ACETIC ACID, GLACIAL, 8 (3), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2789 ACETIC ACID, GLACIAL, 8 (3), II

## Specification

Assay (acidimetric) .....	≥ 99.0 %
Identity (IR-spectrum) .....	conforms
Density (d 20/4) .....	1.048 - 1.052g/cm <sup>3</sup>

Ord.No.	Packaging	Quantity	Price
8.18755.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.18755.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.18755.9025	Plastic container	25 l	inquire

Acetic acid allyl ester → Allyl acetate page 363

Acetic acid amide → Acetamide page 331

Acetic acid benzyl ester → Benzyl acetate page 445

Acetic acid bornyl ester → L-Bornyl acetate page 481

Acetic acid bromide → Acetyl bromide page 345

Acetic acid 1,3-butadienyl ester → 1-Acetoxy-1,3-butadiene page 343

Acetic acid 2-butoxyethyl ester → 2-Butoxyethyl acetate page 299

Acetic acid 2-(2-butoxyethoxy)ethyl ester → [2-(2-Butoxyethoxy)ethyl] acetate page 299

Acetic acid 4-tert-butylcyclohexyl ester → 4-tert-Butylcyclohexyl acetate page 545

Acetic acid cobalt (II) salt → Cobalt(II) acetate tetrahydrate page 647

Acetic acid cyclohexyl ester → Cyclohexyl acetate page 674

Acetic acid diethylamide → N,N-Diethylacetamide page 301

Acetic acid dimethylamide → N,N-Dimethylacetamide page 302

Acetic acid diphenylamide → N,N-Diphenylacetamide page 813

Acetic acid 2-ethoxyethyl ester → 2-Ethoxyethyl acetate page 303

Acetic acid ethyl ester → page 293

Acetic acid 2-ethylhexyl ester → 2-Ethylhexyl acetate page 869

Acetic acid gentian violet solution → page 200

Acetic acid glacial → page 336



# Acetic

## Acetic acid (glacial) 100%



C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>  
 CH<sub>3</sub>COOH  
*Ethanoic acid*  
 ■ CAS-No. 64-19-7 ■ EC-No. 200-580-7  
 ■ Refractive index 1.37 (20 °C) ■ Vapour pressure 15.4 hPa (20 °C) ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 6.1 (20 °C) ■ El. dipole moment 1.5 (20 °C) ■ Explosive

limit 4 - 19.9 % (V) ■ Flash point 39 °C  
 ■ Kin. viscosity 1.17 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 60.05 g/mol  
 ■ pH value 2.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Saturation conc. 38 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point 17 °C ■ Boiling point 116 - 118 °C (1013 hPa) ■ Evaporation number 24  
 ■ Ignition temp. 485 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P307 + P310, P305 + P351

+ P338  
 ■ LC50 rat 11.4 mg/l  
 ■ LD50 oral rat 3310 mg/kg ■ LD50 dermal rabbit 1060 mg/kg  
 ■ EC-Index-No. 607-002-00-6 ■ LGK 3 ■ Store at +15°C to +25°C.  
 ■ HS-No. 2915 21 00  
 ■ ADR-RID UN 2789 Eisessig, 8 (3), II ■ IMDG-Code UN 2789 ACETIC ACID, GLACIAL, 8 (3), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2789 ACETIC ACID, GLACIAL, 8 (3), II



### 101830 Acetic acid (glacial) 100% for analysis EMPARTA® ACS

**Specification**  
 Assay (acidimetric)..... ≥ 99.7 %  
 Colour..... ≤ 10 Hazen  
 Titratable base..... ≤ 0.0004 meq/g  
 Acetic anhydride..... ≤ 100 ppm  
 Chloride (Cl)..... ≤ 1 ppm  
 Heavy metals (as Pb)..... ≤ 0.5 ppm

Sulphate (SO<sub>4</sub>)..... ≤ 1 ppm  
 Fe (Iron)..... ≤ 0.2 ppm  
 Substances reducing potassium dichromate..passes test  
 Substances reducing potassium permanganate..... passes test

Evaporation residue..... ≤ 10 ppm  
 Dilution test..... passes test

Ord.No.	Packaging	Quantity	Price
1.01830.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

### 100063 Acetic acid (glacial) 100% anhydrous for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
 Assay (alkalimetric)..... ≥ 99.8 %  
 Identity..... passes test  
 Colour..... ≤ 10 Hazen  
 Acetaldehyde..... ≤ 2 ppm  
 Acetic anhydride..... ≤ 100 ppm  
 Titratable base..... ≤ 0.0004 meq/g  
 Solidification temperature..... ≤ 16.3 °C  
 Chloride (Cl)..... ≤ 0.4 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.4 ppm  
 Heavy metals (as Pb)..... ≤ 0.5 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.4 ppm  
 Ag (Silver)..... ≤ 0.005 ppm  
 Al (Aluminium)..... ≤ 0.020 ppm  
 As (Arsenic)..... ≤ 0.010 ppm  
 Au (Gold)..... ≤ 0.010 ppm  
 B (Boron)..... ≤ 0.100 ppm  
 Ba (Barium)..... ≤ 0.010 ppm  
 Be (Beryllium)..... ≤ 0.005 ppm  
 Bi (Bismuth)..... ≤ 0.050 ppm  
 Ca (Calcium)..... ≤ 0.100 ppm  
 Cd (Cadmium)..... ≤ 0.020 ppm  
 Co (Cobalt)..... ≤ 0.010 ppm

Cr (Chromium)..... ≤ 0.020 ppm  
 Cu (Copper)..... ≤ 0.010 ppm  
 Fe (Iron)..... ≤ 0.050 ppm  
 Ga (Gallium)..... ≤ 0.050 ppm  
 Ge (Germanium)..... ≤ 0.020 ppm  
 Hg (Mercury)..... ≤ 0.005 ppm  
 In (Indium)..... ≤ 0.050 ppm  
 K (Potassium)..... ≤ 0.100 ppm  
 Li (Lithium)..... ≤ 0.010 ppm  
 Mg (Magnesium)..... ≤ 0.050 ppm  
 Mn (Manganese)..... ≤ 0.010 ppm  
 Mo (Molybdenum)..... ≤ 0.010 ppm  
 Na (Sodium)..... ≤ 0.200 ppm  
 Ni (Nickel)..... ≤ 0.020 ppm  
 Pb (Lead)..... ≤ 0.010 ppm  
 Pt (Platinum)..... ≤ 0.100 ppm  
 Sn (Tin)..... ≤ 0.050 ppm  
 Sr (Strontium)..... ≤ 0.010 ppm  
 Ti (Titanium)..... ≤ 0.050 ppm  
 Tl (Thallium)..... ≤ 0.020 ppm  
 V (Vanadium)..... ≤ 0.010 ppm  
 Zn (Zinc)..... ≤ 0.030 ppm

Zr (Zirconium)..... ≤ 0.050 ppm  
 Substances reducing potassium dichromate..passes test  
 Substances reducing potassium permanganate..... ≤ 20 ppm  
 Evaporation residue..... ≤ 5 ppm  
 Water..... ≤ 0.2%  
 Dilution test..... passes test  
 Minimum shelf life: see product label

Ord.No.	Packaging	Quantity	Price
1.00063.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00063.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00063.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00063.2510	Safebreak btl.	2.5 l	inquire
1.00063.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00063.9026	Plastic container	25 l	inquire

### 100066 Acetic acid (glacial) 100% Suprapur®

**Specification**  
 Assay (acidimetric)..... ≥ 99.8 %  
 Colour..... ≤ 5 Hazen  
 Acetaldehyde..... ≤ 2 ppm  
 Solidification temperature..... ≥ 16.3 °C  
 Chloride (Cl)..... ≤ 100 ppb  
 Phosphate (PO<sub>4</sub>)..... ≤ 50 ppb  
 Sulphate (SO<sub>4</sub>)..... ≤ 400 ppb  
 Ag (Silver)..... ≤ 1.0 ppb  
 Al (Aluminium)..... ≤ 2.0 ppb  
 As (Arsenic)..... ≤ 0.5 ppb  
 Au (Gold)..... ≤ 0.5 ppb  
 B (Boron)..... ≤ 0.5 ppb  
 Ba (Barium)..... ≤ 0.5 ppb  
 Be (Beryllium)..... ≤ 0.5 ppb  
 Bi (Bismuth)..... ≤ 0.5 ppb  
 Ca (Calcium)..... ≤ 20.0 ppb  
 Cd (Cadmium)..... ≤ 0.5 ppb  
 Co (Cobalt)..... ≤ 0.5 ppb

Cr (Chromium)..... ≤ 5.0 ppb  
 Cu (Copper)..... ≤ 1.0 ppb  
 Fe (Iron)..... ≤ 20.0 ppb  
 Ga (Gallium)..... ≤ 0.5 ppb  
 Ge (Germanium)..... ≤ 0.5 ppb  
 Hg (Mercury)..... ≤ 2.0 ppb  
 In (Indium)..... ≤ 0.5 ppb  
 K (Potassium)..... ≤ 2.0 ppb  
 Li (Lithium)..... ≤ 0.5 ppb  
 Mg (Magnesium)..... ≤ 2.0 ppb  
 Mn (Manganese)..... ≤ 1.0 ppb  
 Mo (Molybdenum)..... ≤ 1.0 ppb  
 Na (Sodium)..... ≤ 5.0 ppb  
 Ni (Nickel)..... ≤ 5.0 ppb  
 Pb (Lead)..... ≤ 2.0 ppb  
 Pt (Platinum)..... ≤ 0.5 ppb  
 Sb (Antimony)..... ≤ 0.5 ppb  
 Sn (Tin)..... ≤ 0.5 ppb

Sr (Strontium)..... ≤ 0.5 ppb  
 Ti (Titanium)..... ≤ 0.5 ppb  
 Tl (Thallium)..... ≤ 0.5 ppb  
 V (Vanadium)..... ≤ 0.5 ppb  
 Zn (Zinc)..... ≤ 2.0 ppb  
 Zr (Zirconium)..... ≤ 0.5 ppb  
 Substances reducing potassium dichromate..... ≤ 30 ppm  
 Substances reducing potassium permanganate..... ≤ 20 ppm  
 Residue on ignition (as sulphate)..... ≤ 2 ppm  
 The actual values are subject to unavoidable systematic variations in this concentration range.

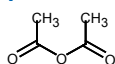
Ord.No.	Packaging	Quantity	Price
1.00066.0250	Glass bottle	250 ml	inquire
1.00066.1000	Glass bottle	1 l	inquire

Acetic acid hexyl ester → Hexyl acetate page 957  
 Acetic acid hydrazide → Acetohydrazide page 338  
 (R)-(+)-Acetic acid 2-hydroxy-1,2,2-triphenylethyl ester → (R)-(+)-2-Hydroxy-1,2,2-triphenylethyl acetate page 996  
 (S)-(-)-Acetic acid 2-hydroxy-1,2,2-triphenylethyl ester → (S)-(-)-2-Hydroxy-1,2,2-triphenylethyl acetate page 996  
 Acetic acid 3-indolyl ester → 3-Indolyl acetate page 1004  
 Acetic acid isoamyl ester → Isoamyl acetate page 304  
 Acetic acid isobornyl ester → Isobornyl acetate page 1042  
 Acetic acid isobutyl ester → Isobutyl acetate page 305  
 Acetic acid isopropyl ester → Isopropyl acetate page 305

Acetic acid menthyl ester → (R)-(-)-Menthyl acetate page 1100  
 Acetic acid mercury(II) salt → Mercury(II) acetate page 1103  
 Acetic acid 2-methoxyethyl ester → 2-Methoxyethyl acetate page 305  
 Acetic acid 2-methoxypropyl ester → (1-Methoxy-2-propyl) acetate page 305  
 Acetic acid methylamide → N-Methylacetamide page 305  
 Acetic acid methyl ester → Methyl acetate page 305  
 Acetic acid n-butyl ester → page 299  
 Acetic acid pentyl ester → n-Amyl acetate page 298  
 Acetic acid phenyl ester → Phenyl acetate page 1295

Acetic acid 2-phenylethyl ester → 2-Phenylethyl acetate page 1303  
 Acetic acid 2-phenylhydrazide → 2-Phenylacetohydrazide page 1296  
 Acetic acid propyl ester → Propyl acetate page 308  
 Acetic acid p-toluidide → 4'-Methylacetanilide page 1128  
 Acetic acid silver salt → Silver acetate page 1420  
 Acetic acid sodium salt → page 165  
 Acetic acid tert-butyl ester → tert-Butyl acetate page 299  
 Acetic acid vinyl ester → Vinyl acetate page 1629

## Acetic anhydride



C<sub>4</sub>H<sub>6</sub>O<sub>3</sub>  
(CH<sub>3</sub>CO)<sub>2</sub>O

Acetyl acetate, Acetyl oxide

■ CAS-No. 108-24-7 ■ EC-No. 203-564-8  
 ■ Vapour pressure 4 hPa (20 °C)  
 ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.0 - 10.2 % (v) ■ Flash point 49 °C ■ Solub.

in H<sub>2</sub>O (20 °C) Hydrolysis, Risk of violent reaction.

■ M = 102.08 g/mol ■ pH value 3 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -73 °C  
 ■ Boiling point 138 - 140.5 °C (1013 hPa)  
 ■ Ignition temp. 330 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LC50 rat > 0.5 - < 2 mg/l  
 ■ LD50 oral rat 1780 mg/kg ■ LD50 dermal rabbit 4320 mg/kg  
 ■ EC-Index-No. 607-008-00-9 ■ LGK 3  
 ■ HS-No. 2915 24 00 ■ Disposal 11  
 ■ ADR-RID UN 1715 Essigsäureanhydrid, 8 (3), II  
 ■ IMDG-Code UN 1715 ACETIC ANHYDRIDE, 8 (3), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1715 ACETIC ANHYDRIDE, 8 (3), II

### 822278 Acetic anhydride for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 1.080 - 1.082  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22278.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.22278.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.22278.9025	Plastic container	25 l	inquire

### 100042 Acetic anhydride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

#### Specification

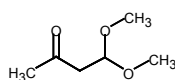
Purity (GC) ..... ≥ 98.5 %  
 Identity (IR) ..... conforms  
 Appearance ..... clear  
 Colour ..... ≤ 10 Hazen  
 Boiling point ..... 136 - 142 °C  
 Chloride (Cl) ..... ≤ 2 ppm  
 Sulphate (SO<sub>4</sub>) ..... ≤ 5 ppm  
 Phosphate (PO<sub>4</sub>) ..... ≤ 5 ppm  
 Heavy metals (as Pb) ..... ≤ 2 ppm  
 Readily carbonizable substances ..... conforms  
 Substances reducing potassium permanganate (as O) ..... ≤ 150 ppm

Al (Aluminium) ..... ≤ 0.5 ppm  
 B (Boron) ..... ≤ 0.02 ppm  
 Ba (Barium) ..... ≤ 0.1 ppm  
 Ca (Calcium) ..... ≤ 0.5 ppm  
 Cd (Cadmium) ..... ≤ 0.05 ppm  
 Co (Cobalt) ..... ≤ 0.02 ppm  
 Cr (Chromium) ..... ≤ 0.05 ppm  
 Cu (Copper) ..... ≤ 0.02 ppm  
 Fe (Iron) ..... ≤ 0.1 ppm  
 Mg (Magnesium) ..... ≤ 0.1 ppm  
 Mn (Manganese) ..... ≤ 0.02 ppm  
 Ni (Nickel) ..... ≤ 0.02 ppm

Pb (Lead) ..... ≤ 0.1 ppm  
 Sn (Tin) ..... ≤ 0.1 ppm  
 Zn (Zinc) ..... ≤ 0.1 ppm  
 Evaporation residue ..... ≤ 20 ppm

Ord.No.	Packaging	Quantity	Price
1.00042.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00042.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00042.9025	Plastic container	25 l	inquire

### 820004 Acetoacetaldehyde-1,1-dimethyl acetal for synthesis



C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>

CH<sub>3</sub>COCH<sub>2</sub>CH(OCH<sub>3</sub>)<sub>2</sub>

4,4-Dimethoxybutanone, 3-Oxobutyraldehyde dimethyl acetal

■ CAS-No. 5436-21-5 ■ EC-No. 226-605-1  
 ■ Refractive index 1.4143 (25 °C, 589 nm)  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow

decomposition) ■ M = 132.15 g/mol

■ Melting point -83 - -81 °C  
 ■ Boiling point 169 - 171 °C (1013 hPa)  
 ■ Ignition temp. 255 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LD50 oral rat 6200 mg/kg  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2914 50 00 ■ Disposal 11  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ACETOACETALDEHYD-1,1-(DIMETHYLACETAL)), 3, III ■ IMDG-Code UN 1993

FLAMMABLE LIQUID,  
 N.O.S.(ACETOACETALDEHYDE-1,1-(DIMETHYLACETAL)), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,  
 N.O.S.(ACETOACETALDEHYDE-1,1-(DIMETHYLACETAL)), 3, III

#### Specification

Assay (GC, area%) ..... ≥ 90.0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,989 - 0,994  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20004.0100	Glass bottle	100 ml	inquire

Acetoacetic acid allyl ester → Allyl acetoacetate page 364

Acetoacetic acid diethylamide → N,N-Diethyl acetoacetamide page 737

Acetoacetic acid ethyl ester → Ethyl acetoacetate page 849

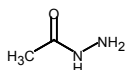
Acetoacetic acid methyl ester → Methyl acetoacetate page 305

Acetoacetic acid tert-butyl ester → tert-Butyl acetoacetate page 539



# Acetoh

## 820556 Acetohydrazide for synthesis



C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O  
CH<sub>3</sub>CONHNH<sub>2</sub>  
*Acetylhydrazine, Acetic acid hydrazide*  
■ CAS-No. 1068-57-1 ■ EC-No. 213-948-7  
■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 74.08 g/mol  
■ Melting point 57 - 60 °C ■ Boiling point 129 °C (24 hPa)

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(ESSIGSAEUREHYDRAZID), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(ACETOHYDRAZIDE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(ACETOHYDRAZIDE), 6.1, II

### Specification

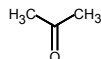
Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
Melting range (lower value)..... ≥ 55 °C  
Melting range (upper value)..... ≤ 65 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20556.0050	Glass bottle	50 g	inquire
8.20556.0250	Glass bottle	250 g	inquire

Acetoin → 3-Hydroxy-2-butanone page 979

1-Acetonaphthone → 2-Acetylnaphthalene page 348

## Acetone



C<sub>3</sub>H<sub>6</sub>O  
CH<sub>3</sub>COCH<sub>3</sub>  
*Dimethyl ketone, Propanone, 2-Propanone*  
■ CAS-No. 67-64-1 ■ EC-No. 200-662-2  
■ Refractive index 1.35868 (20 °C) ■ Vapour pressure 233 hPa (20 °C) ■ Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 20.7 (20 °C)

- Explosive limit 2.6 - 12.8 % (V) ■ Flash point < 20 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 58.08 g/mol ■ pH value 5 - 6 (395 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -95.4 °C
- Boiling point 56.2 °C (1013 hPa)
- Water absorption 1000 g/kg
- Ignition temp. 465 °C DIN 51794
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category

3, H336, P210, P233, P305 + P351 + P338  
■ LC50 rat 76 mg/l  
■ LD50 oral rat 5800 mg/kg ■ LD50 dermal rabbit 20000 mg/kg  
■ EC-Index-No. 606-001-00-8 ■ LGK 3 ■ Store below +30°C.  
■ HS-No. 2914 11 00 ■ Disposal 1  
■ ADR-RID UN 1090 Aceton, 3, II ■ IMDG-Code UN 1090 ACETONE, 3, II  
■ IATA-DGR UN 1090 ACETONE, 3, II

## 822251 Acetone EMPLURA®

### Specification

Purity (GC)..... ≥ 99.0 %  
Density (d 20 °C/ 4 °C)..... 0.789 - 0.791  
Evaporation residue..... ≤ 0.0040 %  
Water..... ≤ 0.30 %

Ord.No.	Packaging	Quantity	Price
8.22251.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.22251.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.22251.9025	Steel barrel	25 l	inquire

## 107021 Acetone for analysis EMPARTA® ACS

### Specification

Purity (GC)..... ≥ 99.5 %  
Identity (IR)..... conforms  
Solubility in water..... conforms  
Colour..... ≤ 10 Hazen  
Titrable acid..... ≤ 0.0003 meq/g  
Titrable base..... ≤ 0.0006 meq/g  
Methanol (GC)..... ≤ 0.05 %  
2-Propanol (GC)..... ≤ 0.05 %  
Aldehydes (as formaldehyde)..... ≤ 0.002 %  
Substances reducing potassium permanganate (as O)..... ≤ 0.0003 %  
Evaporation residue..... ≤ 0.001 %  
Water..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.07021.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07021.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire

## 100014 Acetone for analysis EMSURE® ACS,ISO,Reag. Ph Eur

### Specification

Assay (GC)..... ≥ 99.8 %  
Identity (IR)..... conforms  
Identity B (Ph Eur)..... conforms  
Identity C (Ph Eur)..... conforms  
Appearance of solution..... conforms  
Solubility in water..... conforms  
Water-insoluble substances..... conforms  
Colour..... ≤ 10 Hazen  
Density (d 20 °C/20 °C)..... 0.790 - 0.793  
Acidity or alkalinity..... conforms  
Titrable acid..... ≤ 0.0002 meq/g  
Titrable base..... ≤ 0.0002 meq/g  
Related substances (GC) (Methanol (Impurity A))..... ≤ 0.05 %  
Related substances (GC) (2-Propanol (Impurity B))..... ≤ 0.05 %  
Related substances (GC) (Benzene (Impurity C))..... ≤ 2 ppm  
Related substances (GC) (other impurity)..... ≤ 0.05 %  
Cyclohexane (residual solvent) (GC)..... ≤ 0.01 %  
Diacetone (GC)..... ≤ 0.02 %  
Ethanol (GC)..... ≤ 0.01 %  
Aldehydes (as formaldehyde)..... ≤ 0.001 %  
Substances reducing potassium permanganate (as O)..... ≤ 0.0025 %  
Reducing substances..... conforms  
Chloride (Cl)..... ≤ 100 ppb  
Nitrate (NO<sub>3</sub>)..... ≤ 100 ppb  
Phosphate (PO<sub>4</sub>)..... ≤ 100 ppb  
Sulphate (SO<sub>4</sub>)..... ≤ 100 ppb  
Ag (Silver)..... ≤ 0.00002 %  
Al (Aluminium)..... ≤ 0.00005 %  
As (Arsenic)..... ≤ 0.00002 %  
Au (Gold)..... ≤ 0.00002 %  
B (Boron)..... ≤ 0.00002 %  
Ba (Barium)..... ≤ 0.00001 %  
Be (Beryllium)..... ≤ 0.00002 %  
Bi (Bismuth)..... ≤ 0.00002 %  
Ca (Calcium)..... ≤ 0.00005 %  
Cd (Cadmium)..... ≤ 0.00005 %  
Co (Cobalt)..... ≤ 0.00002 %  
Cr (Chromium)..... ≤ 0.00002 %  
Cu (Copper)..... ≤ 0.00002 %  
Fe (Iron)..... ≤ 0.00001 %  
Ga (Gallium)..... ≤ 0.00002 %  
Ge (Germanium)..... ≤ 0.00002 %  
In (Indium)..... ≤ 0.00002 %  
Li (Lithium)..... ≤ 0.00005 %  
Mg (Magnesium)..... ≤ 0.00001 %  
Mn (Manganese)..... ≤ 0.00002 %  
Mo (Molybdenum)..... ≤ 0.00002 %  
Ni (Nickel)..... ≤ 0.00002 %  
Pb (Lead)..... ≤ 0.00001 %  
Sb (Antimony)..... ≤ 0.00002 %  
Sn (Tin)..... ≤ 0.00001 %  
Ti (Titanium)..... ≤ 0.00002 %  
Tl (Thallium)..... ≤ 0.00002 %  
V (Vanadium)..... ≤ 0.00002 %  
Zn (Zinc)..... ≤ 0.00001 %  
Zr (Zirconium)..... ≤ 0.00002 %  
Evaporation residue..... ≤ 0.0005 %  
Water..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.00014.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00014.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00014.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00014.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00014.4000	Glass bottle	4 l	inquire
1.00014.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire
1.00014.6010	Drum stainl. st.	10 l	inquire
1.00014.6025	Drum stainl. st.	25 l	inquire
1.00014.6190	Drum stainl. st.	190 l	inquire
1.00014.9025	Steel barrel	25 l	inquire
1.00014.9180	Barrel PE/met	180 l	inquire

**100299 Acetone dried (max. 0.0075% H<sub>2</sub>O) SeccoSolv®**

Specification		
Purity (GC).....	≥ 99.9 %	2-Propanol (GC)..... ≤ 0.05 %
Identity (IR).....	conforms	Aldehydes (as H <sub>2</sub> CO)..... ≤ 0.001 %
Colour.....	≤ 10 Hazen	Substances reducing potassium permanganate (as O)..... ≤ 0.0003 %
Acidity.....	≤ 0.0005 meq/g	Evaporation residue..... ≤ 10 mg/l
Alkalinity.....	≤ 0.0002 meq/g	Water..... ≤ 0.0075 %
Ethanol (GC).....	≤ 0.01 %	
Methanol (GC).....	≤ 0.05 %	

Ord.No.	Packaging	Quantity	Price
1.00299.0161	Septum bottle	150 ml	inquire
1.00299.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.00299.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

**100012 Acetone for gas chromatography ECD and FID SupraSolv®**

Specification		
Purity (GC).....	≥ 99.8 %	GC/FID (retention range n-undecane to n-tetracontane, individual signals (n-tetradecane standard)).....
Identity (IR).....	conforms	..... ≤ 3 ng/ml
Evaporation residue.....	≤ 3.0 mg/l	suitable for residue analysis
Water.....	≤ 0.05 %	
Colour.....	≤ 10 Hazen	
GC/ECD (retention range 1,2,4-trichlorobenzene to decachlorobiphenyl, individual signals (lindane standard)).....	≤ 3 pg/ml	

Ord.No.	Packaging	Quantity	Price
1.00012.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00012.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00012.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.00012.9030	Barrel stainl. st.	30 l	inquire

**100658 Acetone for gas chromatography MS SupraSolv®**

Specification		
Purity (GC).....	≥ 99.8 %	GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n-tetradecane standard)).....
Identity (IR).....	conforms	..... ≤ 3.0 ng/ml
Evaporation residue.....	≤ 3.0 mg/l	Suitable for residue analysis.
Water.....	≤ 0.05 %	
Colour.....	≤ 10 Hazen	

Ord.No.	Packaging	Quantity	Price
1.00658.1000	Glass bottle	1 l	inquire
1.00658.2500	Glass bottle	2.5 l	inquire

**100022 Acetone for spectroscopy Uvasol®**

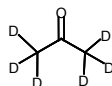
Specification		
Purity (GC).....	≥ 99.9 %	Transmission (at 340 nm)..... ≥ 85 %
Evaporation residue.....	≤ 0.0002 %	Transmission (at 345 nm)..... ≥ 95 %
Water.....	≤ 0.05 %	Transmission (from 350 nm)..... ≥ 99 %
Colour.....	≤ 10 Hazen	Absorbance (at 330 nm)..... ≤ 0.82
Acidity.....	≤ 0.0002 meq/g	Absorbance (at 335 nm)..... ≤ 0.22
Alkalinity.....	≤ 0.0002 meq/g	Absorbance (at 340 nm)..... ≤ 0.07
Fluorescence (as quinine at 365 nm).....	≤ 1.0 ppb	Absorbance (at 345 nm)..... ≤ 0.02
Transmission (at 330 nm).....	≥ 15 %	Absorbance (from 350 nm)..... ≤ 0.004
Transmission (at 335 nm).....	≥ 60 %	Meet the requirements of "Specific use spectroscopy" according ACS

Ord.No.	Packaging	Quantity	Price
1.00022.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.00022.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**100020 Acetone for liquid chromatography LiChrosolv®**

Specification		
Purity (GC).....	≥ 99.8 %	Transmission (at 340 nm)..... ≥ 80 %
Identity (IR).....	conforms	Transmission (from 350 nm)..... ≥ 98 %
Evaporation residue.....	≤ 2.0 mg/l	Filtered by 0.2 µm filter
Water.....	≤ 0.05 %	
Acidity.....	≤ 0.0002 meq/g	
Alkalinity.....	≤ 0.0002 meq/g	
Transmission (at 335 nm).....	≥ 50 %	

Ord.No.	Packaging	Quantity	Price
1.00020.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00020.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00020.4000	Glass bottle	4 l	inquire
1.00020.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.00020.9010	Barrel stainl. st.	10 l	inquire

**Acetone-D<sub>6</sub>**

C<sub>3</sub>D<sub>6</sub>O  
 CD<sub>3</sub>COCD<sub>3</sub>  
 Hexadeuteroacetone  
 ■ CAS-No. 666-52-4 ■ EC-No. 211-563-9  
 ■ Vapour pressure 233 hPa (20 °C)

■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.6 - 12.8 % (V) ■ Flash point < -20 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 64.12 g/mol  
 ■ pH value 5 - 6 (365 g/l, H<sub>2</sub>O) ■ Melting point - 95.4 °C ■ Boiling point 56.2 °C (1013 hPa)  
 ■ Ignition temp. 465 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336; Eye irritation,

Category 2, H319, P210, P305 + P351 + P338  
 ■ LC50 rat 76 mg/l  
 ■ LD50 oral rat 5800 mg/kg ■ LD50 dermal rabbit 20000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2845 90 10 ■ Disposal 1  
 ■ ADR-RID UN 1090 Aceton, 3, II ■ IMDG-Code UN 1090 ACETONE, 3, II  
 ■ IATA-DGR UN 1090 ACETONE, 3, II

**111969 Acetone-D<sub>6</sub> deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™**

Specification		
Deuteration degree.....	≥ 99.96 %	Water (K. Fischer, H <sub>2</sub> O + D <sub>2</sub> O)..... ≤ 0.020 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.010 %	
Performance test (NMR-spectrum).....	passes test	

Ord.No.	Packaging	Quantity	Price
1.11969.0009	Glass ampoule	10x0.75 ml	inquire

**100021 Acetone-D<sub>6</sub> deuteration degree min. 99.9% for NMR spectroscopy MagniSolv™**

Specification	
Deuteration degree.....	≥ 99.90 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.020 %
Performance test (NMR-spectrum).....	passes test
Water (K. Fischer, H <sub>2</sub> O + D <sub>2</sub> O).....	≤ 0.030 %

Ord.No.	Packaging	Quantity	Price
1.00021.0005	Glass ampoule	10x 0.5 ml	inquire
1.00021.0009	Glass ampoule	10x0.75 ml	inquire
1.00021.0010	Septum ampoule	10 ml	inquire
1.00021.0025	Glass bottle	25 ml	inquire
1.00021.0100	Glass bottle	100 ml	inquire

# Aceton

Acetone-1,3-dicarboxylic acid → 3-Oxoglutaric acid page 1257

Acetone diethyl acetal → 2,2-Diethoxypropane page 736

Acetone dimethyl acetal → 2,2-Dimethoxypropane page 302

Acetone enol acetate → Isopropenyl acetate page 1051

Acetone ethylene acetal → 2,2-Dimethyl-1,3-dioxolan page 787

## Acetonitrile



C<sub>2</sub>H<sub>3</sub>N

CH<sub>3</sub>CN

ACN, Methyl cyanide, Ethyl nitrile, Cyanomethane

■ CAS-No. 75-05-8 ■ EC-No. 200-835-2

■ Refractive index 1.34 ■ Vapour pressure 97 hPa (20 °C) ■ Spec. density 0.786 g/cm<sup>3</sup> (20 °C)

■ Dielectricity constant 37.5 (20 °C) ■ El. dipole moment 3.44 (20 °C) ■ Explosive

limit 3.0 - 17 % (V) ■ Flash point 2 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 41.05 g/mol  
 ■ pH value (H<sub>2</sub>O) no data available  
 ■ Saturation conc. 163 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -45.7 °C ■ Boiling point 81.6 °C (1013 hPa) ■ Ignition temp. 524 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312;

Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P210, P305 + P351 + P338

■ LD50 dermal rabbit > 2000 mg/kg

■ EC-Index-No. 608-001-00-3 ■ LGK 3

■ HS-No. 2926 90 95 ■ Disposal 1

■ ADR-RID UN 1648 Acetonitril, 3, II ■ IMDG-Code UN 1648 ACETONITRILE, 3, II

■ IATA-DGR UN 1648 ACETONITRILE, 3, II



### 115500 Acetonitrile EMPLURA®

#### Specification

Purity (GC)..... ≥ 99.0 %  
 Identity (IR)..... conforms  
 Acidity..... ≤ 0.00016 meq/g  
 Density (d 20 °C/ 4 °C)..... 0.782 - 0.783  
 Evaporation residue..... ≤ 0.005 %

Water..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.15500.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.15500.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.15500.6025	Drum stainl. st.	25 l	inquire
1.15500.9190	Steel barrel	190 l	inquire

### 100003 Acetonitrile for analysis EMSURE® ACS, Reag. Ph Eur

#### Specification

Purity (GC)..... ≥ 99.5 %  
 Identity (IR)..... conforms  
 Appearance..... clear  
 Colour..... ≤ 10 Hazen  
 Acidity..... ≤ 0.0002 meq/g  
 Alkalinity..... ≤ 0.0001 meq/g  
 Density (d 20 °C/20 °C)..... 0.782 - 0.783  
 Refractive index (n 20/D)..... 1.343 - 1.345  
 Boiling range (80-82°C)..... ≥ 95 % (v/v)  
 Cyanide (CN)..... ≤ 0.005 %  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.000002 %  
 Ba (Barium)..... ≤ 0.00001 %

Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00001 %  
 Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.00001 %  
 Sn (Tin)..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %  
 Evaporation residue..... ≤ 0.001 %

Water..... ≤ 0.1 %  
 ACS, Ph Eur-reagent

Ord.No.	Packaging	Quantity	Price
1.00003.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00003.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00003.4000	Glass bottle	4 l	inquire
1.00003.6010	Drum stainl. st.	10 l	inquire
1.00003.6025	Drum stainl. st.	25 l	inquire
1.00003.9025	Steel barrel	25 l	inquire

### 100004 Acetonitrile dried (max. 0.005 % H<sub>2</sub>O) SeccoSolv®

#### Specification

Purity (GC)..... ≥ 99.9 %  
 Identity (IR)..... conforms  
 Colour..... ≤ 10 Hazen  
 Acidity..... ≤ 0.0005 meq/g  
 Alkalinity..... ≤ 0.0002 meq/g

Evaporation residue..... ≤ 10 mg/l  
 Water..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.00004.0161	Septum bottle	150 ml	inquire
1.00004.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.00004.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

### 112636 Acetonitrile for DNA synthesis

#### Specification

Purity (GC)..... ≥ 99.9 %  
 Identity (IR)..... conforms  
 Acidity..... ≤ 0.001 meq/g  
 Alkalinity..... ≤ 0.0002 meq/g  
 Evaporation residue..... ≤ 1 mg/l

Water..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.12636.0050	Glass bottle	50 ml	inquire
1.12636.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.12636.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.12636.9033	Barrel stainl. st.	30 l	inquire
1.12636.9185	Barrel stainl. st.	185 l	inquire

### 113212 Acetonitrile for DNA synthesis (≤ 30 ppm H<sub>2</sub>O)

#### Specification

Purity (GC)..... ≥ 99.9 %  
 Identity (IR)..... conforms  
 Acidity..... ≤ 0.001 meq/g  
 Alkalinity..... ≤ 0.0002 meq/g

Evaporation residue..... ≤ 1 mg/l  
 Water..... ≤ 30 ppm

Ord.No.	Packaging	Quantity	Price
1.13212.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.13212.4000	Glass bottle	4 l	inquire
1.13212.9185	Barrel stainl. st.	185 l	inquire

### 100017 Acetonitrile for gas chromatography ECD and FID SupraSolv®

#### Specification

Purity (GC)..... ≥ 99.8 %  
 Identity (IR)..... conforms  
 Evaporation residue..... ≤ 3.0 mg/l  
 Water..... ≤ 0.05 %  
 Colour..... ≤ 10 Hazen  
 GC/ECD (retention range 1,2,4-tri-chlorobenzene to decachlorobiphenyl,

individual signals (lindane standard))..... ≤ 3 pg/ml  
 GC/FID (retention range n-undecane to n-tetracontane, individual signals (n- tetradecane standard))..... ≤ 3 ng/ml  
 suitable for residue analysis

Ord.No.	Packaging	Quantity	Price
1.00017.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00017.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00017.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire

**100665 Acetonitrile** for gas chromatography MS SupraSolv®**Specification**

Purity (GC).....	≥ 99.8 %	GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 – 600 amu, individual signals (n- tetradecane standard)).....	≥ 90 %
Identity (IR).....	conforms		≥ 90 %
Evaporation residue.....	≤ 3.0 mg/l		≥ 95 %
Water.....	≤ 0.05 %	Suitable for residue analysis	≥ 98 %
Colour.....	≤ 10 Hazen		≥ 60 %

Ord.No.	Packaging	Quantity	Price
1.00665.1000	Glass bottle	1 l	inquire
1.00665.2500	Glass bottle	2.5 l	inquire

**100016 Acetonitrile** for spectroscopy Uvasol®**Specification**

Purity (GC).....	≥ 99.9 %	Transmission (at 195 nm).....	≥ 60 %
Evaporation residue.....	≤ 0.0002 %	Transmission (at 200 nm).....	≥ 90 %
Water.....	≤ 0.01 %	Transmission (at 215 nm).....	≥ 95 %
Colour.....	≤ 10 Hazen	Transmission (from 230 nm).....	≥ 98 %
Acidity.....	≤ 0.0002 meq/g	Absorbance (at 190 nm).....	≤ 0.70
Alkalinity.....	≤ 0.0001 meq/g	Absorbance (at 195 nm).....	≤ 0.22
Fluorescence (as quinine at 254 nm).....	≤ 0.5 ppb	Absorbance (at 200 nm).....	≤ 0.05
Fluorescence (as quinine at 365 nm).....	≤ 0.5 ppb	Absorbance (at 215 nm).....	≤ 0.02
Transmission (at 190 nm).....	≥ 20 %	Absorbance (from 230 nm).....	≤ 0.01

Meet the requirements of "Specific use spectroscopy" according ACS and Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.00016.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00016.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**100029 Acetonitrile** hypergrade for LC-MS LiChrosolv®**Specification**

Purity (GC).....	≥ 99.9 %	(with Δλ=10nm) the emission intensity in the range 250 – 700 nm is smaller then the following standards:	
Identity (IR).....	conforms	quinine-standard (1ng/ml; 0,05mol/l H <sub>2</sub> SO <sub>4</sub> ), PAH Standard (1:100000; Acetonitrile; NIST SRM 1647B).....	conforms
Evaporation residue.....	≤ 1.0 mg/l	Transmission (at 191 nm).....	≥ 25 %
Water.....	≤ 0.01 %	Transmission (at 195 nm).....	≥ 85 %
Colour.....	≤ 10 Hazen	Transmission (at 200 nm).....	≥ 96 %
Acidity.....	≤ 0.0001 meq/g	Transmission (at 215 nm).....	≥ 98 %
Alkalinity.....	≤ 0.0002 meq/g	Transmission (from 230 nm).....	≥ 99 %
Na (Sodium).....	≤ 100 ppb	Suitability for PAH analysis:	
K (Potassium).....	≤ 10 ppb	HPLC fluorescence-detection.....	conforms
Gradient grade (at 210 nm).....	≤ 1.0 mAU	Suitability for pesticide analysis:	
Gradient grade (at 254 nm).....	≤ 0.5 mAU	HPLC UV-detection.....	conforms
Fluorescence (as quinine at 254 nm).....	≤ 1.0 ppb	Suitable for LC-MS (tested with ion trap MS);	
Fluorescence (as quinine at 365 nm).....	≤ 0.5 ppb		
Suitability for fluorescence detection:			
At an excitation between 240 and 600 nm			

(Intensity of background mass peak based on reserpine (APCI/ESI positive))..... ≤ 2 ppb  
Suitable for LC-MS (tested with ion trap MS);  
Intensity of background mass peak based on reserpine (APCI/ESI negative)..... ≤ 20 ppb  
Filtered by 0.2 µm filter Suitable for UPLC / UHPLC / Ultra HPLC - instruments

Ord.No.	Packaging	Quantity	Price
1.00029.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00029.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00029.9010	Barrel stainl. st.	10 l	inquire
1.00029.9030	Barrel stainl. st.	30 l	inquire

**100030 Acetonitrile** gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur**Specification**

Purity (GC).....	≥ 99.9 %	Fluorescence (as quinine at 254 nm).....	≤ 1.0 ppb
Identity (IR).....	conforms	Fluorescence (as quinine at 365 nm).....	≤ 0.5 ppb
Evaporation residue.....	≤ 2.0 mg/l	Transmission (at 193 nm).....	≥ 60 %
Water.....	≤ 0.02 %	Transmission (at 195 nm).....	≥ 80 %
Colour.....	≤ 10 Hazen	Transmission (from 230 nm).....	≥ 98 %
Density (d 20 °C/20 °C).....	0.78	Filtered by 0.2 µm filter. Suitable for UPLC / UHPLC / Ultra HPLC - instruments. Conforms to Acetonitrile for chromatography and Acetonitrile R1 according to Reag.Ph Eur; conforms to the requirements of ACS for liquid chromatography suitability.	
Refractive index (n 20/D).....	1.344		
Boiling range (80–82°C).....	≥ 95 % (v/v)		
Acidity.....	≤ 0.0002 meq/g		
Alkalinity.....	≤ 0.0002 meq/g		
Gradient grade (at 210 nm).....	≤ 1.0 mAU		
Gradient grade (at 254 nm).....	≤ 0.5 mAU		

Ord.No.	Packaging	Quantity	Price
1.00030.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00030.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00030.4000	Glass bottle	4 l	inquire
1.00030.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.00030.9010	Barrel stainl. st.	10 l	inquire
1.00030.9030	Barrel stainl. st.	30 l	inquire
1.00030.9185	Barrel stainl. st.	185 l	inquire

**114291 Acetonitrile** isocratic grade for liquid chromatography LiChrosolv®**Specification**

Purity (GC).....	≥ 99.8 %	Transmission (from 240 nm).....	≥ 98 %
Identity (IR).....	conforms	Filtered by 0.2 µm filter	
Evaporation residue.....	≤ 4.0 mg/l		
Water.....	≤ 0.05 %		
Acidity.....	≤ 0.0005 meq/g		
Alkalinity.....	≤ 0.0002 meq/g		
Transmission (at 195 nm).....	≥ 70 %		
Transmission (at 200 nm).....	≥ 90 %		

Ord.No.	Packaging	Quantity	Price
1.14291.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.14291.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.14291.4000	Glass bottle	4 l	inquire
1.14291.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.14291.9010	Barrel stainl. st.	10 l	inquire
1.14291.9030	Barrel stainl. st.	30 l	inquire
1.14291.9185	Barrel stainl. st.	185 l	inquire

**480672 Acetonitrile with 0.05% (v/v) Trifluoroacetic acid** LiChrosolv®**Specification**

Assay (trifluoroacetic acid).....0.045 – 0.055 % (v/v)

Ord.No.	Packaging	Quantity	Price
4.80672.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**480448 Acetonitrile with 0.1% (v/v) trifluoroacetic acid** for liquid chromatography LiChrosolv®**Specification**

Assay (trifluoroacetic acid).....	0.095 – 0.105 % (v/v)	Required quantity (acetonitrile).....	
Lotnumber (trifluoroacetic acid).....			
Lotnumber (acetonitrile).....			
Required quantity (trifluoroacetic acid).....			

Ord.No.	Packaging	Quantity	Price
4.80448.2500	Glass bottle	2.5 l	inquire
4.80448.4000	Glass bottle	4 l	inquire
4.80448.9030	Barrel stainl. st.	30 l	inquire
4.80448.9185	Barrel stainl. st.	185 l	inquire

# Aceton

## 113358 Acetonitrile for preparative chromatography Prepsolv®

### Specification

Purity (GC).....	≥ 99.8 %
Identity (IR).....	conforms
Evaporation residue.....	≤ 1.0 mg/l
Water.....	≤ 0.05 %
Acidity.....	≤ 0.0005 meq/g

Alkalinity.....	≤ 0.0002 meq/g
Transmission (at 220 nm).....	≥ 90 %
Transmission (from 240 nm).....	≥ 98 %

Filtered by 0.2 µm filter

Ord.No.	Packaging	Quantity	Price
1.13358.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.13358.9030	Barrel stainl. st.	30 l	inquire
1.13358.9185	Barrel stainl. st.	185 l	inquire

## 107031 Acetonitrile for analysis EMPARTA® ACS

C<sub>2</sub>H<sub>3</sub>N  
CH<sub>3</sub>CN

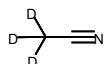
*Essigsäurenitril, ACN, Ethyl nitrile, Cyanomethane*  
 ■ CAS-No. 75-05-8 ■ EC-No. 200-835-2  
 ■ Refractive index 1.34 ■ Vapour pressure 97 hPa (20 °C) ■ Spec. density 0.786 g/cm<sup>3</sup> (20 °C)  
 ■ Explosive limit 3.0 - 17 % (V) ■ Flash point 2 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 41.05 g/mol  
 ■ Melting point -45.7 °C ■ Boiling point 81.6 °C

(1013 hPa) ■ Ignition temp. 524 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P210, P305 + P351 + P338  
 ■ LD50 dermal rabbit > 2000 mg/kg

■ EC-Index-No. 608-001-00-3 ■ LGK 3  
 ■ Disposal 1  
 ■ ADR-RID UN 1648 Acetonitril, 3, II ■ IMDG-Code UN 1648 ACETONITRILE, 3, II  
 ■ IATA-DGR UN 1648 ACETONITRILE, 3, II

Ord.No.	Packaging	Quantity	Price
1.07031.4000	Glass bottle	4 l	inquire

## Acetonitrile-D3



C<sub>2</sub>D<sub>3</sub>N  
CD<sub>3</sub>CN

■ CAS-No. 2206-26-0 ■ EC-No. 218-616-5  
 ■ Vapour pressure 97 hPa (20 °C)  
 ■ Spec. density 0.840 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.0 - 16 % (V) ■ Flash point 2 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 44.07 g/mol  
 ■ Melting point -42 °C ■ Boiling point 80 °C  
 ■ Ignition temp. 525 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312; Eye irritation, Category 2, H319, P210, P305 + P351 + P338

■ LC50 rat 27.3 mg/l  
 ■ LD50 oral rat 2730 - 3800 mg/kg  
 ■ LD50 dermal rabbit 988 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2845 90 10 ■ Disposal 1  
 ■ ADR-RID UN 1648 Acetonitril, 3, II ■ IMDG-Code UN 1648 ACETONITRILE, 3, II  
 ■ IATA-DGR UN 1648 ACETONITRILE, 3, II

## 113753 Acetonitrile-D3 deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™

### Specification

Deuteration degree.....	≥ 99.96 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.010 %
Performance test (NMR-spectrum).....	passes test

Water (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O)..... ≤ 0.020 %

Ord.No.	Packaging	Quantity	Price
1.13753.0001	Glass ampoule	1 ml	inquire
1.13753.0009	Glass ampoule	10x0.75 ml	inquire

## 100220 Acetonitrile-D3 deuteration degree min. 99.8% for NMR spectroscopy MagniSolv™

### Specification

Deuteration degree.....	≥ 99.8 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.02 %
Performance test (NMR-spectrum).....	passes test

Water (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O)..... ≤ 0.03 %

Ord.No.	Packaging	Quantity	Price
1.00220.0010	Septum ampoule	10 ml	inquire

## 102904 Acetonitrile-D3 deuteration degree min. 99% for NMR spectroscopy MagniSolv™

### Specification

Deuteration degree.....	≥ 99.0 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.050 %
Performance test (NMR-spectrum).....	passes test

Water (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O)..... ≤ 0.100 %

Ord.No.	Packaging	Quantity	Price
1.02904.0010	Septum ampoule	10 ml	inquire

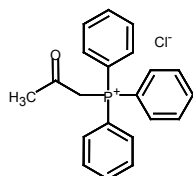
## 159002 Acetonitrile with 0.1% (v/v) Formic acid hypergrade for LC-MS LiChrosolv®

■ Disposal 1

Ord.No.	Packaging	Quantity	Price
1.59002.1000	Glass bottle	1 l	inquire
1.59002.2500	Glass bottle	2.5 l	inquire
1.59002.4000	Glass bottle	4 l	inquire

Acetonylacetone → 2,5-Hexanedione page 954

## 841028 Acetonyltriphenylphosphonium chloride for synthesis



C<sub>21</sub>H<sub>20</sub>ClOP  
 2-Oxopropyl triphenylphosphonium chloride  
 ■ CAS-No. 1235-21-8 ■ EC-No. 214-974-1  
 ■ M = 354.81 g/mol ■ Melting point 243 - 245 °C  
 ■ WGK 3  
 ■ LGK 10 - 13

■ HS-No. 2931 90 90 ■ Disposal 3

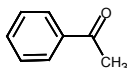
### Specification

Assay (argentometric)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41028.0025	Glass bottle	25 g	inquire



## 800028 Acetophenone for synthesis



C<sub>8</sub>H<sub>8</sub>O  
 CH<sub>3</sub>COC<sub>6</sub>H<sub>5</sub>  
 Methyl phenyl ketone, 1-  
 Phenylethanone, Phenylethanone, ACP  
 ■ CAS-No. 98-86-2 ■ EC-No. 202-708-7  
 ■ Refractive index 1.5339 (20 °C, 589 nm)  
 ■ Vapour pressure 0.4 hPa (20 °C)  
 ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Dielectricity  
 constant 8.6 (20 °C) ■ Explosive  
 limit 1.4 - 5.2 % (V) ■ Flash point 82 °C ■ Solub. in

H<sub>2</sub>O 5.5 g/l (20 °C) ■ M = 120.15 g/mol  
 ■ Saturation conc. 1.96 g/m<sup>3</sup> (20 °C)  
 ■ Melting point 20 °C ■ Boiling point 202 °C  
 (1013 hPa) ■ Ignition temp. 570 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,  
 H302; Eye irritation, Category 2, H319, P305 +  
 P351 + P338  
 ■ LD50 oral rat 815 mg/kg ■ LD50 dermal rabbit  
 16000 mg/kg  
 ■ EC-Index-No. 606-042-00-1 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
 Dangerous Good

■ IATA-DGR UN 3334 AVIATION REGULATED  
 LIQUID, N.O.S.(ACETOPHENONE), 9, III

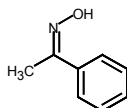
**Specification**  
 Colour (visual).....colorless to yellowish  
 Appearance of substance (visual).....clear liquid  
 Assay (GC, area%).....≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C).....1.025 - 1.028  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.00028.0100	Glass bottle	100 ml	inquire
8.00028.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

Acetophenone-2-carboxylic acid → 2-  
 Acetylbenzoic acid page 345

Acetophenone-4-carboxylic acid → 4-  
 Acetylbenzoic acid page 345

## 814826 Acetophenone oxime for synthesis



C<sub>8</sub>H<sub>9</sub>NO

■ CAS-No. 613-91-2 ■ EC-No. 210-360-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 135.17 g/mol ■ Melting point 58 - 60 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2928 00 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%).....≥ 98.0 % (a/a)  
 Melting range (lower value).....≥ 57 °C  
 Melting range (upper value).....≤ 60 °C  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.14826.0005	Glass bottle	5 g	inquire

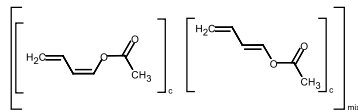
Acetophenones → Ketones  
 Acetovanillone → 4-Hydroxy-3-methoxy-  
 acetophenone page 985

Acetoveratron → 3,4-Dimethoxyacetophenone page  
 769

2-Acetoxybenzoyl chloride → Acetylsalicyloyl  
 chloride page 349

Acetoxy bromide → Acetyl bromide page 345

## 841052 1-Acetoxy-1,3-butadiene (mixture of cis and trans isomers) for synthesis



C<sub>6</sub>H<sub>8</sub>O<sub>2</sub>  
 Acetic acid 1,3-butadienyl ester, 1,3-Butadienyl  
 acetate

■ CAS-No. 1515-76-0 ■ EC-No. 216-159-6  
 ■ Vapour pressure 53 hPa (60 °C)  
 ■ Spec. density 0.945 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 33 °C ■ M = 112.12 g/mol  
 ■ Boiling point 169 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3,  
 H226; Acute toxicity, Category 3, Dermal, H311;  
 Eye irritation, Category 2, H319; Skin irritation,  
 Category 2, H315; Acute toxicity, Category 4, Oral,  
 H302; Specific target organ toxicity - single  
 exposure, Category 3, H335, P210, P280, P302 +  
 P352, P304 + P340, P305 + P351 + P338, P309 +  
 P310  
 ■ LD50 oral rat 710 mg/kg ■ LD50 dermal rabbit  
 397 mg/kg  
 ■ LGK 3 ■ Store below +15°C.  
 ■ HS-No. 2915 39 00 ■ Disposal 9  
 ■ ADR-RID UN 1992 Entzündbarer flüssiger Stoff,

giftig, n.a.g.(1-ACETOXY-1,3-BUTADIEN), 3 (6.1),  
 III ■ IMDG-Code UN 1992 FLAMMABLE LIQUID,  
 TOXIC, N.O.S.(1-ACETOXY-1,3-BUTADIENE), 3 (6.1),  
 III  
 ■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC,  
 N.O.S.(1-ACETOXY-1,3-BUTADIENE), 3 (6.1), III

**Specification**  
 Assay isomers (GC, area%).....≥ 96.0 % (a/a)  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41052.0005	Glass bottle	5 ml	inquire

## 843917 (1S,4R)-(+)-4-Acetoxy-2-cyclopentene-1-ol for synthesis

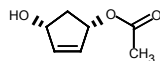
C<sub>7</sub>H<sub>10</sub>O<sub>3</sub>  
 ■ CAS-No. 60410-16-4  
 ■ M = 142.15 g/mol ■ Melting point 43 °C  
 ■ WGK 3  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2915 29 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
 Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**  
 Colour (visual).....white to offwhite  
 Appearance of substance (visual).....powder  
 Assay (GC, area%).....≥ 98.0 % (a/a)  
 Highest single impurity (GC, area%)...≤ 2.0 % (a/a)  
 Enantiomeric purity.....≥ 99.0 % (a/a)  
 Melting range (lower value).....≥ 48 °C  
 Melting range (upper value).....≤ 52 °C  
 Optical rotation α 20/D (c=1 in CH<sub>2</sub>Cl<sub>2</sub>).....62.0 -

68.0 °  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.43917.0001	Glass bottle	1 g	inquire
8.43917.0250	Plastic bottle	250 mg	inquire

## 843918 (1S,4R)-(-)-4-Acetoxy-2-cyclopentene-1-ol for synthesis



C<sub>7</sub>H<sub>10</sub>O<sub>3</sub>  
 ■ CAS-No. 60176-77-4  
 ■ M = 142.15 g/mol ■ Melting point 43 °C  
 ■ WGK 3  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2915 29 00 ■ Disposal 3

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
 Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**  
 Colour (visual).....white to offwhite  
 Appearance of substance (visual).....powder  
 Assay (GC, area%).....≥ 98.0 Area %  
 Highest single impurity (GC, area%)...≤ 2.0 Area %  
 Enantiomeric purity.....≥ 99.0 %  
 Melting range (lower value).....≥ 48 °C

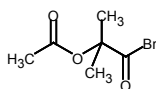
Melting range (upper value).....≤ 52 °C  
 Optical rotation α 20/D (c=1 in CH<sub>2</sub>Cl<sub>2</sub>).....-68,0 -  
 -62,0 °  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.43918.0001	Glass bottle	1 g	inquire
8.43918.0250	Glass bottle	250 mg	inquire

Acetoxydibutylstannoxane → 1,3-Diacetoxy-  
 1,1,3,3-tetrabutylstannoxane page 691

3-Acetoxyindole → 3-Indolyl acetate page 1004

## 841286 2-Acetoxyisobutyryl bromide for synthesis



C<sub>6</sub>H<sub>9</sub>BrO<sub>3</sub>  
 2-Acetoxy-2-methylpropionyl bromide  
 ■ CAS-No. 40635-67-4  
 ■ Spec. density 1.42 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 209.03 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) acidic

■ Boiling point 100 - 110 °C (33 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2918 19 98 ■ Disposal 11  
 ■ ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(2-ACETOXY-ISOBUTTERSAEUREBROMID), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID,

N.O.S.(2-ACETOXY-ISOBUTYRYL BROMIDE), 8, II  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(2-ACETOXY-ISOBUTYRYL BROMIDE), 8, II

**Specification**  
 Assay (argentometric)..... ≥ 95.0 %  
 Density (d 20 °C / 4 °C)..... 1.415 - 1.422  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41286.0025	Glass bottle	25 ml	inquire

3-(Acetoxymethyl)heptane → 2-Ethylhexyl acetate page 869

Acetoxyphenylmercury → Phenylmercury acetate page 1308

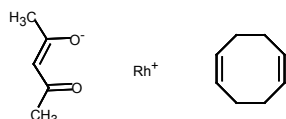
Aceturic acid → N-Acetylglycine page 348

2-Acetoxy-2-methylpropionyl bromide → 2-Acetoxyisobutyryl bromide page 344

Acetoxytributyltin → Tributyltin acetate page 1575

Acetylacetonates → Alcoholates and acetylacetonates

## 824420 Acetylacetonato(1,5-cyclooctadiene)rhodium(I) for synthesis



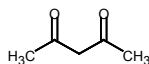
C<sub>13</sub>H<sub>19</sub>O<sub>2</sub>Rh  
 ■ CAS-No. 12245-39-5

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 310.2 g/mol ■ Melting point 138 - 140 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2843 90 90 ■ Disposal 27

**Specification**  
 Assay (to C, H)..... ≥ 96.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.24420.0100	Glass bottle	100 mg	inquire
8.24420.0500	Glass bottle	500 mg	inquire

## Acetylacetone



C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>  
 CH<sub>3</sub>COCH<sub>2</sub>COCH<sub>3</sub>  
 2,4-Pentanedione, ACAC  
 ■ CAS-No. 123-54-6 ■ EC-No. 204-634-0  
 ■ Vapour pressure 9 hPa (20 °C)  
 ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 25.7 (20 °C) ■ Explosive

limit 2.4 - 11.4 % (V) ■ Flash point 34 °C ■ Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 100.12 g/mol  
 ■ pH value 6 (200 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Saturation conc. 38 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -23 °C  
 ■ Boiling point 138 - 140 °C (1013 hPa)  
 ■ Evaporation number 20 ■ Ignition temp. 340 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210  
 ■ LC50 rat 5.1 mg/l

■ LD50 oral rat 575 mg/kg ■ LD50 dermal rat 790 mg/kg  
 ■ EC-Index-No. 606-029-00-0 ■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 1  
 ■ ADR-RID UN 2310 Pentan-2,4-dion, 3 (6.1), III  
 ■ IMDG-Code UN 2310 PENTANE-2,4-DIONE, 3 (6.1), III  
 ■ IATA-DGR UN 2310 PENTANE-2,4-DIONE, 3 (6.1), III

## 800023 Acetylacetone for synthesis

**Specification**  
 Assay (GC, area%)..... ≥ 99 %  
 Density (d 20 °C / 4 °C)..... 0.972 - 0.974  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00023.0005	Glass bottle	5 ml	inquire
8.00023.0250	Glass bottle	250 ml	inquire
8.00023.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 109600 Acetylacetone for analysis EMSURE®

**Specification**  
 Purity (GC)..... ≥ 99.0 %  
 Identity..... passes test  
 Al (Aluminium)..... ≤ 500 ppb  
 Ca (Calcium)..... ≤ 500 ppb  
 Cd (Cadmium)..... ≤ 50 ppb  
 Co (Cobalt)..... ≤ 20 ppb  
 Cr (Chromium)..... ≤ 50 ppb

Cu (Copper)..... ≤ 50 ppb  
 Fe (Iron)..... ≤ 100 ppb  
 Mg (Magnesium)..... ≤ 100 ppb  
 Ni (Nickel)..... ≤ 500 ppb  
 Pb (Lead)..... ≤ 500 ppb  
 Sn (Tin)..... ≤ 100 ppb  
 Zn (Zinc)..... ≤ 500 ppb

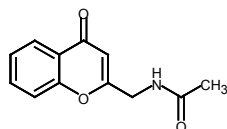
Residue on ignition..... ≤ 0.005 %  
 Water (according to Karl Fischer)..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.09600.0100	Glass bottle	100 ml	inquire
1.09600.0500	Glass bottle	500 ml	inquire

4-(Acetylamino)aniline → 4'-Aminoacetanilide page 376

Acetylaminalonic acid diethyl ester → Diethyl acetamidomalonnate page 737

## 826001 2-(Acetylaminomethyl)-chromen-4-one for synthesis



C<sub>12</sub>H<sub>11</sub>NO<sub>3</sub>  
 ■ CAS-No. 276687-59-3  
 ■ M = 217.22 g/mol  
 ■ WGK 3

■ GHS: Warning, Flammable solid, Category 2, H228, P370 + P378  
 ■ LGK 4.1B  
 ■ HS-No. 2932 99 00 ■ Disposal 3  
 ■ ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(2-(ACETYLAMINOMETHYL)-CHROMEN-4-ON), 4.1, III ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(2-(ACETYLAMINOMETHYL)-CHROMEN-4-ONE), 4.1, III  
 ■ IATA-DGR UN 1325 FLAMMABLE SOLID,

ORGANIC, N.O.S.(2-(ACETYLAMINOMETHYL)-CHROMEN-4-ONE), 4.1, III

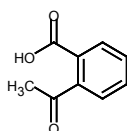
**Specification**  
 Assay (HPLC, area%)..... ≥ 97.0 % (a/a)  
 Water (K. F.)..... ≤ 5.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.26001.0010	Glass bottle	10 g	inquire



4-(Acetylamino)phenol → 4'-Hydroxyacetanilide page 976	3-Acetylanisole → 3'-Methoxyacetophenone page 1114
3-Acetylaniline → 3'-Aminoacetophenone page 376	4-Acetylanisole → 4'-Methoxyacetophenone page 1115

### 821925 2-Acetylbenzoic acid for synthesis

C<sub>9</sub>H<sub>8</sub>O<sub>3</sub>

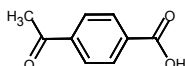
2-(CH<sub>3</sub>CO)C<sub>6</sub>H<sub>4</sub>COOH  
**Acetophenone-2-carboxylic acid**  
 ■ CAS-No. 577-56-0 ■ EC-No. 209-413-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 164.16 g/mol  
 ■ Melting point 112 - 115 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 30 00 ■ Disposal 4

#### Specification

Assay (acidimetric)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 112 °C  
 Melting range (upper value)..... ≤ 115 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21925.0010	Glass bottle	10 g	inquire

### 841664 4-Acetylbenzoic acid for synthesis

C<sub>9</sub>H<sub>8</sub>O<sub>3</sub>

Acetophenone-4-carboxylic acid

■ CAS-No. 586-89-0 ■ EC-No. 209-588-5

■ M = 164.16 g/mol ■ Melting point 209 - 212 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 30 00 ■ Disposal 3

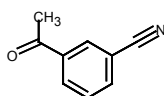
#### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 207 °C

Melting range (upper value)..... ≤ 210 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41664.0001	Plastic bottle	1 g	inquire

### 814828 3-Acetylbenzonitrile for synthesis

C<sub>9</sub>H<sub>7</sub>NO

■ CAS-No. 6136-68-1 ■ EC-No. 228-110-6  
 ■ Solub. in H<sub>2</sub>O 4 g/l (25 °C) ■ M = 145.16 g/mol  
 ■ Melting point 98 - 100 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4,

Inhalation, H332; Specific target organ toxicity -  
 single exposure, Category 3, H335; Skin irritation,  
 Category 2, H315; Acute toxicity, Category 4, Oral,  
 H302; Acute toxicity, Category 4, Dermal, H312;  
 Eye irritation, Category 2, H319, P302 + P352,  
 P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(3-  
 ACETYL BENZONITRIL), 6.1, III ■ IMDG-Code UN  
 3439 NITRILES, TOXIC, SOLID, N.O.S.(3-

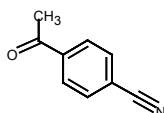
ACETYL BENZONITRILE), 6.1, III  
 ■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,  
 N.O.S.(3-ACETYL BENZONITRILE), 6.1, III

#### Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Melting range (lower value)..... ≥ 98 °C  
 Melting range (upper value)..... ≤ 101 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14828.0001	Glass bottle	1 g	inquire

### 841061 4-Acetylbenzonitrile for synthesis

C<sub>9</sub>H<sub>7</sub>NO

4-Cyanoacetophenone

■ CAS-No. 1443-80-7 ■ EC-No. 215-885-0  
 ■ M = 145.16 g/mol ■ Melting point 57 - 58 °C  
 ■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4,  
 Dermal, H312; Acute toxicity, Category 4, Oral,  
 H302, P302 + P352  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(4-  
 ACETYL BENZONITRIL), 6.1, II ■ IMDG-Code UN  
 3439 NITRILES, TOXIC, SOLID, N.O.S.(4-  
 ACETYL BENZONITRILE), 6.1, II  
 ■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,  
 N.O.S.(4-ACETYL BENZONITRILE), 6.1, II

#### Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 56 °C  
 Melting range (upper value)..... ≤ 58 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41061.0005	Glass bottle	5 g	inquire
8.41061.0025	Glass bottle	25 g	inquire

3-Acetylbenzotrifluoride → 3'-(Trifluoromethyl)-  
acetophenone page 1593

4-Acetylbenzotrifluoride → 4'-(Trifluoromethyl)-  
acetophenone page 1593

4-Acetyl biphenyl → 4'-Phenylacetophenone page  
1296

### 821926 Acetyl bromide for synthesis

C<sub>2</sub>H<sub>3</sub>BrOCH<sub>3</sub>COBr

Acetic acid bromide, Acetoxy bromide

■ CAS-No. 506-96-7 ■ EC-No. 208-061-7  
 ■ Refractive index 1.4537 (16 °C, 589 nm)  
 ■ Vapour pressure 133 hPa (20 °C)  
 ■ Spec. density 1.65 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >71 °C ■ Solub. in H<sub>2</sub>O (20 °C) Risk

of violent reaction. ■ M = 122.94 g/mol  
 ■ Melting point -96 °C ■ Boiling point 76.7 °C  
 (1013 mbar)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314;  
 Corrosive to metals, Category 1, H290, P280, P301  
 + P330 + P331, P305 + P351 + P338, P309 +  
 P310  
 ■ LGK 8 A ■ Store below +15°C.  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 1716 Acetyl bromid, 8, II ■ IMDG-  
 Code UN 1716 ACETYL BROMIDE, 8, II,

Segregation Group: 1 (Acids)

■ IATA-DGR UN 1716 ACETYL BROMIDE, 8, II

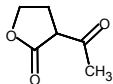
#### Specification

Assay (morpholine method)..... ≥ 97,0 %  
 Density (d 20 °C/ 4 °C)..... 1,650 - 1,670  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21926.0100	Glass bottle	100 ml	inquire
8.21926.0250	Glass bottle	250 ml	inquire

N-Acetyl-p-bromoaniline → 4'-Bromoacetanilide  
page 487

2-Acetyl-4-butanolide → 2-Acetyl-γ-butyrolactone  
page 346

800110 2-Acetyl- $\gamma$ -butyrolactone for synthesis

C<sub>6</sub>H<sub>8</sub>O<sub>3</sub>  
2-Acetyl- $\gamma$ -butanolide  
 ■ CAS-No. 517-23-7 ■ EC-No. 208-235-2  
 ■ Refractive index 1.4562 (20 °C, 589 nm)  
 ■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C)

■ Flash point 135 °C ■ Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 128.12 g/mol ■ Boiling point 142 °C (40 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 20 90 ■ Disposal 1

## Specification

Assay (GC, area%)..... ≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,186 - 1,191  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00110.0250	Glass bottle	250 ml	inquire

## 822252 Acetyl chloride for synthesis



C<sub>2</sub>H<sub>3</sub>ClO  
Acetic acid chloride, Acetoxy chloride  
 ■ CAS-No. 75-36-5 ■ EC-No. 200-865-6  
 ■ Vapour pressure 320 hPa (20 °C)  
 ■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 7.3 - 19 % (V) ■ Flash point 5 °C ■ Solub. in H<sub>2</sub>O (20 °C) Risk of violent reaction., (decomposition) ■ M = 78.49 g/mol  
 ■ Melting point -112 °C ■ Boiling point 52 °C

(1013 hPa) ■ Ignition temp. 390 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P233, P240, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 910 mg/kg  
 ■ EC-Index-No. 607-011-00-5 ■ LGK 3 ■ Store below +15°C.  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 1717 Acetylchlorid, 3 (8), II  
 ■ IMDG-Code UN 1717 ACETYL CHLORIDE, 3 (8), II, Segregation Group: 1 (Acids)

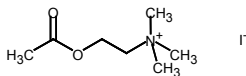
■ IATA-DGR UN 1717 ACETYL CHLORIDE, 3 (8), II

## Specification

Assay (morpholine method) ..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C) ..... 1.103 - 1.105  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22252.0100	Glass bottle	100 ml	inquire
8.22252.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 841870 Acetylcholine iodide for synthesis



C<sub>7</sub>H<sub>16</sub>INO<sub>2</sub>  
 ■ CAS-No. 2260-50-6 ■ EC-No. 218-862-3  
 ■ M = 273.11 g/mol ■ Melting point 162 - 165 °C  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity -

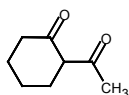
single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2923 90 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

Assay (argentometric) ..... ≥ 99.0 %  
 Melting range (lower value) ..... ≥ 162 °C  
 Melting range (upper value) ..... ≤ 165 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41870.0025	Glass bottle	25 g	inquire

N-Acetyl-2-cyanoglycine ethyl ester → Ethyl acetamidocyanooacetate page 847

## 814829 2-Acetylcyclohexanone for synthesis



C<sub>8</sub>H<sub>12</sub>O<sub>2</sub>  
 ■ CAS-No. 874-23-7 ■ EC-No. 212-858-5

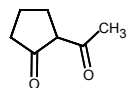
■ Spec. density 1.063 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 79 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 140.18 g/mol  
 ■ Boiling point 111 - 112 °C (24 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2914 29 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,063 - 1,066  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14829.0005	Glass bottle	5 ml	inquire

## 818395 2-Acetylcyclopentanone for synthesis



C<sub>7</sub>H<sub>10</sub>O<sub>2</sub>  
 ■ CAS-No. 1670-46-8 ■ EC-No. 216-797-5  
 ■ Refractive index 1.4905 (19 °C, 589 nm)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C)

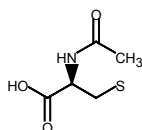
■ Flash point 72 °C ■ M = 126.15 g/mol  
 ■ Boiling point 72 - 75 °C (10 hPa)  
 ■ WGK 3  
 ■ LGK 10 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2914 29 00 ■ Disposal 1  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.061 - 1.062  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18395.0010	Glass bottle	10 ml	inquire

Acetylcyclopropane → Cyclopropyl methyl ketone page 860

## 112422 N-Acetyl-L-cysteine for biochemistry



C<sub>5</sub>H<sub>9</sub>NO<sub>3</sub>S  
2-Acetamido-3-mercaptopropionic acid  
 ■ CAS-No. 616-91-1 ■ EC-No. 210-498-3  
 ■ Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 163.19 g/mol  
 ■ pH value 1.5 - 2.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 108 - 110 °C  
 ■ Bulk density 730 kg/m<sup>3</sup>

■ WGK 2  
 ■ LD50 oral rat 5050 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 16 ■ Disposal 3  
 Easily soluble in water and mineral acids; soluble in ethanol. Reduces the viscosity of mucoproteins. Reagent protecting SH groups.

## Specification

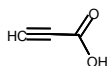
Assay (iodometric) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ..... white to almost white, crystalline powder or colorless crystals  
 Appearance of solution (1 mol/l, water) ... clear and colorless

Spec. rotation (α 20/D, 50 g/l, buffer pH 7.0) ..... +21.0 to +27.0°  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 L-cysteine (HPLC) ..... ≤ 0.02 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.12422.0025	Plastic bottle	25 g	inquire
1.12422.0100	Plastic bottle	100 g	inquire
1.12422.1000	Plastic bottle	1 kg	inquire
1.12422.9010	Plastic drum	10 kg	inquire

3-Acetyl-3,4-dihydro-6-methyl-2H-pyran-2,4-dione → Dehydroacetic acid page 888

## 841640 Acetylenecarboxylic acid for synthesis

C<sub>3</sub>H<sub>2</sub>O<sub>2</sub>*Propiolic Acid, Propargylic acid*

- CAS-No. 471-25-0 ■ EC-No. 207-437-8
- Spec. density 1.136 g/cm<sup>3</sup> (20 °C)
- Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 70.04 g/mol ■ Melting point 18 °C
- Boiling point 153 - 157 °C (1013 hPa) (decomposition)
- WGK 3

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P304 + P340, P309 + P310
- LD50 oral rat 100 mg/kg
- LGK 3
- HS-No. 2916 19 95 ■ Disposal 4
- ADR-RID UN 2920 Atzender flüssiger Stoff, entzündbar, n.a.g.(ACETYLENACARBONSAEURE), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(ACETYLENE CARBOXYLIC

ACID), 8 (3), II

- IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(ACETYLENE CARBOXYLIC ACID), 8 (3), II

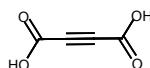
**Specification**

Assay (HPLC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,135 - 1,139  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41640.0010	Glass bottle	10 ml	inquire

Acetylenecarboxylic acid ethyl ester → Ethyl acetylenecarboxylate page 849

## 800147 Acetylenedicarboxylic acid for synthesis

C<sub>4</sub>H<sub>2</sub>O<sub>4</sub>*Butynedioic acid*

- CAS-No. 142-45-0 ■ EC-No. 205-536-0
- Flash point 131 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 114.05 g/mol

- Melting point 180 - 185 °C
- Bulk density 550 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2917 19 90 ■ Disposal 4
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

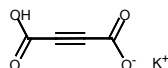
**Specification**

Assay (acidimetric) ..... ≥ 97,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00147.0010	Glass bottle	10 g	inquire

Acetylenedicarboxylic acid dimethyl ester → Dimethyl acetylenedicarboxylate page 774

## 820009 Acetylenedicarboxylic acid monopotassium salt for synthesis

C<sub>4</sub>HKO<sub>4</sub>*Potassium acetylenedicarboxylate*

- CAS-No. 928-04-1 ■ EC-No. 213-169-2
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 152.14 g/mol
- Melting point 193 - 194 °C (decomposition)

- WGK 3
- LGK 6.1A
- HS-No. 2917 19 90 ■ Disposal 4
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(ACETYLENEDICARBONSAEURE MONOKALIUMSALZ), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(ACETYLENEDICARBOXYLIC ACID MONOPOTASSIUM SALT), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

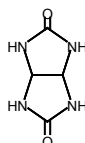
N.O.S.(ACETYLENEDICARBOXYLIC ACID MONOPOTASSIUM SALT), 6.1, II

**Specification**

Assay (acidimetric) ..... ≥ 98,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20009.0100	Plastic bottle	100 g	inquire

## 814705 Acetylenediurea for synthesis

C<sub>4</sub>H<sub>6</sub>N<sub>4</sub>O<sub>2</sub>*Glykuril*

- CAS-No. 496-46-8 ■ EC-No. 207-821-5
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O < 2 g/l (20 °C) ■ M = 142.11 g/mol ■ pH value 6 - 8 (H<sub>2</sub>O)
- Melting point 280 °C ■ Bulk density 800 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

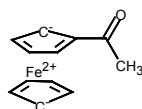
Assay (ex N) ..... ≥ 97,0 %  
 Water (K. F.) ..... ≤ 1,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14705.0050	Plastic bottle	50 g	inquire

Acetylene tetrabromide → page 1522

Acetylene tetrachloride → 1,1,2,2-Tetrachloroethane-D2 page 296

## 814518 Acetylferrocene for synthesis

C<sub>12</sub>H<sub>12</sub>FeO

- CAS-No. 1271-55-2 ■ EC-No. 215-043-2
- Vapour pressure < 10 hPa (20 °C)
- Spec. density > 1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 228.07 g/mol
- Melting point 82 - 85 °C
- Boiling point 160 - 163 °C (4 hPa)

- WGK 3
- GHS: Danger, Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300, P280, P302 + P352, P309 + P310
- LD50 oral rat 25 mg/kg ■ LD50 dermal rat 50 - 500 mg/kg
- LGK 6.1A
- HS-No. 2931 90 90 ■ Disposal 9
- ADR-RID UN 2930 Giftiger organischer fester Stoff, entzündbar, n.a.g.(ACETYLFERROCEN), 6.1 (4.1), II ■ IMDG-Code UN 2930 TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.(ACETYLFERROCENE), 6.1 (4.1), II

- IATA-DGR UN 2930 TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.(ACETYLFERROCENE), 6.1 (4.1), II

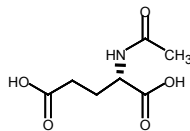
**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 83 °C  
 Melting range (upper value) ..... ≤ 86 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14518.0005	Glass bottle	5 g	inquire
8.14518.0025	Glass bottle	25 g	inquire

2-Acetylfuran → 2-Furyl methyl ketone page 919

## 814596 N-Acetyl-L-glutamic acid for synthesis

C<sub>7</sub>H<sub>11</sub>NO<sub>5</sub>

■ CAS-No. 1188-37-0 ■ EC-No. 214-708-4  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 36 g/l

(25 °C) ■ M = 189.16 g/mol  
 ■ Melting point 191 - 194 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
 Dangerous Good  
 ■ IATA-DGR No Dangerous Good

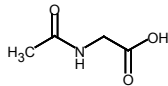
**Specification**

Assay (acidimetric)..... ≥ 99,0 % (m)

Melting range (lower value)..... ≥ 188 °C  
 Melting range (upper value)..... ≤ 192 °C  
 Spec. rotation [α<sup>20</sup>/D (c=4 in water)..... -16,0 -  
 -15,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14596.0025	Plastic bottle	25 g	inquire
8.14596.0100	Plastic bottle	100 g	inquire

## 818366 N-Acetyl glycine for synthesis

C<sub>4</sub>H<sub>7</sub>NO<sub>3</sub>

CH<sub>3</sub>CONHCH<sub>2</sub>COOH  
 Aceturic acid

■ CAS-No. 543-24-8 ■ EC-No. 208-839-6  
 ■ Solub. in H<sub>2</sub>O 26.3 g/l (15 °C) ■ M = 117.1 g/mol  
 ■ Melting point 206 - 209 °C  
 ■ Boiling point >300 °C (1013 hPa)  
 ■ WGK 1  
 ■ HS-No. 2924 19 00 ■ Disposal 3

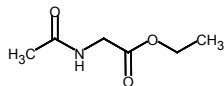
**Specification**

Assay (acidimetric)..... ≥ 99,0 %

Melting range (lower value)..... ≥ 206 °C  
 Melting range (upper value)..... ≤ 209 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18366.0100	Plastic bottle	100 g	inquire

## 843817 N-Acetyl glycine ethyl ester for synthesis

C<sub>6</sub>H<sub>11</sub>NO<sub>3</sub>

CH<sub>3</sub>-C(O)NH-CH<sub>2</sub>-C(O)O-CH<sub>2</sub>-CH<sub>3</sub>  
 ■ CAS-No. 1906-82-7 ■ EC-No. 217-608-9

■ Flash point 113 °C ■ M = 145.16 g/mol  
 ■ Melting point 43 - 46 °C ■ Boiling point 260 °C  
 (950 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)

Melting range (lower value)..... ≥ 45 °C  
 Melting range (upper value)..... ≤ 48 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43817.0025	Glass bottle	25 g	inquire
8.43817.0100	Glass bottle	100 g	inquire

Acetylhydrazine → Acetohydrazide page 338

2-Acetylhydroquinone → 2',4',6'-

Dihydroxyacetophenone page 759

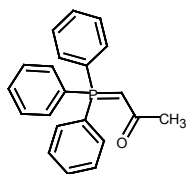
3-Acetylindole → 3-Indolyl methyl ketone page  
1004

2-Acetylmesitylene → 2',4',6'-

Trimethylacetophenone page 1600

N-Acetyl-5-methoxytryptamine → Melatonin  
page 1099Acetyl methyl carbinol → 3-Hydroxy-2-butanone  
page 979

## 818086 Acetylmethylenetriphenylphosphorane for synthesis

C<sub>21</sub>H<sub>19</sub>OP(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P=CHCOCH<sub>3</sub>

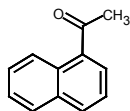
1-(Triphenylphosphoranylidene)-2-propanone  
 ■ CAS-No. 1439-36-7 ■ EC-No. 215-878-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 318.35 g/mol ■ Melting point 204 - 207 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
 Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 204 °C  
 Melting range (upper value)..... ≤ 207 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18086.0010	Plastic bottle	10 g	inquire

## 818468 1-Acetylnaphthalene for synthesis

C<sub>12</sub>H<sub>10</sub>OC<sub>10</sub>H<sub>7</sub>C(O)CH<sub>3</sub>

Methyl 1-naphthyl ketone

■ CAS-No. 941-98-0 ■ EC-No. 213-384-1  
 ■ Refractive index 1.6257 (20 °C, 589 nm)

■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l  
 (20 °C) ■ M = 170.21 g/mol ■ pH value 6.5 - 7.0  
 (H<sub>2</sub>O) ■ Melting point 9 - 11 °C  
 ■ Boiling point 302 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,  
 H302; Chronic aquatic toxicity, Category 3, H412,  
 P273  
 ■ LD50 oral rat 1560 mg/kg ■ LD50 dermal rabbit

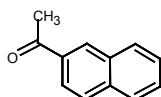
> 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 96,0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 1.117 - 1.119  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18468.0050	Glass bottle	50 ml	inquire

## 820006 2-Acetylnaphthalene for synthesis

C<sub>12</sub>H<sub>10</sub>O

Methyl 2-naphthyl ketone, 1-

Acetonaphthone, NANA

■ CAS-No. 93-08-3 ■ EC-No. 202-216-2

■ Vapour pressure < 1 hPa (20 °C)  
 ■ Flash point 168 °C ■ Solub. in H<sub>2</sub>O 72 mg/l  
 (20 °C) ■ M = 170.21 g/mol

■ Melting point 53 - 56 °C  
 ■ Boiling point 300 - 301 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Chronic aquatic toxicity, Category 2, H411,  
 P273  
 ■ LD50 oral rat 7940 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff,  
 fest, n.a.g.(2-ACETYLNAPHTHALIN), 9, III ■ IMDG-  
 Code UN 3077 ENVIRONMENTALLY HAZARDOUS  
 SUBSTANCE, SOLID, N.O.S.(2-

ACETYLNAPHTHALINE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY  
 HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-  
 ACETYLNAPHTHALINE), 9, III

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 52 °C  
 Melting range (upper value)..... ≤ 54 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20006.0250	Plastic bottle	250 g	inquire

N-Acetyl-4-nitroaniline → 4'-Nitroacetanilide page 1215

2-(Acetyloxy)-1,2,3-Propanetricarboxylic tributyl ester → Tributylacetyl citrate page 1574

2-Acetylphenol → 2'-Hydroxyacetophenone page 976

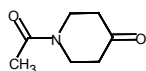
4-Acetylphenol → 4'-Hydroxyacetophenone page 976

N-Acetyl-p-phenylenediamine → 4'-Aminoacetanilide page 376

1-Acetyl-2-phenylhydrazine → 2-Phenylacetohydrazide page 1296

2-Acetylphloroglucinol monohydrate → 2',4',6'-Trihydroxyacetophenone monohydrate page 1596

### 816143 N-Acetyl-4-piperidone for synthesis



C<sub>7</sub>H<sub>11</sub>NO<sub>2</sub>

■ CAS-No. 32161-06-1 ■ EC-No. 250-937-6  
■ Spec. density 1.146 g/cm<sup>3</sup> (20 °C)

2-Acetylpyridine → Methyl 2-pyridyl ketone page 1176

■ Flash point 110 °C ■ M = 141.17 g/mol  
■ Boiling point 218 °C (1013 hPa)  
■ WGK 3  
■ LGK 10  
■ HS-No. 2933 39 99 ■ Disposal 3

#### Specification

Assay (GC, area%)..... ≥ 97,0 Area %

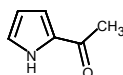
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16143.0025	Glass bottle	25 ml	inquire
8.16143.0100	Glass bottle	100 ml	inquire

3-Acetylpyridine → Methyl 3-pyridyl ketone page 1176

4-Acetylpyridine → Methyl 4-pyridyl ketone page 1177

### 814148 2-Acetylpyrrole for synthesis



C<sub>6</sub>H<sub>7</sub>NO

Methyl-2-pyrrolyl ketone

■ CAS-No. 1072-83-9 ■ EC-No. 214-016-2  
■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 109.12 g/mol

2-Acetylresorcinol → 2',6'-Dihydroxyacetophenone page 759

mol ■ Melting point 89 - 92 °C  
■ Boiling point 220 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2933 99 80 ■ Disposal 3

#### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 89 °C

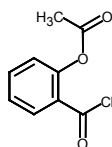
Melting range (upper value)..... ≤ 92 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14148.0005	Plastic bottle	5 g	inquire

4-Acetylresorcinol → 2',4'-Dihydroxyacetophenone page 759

### 821928 Acetylsalicyloyl chloride for synthesis



C<sub>9</sub>H<sub>7</sub>ClO<sub>3</sub>

2-(CH<sub>3</sub>COO)C<sub>6</sub>H<sub>4</sub>COCl

2-Acetoxybenzoyl chloride

■ CAS-No. 5538-51-2 ■ EC-No. 226-899-1  
■ Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 198.6 g/mol

Acetylsuccinic acid dimethyl ester → Dimethyl acetylsuccinate page 775

■ Melting point 45 - 48 °C ■ Boiling point 135 °C (16 hPa)  
■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8A  
■ HS-No. 2918 29 00 ■ Disposal 11  
■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(ACETYLSALICYLSAEURECHLORID), 8, II  
■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(ACETYLSALICYLOYL CHLORIDE),

8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(ACETYLSALICYLOYL CHLORIDE), 8, II

#### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 45 °C

Melting range (upper value)..... ≤ 48 °C

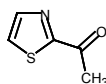
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21928.0025	Glass bottle	25 g	inquire

N-Acetylsulfanilyl chloride → 4-

Acetamidobenzenesulfonyl chloride page 332

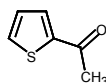
### 841760 2-Acetylthiazole for synthesis



C<sub>5</sub>H<sub>5</sub>NOS

■ CAS-No. 24295-03-2 ■ EC-No. 246-134-5

### 800175 2-Acetylthiophene for synthesis



C<sub>6</sub>H<sub>6</sub>OS

■ CAS-No. 88-15-3 ■ EC-No. 201-804-6  
■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
■ Flash point 97 °C ■ Solub. in H<sub>2</sub>O 14 g/l (30 °C)  
■ M = 126.18 g/mol ■ Melting point 9 - 11 °C  
■ Boiling point 211 - 213 °C (1013 hPa)  
■ Ignition temp. 265 °C DIN 51794  
■ WGK 2

2-Acetylthiophene → page 349

■ Spec. density 1.227 g/cm<sup>3</sup> ■ Flash point 78 °C  
■ M = 127.16 g/mol ■ Boiling point 89 - 91 °C (16 hPa)  
■ WGK 3  
■ LGK 10  
■ HS-No. 2934 10 00 ■ Disposal 3

#### Specification

Assay (GC, area%)..... ≥ 99,0 Area %

Density (d 20 °C/ 4 °C)..... 1,224 - 1,228

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41760.0001	Glass bottle	1 ml	inquire

■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 2, Oral, H300, P262, P280, P302 + P352, P304 + P340, P309 + P310  
■ LC50 rat 0.37 mg/l  
■ LD50 oral rat 25 - 200 mg/kg ■ LD50 dermal rat 370 mg/kg  
■ LGK 6.1A  
■ HS-No. 2934 99 90 ■ Disposal 3  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-ACETYLTHIOPHEN), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-

ACETYLTHIOPHENE), 6.1, II

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-ACETYLTHIOPHENE), 6.1, II

#### Specification

Assay (GC, area%)..... ≥ 97,0 Area %

Density (d 20 °C/ 4 °C)..... 1,168 - 1,172

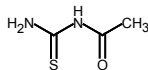
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00175.0050	Glass bottle	50 ml	inquire
8.00175.0250	Glass bottle	250 ml	inquire

3-Acetylthiophene → Methyl 3-thienyl ketone page 1181



## 818227 1-Acetylthiourea for synthesis

C<sub>3</sub>H<sub>6</sub>N<sub>2</sub>OSCH<sub>3</sub>CONHCSNH<sub>2</sub>

- CAS-No. 591-08-2 ■ EC-No. 209-699-9
- Solub. in H<sub>2</sub>O 12.8 g/l (15 °C) ■ M = 118.16 g/mol
- pH value 6.0 (173 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 164 - 167 °C
- Bulk density 795 kg/m<sup>3</sup>

- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Oral, H300, P309 + P310
- LD50 oral rat 50 mg/kg
- LGK 6.1A
- HS-No. 2930 90 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-ACETYLTHIOHARNSTOFF), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-ACETYL-2-THIOUREA), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

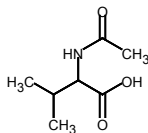
N.O.S.(1-ACETYL-2-THIOUREA), 6.1, II

**Specification**

Assay (of S) ..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 165 °C  
 Melting range (upper value) ..... ≤ 168 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18227.0050	Plastic bottle	50 g	inquire

## 814599 N-Acetyl-DL-valine for synthesis

C<sub>7</sub>H<sub>13</sub>NO<sub>3</sub>

- CAS-No. 3067-19-4 ■ EC-No. 221-321-4
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 37 g/l (25 °C) ■ M = 159.18 g/mol
- Melting point 146 - 149 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

Assay (acidimetric)..... ≥ 99.0 %(m)  
 Melting range (lower value)..... ≥ 146 °C  
 Melting range (upper value) ..... ≤ 149 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14599.0050	Plastic bottle	50 g	inquire

2,4-D acid → 2,4-Dichlorophenoxyacetic acid page 729

Acid binding capacity (ABC) → Carbonate hardness  
Acid Capacity Cell Test to pH 4.3 (total alkalinity) → page 49

Acid-binding capacity (ABC) → page 54

## Acids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
168	109951	Acetic acid	967	100313	Hydrochloric acid 32%	166	100514	Perchloric acid 70%
168	109944	Acetic acid	967	100319	Hydrochloric acid 32%	164	100517	Perchloric acid 70%
168	199061	Acetic acid 1 mol/l	169	109911	Hydrochloric acid 1.000 l	1276	100519	Perchloric acid 70-72%
334	159166	Acetic acid 30%	967	101834	Hydrochloric acid fuming 37%	1278	100524	Periodic acid
335	100062	Acetic acid 96%	968	100317	Hydrochloric acid fuming 37%	1278	822288	Periodic acid
335	818755	Acetic acid 99-100%	967	113386	Hydrochloric acid fuming 37%	1321	100546	meta-Phosphoric acid
336	100063	Acetic acid (glacial) 100%	192	100327	Hydrochloric acid in ethanol	1321	100573	ortho-Phosphoric acid 85%
336	101830	Acetic acid (glacial) 100%	169	100326	Hydrochloric acid in 2-propanol	164	100552	ortho-Phosphoric acid 85%
164	100066	Acetic acid (glacial) 100%	971	100329	Hydrofluoric acid 38-40%	1322	100565	ortho-Phosphoric acid 99%
337	100042	Acetic anhydride	971	100337	Hydrofluoric acid 38-40%	1504	100682	Succinic acid
372	100219	Amidosulfuric acid	971	100338	Hydrofluoric acid 40%	171	109074	Sulfuric acid
372	100103	Amidosulfuric acid	971	100338	Hydrofluoric acid 40%	171	109073	Sulfuric acid
372	814483	Amidosulfuric acid	164	100335	Hydrofluoric acid 40%	171	109072	Sulfuric acid
430	100132	Barbituric acid	972	100334	Hydrofluoric acid 48%	171	480364	Sulfuric acid
441	100136	Benzoic acid	164	101513	Hydrofluoric acid 48%	171	109982	Sulfuric acid
164	100765	Boric acid	973	107209	Hydrogen peroxide 30%	171	109984	Sulfuric acid
480	100165	Boric acid	973	107210	Hydrogen peroxide 30%	171	109981	Sulfuric acid
642	102499	Chromosulfuric acid	973	108556	Hydrogen peroxide 35%	1511	100716	Sulfuric acid 25%
646	100244	Citric acid monohydrate	974	100341	Hydroiodic acid 57%	1511	109286	Sulfuric acid 40%
913	100253	Formic acid 89-91%	974	100344	Hydroiodic acid 57%	1511	480531	Sulfuric acid 62%
913	110854	Formic acid 90 %	974	100345	Hydroiodic acid 67%	1511	100729	Sulfuric acid 90-91%
913	100264	Formic acid 98-100%	997	104633	Hypophosphorous acid 50%	1512	101833	Sulfuric acid 95-97%
164	111670	Formic acid 98-100%	1190	100532	Molybdato-phosphoric acid hydrate	1512	100731	Sulfuric acid 95-97%
929	104106	Glycolic acid	1191	100400	Molybdic acid about 85% MoO <sub>3</sub>	167	100732	Sulfuric acid 95-97%
945	107341	Hexachloroplatinic(IV) acid solution about 10%	169	109964	Nitric acid	1513	108131	Sulfuric acid 96%
964	100304	Hydrobromic acid 47%	169	109966	Nitric acid	164	100714	Sulfuric acid 96%
964	100307	Hydrobromic acid 47%	169	100630	Nitric acid 10 mol/l	164	101516	Sulfuric acid 96%
164	100306	Hydrobromic acid 47%	164	101518	Nitric acid 60%	1514	112080	Sulfuric acid 98%
168	109060	Hydrochloric acid	164	101518	Nitric acid 60%	1514	100748	Sulfuric acid 98%
168	113136	Hydrochloric acid	1211	100443	Nitric acid 65%	1514	112223	Sulfuric acid 100%
168	109058	Hydrochloric acid	1211	100456	Nitric acid 65%	171	109912	Sulfuric acid 1.000 l
169	109057	Hydrochloric acid	1211	100456	Nitric acid 65%	1514	100720	Sulfuric acid fuming 65% SO <sub>3</sub>
169	109057	Hydrochloric acid	166	100452	Nitric acid 65%	1516	100761	Sulfurous acid 5-6% SO <sub>2</sub>
169	109063	Hydrochloric acid	164	100441	Nitric acid 65%	1519	100804	L(+)-Tartaric acid
169	113134	Hydrochloric acid	1212	101832	Nitric acid 69%	1567	109613	Toluene-4-sulfonic acid monohydrate
169	109974	Hydrochloric acid	1212	101799	Nitric acid 69%	1576	100807	Trichloroacetic acid
169	109973	Hydrochloric acid	1212	100450	Nitric acid fuming 100%	1589	108218	Trifluoroacetic acid
169	109971	Hydrochloric acid	1212	100455	Nitric acid fuming 100%	1620	100582	Tungstophosphoric acid hydrate
169	109970	Hydrochloric acid	186	109266	Osmic acid solution 2%	1621	100583	Tungstophosphoric acid hydrate
966	100316	Hydrochloric acid 25%	1253	100492	Oxalic acid dihydrate	1621	100659	Tungstosilicic acid hydrate
164	100318	Hydrochloric acid 30%	1253	100495	Oxalic acid dihydrate			
164	101514	Hydrochloric acid 30%	1275	107222	Peracetic acid about 38-40%			
			169	109065	Perchloric acid			
			1275	100518	Perchloric acid 60%			

## Acids for Analysis EMPARTA® ACS

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
336	101830	Acetic acid (glacial) 100%	1212	101832	Nitric acid 69%			
967	101834	Hydrochloric acid fuming 37%	1512	101833	Sulfuric acid 95-97%			

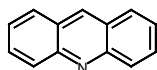
## Acids for Analysis EMSURE®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
335	100062	Acetic acid 96%	967	113386	Hydrochloric acid fuming 37%	1276	100519	Perchloric acid 70-72%
336	100063	Acetic acid (glacial) 100%	971	100338	Hydrofluoric acid 40%	1278	100524	Periodic acid
337	100042	Acetic anhydride	972	100334	Hydrofluoric acid 48%	1321	100546	meta-Phosphoric acid
372	100103	Amidosulfuric acid	973	107209	Hydrogen peroxide 30%	1321	100573	ortho-Phosphoric acid 85%
425	100468	L(+)-Ascorbic Acid	973	107210	Hydrogen peroxide 30%	1322	100565	ortho-Phosphoric acid 99%
430	100132	Barbituric acid	974	100344	Hydroiodic acid 57%	1504	100682	Succinic acid
441	100136	Benzoic acid	974	100345	Hydroiodic acid 67%	1511	100716	Sulfuric acid 25%
480	100165	Boric acid	997	104633	Hypophosphorous acid 50%	1512	100731	Sulfuric acid 95-97%
646	100244	Citric acid monohydrate	1190	100532	Molybdato-phosphoric acid hydrate	167	100732	Sulfuric acid 95-97%
913	100253	Formic acid 89-91%	1211	100456	Nitric acid 65%	1514	112080	Sulfuric acid 98%
913	100264	Formic acid 98-100%	166	100452	Nitric acid 65%	1516	100761	Sulfurous acid 5-6% SO <sub>2</sub>
929	104106	Glycolic acid	1212	101799	Nitric acid 69%	1519	100804	L(+)-Tartaric acid
964	100307	Hydrobromic acid 47%	1212	100455	Nitric acid fuming 100%	1567	109613	Toluene-4-sulfonic acid monohydrate
966	100316	Hydrochloric acid 25%	1253	100495	Oxalic acid dihydrate	1576	100807	Trichloroacetic acid
967	100319	Hydrochloric acid 32%	1275	100518	Perchloric acid 60%	1621	100583	Tungstophosphoric acid hydrate
968	100317	Hydrochloric acid fuming 37%	166	100514	Perchloric acid 70%	1621	100659	Tungstosilicic acid hydrate

Acilit® → page 76

Aconitic acid → trans-Propene-1,2,3-tricarboxylic acid page 1372

## 821655 Acridine for synthesis

C<sub>13</sub>H<sub>9</sub>N

Dibenzo[b,e]pyridine, 9-Azaanthracene

- CAS-No. 260-94-6 ■ EC-No. 205-971-6
- Spec. density 1.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.04 g/l (25 °C) ■ M = 179.22 g/mol
- Melting point 106 - 109 °C
- Boiling point 345.5 °C (1013 hPa)
- WGK 3

- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 2000 mg/kg
- LGK 6.1C
- HS-No. 2933 99 80
- ADR-RID UN 2713 Acridin, 6.1, III ■ IMDG-Code UN 2713 ACRIDINE, 6.1, III

- IATA-DGR UN 2713 ACRIDINE, 6.1, III

## Specification

Assay (HClO <sub>4</sub> )	≥ 98,0 % (m)
Melting range (lower value)	≥ 106 °C
Melting range (upper value)	≤ 109 °C
Identity (IR)	conforms

Ord.No.	Packaging	Quantity	Price
8.21655.0005	Glass bottle	5 g	inquire
8.21655.0025	Glass bottle	25 g	inquire

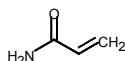
Acridine orange zinc chloride double salt (C.I.46005) → page 189

9-Acridinylamine → 9-Aminoacridine page 377  
Acridine hydrochloride → page 109

Acroleic acid → Acrylic acid page 353

Acridines → Heterocycles

## Acrylamide

C<sub>3</sub>H<sub>5</sub>NOCH<sub>2</sub>CHCONH<sub>2</sub>

Prop-2-enamide

- CAS-No. 79-06-1 ■ EC-No. 201-173-7
- Vapour pressure 0.009 hPa (20 °C)
- Spec. density 1.127 g/cm<sup>3</sup> (25 °C)
- Flash point 138 °C not applicable ■ Solub. in H<sub>2</sub>O 2040 g/l (25 °C) ■ M = 71.07 g/mol
- pH value 5.0 - 7.0 (50 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 84 °C ■ Bulk density 500 kg/m<sup>3</sup>
- Boiling point 125 °C (33.3 hPa)
- Ignition temp. 424 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 2, H361F; Specific target organ toxicity - repeated exposure, Category 1, Oral,

- H372, P201, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 124 mg/kg ■ LD50 dermal rabbit 252 mg/kg
- EC-Index-No. 616-003-00-0 ■ LGK 6.1C ■ Store below +15 °C.
- HS-No. 2924 19 00 ■ Disposal 9
- ADR-RID UN 2074 Acrylamid, fest, 6.1, III
- IMDG-Code UN 2074 ACRYLAMIDE, SOLID, 6.1, III
- IATA-DGR UN 2074 ACRYLAMIDE, SOLID, 6.1, III
- High purity quality tested for suitability for molecularbiology

## 800830 Acrylamide for synthesis

Specification	Identity (IR)
Assay (GC, area%)	≥ 99 %
Melting range	
- (lower value)	≥ 83 °C
- (upper value)	≤ 86 °C
	..... passes test

Ord.No.	Packaging	Quantity	Price
8.00830.0100	Plastic bottle	100 g	inquire
8.00830.0500	Plastic bottle	500 g	inquire
8.00830.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

## 100209 Acrylamide for electrophoresis special quality for molecular biology

Specification	Conductivity (50 % w/v; water; 20 °C)	Pb (Lead)
Appearance (colour)	..... ≤ 5.0 µS/cm	..... ≤ 0.0001 %
Appearance (description)	..... clear, colourless	Proteases
Assay (GC)	..... ≤ 2.0 NTU	..... not detectable
Identity (IR-spectrum)	..... ≤ 3.0 NTU	DNases (Exo- and endonucleases)
Free acid (as acrylic acid)	..... ≤ 0.0001 %	..... not detectable
Absorbance A (290 nm; 1 %; 1 cm; water)	..... ≤ 0.0001 %	RNases
pH-value (5 %; water)	..... ≤ 0.0001 %	..... not detectable

Ord.No.	Packaging	Quantity	Price
1.00209.1000	Glass bottle	1 kg	inquire



# Acryla

## 110784 Acrylamide for electrophoresis

### Specification

Appearance (colour).....almost white  
 Appearance (description).....crystalline powder  
 Assay (GC).....≥ 99.9 %  
 Identity (IR-spectrum).....passes test  
 Free acid (as acrylic acid).....≤ 0.001 %  
 Absorbance A (290 nm; 1 cm; water) ≤ 0.15

Conductivity (50 % w/v; water; 20° C).... ≤ 5.0 µS/cm  
 Solubility (50 % w/v; water)..... clear, colourless  
 Turbidity (50 % w/v; water)..... ≤ 2.0 NTU  
 Turbidity (50 % w/v; methanol; 37° C).... ≤ 3.0 NTU  
 pH-value (5 %; water)..... 5.0 – 7.0

Water-insoluble matter..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.10784.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire
1.10784.1000	Glass bottle	1 kg	inquire

## 100639 Acrylamide-bis ready-to-use solution 30% (37.5:1) for electrophoresis



■ Spec. density 1.03 g/cm<sup>3</sup> ■ pH value (H<sub>2</sub>O) not applicable  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Acute toxicity, Category 4, Oral, H302; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin sensitisation, Category 1, H317, P201, P281, P302 + P352, P309 + P310

■ LGK 6.1B ■ Store at +2°C to +8°C.  
 ■ HS-No. 3822 00 00 ■ Disposal 9  
 ■ ADR-RID UN 3426 Acrylamid, Lösung, 6.1, III  
 ■ IMDG-Code UN 3426 ACRYLAMIDE SOLUTION, 6.1, III  
 ■ IATA-DGR UN 3426 ACRYLAMIDE SOLUTION, 6.1, III

### Specification

Appearance of solution (colour) ...almost colourless

Appearance of solution (clearness)..... almost clear  
 Assay of N,N'-methylene-bisacrylamide (HPLC) .24 - 2.8 %  
 Free acid (as acrylic acid) ..... ≤ 0.002 %  
 Spec. Absorptivity A 1%/1cm (290 nm; 1 cm; water) ..... ≤ 0.15

Ord.No.	Packaging	Quantity	Price
1.00639.1000	Glass btl. pl.coat.	1 l	inquire

## 100640 Acrylamide-bis ready-to-use solution 40% (19:1) for electrophoresis



■ Spec. density 1.03 g/cm<sup>3</sup> ■ pH value (H<sub>2</sub>O) no data available  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Specific target organ toxicity - repeated exposure, Category 1, H372, P201, P280, P302 + P352, P305 + P351 + P338, P309 + P310

■ LGK 6.1B ■ Store at +2°C to +8°C.  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3426 Acrylamid, Lösung, 6.1, III  
 ■ IMDG-Code UN 3426 ACRYLAMIDE SOLUTION, 6.1, III  
 ■ IATA-DGR UN 3426 ACRYLAMIDE SOLUTION, 6.1, III  
 Ready-to-use aqueous 40% w/v solution from acrylamide and N,N'-methylenebisacrylamide (5% C) in the ratio 19:1.

### Specification

Appearance of solution (colour) ...almost colourless  
 Appearance of solution (clearness)..... almost clear  
 Assay of N,N'-methylene-bisacrylamide (HPLC) .48 - 5.2 %  
 Spec. Absorptivity A 1%/1cm (290 nm; 1 cm; water) ..... ≤ 0.15  
 Free acid (as acrylic acid) ..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.00640.1000	Glass btl. pl.coat.	1 l	inquire

## 100641 Acrylamide-bis ready-to-use solution 40% (29.1:0.9) for electrophoresis



■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
 ■ pH value (H<sub>2</sub>O) no data available  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1,

H317, P201, P281, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LGK 6.1B ■ Store at +2°C to +8°C.  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3426 Acrylamid, Lösung, 6.1, III  
 ■ IMDG-Code UN 3426 ACRYLAMIDE SOLUTION, 6.1, III  
 ■ IATA-DGR UN 3426 ACRYLAMIDE SOLUTION, 6.1, III  
 Ready-to-use aqueous 40% w/v solution from acrylamide and N,N'-methylenebisacrylamide (3% C) in the ratio 29.1:0.9

### Specification

Appearance of solution (colour) ...almost colourless  
 Appearance of solution (clearness)..... almost clear  
 Assay of N,N'-methylene-bisacrylamide (HPLC) .28 - 3.2 %  
 Free acid (as acrylic acid) ..... ≤ 0.002 %  
 Spec. Absorptivity A 1%/1cm (290 nm; 1 cm; water) ..... ≤ 0.15

Ord.No.	Packaging	Quantity	Price
1.00641.1000	Glass btl. pl.coat.	1 l	inquire

## 100638 Acrylamide-bis ready-to-use solution 40% (37.5:1) for electrophoresis



■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
 ■ pH value (H<sub>2</sub>O) no data available  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1,

H317, P201, P281, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LGK 6.1B ■ Store at +2°C to +8°C.  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3426 Acrylamid, Lösung, 6.1, III  
 ■ IMDG-Code UN 3426 ACRYLAMIDE SOLUTION, 6.1, III  
 ■ IATA-DGR UN 3426 ACRYLAMIDE SOLUTION, 6.1, III  
 Ready-to-use aqueous 40% w/v solution from acrylamide and N,N'-methylenebisacrylamide (3% C) in the ratio 37:1.

### Specification

Appearance of solution (colour) ...almost colourless  
 Appearance of solution (clearness)..... almost clear  
 Assay of N,N'-methylene-bisacrylamide (HPLC) .24 - 2.8 %  
 Free acid (as acrylic acid) ..... ≤ 0.002 %  
 Spec. Absorptivity A 1%/1cm (290 nm; 1 cm; water) ..... ≤ 0.15

Ord.No.	Packaging	Quantity	Price
1.00638.1000	Glass btl. pl.coat.	1 l	inquire

## 100633 Acrylamide ready-to-use solution 40% for electrophoresis



■ Spec. density 1.031 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O) no data available  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin irritation, Category 2, H315; Eye irritation,

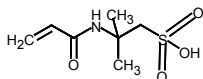
Category 2, H319; Skin sensitisation, Category 1, H317, P201, P281, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LGK 6.1B ■ Store at +2°C to +8°C.  
 ■ HS-No. 2924 19 00 ■ Disposal 28  
 ■ ADR-RID UN 3426 Acrylamid, Lösung, 6.1, III  
 ■ IMDG-Code UN 3426 ACRYLAMIDE SOLUTION, 6.1, III  
 ■ IATA-DGR UN 3426 ACRYLAMIDE SOLUTION, 6.1, III  
 Ready-to-use solution for the preparation of polyacrylamide gels.

### Specification

Appearance (colour) .....almost colourless  
 Appearance (clearness)..... almost clear  
 Assay (by acidimetry following saponification) ..... 39.0 - 41.0 %  
 Free acid (as acrylic acid) ..... ≤ 0.001 %  
 Spec. Absorptivity A 1%/1cm (290 nm; 1 cm; water) ..... ≤ 0.1

Ord.No.	Packaging	Quantity	Price
1.00633.1000	Glass btl. pl.coat.	1 l	inquire

## 818667 2-Acrylamido-2-methylpropanesulfonic acid for synthesis

C<sub>7</sub>H<sub>13</sub>NO<sub>4</sub>SCH<sub>3</sub>C(CH<sub>2</sub>=CHCONH)(CH<sub>3</sub>)CH<sub>2</sub>SO<sub>3</sub>H

AMPS

■ CAS-No. 15214-89-8 ■ EC-No. 239-268-0

- Spec. density 1.36 g/cm<sup>3</sup> (20.0 °C)
- Flash point >300 °C ■ Solub. in H<sub>2</sub>O >500 g/l (20 °C) soluble ■ M = 207.25 g/mol
- Melting point 190 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LD50 oral rat 1000 - 2000 mg/kg

- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 4

## Specification

Assay (acidimetric)..... ≥ 99,0 %(m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18667.0100	Glass bottle	100 g	inquire
8.18667.0500	Glass bottle	500 g	inquire

## 800181 Acrylic acid (stabilised with hydroquinone monomethyl ether) for synthesis

C<sub>3</sub>H<sub>4</sub>O<sub>2</sub>CH<sub>2</sub>=CHCOOH

2-Propenoic acid, Acroleic acid

- CAS-No. 79-10-7 ■ EC-No. 201-177-9
- Refractive index 1.4224 (20 °C, 589 nm)
- Vapour pressure 3.8 hPa (20 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.9 - 19.8 %(V) ■ Flash point 46 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (25 °C) ■ M = 72.06 g/mol
- pH value 2.1 (72.06 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. 12.6 g/m<sup>3</sup> (20 °C)
- Melting point 13 °C ■ Boiling point 141 °C (1013 hPa) ■ Ignition temp. 390 °C DIN 51794

- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400, P210, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 3.6 mg/l
- LD50 oral rat > 192 mg/kg ■ LD50 dermal rabbit > 290 mg/kg
- EC-Index-No. 607-061-00-8 ■ LGK 3
- HS-No. 2916 11 00 ■ Disposal 4
- ADR-RID UN 2218 Acrylsäure, stabilisiert, 8 (3),

II ■ IMDG-Code UN 2218 ACRYLIC ACID, STABILIZED, 8 (3), II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2218 ACRYLIC ACID, STABILIZED, 8 (3), II

## Specification

Assay (GC, area%)..... ≥ 99 %  
Density (d 20 °C/ 4 °C)..... 1.048 - 1.050  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00181.0100	Glass bottle	100 ml	inquire
8.00181.0500	Glass bottle	500 ml	inquire
8.00181.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

Acrylic acid amide → page 352

Acrylic acid butyl ester → Butyl acrylate page 539

Acrylic acid chloride → Acryloyl chloride page 353

Acrylic acid ethyl ester → Ethyl acrylate page 850

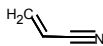
Acrylic acid 2-ethylhexyl ester → 2-Ethylhexyl acrylate page 870

Acrylic acid 2-methoxyethyl ester → (2-Methoxyethyl) acrylate page 1120

Acrylic acid methyl ester → Methyl acrylate page 1129

Acrylic acid nitrile → Acrylonitrile page 353

## 800834 Acrylonitrile (stabilised with hydroquinone monomethyl ether) for synthesis

C<sub>3</sub>H<sub>3</sub>NCH<sub>2</sub>=CHCN

Acrylic acid nitrile, Vinyl cyanide

- CAS-No. 107-13-1 ■ EC-No. 203-466-5
- Refractive index 1.391 (20 °C, 589 nm) ■ Vapour pressure 124 hPa (20 °C) ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.8 - 28 %(V)
- Flash point -4.4 °C ■ Solub. in H<sub>2</sub>O 73 g/l (20 °C)
- M = 53.06 g/mol ■ pH value 6.0 - 7.5 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -83.55 °C
- Boiling point 77.3 °C (1013 hPa)
- Water absorption 320 g/kg (20 °C)
- Ignition temp. 480 °C
- WGK 3

- GHS: Danger, Flammable liquid, Category 2, H225; Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P201, P210, P233, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 1.6 mg/l
- LD50 oral rat 78 mg/kg ■ LD50 dermal rabbit 63 mg/kg
- EC-Index-No. 608-003-00-4 ■ LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2926 10 00 ■ Disposal 9

■ ADR-RID UN 1093 Acrylnitril, stabilisiert, 3 (6.1), I  
■ IMDG-Code UN 1093 ACRYLONITRILE, STABILIZED, 3 (6.1), I  
■ IATA-DGR UN 1093 ACRYLONITRILE, STABILIZED, 3 (6.1), I

## Specification

Assay (GC, area%)..... ≥ 99 %  
Density (d 20 °C/ 4 °C)..... 0.805 - 0.807  
Water (K. F.)..... ≤ 1.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00834.0100	Alu bottle	100 ml	inquire
8.00834.1000	Alu bottle	1 l	inquire
	Alu bottle	6 x 1 l	inquire

## 800826 Acryloyl chloride (stabilised with phenothiazine) for synthesis

C<sub>3</sub>H<sub>3</sub>ClOCH<sub>2</sub>=CHCOCl

Acrylic acid chloride

- CAS-No. 814-68-6 ■ EC-No. 212-399-0
- Refractive index 1.435 (20 °C, 589 nm) ■ Vapour pressure 106.6 hPa (20 °C) ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Flash point -4 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 90.5 g/mol
- pH value (H<sub>2</sub>O) acidic ■ Boiling point 74 - 76 °C (1013 hPa)
- WGK 2

- GHS: Danger, Flammable liquid, Category 2, H225; Corrosive to metals, Category 1, H290; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314; Acute aquatic toxicity, Category 1, H400, P210, P280, P273, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2916 19 95 ■ Disposal 11
- ADR-RID UN 3286 Entzündbarer flüssiger Stoff, giftig, ätzend, n.a.g.(ACRYLSÄURECHLORID), 3 (6.1, 8), II ■ IMDG-Code UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(ACRYLIC ACID

CHLORIDE), 3 (6.1, 8), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(ACRYLIC ACID CHLORIDE), 3 (6.1, 8), II

## Specification

Assay (GC, area%)..... ≥ 96 %  
Density (d 20 °C/ 4 °C)..... 1.114 - 1.119  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00826.0100	Glass bottle	100 ml	inquire
8.00826.0500	Glass bottle	500 ml	inquire

Activated charcoal for GC → page 43

Acyclic carboxylic acid amides → Carboxylic acid derivatives

# Acylat

## Acylation

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
337	822278	Acetic anhydride	665	820194	Cyanogen bromide	1341	807471	Polyphosphoric acid
346	822252	Acetyl chloride	779	820499	4-(Dimethylamino)pyridine	1420	807706	Silicon tetrachloride
444	801804	Benzoyl chloride	1051	803138	Isopropenyl acetate	1577	808391	Trichloroacetyl chloride
595	800412	Chloroacetic acid	1151	806169	N-Methylformanilide			

### 820013 Adamantane for synthesis



C<sub>10</sub>H<sub>16</sub>  
*Tricyclo[3.3.1.1(3,7)]decane*  
 ■ CAS-No. 281-23-2 ■ EC-No. 206-001-4

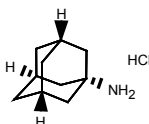
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 136.23 g/mol
- Melting point 266 - 272 °C
- Ignition temp. 287 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2902 19 00 ■ Disposal 3

#### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20013.0025	Glass bottle	25 g	inquire
8.20013.0100	Glass bottle	100 g	inquire

### 820015 1-Adamantan ammonium chloride for synthesis



C<sub>10</sub>H<sub>18</sub>ClN  
*1-Adamantylamine hydrochloride, 1-Aminoadamantane hydrochloride*  
 ■ CAS-No. 665-66-7 ■ EC-No. 211-560-2

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 187.71 g/mol
- Melting point 360 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 800 mg/kg
- LGK 10 - 13
- HS-No. 2921 30 99 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

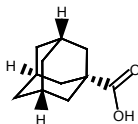
■ IATA-DGR No Dangerous Good

#### Specification

Assay (argentometric) ..... ≥ 99.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20015.0010	Glass bottle	10 g	inquire
8.20015.0050	Glass bottle	50 g	inquire

### 801337 1-Adamantanecarboxylic acid for synthesis



C<sub>11</sub>H<sub>16</sub>O<sub>2</sub>  
 ■ CAS-No. 828-51-3 ■ EC-No. 212-584-6

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 180.24 g/mol
- Melting point 172 - 175 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 20 00 ■ Disposal 3

#### Specification

Assay (acidimetric) ..... ≥ 98.0 % (m)  
 Melting range (lower value) ..... ≥ 172 °C

Melting range (upper value) ..... ≤ 175 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01337.0010	Plastic bottle	10 g	inquire
8.01337.0050	Plastic bottle	50 g	inquire

### 841598 1-Adamantanemethanol for synthesis

C<sub>11</sub>H<sub>18</sub>O  
*1-Hydroxymethyladamantane*  
 ■ CAS-No. 770-71-8 ■ EC-No. 212-225-3  
 ■ M = 166.26 g/mol ■ Melting point 115 - 118 °C  
 ■ WGK 3  
 ■ LGK 10 - 13

- HS-No. 2906 19 00 ■ Disposal 3

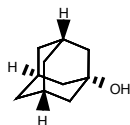
#### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 115 °C  
 Melting range (upper value) ..... ≤ 118 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41598.0001	Plastic bottle	1 g	inquire
8.41598.0010	Plastic bottle	10 g	inquire

### 801339 1-Adamantanol for synthesis



C<sub>10</sub>H<sub>16</sub>O

#### 1-Hydroxyadamantane

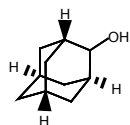
- CAS-No. 768-95-6 ■ EC-No. 212-202-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.23 g/mol
- Melting point 246 - 248 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 3

#### Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01339.0010	Glass bottle	10 g	inquire

### 814550 2-Adamantanol for synthesis



C<sub>10</sub>H<sub>16</sub>O

#### 2-Hydroxyadamantane

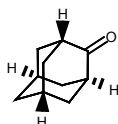
- CAS-No. 700-57-2 ■ EC-No. 211-846-7
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.24 g/mol
- Melting point 299 - 303 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 3

#### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14550.0005	Glass bottle	5 g	inquire

### 814595 2-Adamantanone for synthesis



C<sub>10</sub>H<sub>14</sub>O  
 ■ CAS-No. 700-58-3 ■ EC-No. 211-847-2

- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 150.22 g/mol
- Melting point 250 - 255 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 29 00 ■ Disposal 3

#### Specification

Assay (GC, area%) ..... ≥ 99.0 Area %

Melting range (lower value) ..... ≥ 250 °C  
 Melting range (upper value) ..... ≤ 255 °C  
 Identity (IR) ..... conforms

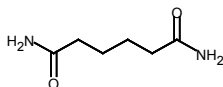
Ord.No.	Packaging	Quantity	Price
8.14595.0005	Glass bottle	5 g	inquire
8.14595.0025	Glass bottle	25 g	inquire

1-Adamantylamine hydrochloride → 1-Adamantaneammonium chloride page 354  
 Adamantylamine sulfate → Amantadine sulfate page 371  
 1-Adamantylbromide → 1-Bromoadamantane page 488

Adam's catalyst → Platinum(IV) oxide hydrate (80% Pt) page 1335  
 Adapter S 40 → page 327  
 Adapter (PTFE) → page 6

Adapters → Laboratory equipment, auxiliaries

### 800087 Adipamide for synthesis



$C_6H_{12}N_2O_2$   
 $H_2NCO(CH_2)_4CONH_2$   
 Hexanedioic diamide

- CAS-No. 628-94-4 ■ EC-No. 211-062-5
- Solub. in  $H_2O$  4.4 g/l (12 °C) ■ M = 144.17 g/mol
- Melting point 222 - 225 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

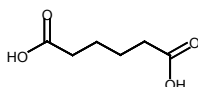
#### Specification

Assay (ex N) ..... ≥ 98,0 % (m)

Melting range (lower value) ..... ≥ 222 °C  
 Melting range (upper value) ..... ≤ 225 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00087.0025	Plastic bottle	25 g	inquire
8.00087.0100	Plastic bottle	100 g	inquire

### 818650 Adipic acid for synthesis



$C_6H_{10}O_4$   
 Hexanedioic acid

- CAS-No. 124-04-9 ■ EC-No. 204-673-3
- Vapour pressure 0.097 hPa (18.5 °C)
- Spec. density 1.360 g/cm<sup>3</sup> (25 °C)
- Flash point 196 °C ■ Solub. in  $H_2O$  15 g/l (20 °C)
- M = 146.14 g/mol ■ pH value 2.7 (24.9 g/l,  $H_2O$ , 25 °C) ■ Melting point 151 - 154 °C

- Bulk density 700 kg/m<sup>3</sup> ■ Boiling point 330 °C (1013 hPa) ■ Ignition temp. 405 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LC50 rat > 7.7 mg/l
- LD50 oral rat 5700 mg/kg ■ LD50 dermal rabbit > 7940 mg/kg
- EC-Index-No. 607-144-00-9 ■ LGK 10 - 13
- HS-No. 2917 12 00
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

#### Specification

Assay (acidimetric) ..... ≥ 99,0 %  
 Melting range (lower value) ..... ≥ 150 °C  
 Melting range (upper value) ..... ≤ 154 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18650.0100	Plastic bottle	100 g	inquire
8.18650.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

Adipic acid bis(2-ethylhexyl) ester → Bis(2-ethylhexyl) adipate page 470

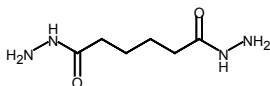
Adipic acid diethyl ester → Diethyl adipate page 737

Adipic acid dimethyl ester → Dimethyl adipate page 302

Adipic acid dioctyl ester → Bis(2-ethylhexyl) adipate page 470

Adipic acid monomethyl ester → Monomethyl adipate page 1191

### 841689 Adipic dihydrazide for synthesis



$C_6H_{14}N_4O_2$

Hexanedioic acid dihydrazide

- CAS-No. 1071-93-8 ■ EC-No. 213-999-5

- Flash point > 150 °C ■ M = 174.2 g/mol
- Melting point 178 - 182 °C
- Ignition temp. 360 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

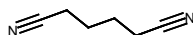
#### Specification

Assay ( $HClO_4$ ) ..... ≥ 97,0 % (m)

Melting range (lower value) ..... ≥ 178 °C  
 Melting range (upper value) ..... ≤ 182 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41689.0010	Glass bottle	10 g	inquire
8.41689.0050	Glass bottle	50 g	inquire

### 800092 Adiponitrile for synthesis



$C_6H_8N_2$

$NC(CH_2)_4CN$

Hexanedinitrile

- CAS-No. 111-69-3 ■ EC-No. 203-896-3
- Refractive index 1.438 (20 °C, 589 nm) ■ Vapour pressure 0.003 hPa (20 °C) ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 7 - 14 % (V)
- Flash point 93 °C (decomposition) ■ Solub. in  $H_2O$  50 g/l (20 °C) ■ M = 108.14 g/mol
- Melting point 2 °C ■ Boiling point 295 °C

- Ignition temp. 460 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Acute toxicity, Category 3, Oral, H301, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 1.7 mg/l
- LD50 oral rat 138 mg/kg ■ LD50 dermal rabbit 2134 mg/kg
- LGK 6.1 C
- HS-No. 2926 90 95 ■ Disposal 6
- ADR-RID UN 2205 Adiponitril, 6.1, III ■ IMDG-

Code UN 2205 ADIPONITRILE, 6.1, III, Segregation Group: 6 (Cyanides)

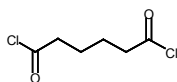
- IATA-DGR UN 2205 ADIPONITRILE, 6.1, III

#### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,962 - 0,964  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00092.0250	Glass bottle	250 ml	inquire

### 843951 Adipyl chloride for synthesis



$C_6H_{10}Cl_2O_2$

- CAS-No. 111-50-2 ■ EC-No. 203-876-4

- Spec. density 1.259 g/cm<sup>3</sup> (25 °C)
- Flash point 112 °C (External MSDS)
- M = 183.03 g/mol
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8A
- HS-No. 2917 19 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(ADIPOYLDICHLORID), 8, II
- IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(ADIPOYL DICHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(ADIPOYL DICHLORIDE), 8, II

#### Specification

Assay (morpholine method) ..... ≥ 95,0 %  
 Density (d 20 °C / 4 °C) ..... 1.250 - 1.260  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43951.0050	Glass bottle	50 ml	inquire
8.43951.0250	Glass bottle	250 ml	inquire

Adonite → page 111

Adsorbents for biochromatography → page 45

Adsorbents for prep. LC → page 37

Adsorbents-GC → page 43

Adsorbents-PCC → page 14

Adsorbents-TLC → page 14



# Adsorb

## Adsorber resin Amberlite® (LAB)

### 115256 Adsorber resin Amberlite® XAD-4

- CAS-No. 9003-70-7
- Spec. density 0.71 g/cm<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

**Specification**  
 Description.....white spherules  
 Specific surface area (BET; according to DIN 66131).....≥ 750 m<sup>2</sup>/g  
 Particle size (0,3-1,1 mm).....≥ 80.0 %

Ord.No.	Packaging	Quantity	Price
1.15256.0500	Plastic bottle	500 ml	inquire

### Adsorption indicators

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
362	106278	Alizarin red S mono sodiumsalt (C.I. 58005)	776	103059	5-(4-Dimethylamino-benzylidene)-rhodanine	1179	106076	Methyl red (C.I. 13020)
497	103025	Bromocresol purple	815	103091	1,5-Diphenylcarbazine	1205	101369	Neutral red (C.I. 50040)
516	103026	Bromothymol blue	815	103087	1,5-Diphenylcarbazon	172	107531	1-(2-Pyridylazo)-2-naphthol (PAN)
627	103024	Chlorophenol red	189	115934	Eosin B (bluish) (C.I.45400)	1397	802304	(-)-Quinine
651	101340	Congo red (C.I. 22120)	189	115935	Eosin Y (yellowish) (C.I. 45380)			
722	109676	2',7'-Dichlorofluorescein	189	115936	Erythrosine B (C.I. 45430)			

AEP → 2-(1-Piperazinyl)ethylamine page 1330  
 AES → Standards

AET → S-(2-Aminoethyl)thiuronium bromide hydrobromide page 388  
 Agar-Agar → page 111

### Agarose

- CAS-No. 9012-36-6 ■ EC-No. 232-731-8
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- pH value (10 g/l, H<sub>2</sub>O, 50 °C) neutral
- Melting point 60 - 90 °C ■ Bulk density

700 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3913 90 00 ■ Disposal 3

Significantly reduced electroendosmosis. Especially suitable for immunoelectrophoresis and crossed immunoelectrophoresis.

### 116802 Agarose (low electroendosmosis) for electrophoresis

**Specification**  
 Appearance (colour).....white  
 Appearance (description).....crystalline powder  
 Identity (IR-spectrum).....passes test  
 Electroendosmosis.....0.05 - 0.13  
 Gel point.....34 - 38 °C  
 Sulphur (as SO<sub>4</sub>).....≤ 0.3 %  
 Sulfated ash (800 °C).....≤ 1.0 %  
 Loss on drying (105 °C, 2 h).....≤ 10.0 %

Ord.No.	Packaging	Quantity	Price
1.16802.0025	Glass bottle	25 g	inquire
1.16802.0250	Glass bottle	250 g	inquire

### 116801 Agarose (medium electroendosmosis) for electrophoresis

**Specification**  
 Appearance (colour).....white  
 Appearance (description).....crystalline powder  
 Electroendosmosis.....0.16 - 0.19  
 Sulphur (as SO<sub>4</sub>).....≤ 0.2 %  
 Loss on drying (105 °C, 2 h).....≤ 8.0 %  
 Ash.....≤ 0.4 %  
 Gel point (1.5 % gel).....34 - 38 °C

Ord.No.	Packaging	Quantity	Price
1.16801.0025	Glass bottle	25 g	inquire
1.16801.0250	Glass bottle	250 g	inquire

### 112239 Agarose for nucleic acid electrophoresis (range of molecular weight < 1000 bp)

**Specification**  
 Appearance (colour).....white  
 Appearance (description).....crystalline powder  
 Electroendosmosis.....≤ 0.12  
 Melting temperature (4 % gel).....≤ 80 °C  
 Resolving power < 1000 bp.....passes test  
 Gel point.....≤ 35 °C  
 Sulphur (as SO<sub>4</sub>).....≤ 0.11 %  
 Loss on drying (105 °C, 2 h).....≤ 7.0 %  
 Sulfated ash (800 °C).....≤ 0.35 %  
 Performance test (Nucleic acid electrophoresis).....passes test  
 DNases (Exo- and endonucleases).....not detectable

Ord.No.	Packaging	Quantity	Price
1.12239.0025	Glass bottle	25 g	inquire
1.12239.0100	Plastic bottle	100 g	inquire

### 101236 Agarose for analytical nucleic acid electrophoresis

**Specification**  
 Appearance (colour).....white  
 Appearance (description).....crystalline powder  
 Electroendosmosis.....0.05 - 0.13  
 Gel point.....34 - 38 °C  
 Sulphur (as SO<sub>4</sub>).....≤ 0.14 %  
 Sulfated ash (800 °C).....≤ 0.4 %  
 Loss on drying (105 °C, 2 h).....≤ 7.0 %  
 Performance test (Nucleic acid electrophoresis).....passes test  
 DNases (Exo- and endonucleases).....not detectable

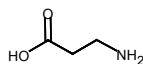
Ord.No.	Packaging	Quantity	Price
1.01236.0100	Glass bottle	100 g	inquire
1.01236.0500	Glass bottle	500 g	inquire

Agroquant® → page 90

AIBN → α,α'-Azobisisobutyronitrile page 428

Air valve for HPLC bottle adapter S40 → page 327

### 101008 β-Alanine for biochemistry



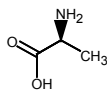
C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>  
 Ala, 3-Aminopropionic acid  
 ■ CAS-No. 107-95-9 ■ EC-No. 203-536-5  
 ■ Spec. density 1.44 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 545 g/l (20 °C) ■ M = 89.09 g/mol

■ pH value 6.5 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 200 °C (decomposition)  
 ■ Bulk density 770 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 20 ■ Disposal 3  
 Soluble in water and mineral acids, insoluble in organic solvents.  
**Specification**

Assay (perchloric acid titration).....≥ 99%  
 Identity (IR-spectrum).....passes test  
 Heavy metals (as Pb).....≤ 0.001 %  
 TLC-Test.....passes test

Ord.No.	Packaging	Quantity	Price
1.01008.0250	Plastic bottle	250 g	inquire
1.01008.1000	Plastic bottle	1 kg	inquire

## 101007 L-Alanine for biochemistry

C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>

2-Aminopropionic acid, Ala

- CAS-No. 56-41-7 ■ EC-No. 200-273-8
- Spec. density 1.40 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 166.5 g/l (25 °C) ■ M = 89.09 g/mol
- pH value 5.5 - 6.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 295 - 297 °C (decomposition)
- Bulk density 660 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

Soluble in water and mineral acids, insoluble in organic solvents.

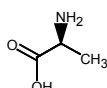
## Specification

Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ..... white to almost white crystalline powder or colorless crystals  
 Appearance of solution (1 mol/l, water) ... clear and colorless  
 Spec. rotation (α<sub>D</sub><sup>20</sup>, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +14.2 to +15.2°  
 UV-Absorption (260 nm; 1 mol/l; 1 cm; water) ..... ≤ 0.02  
 UV-Absorption (280 nm; 1 mol/l; 1 cm; water) ..... ≤ 0.02  
 Chloride (Cl) ..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 As (Arsenic) ..... ≤ 0.0005 %  
 Ca (Calcium) ..... ≤ 0.005 %

Co (Cobalt) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.0005 %  
 Mg (Magnesium) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.005 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 Zn (Zinc) ..... ≤ 0.0005 %  
 Foreign amino acids ..... ≤ 0.3 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %  
 Loss on drying (105 °C; 3 h) ..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.01007.0025	Plastic bottle	25 g	inquire
1.01007.0100	Plastic bottle	100 g	inquire
1.01007.1000	Plastic bottle	1 kg	inquire
1.01007.9010	Plastic drum	10 kg	inquire

## 816000 (S)-(+)-Alanine for synthesis

C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>

2-Aminopropionic acid, Ala

- CAS-No. 56-41-7 ■ EC-No. 200-273-8
- Spec. density 1.40 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 166.5 g/l (25 °C) ■ M = 89.09 g/mol  
 ■ pH value 5.5 - 6.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 295 - 297 °C (decomposition)  
 ■ Bulk density 660 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99.0 % (m)

Spec. rotation [α<sub>D</sub><sup>20</sup> (c=10 in HCl 6 mol/l) .. 14.0 - 15.5 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16000.0025	Plastic bottle	25 g	inquire
8.16000.0100	Plastic bottle	100 g	inquire

L-Alanine → (S)-(+)-Alanine page 357

Alanine anhydride → 3,6-Dimethylpiperazine-2,5-dione page 799

L-Alanine ethyl ester hydrochloride → L-Ethyl

alanate hydrochloride page 850

DL-Alaninol → DL-2-Amino-1-propanol page 401

L-Alaninol → (S)-(+)-2-Amino-1-propanol page 401

## 112018 Albumin fraction V (from bovine serum) for biochemistry

Bovine serum albumin, Serum albumin

- CAS-No. 90604-29-8 ■ EC-No. 292-322-5
  - Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ pH value 6.8 - 7.2 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 150 kg/m<sup>3</sup>
  - WGK nwg
  - LGK 10 - 13 ■ Store at +2°C to +8°C.
  - HS-No. 3502 90 70 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- Properties: pl 4.7; molecular weight: about 68 000 g/mol Soluble in water to 0.1%. Enzyme stabilizer, protein standard.

## Specification

Appearance (colour) ..... slightly yellow  
 Appearance (description) ..... leafs  
 Assay of protein (spectralphotometric; calc. on anhydrous substance) ..... ≥ 97.0 %  
 Assay of Albumin (Agarose gel electrophoresis) ..... ≥ 98.0 %  
 pH-value (1 %; sodium chloride solution c = 0.5 mol/l) ..... 6.8 - 7.2  
 K (Potassium) ..... ≤ 0.02 %  
 Na (Sodium) ..... ≤ 0.5 %  
 Mg (Magnesium) ..... ≤ 0.01 %  
 Ca (Calcium) ..... ≤ 0.05 %  
 Heavy metals (as lead) ..... ≤ 0.001 %  
 Fats ..... ≤ 0.2 %

Decomposition products ..... not detectable  
 Water (according to Karl Fischer) ..... ≤ 5.00 %  
 Ash (600 °C) ..... ≤ 1 %  
 NADH Oxidase (NADH; pH 7.5; 25° C) ..... not detectable  
 LDH (pyruvate; pH 7.5; 25° C) ..... not detectable

Ord.No.	Packaging	Quantity	Price
1.12018.0025	Glass bottle	25 g	inquire
1.12018.0100	Glass bottle	100 g	inquire

Alcian blue 8 GX (C.I.74240) → page 189

Alcian blue solution → page 201

## Alcoholates and Acetylacetonates

## Alcoholates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
371	801079	Aluminium triisopropylate	1345	804918	Potassium tert-butylate	1434	818199	Sodium ethoxide
664	840036	Cyanoacetone sodium salt	1350	814208	Potassium ethylate	1434	820871	Sodium ethoxide
1083	814519	Lithium methylate	1360	814222	Potassium methylate	1435	845101	Sodium ethylate
1087	818894	Magnesium ethylate	1360	820746	Potassium methylate	1446	818194	Sodium methylate
1345	843978	Potassium-tert-butylate	1428	818374	Sodium tert-butylate	1446	806538	Sodium methylate

## Acetylacetonates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
368	801059	Aluminium acetylacetonate	1037	803912	Iron(III) acetylacetonate	1408	814056	Ruthenium(III) acetylacetonate
640	802485	Chromium(III) acetylacetonate	1095	805922	Manganese(II) acetylacetonate	1560	808305	Titanyl acetylacetonate
648	802527	Cobalt(II) acetylacetonate	1205	806715	Nickel(II) acetylacetonate	1628	808505	Vanadium(IV) oxide acetylacetonate
648	802528	Cobalt(III) acetylacetonate	1258	807103	Palladium(II) acetylacetonate	1640	808803	Zinc(II) acetylacetonate
652	802712	Copper(II) acetylacetonate	1334	814689	Platinum(II) acetylacetonate (50% Pt)	1643	808915	Zirconium(IV) acetylacetonate

# Alchoho

## Alcohols

### Unsubstituted monohydric alcohols

#### Aliphatic and araliphatic alcohols

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
392	814615	(R)-(-)-2-Amino-3-methylbutanol	304	820624	1-Heptanol	1264	820954	1-Pentadecanol
			938	820619	2-Heptanol	307	807501	2-Pentanol
298	807500	n-Amyl alcohol	304	804393	1-Hexanol	1271	807502	3-Pentanol
299	806193	tert-Amyl alcohol	988	814185	Hydroxymethylcyclobutane	1274	841385	4-Pentyn-1-ol
420	841050	Anthracene-9-methanol	304	818969	Isoamyl alcohol	1298	841370	4-Phenyl-1-butanol
439	801644	Benzhydrol	304	822255	Isoamyl alcohol	1298	814846	4-Phenyl-2-butanol
299	822259	Benzyl alcohol	1053	814853	4-Isopropylbenzyl alcohol	307	807006	2-Phenylethanol
459	848335	Bio-Methanol (Gas-to-Liquid)	305	822283	Methanol	1302	840131	(R)-(+)-1-Phenylethanol
461	841146	4-Biphenyl-methanol	1135	841530	2-Methylbenzyl alcohol	1302	840132	(S)-(-)-1-Phenylethanol
498	814922	1-Bromo-2,4-difluorobenzene	305	806031	2-Methyl-1-butanol	1310	841438	5-Phenyl-1-pentanol
299	822262	1-Butanol	1139	841399	3-Methyl-2-butanol	1310	807012	1-Phenyl-1-propanol
299	822263	2-Butanol	1167	841668	2-Methyl-2-pentanol	1310	818883	2-Phenyl-1-propanol
299	822264	tert-Butanol	1168	805804	4-Methyl-2-pentanol	1311	807014	3-Phenyl-1-propanol
542	814660	4-tert-Butylbenzyl alcohol	1170	840096	2-Methyl-1-phenyl-2-propanol	1311	824446	(R)-(+)-1-Phenyl-1-propanol
589	818704	Cetyl alcohol				1311	824445	(S)-(-)-1-Phenyl-1-propanol
675	818556	2-Cyclohexylethanol	1232	821856	1-Nonadecanol	308	818766	2-Propanol
675	841620	Cyclohexylmethanol	306	806866	1-Nonanol	1501	807680	Stearyl alcohol
680	814847	1-Cyclopropylethanol	1234	818793	2-Nonanol	1521	814759	Terpineol
300	803463	1-Decanol	1234	818784	3-Nonanol	1521	848025	$\alpha$ -Terpineol, technical
686	841648	2-Decanol	1234	818773	4-Nonanol	1528	808146	1-Tetradecanol
826	822047	1-Docosanol	1234	818792	5-Nonanol	1611	821196	Triphenylmethanol
828	803462	1-Dodecanol	307	820931	1-Octanol	1623	808468	1-Undecanol
834	822051	1-Eicosanol	307	820925	2-Octanol	1624	818575	2-Undecanol
302	818760	Ethanol	1242	821859	3-Octanol			
855	841557	2-Ethyl-1-butanol	1242	818321	(R)-(-)-2-Octanol			
303	800990	2-Ethyl-1-hexanol	1242	818322	(S)-(+)-2-Octanol			

#### Alicyclic alcohols

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
354	841598	1-Adamantanemethanol	549	814694	2-tert-Butyl-4-methylcyclohexanol	894	814895	9-Fluorenylmethanol
354	801339	1-Adamantanol				1099	818452	DL-Menthol
354	814550	2-Adamantanol	639	841513	5 $\alpha$ -Cholestan-3 $\beta$ -ol	1099	814113	(-)-Menthol
384	840073	trans-4-Aminocyclohexanol hydrochloride	667	802675	Cyclododecanol	1144	805807	3-Methylcyclohexanol
			667	802460	Cycloheptanol	1535	814836	1,2,3,4-Tetrahydro-1-naphthol
481	814472	(1S)-(-)-Borneol	300	822328	Cyclohexanol	1603	814442	3,3,5-Trimethylcyclohexanol
544	814086	4-tert-Butylcyclohexanol	676	802661	Cyclooctanol	1619	845130	Tropolone
544	824508	(+)-trans-2-tert-Butylcyclohexanol	677	802669	Cyclopentanol	1619	814378	Tropolone
545	824509	(-)-trans-2-tert-Butylcyclohexanol	888	841522	1-Ethynylcyclohexanol			

#### Unsaturated alcohols

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
364	800974	Allyl alcohol	956	814341	5-Hexen-1-ol	1238	820923	cis-9-Octadecen-1-ol
537	841628	3-Buten-1-ol	956	820642	cis-3-Hexen-1-ol	1243	818543	1-Octen-3-ol
556	841715	2-Butyne-1-ol	957	818674	trans-2-Hexen-1-ol	1245	841785	1-Octyne-3-ol
556	841543	3-Butyne-1-ol	1078	818627	Linalool	1271	841782	4-Pentene-2-ol
557	820230	3-Butyne-2-ol	1139	841089	2-Methyl-3-buten-2-ol	1272	841317	1-Penten-3-ol
645	802504	Cinnamyl alcohol	1139	818425	3-Methyl-2-buten-1-ol	1272	841588	4-Penten-1-ol
646	818554	Citronellol	1139	818426	3-Methyl-3-buten-1-ol	1327	818605	Phytol
646	818378	(S)-(-)- $\beta$ -Citronellol	1140	820781	2-Methyl-3-butyne-ol	1341	814894	Polyvinyl alcohol, fully hydrolyzed
892	818570	Farnesol	1168	805857	3-Methyl-1-pentyn-3-ol	1377	807050	2-Propyn-1-ol
948	814568	1,5-Hexadiene-3,4-diol	1204	818553	Nerolidol	1521	821078	(S)-(-)- $\alpha$ -Terpineol



## Unsubstituted polyhydric alcohols

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
436	841297	1,2-Benzenedimethanol	791	822036	2,5-Dimethyl-2,5-hexanediol	1197	814578	2,3-Naphthalenediol
472	841683	1,4-Bis(hydroxymethyl)-benzene	792	818587	2,5-Dimethyl-3-hexyne-2,5-diol	1233	841835	1,9-Nonanediol
472	801610	1,4-Bis(hydroxymethyl)-cyclohexane	799	803507	2,2-Dimethyl-1,3-propanediol	1241	806921	1,8-Octanediol
533	801964	1,3-Butanediol	813	814810	Dipentaerythritol	1264	807331	Pentaerythritol
533	801532	1,4-Butanediol	816	820526	meso-1,2-Diphenyl-1,2-ethanediol	1269	807061	1,5-Pentanediol
533	818801	2,3-Butanediol	868	820032	2-Ethyl-1,3-hexanediol	1269	841677	2,4-Pentanediol
533	818335	(R,R)-(-)-2,3-Butanediol	871	808394	2-Ethyl-2-(hydroxymethyl)-1,3-propanediol	1302	807007	1-Phenyl-1,2-ethanediol
533	818334	(S,S)-(+)-2,3-Butanediol				308	822324	1,2-Propanediol
537	801529	cis-2-Butene-1,4-diol	927	818709	Glycerol	308	807481	1,3-Propanediol
556	801537	2-Butyne-1,4-diol	937	841361	1,7-Heptanediol	1367	814133	(S)-(+)-1,2-Propanediol
671	802664	1,4-Cyclohexanediol	954	804308	1,6-Hexanediol	1546	821104	Tetraphenyl-1,2-ethanediol
671	820366	trans-1,2-Cyclohexanediol	955	841808	1,2,6-Hexanetriol			
685	803561	1,10-Decanediol	988	822071	2-Hydroxymethyl-2-methyl-1,3-propanediol			
			1167	820819	2-Methyl-2,4-pentanediol			

## Substituted alcohols

## Aminoalcohols

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
380	818365	2-Aminobenzyl alcohol	548	801551	N-Butyl-2,2'-iminodiethanol	1131	814507	3-Methylamino-1,2-propanediol
381	818762	3-Aminobenzyl alcohol	643	818453	(-)-Cinchonidine	1152	818318	D(-)-N-Methylglucamine
381	801410	2-Amino-1-butanol	643	802506	(+)-Cinchonine	1157	805851	N-Methyl-2,2'-iminodiethanol
381	841818	4-Amino-1-butanol	736	845159	Diethanolamine	1173	820827	1-Methyl-4-piperidinol
385	820071	5-Amino-2,3-dihydrophthalazine-1,4-dione	301	803116	Diethanolamine	1193	804316	2-Morpholinoethanol
387	818431	2-(2-Aminoethoxy)ethanol	738	803273	2-(Diethylamino)-ethanol	1214	808236	1,1',1''-Nitrilotri-2-propanol
387	800360	2-(2-Aminoethylamino)ethanol	744	820394	N,N-Diethylethanolammonium chloride	1243	814921	Octanoyl-N-methylglucamide
392	814082	(S)-(+)-2-Amino-3-methyl-1-butanol	759	822140	1,4-Dihydro-4-pyridinone	1307	803257	N-Phenyl-2,2'-iminodiethanol
394	801464	2-Amino-2-methyl-1,3-propanediol	763	818503	4,6-Dihydroxypyrimidine	1330	804312	2-(1-Piperazinyl)ethanol
394	801465	2-Amino-2-methyl-1-propanol	777	803237	2-(Dimethylamino)-ethanol	1331	807539	3-Piperidinol
394	814099	2-Amino-2-methyl-1-propanol hydrochloride	778	803247	1-(Dimethylamino)-2-propanol	1331	821879	4-Piperidinol
398	841226	5-Amino-1-pentanol	778	803643	3-(Dimethylamino)-1-propanol	1371	824472	(R)-(+)-Propanolol hydrochloride
399	814132	(S)-(-)-2-Amino-3-phenyl-1-propanol	820	841173	(S)-(-)- $\alpha,\alpha$ -Diphenylprolinol	1383	820471	3,6-Pyridazinediol
400	818522	3-Amino-1,2-propanediol	829	818148	(-)-N-Dodecyl-N-methylephedrinium bromide	1389	807036	3-Pyridinol
400	814191	2-Amino-1,3-propanediol oxalate (2:1)	302	800849	Ethanolamine	1390	800182	2-(2-Pyridyl)ethanol
401	800423	3-Amino-1-propanol	851	801392	2-(Ethylamino)ethanol	1390	807029	2-Pyridylmethanol
401	801009	DL-2-Amino-1-propanol	861	821940	Ethylenediamine-N,N,N',N'-tetra-2-propanol	1390	807030	3-Pyridylmethanol
400	845049	Aminopropanol	871	824456	(2S,4R)-(-)-Ethyl 4-hydroxy-2-pyrrolidincarboxylate hydrochloride	1397	802304	(-)-Quinine
400	807020	Aminopropanol	933	841609	Guanosine	1397	822194	(-)-Quinine hydrochloride dihydrate
401	818231	(S)-(+)-1-Amino-2-propanol	981	820063	2-Hydroxyethylammonium chloride	1416	841235	DL-Serine
418	806908	2-Anilinoethanol	988	818345	(S)-(-)-2-Hydroxymethyl-1-methylpyrrolidine	1543	814301	2,2,6,6-Tetramethyl-4-piperidinol
447	802198	2-(Benzylamino) ethanol	989	818259	(2S,2'S)-(-)-2-Hydroxymethyl-1-[[1-methylpyrrolidine-2-yl]-methyl]-pyrrolidine	314	822341	Triethanolamine
451	818142	3-Benzyl-5-(2-hydroxyethyl)-4-methylthiazolium chloride				1615	808608	1,3,5-Tris(2-hydroxyethyl) cyanuric acid
479	814644	(S)-(-)-BOC-Phenylalaninol				1619	808385	Tropine
540	814843	2-Butylamino-ethanol	994	807035	2-Hydroxypyridine			
540	818661	2-tert-Butylamino-ethanol	994	818698	2-Hydroxypyrimidinium chloride			
			1000	803264	1,1-Iminodi-2-propanol			
			1131	805802	2-(Methylamino)ethanol			

# Alchoho

## Alcohols with other substituents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
441	801776	Benzoin	979	820663	4-Hydroxybenzyl alcohol	1153	840024	Methyl-D-glucopyranoside
451	824490	(S)-(-)-2-O-Benzylglycerinaldehyde	979	820664	3-Hydroxy-2-butanone	1181	841481	2-(Methylthio)-ethanol
454	841576	4-Benzylloxybenzyl alcohol	981	820708	2-Hydroxyethanesulfonic acid sodium salt	1220	820888	2-Nitrobenzyl alcohol
534	840143	1,4-Butanediolmonovinylether	981	822068	Hydroxyethylcellulose	1220	818159	3-Nitrobenzyl alcohol
691	820384	Diacetin	982	841506	(2-Hydroxyethyl) phenyl sulfide	1221	820889	4-Nitrobenzyl alcohol
759	820482	Dihydroxyacetone	986	841197	4-Hydroxy-3-methoxybenzyl alcohol	1228	841747	2-Nitrophenyl-β-D-galactopyranoside
762	803500	1,2-Dihydroxy-3,4-cyclobutenedione	987	820675	N-(Hydroxymethyl)acrylamide	1228	820902	1-(4-Nitrophenyl)-1,2,3-propanetriol
762	814265	1,8-Dihydroxy-3,6-dithiooctane	304	804512	4-Hydroxy-4-methyl-2-pentanone	1229	814138	3-Nitropropanol
768	818757	2,3-Dimercapto-1-propanol	993	818342	(1S,2S,5S)-(-)-2-Hydroxy-pinan-3-one	1435	806455	Sodium formaldehydesulfoxylate hydrate
786	843960	2,2-Dimethyl-1,3-dioxane-4,6-dione	994	818084	3-Hydroxypropionitrile	1553	818682	Thiophene-2-ethanol
874	840111	2-(Ethylmercapto)-ethanol	1071	820752	L-(-)-Lactamide	1599	814835	3,4,5-Trimethoxybenzyl alcohol
925	804240	Glutardialdehyde bis (sodium hydrogen sulfite)	1101	805740	2-Mercaptoethanol	1607	841221	2-(Trimethylsilyl)-ethanol
979	820662	2-Hydroxybenzyl alcohol	1101	841705	3-Mercapto-1,2-propanediol			

### 115640 Aldehyde dehydrogenase (from yeast) lyophilized 100 U/vial for biochemistry EC 1.2.1.5

<ul style="list-style-type: none"> <li>■ CAS-No. 9028-88-0 ■ EC-No. 232-846-3</li> <li>■ WGK nwg</li> <li>■ LGK 10 - 13 ■ Store at +2°C to +8°C.</li> <li>■ HS-No. 3507 90 90 ■ Disposal 3</li> <li>■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good</li> <li>■ IATA-DGR No Dangerous Good</li> </ul>	<p>Catalysed reaction: Aldehyde + NAD(P)<sup>2+</sup> + H<sub>2</sub>O → acid + NAD(P)H + H<sup>2+</sup>. Determination of acetaldehyde.</p> <p><b>Specification</b> Activity (Acetaldehyde; pH 9.0; 25 °C).....about 2 U/mg</p>	<p>Spec. activity (calculated on the protein content).....about 20 U/mg</p>								
	<table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1.15640.0001</td> <td>Glass bottle</td> <td>1 vial</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	1.15640.0001	Glass bottle	1 vial	inquire	
Ord.No.	Packaging	Quantity	Price							
1.15640.0001	Glass bottle	1 vial	inquire							

## Aldehyde, ketone, phenol determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
768	106013	Dimedone	1216	106760	4-Nitroaniline	1413	109034	Schiff's reagent
910	109001	Folin-Ciocalteu's phenol reagent	1306	107251	Phenylhydrazine	1415	107722	Semicarbazide hydrochloride
64	110036	Formaldehyde Test	1306	107253	Phenylhydrazinium chloride			

## Aldehydes

### Aliphatic and araliphatic aldehydes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
331	845001	Acetaldehyde	925	814393	Glutardialdehyde	1233	807166	Nonanal
330	800004	Acetaldehyde	929	820610	Glyoxal	1240	806901	Octanal
451	824490	(S)-(-)-2-O-Benzylglycerinaldehyde	930	814084	Glyoxylic acid	1262	818715	Paraformaldehyde
557	801555	Butyraldehyde	930	804107	Glyoxylic acid monohydrate	1267	808504	Pentanal
685	803211	Decanal	936	806918	Heptanal	1311	807010	2-Phenylpropionaldehyde
888	842513	2-Ethylhexanal	952	802672	Hexanal	1311	804542	3-Phenylpropionaldehyde
185	104003	Formaldehyde solution min. 37%	1045	801556	Isobutyraldehyde	1372	822133	Propionaldehyde
911	818708	Formaldehyde solution 37%	1072	818677	Lauraldehyde	1592	814960	4-(Trifluoromethoxy) benzaldehyde
915	818177	Formylmethyltriphenylphosphonium chloride	1141	820721	3-Methylbutyraldehyde	1623	841015	Undecanal
925	820603	Glutardialdehyde	1183	841168	3-(Methylthio)-propionaldehyde			

### Unsaturated aldehydes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
644	802505	trans-Cinnamaldehyde	704	841441	2,3-Dibromomalealdehydic acid	956	818961	trans-2-Hexenal
645	802489	Citral	723	820441	2,3-Dichloromalealdehydic acid	1143	814481	α-Methylcinnamaldehyde
646	814575	Citronellal	777	822034	4-(Dimethylamino)-cinnamaldehyde	1222	818597	2'-Nitrocinnamaldehyde
659	802667	Crotonaldehyde	915	841108	Formylmethylenetriphenylphosphorane			

## Aromatic aldehydes

## Aromatic aldehydes with hydroxyl or ether groups

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
453	841289	2-Benzoyloxybenzaldehyde	770	841546	2,5-Dimethoxybenzaldehyde	986	841493	2-Hydroxy-5-methoxybenzaldehyde
453	816115	3-Benzoyloxybenzaldehyde	770	820488	3,5-Dimethoxybenzaldehyde	986	841767	3-Hydroxy-4-methoxybenzaldehyde
760	841427	2,3-Dihydroxybenzaldehyde	986	841853	2-Hydroxy-3-methoxybenzaldehyde	987	814335	4-Hydroxy-3-methoxy-5-nitrobenzaldehyde
760	841551	2,4-Dihydroxybenzaldehyde	986	841611	2-Hydroxy-4-methoxybenzaldehyde			

## Halogenated aromatic aldehydes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
489	821695	2-Bromobenzaldehyde	623	814046	4-Chloro-3-nitrobenzaldehyde	752	814965	3,4-Difluorobenzaldehyde
490	821696	3-Bromobenzaldehyde	625	815110	2-Chloro-6-nitrotoluene	897	814714	2-Fluorobenzaldehyde
490	804146	4-Bromobenzaldehyde	630	841881	2-(4-Chlorophenylthio)benzaldehyde	897	814258	3-Fluorobenzaldehyde
598	845095	2-Chlorobenzaldehyde	714	840101	2,3-Dichlorobenzaldehyde	898	818537	4-Fluorobenzaldehyde
598	820276	2-Chlorobenzaldehyde	714	820433	2,4-Dichlorobenzaldehyde	1577	841271	2,3,5-Trichlorobenzaldehyde
598	802452	3-Chlorobenzaldehyde	714	821763	2,6-Dichlorobenzaldehyde	1590	814968	3,4,5-Trifluorobenzaldehyde
598	802453	4-Chlorobenzaldehyde	714	841758	3,5-Dichlorobenzaldehyde	1593	814045	4-(Trifluoromethyl)benzaldehyde
612	841635	2-Chloro-6-fluorobenzaldehyde	751	841212	2,6-Difluorobenzaldehyde			

## Other aromatic aldehydes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	800106	4-Acetamidobenzaldehyde	894	841426	Fluorene-2-carbaldehyde	1196	820845	2-Naphthaldehyde
420	820110	9-Anthraldehyde	1050	821821	Isophthalaldehyde	1217	822293	2-Nitrobenzaldehyde
434	801756	Benzaldehyde	1053	807025	4-Isopropylbenzaldehyde	1217	806765	3-Nitrobenzaldehyde
460	841238	Biphenyl-4-carbaldehyde	1133	814030	2-Methylbenzaldehyde	1217	806766	4-Nitrobenzaldehyde
664	841218	3-Cyanobenzaldehyde	1133	814031	3-Methylbenzaldehyde	1324	821028	Phthalaldehydic acid
664	818530	4-Cyanobenzaldehyde	1133	806179	4-Methylbenzaldehyde	1325	821027	Phthalaldehyde
776	803057	4-(Dimethylamino)benzaldehyde	1152	818490	Methyl 4-formylbenzoate	1520	821075	Terephthalaldehydic acid
783	821461	2,4-Dimethylbenzaldehyde	1181	841190	4-(Methylthio)benzaldehyde	1520	808617	Terephthalaldehyde
783	841281	3,5-Dimethylbenzaldehyde	1196	820844	1-Naphthaldehyde	1601	822175	2,4,6-Trimethylbenzaldehyde

## Heterocyclic aldehydes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
918	804012	Furfural	1177	841012	1-Methylpyrrol-2-carbaldehyde	1385	807468	3-Pyridinecarbaldehyde
988	820678	5-Hydroxymethyl-2-furancarbaldehyde	1182	841291	3-Methylthiophene-2-carbaldehyde	1385	807469	4-Pyridinecarbaldehyde
1003	804726	Indole-3-carbaldehyde	1182	841255	5-Methylthiophene-2-carbaldehyde	1393	807574	2-Pyrrolecarbaldehyde
1152	821522	5-Methylfurfural	1385	807470	2-Pyridinecarbaldehyde	1552	808161	Thiophene-2-carbaldehyde

## Acetals

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
331	801366	Acetaldehyde diethyl acetal	741	841509	Diethyl 2,2-diethoxyethanephosphonate	1093	820756	Malondialdehyde bis(dimethyl acetal)
331	845087	Acetaldehyde dimethyl acetal	756	803509	2,5-Dihydro-2,5-dimethoxyfuran	1130	814289	(Methylamino)acetaldehyde dimethyl acetal
337	820004	Acetoacetaldehyde-1,1-dimethyl acetal	772	814137	1,1-Dimethoxy-3-nitropropane	1148	841872	2-Methyl-1,3-dioxolane
376	800368	Aminoacetaldehyde dimethyl acetal	790	803066	N,N-Dimethylformamide diethyl acetal	1153	840024	Methyl-D-glucopyranoside
434	814221	Benzaldehyde dimethyl acetal	790	803068	N,N-Dimethylformamide dimethyl acetal	1223	814136	2-(2-Nitroethyl)-1,3-dioxolane
486	801657	Bromoacetaldehyde diethyl acetal	795	814204	5,5-Dimethyl-2-nitromethyl-1,3-dioxane	1228	841747	2-Nitrophenyl-β-D-galactopyranoside
486	841497	Bromoacetaldehyde dimethyl acetal	812	803553	1,3-Dioxolane	1262	818255	Paraldehyde
504	843850	2-Bromomalondialdehyd	812	818094	(1,3-Dioxolan-2-yl)methyltriphenylphosphonium bromide	1295	822124	Phenylacetaldehyde dimethyl acetal
592	841820	Chloroacetaldehyde diethyl acetal	910	814549	Formaldehyde diethyl acetal	1332	840080	Piperonylbutoxide
594	802678	Chloroacetaldehyde dimethyl acetal	910	806017	Formaldehyde dimethyl acetal	1332	841707	Piperonylic acid
711	820424	Dichloroacetaldehyde diethyl acetal	910	820493	Formaldehyde dimethyl acetal	1395	821060	Pyruvaldehyde 1,1-dimethyl acetal
736	814001	3,3-Diethoxypropionitrile	981	822068	Hydroxyethylcellulose	1610	821189	1,3,5-Trioxane
			1092	805797	Malondialdehyde bis (diethyl acetal)			

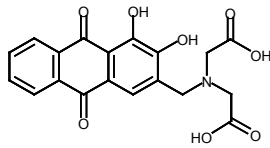
# Alicyc

Alicyclic alcohols → Alcohols  
 Alicyclic ketones → Ketones  
 Aliphatic alcohols → Alcohols  
 Aliphatic aldehydes → Aldehydes  
 Aliphatic alkane halides → Organohalogen compounds

Aliphatic di- and polyamines → Amines and ammonium compounds  
 Aliphatic carboxylic acid halides → Carboxylic acid derivatives  
 Aliphatic isonitriles → Nitriles and isonitriles  
 Aliphatic ketones → Ketones  
 Aliphatic mercaptans → Sulfur compounds

Aliphatic nitriles → Nitriles and isonitriles  
 Aliphatic nitro compounds → Nitro compounds  
 Aliquat®\* (\* = Trade mark of Henkel Corp. USA) → Methyltrialkylammonium chloride page 1184  
 Alizarin complexone → Alizarin-3-methylamine-N, N-diacetic acid dihydrate page 362

## 101010 Alizarin-3-methylamine-N,N-diacetic acid dihydrate for the spectrophotometric determination of fluoride



$C_{19}H_{15}NO_8 \cdot 2H_2O$   
 Alizarin complexone, 3-Bis(carboxymethyl)aminomethyl-1,2-dihydroxyanthraquinone

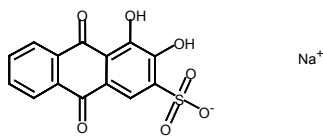
■ EC-No. 223-544-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 421.36 g/mol ■ Bulk density 540 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 50 00 ■ Disposal 3  
 Use as metal indicator: 0.5 % in water respectively ammonium acetate solution 1 mol/l

**Specification**  
 Assay (acidimetric; calculated on dried substance).

..... ≥ 95 %  
 Identity (IR-spectrum) ..... passes test  
 Loss on drying (105 °C) ..... 6 - 9 %  
 Suitability for photometric fluoride determination ..... passes test

Ord.No.	Packaging	Quantity	Price
1.01010.0005	Glass bottle	5 g	inquire

## 106278 Alizarin red S mono sodiumsalt (C.I. 58005) for analysis and indicator



$C_{14}H_7NaO_5S$   
 ■ CAS-No. 1324-22-3 ■ EC-No. 204-981-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 342.26 g/mol  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 3204 12 00 ■ Disposal 3

**Specification**  
 Identity (UV/VIS-Spectrum) ..... passes test  
 1st transition range. pH 4.3 - pH 6.3 Lightly yellow - pink  
 2nd transition range ..... pH 9.4 - pH 12.0 Brown orange - violet  
 Absorption maximum  $\lambda$  1 (buffer pH 4.3) ..... 418 - 424 nm  
 Absorption maximum  $\lambda$  2 (buffer pH 6.3) ..... 514 - 520 nm  
 Absorption maximum  $\lambda$  3 (buffer pH 9.4) ..... 444 - 450 nm  
 Absorption maximum  $\lambda$  4 (buffer pH 12.0) ..... 554 - 558 nm

Spec. Absorptivity A 1%/1cm ( $\lambda_{1max}$ ; 0.01 g/l; buffer pH 4.3; calc. on dried substance). 135 - 180  
 Spec. Absorptivity A 1%/1cm ( $\lambda_{2max}$ ; 0.01 g/l; buffer pH 6.3; calc. on dried substance). 160 - 210  
 Spec. Absorptivity A 1%/1cm ( $\lambda_{3max}$ ; 0.01 g/l; buffer pH 9.4; calc. on dried substance). 170 - 230  
 Spec. Absorptivity A 1%/1cm ( $\lambda_{4max}$ ; 0.01 g/l; buffer pH 12.0; calc. on dried substance) ..... 390 - 520  
 Loss on drying (110 °C) ..... ≤ 10 %

Ord.No.	Packaging	Quantity	Price
1.06278.0025	Glass bottle	25 g	inquire
1.06278.0100	Glass bottle	100 g	inquire

## 109196 Alkali blue (C.I. 42765) indicator

$C_{37}H_{29}N_5O_3S$   
 ■ CAS-No. 1324-76-1 ■ EC-No. 215-385-2  
 ■ M = 595.73 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 3204 12 00 ■ Disposal 3

**Specification**  
 Identity (UV/VIS-Spectrum) ..... passes test

Transition range ..... pH 11.5 - pH 13.0 blue-violet - dark-pink  
 Absorption maximum  $\lambda_{max}$ . (Ethanol). 597 - 602 nm  
 Spec. Absorptivity A 1%/1cm ( $\lambda_{max}$ ; 0.003 g/l; ethanol abs.; calculated on dried substance) .....  
 ..... ≥ 1000  
 TLC-Test ..... passes test  
 Loss on drying (110 °C) ..... ≤ 5 %

Suitability as indicator (according to DIN 51558) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.09196.0025	Glass bottle	25 g	inquire

## 109198 Alkali blue solution indicator

■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 4 °C ■ Kin. viscosity 0.68 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ Boiling point 80 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304, P210, P233, P240, P281, P301

+ P310, P302 + P352, P308 + P313, P331  
 ■ LGK 3  
 ■ HS-No. 3822 00 00 ■ Disposal 1  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ETHANOL UND ENTH. TOLUEN), 3, II  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHANOL AND CONT. TOLUENE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHANOL AND CONT. TOLUENE), 3, II  
**Specification**  
 Identity (UV/VIS-Spectrum) ..... passes test

Density (d 20 °C/ 4 °C) ..... 0.836 - 0.838  
 Absorption maximum  $\lambda_{max}$ . (1 : 10 diluted) ..... 603 - 607 nm  
 Absorbance A ( $\lambda_{max}$ ; 1 : 10 diluted; 1 cm) ..... ≥ 1.00  
 Suitability as indicator (according to DIN 51558) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.09198.1000	Glass bottle	1 l	inquire
1.09198.2500	Glass bottle	2.5 l	inquire

Alkaline, determination → Titriplex® solution A page 1563  
 Alkalinity, determination → page 49  
 Alkalinity Test → page 49  
 Alkalit® → page 78

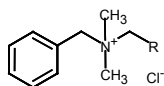
Alkane halides → Organohalogen compounds  
 Alkanes → Hydrocarbons  
 Alkene halides → Organohalogen compounds  
 Alkenes → Hydrocarbons

Alkine halides → Organohalogen compounds  
 Alkines → Hydrocarbons

## Alkylation

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
790	803068	N,N-Dimethylformamide dimethyl acetal	885	808332	Ethyl 4-toluenesulfonate	1185	818035	Methyl trifluoromethanesulfonate
802	803071	Dimethyl sulfate	886	843962	Ethyltrifluoromethanesulfonate			
803	803639	Dimethyl sulfite	1184	808333	Methyl-4-toluenesulfonate			

## Alkylbenzyltrimethylammonium chloride


 $[RN(CH_3)_2CH_2C_6H_5]Cl$ 

Benzalkonium chloride (50% aqueous solution)

- Spec. density 0.978 - 0.988 g/cm<sup>3</sup> (20 °C)
- Flash point 160 - 170 °C
- Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 5 - 7 (10 g/l, H<sub>2</sub>O)

- 20 °C
- Melting point -5 °C
- Bulk density 800 kg/m<sup>3</sup>
- Boiling point 100 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 500 - 2000 mg/kg

- LGK 8 A
- HS-No. 3402 12 00
- Disposal 28
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g. (BENZALKONIUMCHLORIDLOESUNG), 8, II
- IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S. (BENZALKONIUMCHLORIDE), 8, II
- IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S. (BENZALKONIUMCHLORIDE), 8, II

## 814858 Alkylbenzyltrimethylammonium chloride (50% solution in water) for synthesis

## Specification

Assay (argentometric).....49,0 - 51,0 %(m)  
Density (d 20 °C/ 4 °C).....0,980 - 0,990

Ord.No.	Packaging	Quantity	Price
8.14858.1000	Plastic bottle	1 l	inquire
8.14858.5000	Plastic container	5 l	inquire

## 821944 Alkylbenzyltrimethylammonium chloride for synthesis

## Specification

Assay (argentometric, calc. on anhydrous substance).....97,0 - 103,0 %(m)  
Water (K. F.).....4,0 - 6,0 %(m)

Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.21944.0100	Plastic bottle	100 g	inquire
8.21944.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire

## 814363 N-Alkyl-N,N-dimethyl-N-benzylammonium chloride for synthesis

 $(C_6H_5CH_2)(CH_3)_2N(C_{12}-C_{14}Alkyl)^+Cl^-$ 

Benzyltrimethylmyristylammonium chloride

- CAS-No. 85409-22-9
- EC-No. 287-089-1
- Flash point >100 °C
- Solub. in H<sub>2</sub>O 250 g/l (20 °C)
- pH value 5 - 8 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 49 - 52 °C
- Bulk density 350 kg/m<sup>3</sup>
- Ignition temp. >250 °C
- Dust
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309

- + P310
- LGK 8 A
- HS-No. 3402 12 00
- Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g. (BENZYLTRIMETHYLTETRADECYLAMMONIUMCHLORID), 8, II
- IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S. (BENZYLTRIMETHYLTETRADECYLAMMONIUMCHLORIDE), 8, II
- IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S. (BENZYLTRIMETHYLTETRADECYLAMMONIUMCHLORIDE), 8, II

## Specification

Assay (argentometric).....≥ 98,0 %(m)  
Melting range (lower value).....≥ 49 °C  
Melting range (upper value).....≤ 52 °C  
Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14363.0100	Plastic bottle	100 g	inquire
8.14363.0500	Plastic bottle	500 g	inquire

Alkylphenols → Phenols and phenol ethers

## 106001 Alloy acc. to Wood melting point about 73°C bar diameter about 1 cm

Wood's metal

- CAS-No. 76093-98-6
- Spec. density 9.6 g/cm<sup>3</sup> (20 °C)
- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Melting point 75 °C
- WGK nwg
- LGK 10 - 13

- HS-No. 8106 00 90
- Disposal 15
- In metal heating baths up to approx. 300°C and as a sealing fluid in fuses. In the optical industry for the manufacture of lens feet.

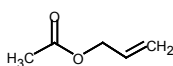
Melting point.....about 73°C

## Specification

Ord.No.	Packaging	Quantity	Price
1.06001.1000	Plastic bag	1 kg	inquire

All-purpose agar cont. Tween® → page 99

## 820554 Allyl acetate for synthesis

C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>CH<sub>3</sub>COOCH<sub>2</sub>CH=CH<sub>2</sub>

Acetic acid allyl ester

- CAS-No. 591-87-7
- EC-No. 209-734-8
- Refractive index 1.4042 (20 °C, 589 nm)
- Vapour pressure 27.2 hPa (20 °C)
- Spec. density 0.93 g/cm<sup>3</sup> (20 °C)
- Explosive limit 2.1 - 13.0 %(V)
- Flash point 6 °C
- Solub. in H<sub>2</sub>O 28 g/l (20 °C)
- M = 100.11 g/mol
- Melting point -96 °C

- Boiling point 103 - 104 °C (1013 mbar)
- Ignition temp. 374 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P233, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 4.16 mg/l
- LD50 oral rat 130 mg/kg
- LD50 dermal rabbit 1021 mg/kg
- LGK 3

- HS-No. 2915 39 00
- Disposal 9
- ADR-RID UN 2333 Allylacetat, 3 (6.1), II
- IMDG-Code UN 2333 ALLYL ACETATE, 3 (6.1), II
- IATA-DGR UN 2333 ALLYL ACETATE, 3 (6.1), II

## Specification

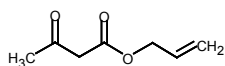
Assay (GC, area%).....≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C).....0.926 - 0.929  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.20554.0100	Glass bottle	100 ml	inquire
8.20554.0500	Glass bottle	500 ml	inquire

Allyl acetic acid → 4-Pentenoic acid page 1272



## 818694 Allyl acetoacetate for synthesis



C<sub>7</sub>H<sub>10</sub>O<sub>3</sub>  
 CH<sub>3</sub>COCH<sub>2</sub>COOCH<sub>2</sub>CH=CH<sub>2</sub>  
 Acetoacetic acid allyl ester  
 ■ CAS-No. 1118-84-9 ■ EC-No. 214-269-9  
 ■ Refractive index 1.438 (25 °C, 589 nm) ■ Vapour pressure 0.2 hPa (20 °C) ■ Spec. density 1.038 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.15 % (V)  
 ■ Flash point 67 °C ■ Solub. in H<sub>2</sub>O 48 g/l (20 °C)  
 ■ M = 142.15 g/mol ■ pH value 3.7 (48 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -70 °C

■ Boiling point 87 - 91 °C (13 hPa)  
 ■ Ignition temp. 300 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315, P280, P302 + P352, P309 + P310  
 ■ LD50 oral rat 259 mg/kg ■ LD50 dermal rat 266 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2918 30 00 ■ Disposal 9  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(ALLYL-ACETOACETAT), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

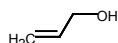
N.O.S.(ALLYL-ACETOACETATE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(ALLYL-ACETOACETATE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.036 - 1.039  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18694.0100	Glass bottle	100 ml	inquire
8.18694.0500	Glass bottle	500 ml	inquire

## 800974 Allyl alcohol for synthesis



C<sub>3</sub>H<sub>6</sub>O  
 CH<sub>2</sub>=CHCH<sub>2</sub>OH  
 2-Propene-1-ol  
 ■ CAS-No. 107-18-6 ■ EC-No. 203-470-7  
 ■ Refractive index 1.4134 (20 °C, 589 nm)  
 ■ Vapour pressure 24.3 hPa (20 °C)  
 ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.5 - 18 % (V) ■ Flash point 22 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 58.07 g/mol  
 ■ Melting point -129 °C ■ Boiling point 97 °C (1013 hPa) ■ Ignition temp. 375 °C  
 ■ WGK 2

■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400, P210, P233, P273, P304 + P340, P302 + P352, P309 + P310  
 ■ LD50 oral rat 64 mg/kg ■ LD50 dermal rabbit 45 mg/kg  
 ■ EC-Index-No. 603-015-00-6 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2905 29 10 ■ Disposal 9  
 ■ ADR-RID UN 1098 Allylalkohol, 6.1 (3), I

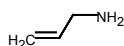
■ IMDG-Code UN 1098 ALLYL ALCOHOL, 6.1 (3), I  
 ■ IATA-DGR UN 1098 ALLYL ALCOHOL, 6.1 (3), I

## Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,851 - 0,852  
 Water (K. F.) ..... ≤ 0,20 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00974.0100	Glass bottle	100 ml	inquire
8.00974.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 800256 Allylamine for synthesis



C<sub>3</sub>H<sub>7</sub>N  
 CH<sub>2</sub>=CHCH<sub>2</sub>NH<sub>2</sub>  
 2-Propen-1-ylamine, 3-Amino-1-propene  
 ■ CAS-No. 107-11-9 ■ EC-No. 203-463-9  
 ■ Refractive index 1.4203 (20 °C, 589 nm)  
 ■ Vapour pressure 323 hPa (25 °C)  
 ■ Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 - 22 % (V) ■ Flash point -29 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 57.09 g/mol  
 ■ pH value 11.2 (5.7 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -88 °C ■ Boiling point 55 - 58 °C

(1013 hPa) ■ Ignition temp. 374 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 2, H411, P210, P233, P273, P302 + P352, P309 + P310, P304 + P340  
 ■ LD50 oral rat 102 mg/kg ■ LD50 dermal rabbit 35 mg/kg  
 ■ EC-Index-No. 612-046-00-4 ■ LGK 3 ■ Store at +2 °C to +8 °C.  
 ■ HS-No. 2921 19 99 ■ Disposal 9  
 ■ ADR-RID UN 2334 Allylamin, 6.1 (3), I ■ IMDG-

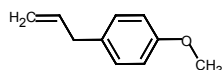
Code UN 2334 ALLYLAMINE, 6.1 (3), I  
 ■ IATA-DGR UN 2334 ALLYLAMINE, 6.1 (3), I

## Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,762 - 0,764  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00256.0250	Glass bottle	250 ml	inquire
8.00256.1000	Glass bottle	1 l	inquire

## 841253 4-Allylanisole for synthesis



C<sub>10</sub>H<sub>12</sub>O  
 Estragole, 4-Methoxyallylbenzene  
 ■ CAS-No. 140-67-0 ■ EC-No. 205-427-8  
 ■ Spec. density 0.965 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 81 °C ■ Solub. in H<sub>2</sub>O 0.178 g/l

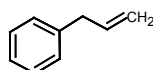
(25 °C) ■ M = 148.2 g/mol  
 ■ Boiling point 215 - 216 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
 ■ LD50 oral rat 1230 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 30 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.965 - 0.970  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41253.0025	Glass bottle	25 ml	inquire

## 821668 Allylbenzene for synthesis



C<sub>9</sub>H<sub>10</sub>  
 C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH=CH<sub>2</sub>  
 3-Phenyl-1-propene  
 ■ CAS-No. 300-57-2 ■ EC-No. 206-095-7  
 ■ Refractive index 1.5122 (20 °C, 589 nm)  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 40 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 118.17 g/mol  
 ■ Melting point < -40 °C  
 ■ Boiling point 156 - 157 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210, P260, P262  
 ■ LD50 oral rat 5540 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2902 90 00 ■ Disposal 1  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ALLYLBENZOL), 3, III ■ IMDG-Code UN 1993

FLAMMABLE LIQUID, N.O.S.(ALLYLBENZENE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ALLYLBENZENE), 3, III

## Specification

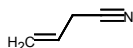
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.887 - 0.897  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21668.0010	Glass bottle	10 ml	inquire

Allyl bromide → 3-Bromo-1-propene page 513  
 Allyl caproate → Allyl hexanoate page 365

Allyl carbinol → 3-Buten-1-ol page 537  
 Allyl chloride → 3-Chloro-1-propene page 631

## 800258 Allyl cyanide for synthesis



C<sub>4</sub>H<sub>5</sub>N  
CH<sub>2</sub>=CHCH<sub>2</sub>CN  
3-Butenenitrile, Vinylacetonitrile  
■ CAS-No. 109-75-1 ■ EC-No. 203-701-1  
■ Refractive index 1.405 (20 °C, 589 nm)  
■ Spec. density 0.83 g/cm<sup>3</sup> (25 °C)  
■ Flash point 23 °C ■ Solub. in  
H<sub>2</sub>O (20 °C) insoluble ■ M = 67.09 g/mol  
■ Melting point -87 °C  
■ Boiling point 116 - 121 °C  
■ Ignition temp. 455 °C

■ WGK 3  
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P210, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 115 mg/kg ■ LD50 dermal rabbit 1170 mg/kg  
■ LGK 3 ■ Store at +2°C to +8°C.  
■ HS-No. 2926 90 95 ■ Disposal 9  
■ ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(ALLYLCYANID), 3 (6.1), III ■ IMDG-

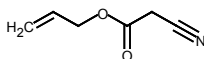
Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(ALLYLCYANIDE), 3 (6.1), III  
■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(ALLYLCYANIDE), 3 (6.1), III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,830 - 0,835  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00258.0025	Glass bottle	25 ml	inquire

## 818559 Allyl cyanoacetate for synthesis



C<sub>6</sub>H<sub>7</sub>NO<sub>2</sub>  
NCCH<sub>2</sub>COOCH<sub>2</sub>CH=CH<sub>2</sub>  
Cyanoacetic acid allyl ester  
■ CAS-No. 13361-32-5 ■ EC-No. 236-423-4  
■ Refractive index 1.4393 (28 °C, 589 nm)  
■ Vapour pressure 0.05 hPa  
■ Spec. density 1.072 g/cm<sup>3</sup> (20 °C)  
■ Flash point 91 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 125.13 g/mol  
■ pH value 4 (H<sub>2</sub>O, 20 °C) ■ Melting point -40.0 °C  
■ Boiling point 89 - 90 °C (5 hPa)  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
■ LD50 oral rat 160 mg/kg  
■ LGK 6.1 C  
■ HS-No. 2926 90 95 ■ Disposal 9  
■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(ALLYL(CYANOACETAT)), 6.1, III ■ IMDG-  
Code UN 3276 NITRILES, TOXIC, LIQUID,

N.O.S.(ALLYL(CYANOACETATE)), 6.1, III  
■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(ALLYL(CYANOACETATE)), 6.1, III

## Specification

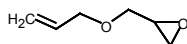
Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.072 - 1.073  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18559.0050	Glass bottle	50 ml	inquire
8.18559.1000	Glass bottle	1 l	inquire

4-Allyl-1,2-dimethoxybenzene → Eugenol methyl ether page 889

N-Allyldimethylamine → N,N-Dimethylallylamine page 775

## 800259 Allyl 2,3-epoxypropyl ether for synthesis



C<sub>6</sub>H<sub>10</sub>O<sub>2</sub>  
Allyl glycidyl ether, Glycidyl allyl ether, 1-(Allyloxy)-2,3-epoxypropane  
■ CAS-No. 106-92-3 ■ EC-No. 203-442-4  
■ Refractive index 1.4332 (20 °C, 589 nm)  
■ Vapour pressure 2.6 hPa (20 °C)  
■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C)  
■ Flash point 45 °C ■ Solub. in H<sub>2</sub>O 50 g/l (20 °C)  
■ M = 114.15 g/mol ■ Saturation conc. 22 g/m<sup>3</sup> (20 °C) ■ Melting point -100 °C  
■ Boiling point 154 °C (1013 hPa)  
■ Ignition temp. 264 °C  
■ WGK 3

■ GHS: Danger, Flammable liquid, Category 3, H226; Carcinogenicity, Category 2, H351; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P210, P233, P281, P273, P304 + P340, P302 + P352, P305 + P351 + P338, P308 + P313  
■ LC50 rat 4.08 mg/l  
■ LD50 oral rat 922 mg/kg ■ LD50 dermal rabbit 2550 mg/kg  
■ EC-Index-No. 603-038-00-1 ■ LGK 3 ■ Store

below +15°C.

■ HS-No. 2910 90 00 ■ Disposal 1  
■ ADR-RID UN 2219 Allylglycidylether, 3, III  
■ IMDG-Code UN 2219 ALLYL GLYCIDYL ETHER, 3, III  
■ IATA-DGR UN 2219 ALLYL GLYCIDYL ETHER, 3, III

## Specification

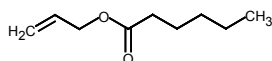
Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,967 - 0,969  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00259.0250	Glass bottle	250 ml	inquire

2-Allylethanol → 4-Penten-1-ol page 1272

Allyl glycidyl ether → Allyl 2,3-epoxypropyl ether page 365

## 814990 Allyl hexanoate for synthesis



C<sub>9</sub>H<sub>16</sub>O<sub>2</sub>  
Allyl caproate, Hexanoic acid allyl ester, Caproic acid allyl ester  
■ CAS-No. 123-68-2 ■ EC-No. 204-642-4  
■ Spec. density 0.887 g/cm<sup>3</sup> (25 °C)  
■ Flash point 74 °C ■ Solub. in H<sub>2</sub>O 0.06 g/l (20 °C) ■ M = 156.23 g/mol  
■ Boiling point 186 - 188 °C

■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P309 + P310  
■ LD50 oral rat 218 mg/kg ■ LD50 dermal rabbit 300 mg/kg  
■ LGK 6.1 C  
■ HS-No. 2915 90 70 ■ Disposal 3  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(ALLYLHEXANOAT), 6.1, III ■ IMDG-  
Code UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(ALLYL HEXANOATE), 6.1, III  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(ALLYL HEXANOATE), 6.1, III

## Specification

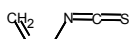
Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,888 - 0,892  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14990.0250	Glass bottle	250 ml	inquire

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z



## 800260 Allyl isothiocyanate (stabilised) for synthesis

C<sub>4</sub>H<sub>5</sub>NSCH<sub>2</sub>=CHCH<sub>2</sub>NCS

Isothiocyanic acid allyl ester, Volatile oil of mustard

- CAS-No. 57-06-7 ■ EC-No. 200-309-2
- Refractive index 1.5306 (20 °C, 589 nm)
- Vapour pressure 5.3 hPa (20 °C)
- Spec. density 1.018 g/cm<sup>3</sup> (20 °C)
- Flash point 46 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C)
- M = 99.15 g/mol ■ Melting point -80 °C
- Boiling point 151 - 153 °C (1013 hPa)
- WGK 3

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Dermal, H310; Chronic aquatic toxicity, Category 1, H410; Acute aquatic toxicity, Category 1, H400; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335, P210, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 112 mg/kg ■ LD50 dermal rabbit 88 mg/kg
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2930 90 99 ■ Disposal 9
- ADR-RID UN 1545 Allylisothiocyanat, stabilisiert, 6.1 (3), II ■ IMDG-Code UN 1545

ALLYL ISOTHIOCYANATE, STABILIZED, 6.1 (3), II  
 ■ IATA-DGR UN 1545 ALLYL ISOTHIOCYANATE, STABILIZED, 6.1 (3), II

**Specification**

Assay (GC, area%) ..... ≥ 94,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,016 - 1,018  
 Identity (IR) ..... conforms

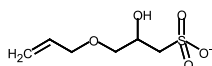
Ord.No.	Packaging	Quantity	Price
8.00260.0005	Glass bottle	5 ml	inquire
8.00260.0250	Glass bottle	250 ml	inquire

Allylmalonic acid diethyl ester → Diethyl allylmalonate page 737

4-Allyl-2-methoxyphenol → Eugenol page 888

1-(Allyloxy)-2,3-epoxypropane → Allyl 2,3-epoxypropyl ether page 365

## 814906 3-Allyloxy-2-hydroxypropane sulfonate sodium salt for synthesis

Na<sup>+</sup>C<sub>6</sub>H<sub>11</sub>NaO<sub>5</sub>S

- CAS-No. 52556-42-0 ■ EC-No. 258-004-5
- Vapour pressure 23 hPa (20 °C)
- Spec. density 1.17 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) soluble ■ M = 218.2 g/mol
- pH value 6 - 9 (111 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 9 °C ■ Boiling point 100 °C
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 18800 mg/kg
- LD50 dermal rabbit > 2000 mg/kg

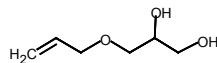
- LGK 10 - 13
- HS-No. 2909 49 80 ■ Disposal 3

**Specification**

Assay (ionoc exchange) ..... 38,0 - 42,0 %

Ord.No.	Packaging	Quantity	Price
8.14906.0251	Glass bottle	250 ml	inquire

## 818415 3-Allyloxy-1,2-propanediol for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>HOCH<sub>2</sub>CH(OH)CHOCH<sub>2</sub>CH=CH<sub>2</sub>

Glycerol 1-allyl ether

- CAS-No. 123-34-2 ■ EC-No. 204-620-4
- Refractive index 1.4627 (20 °C, 589 nm)
- Vapour pressure 0.004 hPa (20 °C)

- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point 135 °C DIN 51758 ■ Solub. in H<sub>2</sub>O (20 °C) miscible ■ M = 132.15 g/mol
- pH value 6.5 - 7.5 (1000 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -100 - -90 °C
- Boiling point 141 - 143 °C (37 hPa)
- WGK 1
- LD50 oral rat 5400 mg/kg ■ LD50 dermal rat 4300 mg/kg
- LGK 10

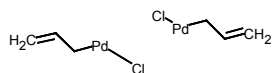
- HS-No. 2909 49 80 ■ Disposal 1

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.068 - 1.070  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18415.0100	Glass bottle	100 ml	inquire

## 824434 Allylpalladium(II) chloride dimer (58% Pd) for synthesis

C<sub>6</sub>H<sub>10</sub>Cl<sub>2</sub>Pd<sub>2</sub>(CH<sub>2</sub>=CH-CH<sub>2</sub>)<sub>2</sub>Pd<sub>2</sub>Cl<sub>2</sub>

- CAS-No. 12012-95-2 ■ EC-No. 234-579-8

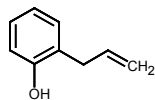
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 365.89 g/mol
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352
- LGK 10 - 13
- HS-No. 2843 90 90 ■ Disposal 27

**Specification**

Assay Pd ..... 56,0 - 59,0 %

Ord.No.	Packaging	Quantity	Price
8.24434.0250	Glass bottle	250 mg	inquire

## 818585 2-Allylphenol for synthesis

C<sub>9</sub>H<sub>10</sub>O

CAS-No. 1745-81-9 ■ EC-No. 217-119-0

- Refractive index 1.544 (20 °C, 589 nm) ■ Vapour pressure 1.6 hPa (50 °C) ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Flash point 99 °C ■ Solub. in H<sub>2</sub>O 7 g/l (20 °C) ■ M = 134.18 g/mol
- pH value 6 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -2 °C ■ Boiling point 215 - 223 °C (1013 hPa)

- (1013 hPa)
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 205 mg/kg ■ LD50 dermal rat 770 - 1026 mg/kg
- LGK 6.1 C
- HS-No. 2907 19 90 ■ Disposal 1
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(2-ALLYLPHENOL), 8 (6.1), III ■ IMDG-

Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(2-ALLYLPHENOL), 8 (6.1), III  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(2-ALLYLPHENOL), 8 (6.1), III

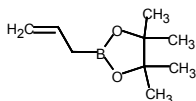
**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.020 - 1.022  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18585.0250	Glass bottle	250 ml	inquire

Allyl sulfide → Diallyl sulfide page 692

## 814395 2-Allyl-4,4,5,5-tetramethyl-1,3,2-dioxaborolane for synthesis

C<sub>9</sub>H<sub>17</sub>BO<sub>2</sub>

- CAS-No. 72824-04-5
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C)
- Flash point 60 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 168.04 g/mol
- Boiling point 50 - 53 °C (7 hPa)

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-ALLYL-4,4,5,5-TETRAMETHYL-1,3,2-DIOXABOROLAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-ALLYL-4,4,5,5-TETRAMETHYL-1,3,2-DIOXABOROLANE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

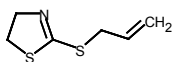
N.O.S.(2-ALLYL-4,4,5,5-TETRAMETHYL-1,3,2-DIOXABOROLANE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,892 - 0,895  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14395.0001	Glass bottle	1 ml	inquire
8.14395.0005	Glass bottle	5 ml	inquire

## 818083 2-(Allylthio)-2-thiazoline for synthesis

C<sub>6</sub>H<sub>9</sub>NS<sub>2</sub>

S-Allyl-2-mercaptothiazoline

- CAS-No. 3571-74-2 ■ EC-No. 222-679-4
- Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 159.28 g/mol
- Boiling point 92 - 94 °C (2 hPa)
- WGK 3

- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P260, P280, P302 + P352, P309 + P310
- LD50 oral rat 110 mg/kg ■ LD50 dermal rabbit 340 mg/kg
- LGK 6.1 C
- HS-No. 2934 10 00 ■ Disposal 6
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-ALLYLTHIO-2-THIAZOLIN), 6.1, III
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-ALLYLTHIO-2-THIAZOLINE), 6.1, III

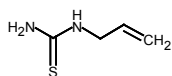
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-ALLYLTHIO-2-THIAZOLINE), 6.1, III

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 %(m)  
 Density (20/4 °C) ..... 1,163 - 1,165  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18083.0010	Glass bottle	10 ml	inquire

## 808158 N-Allylthiourea for synthesis

C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>S

Thiosinamine

- CAS-No. 109-57-9 ■ EC-No. 203-683-5
- Solub. in H<sub>2</sub>O 66 g/l (20 °C) ■ M = 116.19 g/mol
- Melting point 70 - 73 °C ■ Bulk density 550 kg/m<sup>3</sup>
- WGK 2

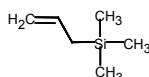
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P262, P309 + P310
- LD50 oral rat 200 mg/kg
- LGK 6.1 C
- HS-No. 2930 90 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-ALLYLTHIOHARNSTOFF), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-ALLYLTHIOUREA), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-ALLYLTHIOUREA), 6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 76 °C  
 Melting range (upper value) ..... ≤ 78 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08158.0025	Glass bottle	25 g	inquire
8.08158.0050	Plastic bottle	50 g	inquire
8.08158.0250	Plastic bottle	250 g	inquire

## 814062 Allyltrimethylsilane for synthesis

C<sub>6</sub>H<sub>14</sub>SiCH<sub>2</sub>=CHCH<sub>2</sub>Si(CH<sub>3</sub>)<sub>3</sub>

3-Trimethylsilyl-1-propene

- CAS-No. 762-72-1 ■ EC-No. 212-104-5
- Refractive index 1.4069 (20 °C, 589 nm)
- Spec. density 0.716 g/cm<sup>3</sup> (20 °C)
- Flash point -9 °C ■ Solub. in

H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 114.26 g/mol

- Boiling point 84 - 86 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315, P210, P302 + P352
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ALLYLTRIMETHYLSILAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(ALLYLTRIMETHYLSILANE), 3, II

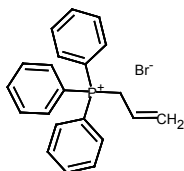
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ALLYLTRIMETHYLSILANE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,715 - 0,719  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14062.0010	Glass bottle	10 ml	inquire

## 814168 Allyltriphenylphosphonium bromide for synthesis

C<sub>21</sub>H<sub>20</sub>BrPCH<sub>2</sub>=CHCH<sub>2</sub>P(Br)(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>

- CAS-No. 1560-54-9 ■ EC-No. 216-332-6
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)

- M = 383.26 g/mol ■ Melting point 222 - 225 °C
- Bulk density 290 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 3464 Organische Phosphorverbindung, fest, giftig, n.a.g.(ALLYTRIPHENYLPHOSPHONIUMBROMID), 6.1, III ■ IMDG-Code UN 3464 ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.(ALLYTRIPHENYLPHOSPHONIUMBROMIDE), 6.1, III

■ IATA-DGR UN 3464 ORGANOPHOSPHORUS COMPOUND, SOLID, TOXIC, N.O.S.(ALLYTRIPHENYLPHOSPHONIUMBROMIDE), 6.1, III

## Specification

Assay (argentometric) ..... ≥ 98,0 %(m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14168.0025	Glass bottle	25 g	inquire

Alum ammonium → Aluminium ammonium sulfate dodecahydrate page 368

Alum chrome → Chromium(III) potassium sulfate dodecahydrate page 641

# Alumin

## Aluminium

Al  
 ■ CAS-No. 7429-90-5 ■ EC-No. 231-072-3  
 ■ Spec. density 2.70 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (reaction) ■ M = 26.98 g/mol  
 ■ Melting point 660 °C ■ Boiling point 2467 °C  
 ■ Ignition temp. 400 °C  
 ■ WGK nwg  
 ■ GHS: Danger, Substances, which in contact with

water, emit flammable gases, Category 2, H261;  
 Flammable solid, Category 1, H228, P210, P370 + P378  
 ■ EC-Index-No. 013-002-00-1 ■ LGK 4.3  
 ■ HS-No. 7603 20 00 ■ Disposal 27  
 ■ ADR-RID UN 1396 Aluminium-Pulver, nicht überzogen, 4.3, II ■ IMDG-Code UN 1396 ALUMINIUM POWDER, UNCOATED, 4.3, II,

Segregation Group: 15 (Powdered metals)  
 ■ IATA-DGR UN 1396 ALUMINIUM POWDER, UNCOATED, 4.3, II  
 Thermite process.



### 101056 Aluminium fine powder, stabilized about 2% fat

**Specification**  
 Assay (complexometric) ..... ≥ 90.0 %  
 Heavy metals (as Pb) ..... ≤ 0.03 %  
 As (Arsenic) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 1.0 %  
 Fat ..... passes test

Ord.No.	Packaging	Quantity	Price
1.01056.0250	Metal can	250 g	inquire
1.01056.1000	Metal can	1 kg	inquire

### 820051 Aluminium (granulated) for synthesis

**Specification**  
 Assay of Al ..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
8.20051.0100	Plastic bottle	100 g	inquire
8.20051.1000	Plastic bottle	1 kg	inquire

### 101057 Aluminium (foil) for analysis 0.3 mm thickness, 30 mm width EMSURE®

**Specification**  
 Total nitrogen (N) ..... ≤ 0.005 %  
 As (Arsenic) ..... ≤ 0.0002 %  
 Cu (Copper) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.05 %  
 Mn (Manganese) ..... ≤ 0.002 %  
 Si (Silicon) ..... ≤ 0.02 %  
 Zn (Zinc) ..... ≤ 0.005 %

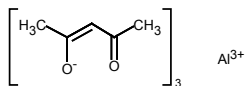
Ord.No.	Packaging	Quantity	Price
1.01057.0250	Plastic box	250 g	inquire
1.01057.1000	Plastic bag	1 kg	inquire

### 814917 Aluminium (grit) for synthesis

**Specification**  
 Assay of Al ..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
8.14917.0100	Plastic bottle	100 g	inquire
8.14917.1000	Plastic bottle	1 kg	inquire

### 801059 Aluminium acetylacetonate for synthesis



C<sub>15</sub>H<sub>21</sub>AlO<sub>6</sub>  
 Tris(acetylacetonato)aluminium, Tris(2,4-pentanedionato)aluminium, Aluminium 2,4-pentanedionate  
 ■ CAS-No. 13963-57-0 ■ EC-No. 237-741-6  
 ■ Solub. in H<sub>2</sub>O 3 g/l (20 °C) ■ M = 324.31 g/mol  
 ■ pH value 8 (3 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 190 - 193 °C  
 ■ Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 315 °C (1013 hPa) ■ Ignition temp. 500 °C  
 ■ WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 48.7 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2942 00 00 ■ Disposal 9  
 ■ ADR-RID UN 3467 Metallorganische Verbindung, fest, giftig, n.a.g.(ALUMINIUMACETYLACETONAT(TRIS(PENTAN-2,4-DIONATO)-ALUMINIUM), 6.1, II ■ IMDG-Code UN 3467 ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.(ALUMINIUMACETYLACETONATE), 6.1, II

■ IATA-DGR UN 3467 ORGANOMETALLIC COMPOUND, SOLID, TOXIC, N.O.S.(ALUMINIUMACETYLACETONATE), 6.1, II  
**Specification**  
 Assay (out of Al) ..... ≥ 98.0 % (m)  
 Melting range (lower value) ..... ≥ 192 °C  
 Melting range (upper value) ..... ≤ 195 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01059.0025	Plastic bottle	25 g	inquire
8.01059.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire

### 101031 Aluminium ammonium sulfate dodecahydrate for analysis EMSURE® ACS

AlH<sub>4</sub>NO<sub>8</sub>S<sub>2</sub> \* 12 H<sub>2</sub>O  
 NH<sub>4</sub>Al(SO<sub>4</sub>)<sub>2</sub> \* 12 H<sub>2</sub>O  
 Alum ammonium, Ammonium alum  
 ■ CAS-No. 7784-26-1 ■ EC-No. 232-055-3  
 ■ Solub. in H<sub>2</sub>O 150 g/l (20 °C) ■ M = 453.33 g/mol  
 ■ pH value 2.6 (100 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 93 °C  
 ■ Bulk density 700 - 800 kg/m<sup>3</sup>  
 ■ Boiling point 200 °C (1013 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2833 30 00 ■ Disposal 14

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
**Specification**  
 Assay (complexometric) ..... 99.0 - 102.0 % (m)  
 Insoluble matter ..... ≤ 0,005 % (m)  
 Chloride (Cl) ..... ≤ 0,0005 % (m)  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0,001 % (m)  
 Heavy metals (as Pb) ..... ≤ 0,001 % (m)  
 As (Arsenic) ..... ≤ 0,00005 % (m)  
 Ca (Calcium) ..... ≤ 0,05 % (m)

Cr (Chromium) ..... ≤ 0,0005 % (m)  
 Fe (Iron) ..... ≤ 0,0002 % (m)  
 K (Potassium) ..... ≤ 0,005 % (m)  
 Mn (Manganese) ..... ≤ 0,0005 % (m)  
 Na (Sodium) ..... ≤ 0,005 % (m)  
 Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.01031.0500	Plastic bottle	500 g	inquire

### 801068 Aluminium bromide anhydrous for synthesis



AlBr<sub>3</sub>  
 ■ CAS-No. 7727-15-3 ■ EC-No. 231-779-7  
 ■ Vapour pressure 1.3 hPa (81 °C)  
 ■ Spec. density 3.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 266.69 g/mol ■ Melting point 97 °C  
 ■ Boiling point 250 - 270 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314;

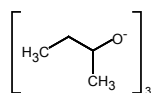
Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1598 mg/kg  
 ■ LGK 8 B  
 ■ HS-No. 2827 59 00 ■ Disposal 24  
 ■ ADR-RID UN 1725 Aluminiumbromid, wasserfrei, 8, II ■ IMDG-Code UN 1725 ALUMINIUM BROMIDE, ANHYDROUS, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1725 ALUMINIUM BROMIDE, ANHYDROUS, 8, II  
**Specification**  
 Assay (argentometric) ..... ≥ 98,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.01068.0025	Glass bottle	25 g	inquire
8.01068.0100	Glass bottle	100 g	inquire

Aluminium tri-sec-butanolate → Aluminium tri-sec-butylate page 369

Aluminium sec-butoxide → Aluminium tri-sec-butylate page 369

**820054 Aluminium tri-sec-butylate** for synthesisC<sub>12</sub>H<sub>27</sub>AlO<sub>3</sub>Al[OCH(CH<sub>2</sub>)C<sub>2</sub>H<sub>5</sub>]<sub>3</sub>

Aluminium tri-sec-butanolate, Aluminium sec-butoxide

- CAS-No. 2269-22-9 ■ EC-No. 218-871-2
- Vapour pressure 23 hPa (195 °C)
- Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 9.8 % (V) ■ Flash point 26 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) (decomposition) ■ M = 246.32 g/mol
- Boiling point 180 - 182 °C (5 hPa)
- Ignition temp. 406 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302, P280, P302 + P352, P309 + P310
- LD50 oral rat 401 mg/kg ■ LD50 dermal rabbit 402 mg/kg
- LGK 3
- HS-No. 2905 19 00 ■ Disposal 8
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff,

giftig, n.a.g.(ALUMINIUMTRI-SEK-BUTYLAT), 3 (6.1), III ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(ALUMINIUMTRI-SEC-BUTYLATE), 3 (6.1), III

■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(ALUMINIUMTRI-SEC-BUTYLATE), 3 (6.1), III

**Specification**

Assay (out of Al) ..... ≥ 97,0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20054.0250	Glass bottle	250 ml	inquire
8.20054.1000	Glass bottle	1 l	inquire

Aluminium Cell Test → page 49

**Aluminium chloride**AlCl<sub>3</sub>

Hydrochloric acid aluminium salt anhydrous

- CAS-No. 7446-70-0 ■ EC-No. 231-208-1
- Vapour pressure 1 hPa (20 °C)
- Spec. density 1.31 g/cm<sup>3</sup> (200 °C) liquid ■ Solub. in H<sub>2</sub>O 450 g/l (20 °C) (decomposition)
- M = 133.34 g/mol ■ pH value 2.4 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 180 - 181 °C (sublimed)
- Bulk density 1200 kg/m<sup>3</sup>

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 3450 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 013-003-00-7 ■ LGK 8B
- HS-No. 2827 32 00

- ADR-RID UN 1726 Aluminiumchlorid, wasserfrei, 8, II ■ IMDG-Code UN 1726 ALUMINIUM CHLORIDE, ANHYDROUS, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1726 ALUMINIUM CHLORIDE, ANHYDROUS, 8, II

**801081 Aluminium chloride** anhydrous powder sublimed for synthesis**Specification**

Assay (out of Al) ..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.01081.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire
8.01081.0500	Glass bottle	500 g	inquire
	Glass bottle	6 x 500 g	inquire
8.01081.1000	Glass bottle	1 kg	inquire
	Glass bottle	6 x 1 kg	inquire
8.01081.9050	Steel barrel	50 kg	inquire

**845019 Aluminium chloride** anhydrous powder, ground for pharma synthesis, non-GMP**Specification**

Colour (visual) ..... off white

Appearance of substance (visual) ..... powder

Assay (out of Al) ..... ≥ 98.0 %

Ni (Nickel) (ICP MS) ..... lot specific resultppm

Cr (Chromium) (ICP MS) ..... lot specific resultppm

Cu (Copper) (ICP MS) ..... lot specific resultppm

Fe (Iron) (ICP MS) ..... lot specific resultppm

Zn (Zinc) (ICP MS) ..... lot specific resultppm

Ord.No.	Packaging	Quantity	Price
8.45019.0100	Glass bottle	100 g	inquire
8.45019.1000	Glass bottle	1 kg	inquire

**Aluminium, determination**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
171	110107	Arsenazo III	663	105227	Cupferron	995	107098	8-Hydroxyquinoline
426	100128	Aurin tricarboxylic acid ammonium salt	172	103164	Eriochrome cyanine R (C.I. 43820)			

Aluminiummethoxide → Aluminium triethylate page 371

**101091 Aluminium hydroxide** powder pure, hydrargilliteAlH<sub>3</sub>O<sub>3</sub>Al(OH)<sub>3</sub> \* x H<sub>2</sub>O

Hydrargillite

- CAS-No. 21645-51-2 ■ EC-No. 244-492-7
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 2.42 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.0015 g/l (20 °C) ■ M = 78 g/mol
- pH value 8 - 9 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 300 °C Elimination of water of crystallisation ■ Bulk density 600 kg/m<sup>3</sup>

- WGK nwg
- LGK 10 - 13
- HS-No. 2818 30 00 ■ Disposal 14

**Specification**

Identity ..... conforms

Chloride (Cl) ..... ≤ 0.01 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.05 %

Fe (Iron) ..... ≤ 0.01 %

Na (Sodium) ..... ≤ 0.3 %

Loss on ignition (700 °C) ..... 30.0 - 35.0 %

Bulk density ..... about 90 g/100ml

Particle size (< 150 µm) ..... about 90 %

Ord.No.	Packaging	Quantity	Price
1.01091.1000	Plastic bottle	1 kg	inquire
1.01091.9050	Fibre carton	50 kg	inquire

Aluminium isopropoxide → Aluminium triisopropylate page 371

Aluminium lithium hydride → page 1079

Aluminium-nickel alloy → Nickel-aluminium alloy page 1205

# Alumin

## Aluminium nitrate nonahydrate



AlN<sub>3</sub>O<sub>9</sub> \* 9 H<sub>2</sub>O  
 Al(NO<sub>3</sub>)<sub>3</sub> \* 9 H<sub>2</sub>O  
 ■ CAS-No. 7784-27-2 ■ EC-No. 236-751-8  
 ■ Solub. in H<sub>2</sub>O 419 g/l (20 °C) ■ M = 375.13 g/mol  
 ■ pH value 2.0 - 4.0 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 73 °C ■ Bulk density 880 kg/m<sup>3</sup>  
 ■ WGK 1

■ GHS: Warning, Oxidising solid, Category 3, H272; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 3671 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2834 29 80 ■ Disposal 14

■ ADR-RID UN 1438 Aluminiumnitrat, 5.1, III  
 ■ IMDG-Code UN 1438 ALUMINIUM NITRATE, 5.1, III  
 ■ IATA-DGR UN 1438 ALUMINIUM NITRATE, 5.1, III

### 101086 Aluminium nitrate nonahydrate extra pure

**Specification**  
 Assay (complexometric) ..... ≥ 95,0 %  
 Chloride (Cl) ..... ≤ 0,005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0,001 %  
 Heavy metals (as Pb) ..... ≤ 0,005 %

Fe (Iron) ..... ≤ 0,01 %  
 Substances not precipitated by ammonia (as sulphate) ..... ≤ 0,5 %

Ord.No.	Packaging	Quantity	Price
1.01086.1000	Plastic bottle	1 kg	inquire
1.01086.9050	Plastic drum	50 kg	inquire

### 101063 Aluminium nitrate nonahydrate for analysis EMSURE®

**Specification**  
 Assay (complexometric) ..... ≥ 98,5 %  
 pH-value (5 %; water) ..... 2,0 - 4,0  
 Chloride (Cl) ..... ≤ 0,001 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0,005 %  
 Heavy metals (as Pb) ..... ≤ 0,001 %

Fe (Iron) ..... ≤ 0,002 %  
 K (Potassium) ..... ≤ 0,002 %  
 Na (Sodium) ..... ≤ 0,005 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0,02 %

Ord.No.	Packaging	Quantity	Price
1.01063.0500	Plastic bottle	500 g	inquire
1.01063.9050	Fibre carton	50 kg	inquire

### 115754 Aluminium oxide fibers for gooch crucibles

Al<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 1344-28-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ M = 101.96 g/mol  
 ■ Melting point 1760 °C  
 ■ Bulk density 90 - 190 kg/m<sup>3</sup>

■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 6806 10 00 ■ Disposal 14

**Specification**  
 Substances extractable by hydrochloric acid.....

..... ≤ 1.0 %  
 Loss on ignition (900 °C) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.15754.0100	Plastic bottle	100 g	inquire
1.15754.1000	Plastic bottle	1 kg	inquire

Aluminium oxide pre-coated plates (TLC, PLC) → page 10  
 Aluminium oxides-PLC → page 14

Aluminium oxides-prep. LC → page 37  
 Aluminium oxides-TLC → page 14

Aluminium 2,4-pentanedionate → Aluminium acetylacetonate page 368

### 101047 Aluminium potassium sulfate dodecahydrate for analysis EMSURE® ACS,Reag. Ph Eur

AlK<sub>2</sub>O<sub>8</sub>S<sub>2</sub> \* 12 H<sub>2</sub>O  
 KAl(SO<sub>4</sub>)<sub>2</sub> \* 12 H<sub>2</sub>O  
 Potassium aluminium sulfate, Alum potassium, Potassium alum  
 ■ CAS-No. 7784-24-9 ■ EC-No. 233-141-3  
 ■ Spec. density 1.75 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 3.8 ■ Solub. in H<sub>2</sub>O 139 g/l (20 °C)  
 ■ M = 474.39 g/mol ■ pH value 3.0 - 3.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 92.5 °C  
 ■ Bulk density 900 kg/m<sup>3</sup>  
 ■ WGK 1

■ LGK 10 - 13  
 ■ HS-No. 2833 30 00 ■ Disposal 14

**Specification**  
 Assay (complexometric) ..... 99,0 - 100,5 %  
 Identity ..... passes test  
 Appearance of solution ..... passes test  
 Insoluble matter ..... ≤ 0,005 %  
 pH-value (10 %; in water) ..... 3,0 - 3,5  
 Chloride (Cl) ..... ≤ 0,0005 %  
 Heavy metals (as Pb) ..... ≤ 0,001 %

Cd (Cadmium) ..... ≤ 0,0005 %  
 Cu (Copper) ..... ≤ 0,0005 %  
 Fe (Iron) ..... ≤ 0,0005 %  
 Na (Sodium) ..... ≤ 0,005 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0,005 %  
 Pb (Lead) ..... ≤ 0,0005 %  
 Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01047.1000	Plastic bottle	1 kg	inquire

Aluminium rolls for TLC → page 10

Aluminium sheets (TLC, HPTLC) → page 10

### 109967 Aluminium standard 1000 mg Al, (AlCl<sub>3</sub> in H<sub>2</sub>O) Titrisol®



■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8B  
 ■ HS-No. 2827 32 00 ■ Disposal 28

■ ADR-RID UN 2581 Aluminiumchlorid, Lösung, 8, III ■ IMDG-Code UN 2581 ALUMINIUM CHLORIDE SOLUTION, 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2581 ALUMINIUM CHLORIDE SOLUTION, 8, III

**Specification**  
 content (Al) ..... 1000 mg / Ampoule

Determination method: ICP - OES (traceable to NIST - SRM 3101a) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09967.0001		1 amp	inquire

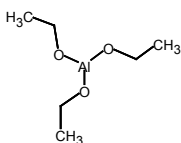
Aluminium standard for aqueous matrices → Aluminium standard page 370  
 Aluminium standard for aqueous matrices ready for use → page 1466

Aluminium Test → page 49  
 Aluminium Test Refill pack → page 49

Aluminium triethanolate → Aluminium triethylate page 371  
 Aluminium triethoxide → Aluminium triethylate page 371



## 818097 Aluminium triethylate for synthesis



$C_6H_{15}AlO_3$   
 $Al(OC_2H_5)_3$   
 Aluminium triethoxide, Aluminium triethanolate, Aluminiumethoxide  
 ■ CAS-No. 555-75-9 ■ EC-No. 209-105-8

■ Spec. density 1.142 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 162.16 g/mol ■ Melting point 128 - 131 °C  
 ■ Boiling point 319 - 321 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable solid, Category 1, H228, P210  
 ■ LGK 4.1B  
 ■ HS-No. 2905 19 00 ■ Disposal 8  
 ■ ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(ALUMINIUMTRIETHYLAT), 4.1, II  
 ■ IMDG-Code UN 1325 FLAMMABLE SOLID,

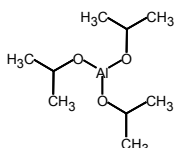
ORGANIC, N.O.S.(ALUMINIUMTRIETHANOLATE), 4.1, II  
 ■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(ALUMINIUMTRIETHANOLATE), 4.1, II

## Specification

Assay (out of Al) ..... ≥ 97,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.18097.0050	Glass bottle	50 g	inquire

## 801079 Aluminium triisopropylate for synthesis



$C_9H_{21}AlO_3$   
 $Al[OCH(CH_3)_2]_3$   
 Aluminium isopropoxide  
 ■ CAS-No. 555-31-7 ■ EC-No. 209-090-8  
 ■ Refractive index 1.432 (23 °C, 589 nm) ■ Vapour pressure 0.13 hPa (21 °C) ■ Spec. density 1.035 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 %(V)  
 ■ Flash point 16 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 204.24 g/mol  
 ■ Melting point 130 - 134 °C  
 ■ Boiling point 94 °C (0.6 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable solid, Category 1, H228, P210  
 ■ LD50 oral rat 11300 mg/kg  
 ■ EC-Index-No. 603-042-00-3 ■ LGK 4.1B  
 ■ HS-No. 2905 19 00 ■ Disposal 8  
 ■ ADR-RID UN 3181 Entzündbare Metallsalze organischer Verbindungen, n.a.g.(ALUMINIUMTRIISOPROPYLAT), 4.1, II  
 ■ IMDG-Code UN 3181 METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.(ALUMINIUMTRI-ISOPROPYLATE), 4.1, II,

Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds))  
 ■ IATA-DGR UN 3181 METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.(ALUMINIUMTRI-ISOPROPYLATE), 4.1, II

## Specification

Assay (out of Al) ..... ≥ 98,0 %(m)  
 Melting range (lower value) ..... ≥ 130 °C  
 Melting range (upper value) ..... ≤ 137 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01079.0250	Plastic bottle	250 g	inquire
8.01079.1000	Plastic bottle	1 kg	inquire

Aluminon → Aurin tricarboxylic acid ammonium salt page 426

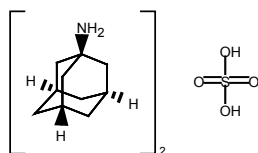
Aluspher® → page 28

Aluspher® 100 RP-select B (5 µm) LiChroCART® 4-4 → page 28

Aluspher® 100 RP-select B (5 µm) LiChroCART® 125-4 → page 28

Aluspher® 100 RP-select B (5 µm) LiChroCART® 250-4 → page 28

## 818383 Amantadine sulfate for synthesis



$C_{20}H_{36}N_2O_4S$   
 $C_{20}H_{34}N_2 \cdot H_2SO_4$   
 1-Aminoadamantane sulfate, Adamantylamine sulfate

■ CAS-No. 31377-23-8 ■ EC-No. 250-604-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 400.57 g/mol ■ pH value 4.9 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Melting point 299 - 301 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 30 99 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 %  
 Heavy metals (Pb) ..... ≤ 0.002 %  
 Assay (of S) ..... ≥ 98,0 %  
 Sulfated ash ..... ≤ 0.20 %  
 Chloride ..... ≤ 0.04 %  
 Identity (IR) ..... passes test

## Specification

Ord.No.	Packaging	Quantity	Price
8.18383.0100	Glass bottle	100 g	inquire

Amberjet® → Ion exchanger

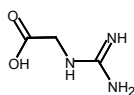
Amberlite → page 8

Amberlite® → page 8

Amberlyst® → Ion exchanger

Amides → Organoelement compounds

## 821945 N-Amidinoglycine for synthesis



$C_3H_7N_3O_2$   
 $HN=C(NH_2)NHCH_2COOH$

## Guanidinoacetic acid

■ CAS-No. 352-97-6 ■ EC-No. 206-529-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 117.1 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2925 29 00 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21945.0050	Glass bottle	50 g	inquire

N-Amidinosarcosine monohydrate → Creatine monohydrate page 657

Amido black 10 B (C.I. 20470) → page 190

Amidol → 4-Hydroxy-1,3-phenylenediammonium dichloride page 992

Amidosulfonic acid → page 372

Amidosulfonic acid ammonium salt → Ammonium amidosulfonate page 408

# Amidos

## Amidosulfuric acid

H<sub>2</sub>NO<sub>3</sub>S  
 H<sub>2</sub>NSO<sub>3</sub>H  
*Amidosulfonic acid, Sulphamic acid, Sulfamidic acid*  
 ■ CAS-No. 5329-14-6 ■ EC-No. 226-218-8  
 ■ Spec. density 2.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 213 g/l (20 °C) ■ M = 97.08 g/mol  
 ■ pH value 1.2 (10 g/l, H<sub>2</sub>O)

■ Melting point 205 °C (decomposition)  
 ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg

■ EC-Index-No. 016-026-00-0 ■ LGK 8 B  
 ■ HS-No. 2811 19 80 ■ Disposal 3  
 ■ ADR-RID UN 2967 Sulfaminsäure, 8, III ■ IMDG-Code UN 2967 SULPHAMIC ACID, 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2967 SULPHAMIC ACID, 8, III



### 814483 Amidosulfuric acid for synthesis

#### Specification

Assay (acidimetric)..... ≥ 99,0 %(m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14483.0100	Plastic bottle	100 g	inquire
8.14483.1000	Plastic bottle	1 kg	inquire

### 100219 Amidosulfuric acid extra pure

#### Specification

Identity (IR-spectrum)..... passes test  
 Assay (acidimetric)..... ≥ 98.5 %  
 Residue on ignition..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.00219.2500	Plastic bottle	2.5 kg	inquire
1.00219.9025	Fibre carton	25 kg	inquire

### 100103 Amidosulfuric acid for analysis EMSURE®

#### Specification

<br/>  
 Assay (acidimetric)..... ≥ 99,0 %(m)  
 Chloride (Cl)..... ≤ 10 ppm(m)  
 Nitrate (NO<sub>3</sub>)..... ≤ 20 ppm(m)  
 Sulphate (SO<sub>4</sub>)..... ≤ 200 ppm(m)  
 Heavy metals (as Pb)..... ≤ 5 ppm(m)  
 Fe (Iron)..... ≤ 5 ppm(m)  
 Residue on ignition..... ≤ 200 ppm(m)

Ord.No.	Packaging	Quantity	Price
1.00103.0100	Plastic bottle	100 g	inquire
1.00103.0250	Plastic bottle	250 g	inquire

Aminacrine → 9-Aminoacridine page 377

## Amines and ammonium compounds

### Aliphatic, alicyclic and araliphatic amines and hydroxyl amines

#### Primary amines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
364	800256	Allylamine	674	802885	Cyclohexylamine	1126	814839	3-Methoxypropylamine
376	841034	Aminoacetonitrile sulfate	676	818305	Cyclooctylamine	1129	822091	Methylamine
384	814902	2-Amino-2-cyanoacetamide	678	818846	Cyclopentylamine	1135	841614	4-Methylbenzylamine
387	841636	2-Aminoethylidiphenyl borate	679	841716	Cyclopropanemethylamine	1151	841791	N-Methylethylenediamine
389	841027	2-Aminoheptane	679	818017	Cyclopropylamine	1155	814911	O-Methylhydroxylammonium chloride
391	841192	1-Aminoindane	688	814766	Dehydroabietylamine	1203	814851	1-Naphthylmethylamine
391	841035	Aminomethanesulfonic acid	753	814919	2,6-Difluorobenzylamine	1204	843922	Neopentylamine
397	822092	2-Aminooctane	829	803527	Dodecylamine	1221	841326	O-(4-Nitrobenzyl)-hydroxylammonium chloride
399	841074	3-Amino-1-phenyl-butane	847	842770	3-Ethoxypropylamine	1235	806845	Nonylamine
402	841044	5-Aminopyrazole-4-carbonitrile	850	841688	L-Ethyl alanate hydrochloride	1239	841029	Octadecylamine
447	801812	Benzylamine	850	845088	Ethylamine (70% solution in water)	1244	806917	Octylamine
451	820617	O-Benzylhydroxylamine	870	800223	2-Ethylhexylamine	1273	807333	n-Pentylamine
451	820618	O-Benzylhydroxylamine hydrochloride	947	822203	Hexadecylamine	1303	807334	2-Phenylethylamine
463	841656	1,4-Bis(aminomethyl)-benzene	957	804326	Hexylamine	1303	821256	DL-1-Phenylethylamine
482	841736	Boron hydride-tert-butylamine	984	814441	Hydroxylamine	1303	807031	(R)-(+)-1-Phenylethylamine
513	841194	3-Bromopropylammonium bromide	986	841494	4-Hydroxy-3-methoxybenzylamine hydrochloride	1303	807047	(S)-(-)-1-Phenylethylamine
539	845021	Butylamine				1304	841250	N-Phenylethylenediamine
539	801539	Butylamine	1043	841735	Isobutylamine	1313	841119	3-Phenylpropylamine
540	801540	sec-Butylamine	1052	845053	Isopropylamine	1374	807477	Propylamine
540	801546	tert-Butylamine	1052	807476	Isopropylamine	1594	814850	3-(Trifluoromethyl)-benzylamine
632	840039	3-Chloropropylamine hydrochloride	1054	841329	N-Isopropylethylenediamine			
668	841320	Cycloheptylamine	1118	841885	4-Methoxybenzylamine			



## Secondary amines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
333	814721	4-Acetamido-2,2,6,6-tetramethyl-N-piperidinyloxy	707	803222	Dibutylamine	851	841888	4-(Ethylaminomethyl)pyridine
404	814722	4-Amino-2,2,6,6-tetramethylpiperidine	734	802948	Dicyclohexylamine	999	841660	Iminodibenzyl
447	814831	2-(Benzylamino) pyridine	738	845028	Diethylamine	1053	841618	N-Isopropylbenzylamine
448	818660	N-Benzyl-tert-butylamine	738	803010	Diethylamine	1054	841329	N-Isopropylethylenediamine
450	841756	N-Benzylethylamine	739	814863	Diethylammonium bromide	1136	801681	N-Methylbenzylamine
470	818191	Bis(2-ethylhexyl) amine	755	820465	Dihexylamine	1140	818639	N-Methylbutylamine
473	841887	Bis(2-methoxyethyl)-amine	766	803646	Diisopropylamine	1145	805850	N-Methylcyclohexylamine
482	820496	Boron hydride dimethylamine	775	822033	Dimethylamine	1151	841791	N-Methylethylenediamine
540	814843	2-Butylamino-ethanol	788	841792	N,N'-Dimethylethylenediamine	1172	841020	2-Methylpiperidine
682	824513	(-)-Cytisine	811	841858	1,4-Dioxo-8-azaspiro[4.5]decane	1522	841316	1,4,8,11-Tetraazacyclotetradecane
692	803521	Diallylamine	820	841173	(S)-(-)- $\alpha,\alpha$ -Diphenylprolinol	1534	841560	1,2,3,4-Tetrahydroisoquinoline
701	803533	Dibenzylamine	821	803548	Dipropylamine			

## Tertiary amines incl. nitroxides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	841227	N-(2-Acetamido)-iminodiacetic acid	787	840018	N,N-Dimethylethylamine	1531	841550	Tetraethylthiuram disulfide
362	101010	Alizarin-3-methylamine-N,N-diacetic acid dihydrate	790	803066	N,N-Dimethylformamide diethyl acetal	1540	841694	N,N,N',N'-Tetramethyldiaminomethane
384	840073	trans-4-Aminocyclohexanol hydrochloride	790	803068	N,N-Dimethylformamide dimethyl acetal	1543	814681	2,2,6,6-Tetramethylpiperidine-1-oxyl (free radical)
455	814473	(S)-(-)-2-(N-Benzylpropyl)aminobenzophenone	792	840074	N,O-Dimethylhydroxylamine hydrochloride	1573	822163	Tribenzylamine
467	841843	1,4-Bis(dimethylamino)-butane	793	814842	N,N-Dimethyl isopropylamine	1574	808358	Tributylamine
747	814671	N,N-Diethylhydroxylamine	796	841863	N,N-Dimethyloctylamine	1583	821160	Tridodecylamine
747	818473	N,N-Diethylhydroxylamine	796	841863	N,N-Dimethyloctylamine	1585	845061	Triethylamine
749	103121	N,N-Diethyl-1,4-phenylenediammonium sulfate	859	845017	N-Ethyl-diisopropylamine	1585	808352	Triethylamine
766	814553	2-(Diisopropylamino)-ethylchloride hydrochloride	859	800894	N-Ethyl-diisopropylamine	1585	814371	Triethylamine trishydrofluoride
775	818197	N,N-Dimethylallylamine	914	818028	Formic acid-triethylamine 5:2 addition compound	1601	821177	Trimethylamine
777	840083	(2-Dimethylaminoethyl) methacrylate	996	840130	4-Hydroxy-2,2,6,6-tetramethylpiperidine-1-oxyl	1609	808649	Trioctylamine
779	841828	3-(Dimethylamino)-propiophenone hydrochloride	1113	104343	Methenamine	1614	821201	Tripropylamine
784	803206	N,N-Dimethylbenzylamine	1147	820790	N-Methyldioctylamine	1619	841284	Tropinone
786	818638	N,N-Dimethylcyclohexylamine	1267	841692	N,N,N',N''-Pentamethyldiethylenetriamine			
			1305	841270	1-(2-Phenylethyl)-4-piperidonone			

## Aliphatic di- and polyamines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
387	819172	N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane	697	841673	DL-2,3-Diaminopropionic acid monohydrochloride	1054	841329	N-Isopropylethylenediamine
388	843583	N-(2-Aminoethyl)-1,3-propanediamine	698	814807	1,13-Diamino-4,7,10-trioxatridecane	1113	104343	Methenamine
463	841656	1,4-Bis(aminomethyl)-benzene	701	814050	N,N-Dibenzylethylenediamine diacetate	1131	843609	3-Methylamino propylamine
463	843570	N,N'-Bis(3-aminopropyl) ethylenediamine	711	803292	N,N-Dibutyltrimethylenediamine	1149	840093	4,4'-Methylenebis(2-methylcyclohexylamine)
467	841843	1,4-Bis(dimethylamino)-butane	739	814100	3-Diethylamino-1-propylamine	1151	841791	N-Methylethylenediamine
693	808279	1,4-Diaminobutane	744	803274	Diethylenetriamine	1202	106237	N-(1-Naphthyl) ethylenediamine dihydrochloride
693	821980	1,4-Diaminobutane dihydrochloride	746	803215	N,N-Diethylethylenediamine	1265	840076	Pentaethylenhexamine
694	814731	1,2-Diaminocyclohexane	787	803779	N,N-Dimethylethylenediamine	1267	841692	N,N,N',N''-Pentamethyldiethylenetriamine
694	841032	trans-1,2-Diaminocyclohexane-N,N,N',N'-tetracetic acid monohydrate	799	818434	2,2-Dimethylpropylenediamine	1304	841250	N-Phenylethylenediamine
695	818842	1,7-Diaminoheptane	807	803503	N,N-Dimethyltrimethylenediamine	1522	841316	1,4,8,11-Tetraazacyclotetradecane
695	804323	1,6-Diaminohexane	811	842873	4,9-Dioxo-1,12-dodecanediamine	1530	814713	Tetraethylene pentamine
696	814699	1,5-Diamino-2-methylpentane	861	845018	Ethylenediamine	1532	841076	1,2,3,4-Tetrahydro-6,7-dimethoxy-isoquinoline hydrochloride
696	806916	1,8-Diaminooctane	303	800947	Ethylenediamine	1540	841694	N,N,N',N'-Tetramethyldiaminomethane
697	821041	1,2-Diaminopropane	861	820030	Ethylenediamine monohydrate	1541	808742	2-Methyl-2,2,6,6-tetramethylpiperidine-1-oxyl
697	808272	1,3-Diaminopropane	862	819040	Ethylenediaminetetraacetic acid dipotassium salt dihydrate	1544	843567	N,N,N',N'-Tetramethyl-1,3-propanediamine
697	841201	1,2-Diaminopropane-tetraacetic acid	1050	814123	Isophoronediamine	1587	814392	Triethylenetetramine

## Aromatic and heteroaromatic amines

## Primary aromatic amines (anilines)

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
377	841590	1-Aminoanthraquinone	623	841312	4-Chloro-3-nitroaniline	1163	818478	2-Methyl-3-nitroaniline
378	841597	3-Aminobenzeneboronic acid hemisulfate	623	818355	5-Chloro-2-nitroaniline	1163	806297	2-Methyl-4-nitroaniline
			663	105227	Cupferron	1163	820811	2-Methyl-6-nitroaniline
379	841771	2-Aminobenzophenone	693	843958	3,3'-Diaminobenzidine	1163	841549	4-Methyl-2-nitroaniline
380	818379	4-Aminobenzophenone	693	841662	3,4-Diaminobenzophenone	1169	803269	4-Methyl-1,3-phenylenediamine
382	841233	3-Amino-4-chlorobenzoic acid	693	815111	4,4'-Diaminobenzophenone	1196	840116	1,5-Naphthalenediamine
382	841104	4-Amino-2-chlorobenzoic acid	696	841789	2,4-Diamino-6-hydroxypyrimidine	1197	806206	1,8-Naphthalenediamine
383	841772	3-Amino-4-chlorobenzotrifluoride	696	814702	4,5-Diamino-6-hydroxy-2-pyrimidinethiol hemisulfate-1,5-hydrate	1202	822291	1-Naphthylamine
383	841686	5-Amino-2-chlorobenzotrifluoride				1202	820866	1-Naphthylammonium chloride
383	840103	2-Amino-4-chloro-diphenyl ether	698	841080	3,5-Diamino-1,2,4-triazole	1202	106237	N-(1-Naphthyl)ethylenediamine dihydrochloride
			702	841719	2,4-Dibromoaniline	1215	820881	2-Nitroaniline
383	841276	2-Amino-4-chloro-6-methylpyrimidine	713	841790	3,5-Dichloroaniline	1216	806209	3-Nitroaniline
			726	820444	2,6-Dichloro-4-nitroaniline	1216	822292	4-Nitroaniline
385	815106	2-Amino-4,6-dichlorobenzoic acid	748	820400	N,N-Diethyl-1,4-phenylenediamine	1227	820899	2-Nitro-1,4-phenylenediamine
385	841666	2-Amino-4,6-dichloropyrimidine	749	103121	N,N-Diethyl-1,4-phenylenediammonium sulfate	1227	806294	4-Nitro-1,2-phenylenediamine
385	841739	2-Amino-4,6-dimethylpyrimidine	751	841374	2,5-Difluoroaniline	1228	840107	4-Nitro-1,3-phenylenediamine
			751	841261	2,6-Difluoroaniline	1265	841520	Pentafluoroaniline
386	841841	2-Aminodiphenylamine	766	841095	2,6-Diisopropylaniline	1300	814538	1,2-Phenylenediamine
386	814648	4-Aminodiphenylamine	780	821222	2,3-Dimethylaniline	1301	820991	1,3-Phenylenediamine
386	800405	4-Aminodiphenylamine hydrochloride	781	821223	2,4-Dimethylaniline	1301	807246	1,4-Phenylenediamine
			781	808672	2,5-Dimethylaniline	1301	822297	1,4-Phenylenediammonium dichloride
388	841318	3-Amino-4-fluorobenzotrifluoride	781	808671	2,6-Dimethylaniline	1505	111799	Sulfanilamide
			781	808670	3,4-Dimethylaniline	1506	100686	Sulfanilic acid
388	841067	5-Amino-2-fluorobenzotrifluoride	798	822038	N,N-Dimethyl-1,4-phenylenediamine	173	100684	Sulfanilic acid
						1534	814736	2-Tetrahydrofurfurylamine
390	100099	1-Amino-2-hydroxy-4-naphthalenesulfonic acid	798	103067	N,N-Dimethyl-1,4-phenylenediammonium dichloride	1540	108622	3,3',5,5'-Tetramethylbenzidine
						1568	808314	m-Toluidine
392	840171	3-Amino-4-methylbenzoic acid				1568	808312	o-Toluidine
393	814460	3-Amino-5-(methylmercapto)-1H-1,2,4-triazole	808	803248	2,4-Dinitroaniline	1569	808315	p-Toluidine
			808	841646	2,6-Dinitroaniline	1569	821122	p-Toluidinium chloride
396	841535	4-Aminonaphthalene-1-sulfonic acid	851	800937	2-Ethylaniline	1572	814764	2,4,5-Triamino-6-hydroxypyrimidine sulfate
			851	818481	3-Ethylaniline			
396	841451	2-Amino-5-nitrobenzotrifluoride	852	800936	4-Ethylaniline	1592	841343	3-(Trifluoromethoxy)-aniline
			874	841093	2-Ethyl-6-methylaniline	1592	841431	4-(Trifluoromethoxy)-aniline
403	841634	3-Aminoquinoline	893	820573	2-Fluorenamine	1598	841091	3,4,5-Trimethoxyaniline
403	820068	8-Aminoquinoline	894	820575	2,7-Fluorenediammonium dichloride	1601	808606	2,4,6-Trimethylaniline
404	801335	2-Aminothiophenol				1611	818045	4-(Triphenylmethyl)aniline
405	841602	4-Aminothiophenol	902	841836	2-Fluoro-5-nitroaniline			
418	822256	Aniline	902	814089	4-Fluoro-3-nitroaniline			
418	820099	Anilinium chloride	1052	818472	4-Isopropylaniline			
453	841152	4-Benzyloxyanilinium chloride	1130	841464	Methyl 4-aminobenzoate			
461	820155	2-Biphenylamine	1148	814676	4,4'-Methylenebis(3-chloro-2,6-diethylaniline)			
476	841144	3,5-Bis(trifluoromethyl)-aniline						
488	841412	2-Bromoaniline						
489	101599	4-Bromoaniline						
505	841277	2-Bromo-4-methylaniline						
540	814005	2-sec-Butylaniline						
622	802625	4-Chloro-2-nitroaniline						

## Secondary aromatic amines (anilines)

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
386	841841	2-Aminodiphenylamine	905	841521	4-Fluoro-phenylhydrazine hydrochloride	1309	821003	N-Phenyl-1-naphthylamine
674	814684	N-Cyclohexylaniline				1536	808224	1,2,3,4-Tetrahydroquinoline
814	820528	Diphenylamine	1004	804732	Indoline	1571	841320	o-Tolylhydrazine hydrochloride
815	820530	N,N'-Diphenylbenzidine	1130	841325	2-Methylaminobenzoic acid	1571	841305	p-Tolylhydrazine hydrochloride
818	820536	N,N'-Diphenyl-1,4-phenylenediamine	1132	806096	N-Methylaniline			
			1298	820982	N-Phenylbenzylamine			
852	821662	N-Ethylaniline	1304	841250	N-Phenylethylenediamine			

## Tertiary aromatic amines (anilines)

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
450	820040	N-Benzyl-N-ethylaniline	740	820395	N,N-Diethylaniline	1310	818633	N-Phenylpiperazine
452	840106	N-Benzyl-N-methylaniline	776	103058	4-(Dimethylamino) benzaldehyde	1542	821101	N,N,N',N'-Tetramethyl-1,4-phenylenediamine
468	818085	1,8-Bis(dimethylamino)-naphthalene	776	103059	5-(4-Dimethylaminobenzylidene)-rhodanine	1551	840072	Thioflavine T (C.I.No.49005)
468	820162	4,4'-Bis(dimethylamino)thiobenzophenone	778	841786	3-(Dimethylamino)-phenol	1604	821182	1,3,3-Trimethyl-2-methyleneindoline
499	841675	4-Bromo-N,N-dimethylaniline	782	803060	N,N-Dimethylaniline	1610	818386	Triphenylamine
699	103133	Diantiprylmethane	806	822040	N,N-Dimethyl-p-toluidine			
730	841886	1-(3,4-Dichlorophenyl)-piperazine	859	841086	Ethyl 4-dimethylaminobenzoate			

## Ammonium compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
346	841870	Acetylcholine iodide	795	818115	N,N-Dimethyl-methyleneiminium chloride	1524	818858	Tetra-n-butylammonium hydrogen sulfate
354	820015	1-Adamantaneammonium chloride	830	841022	n-Dodecyltrimethylammonium bromide	1524	818215	Tetra-n-butylammonium hydroxide
363	814858	Alkylbenzyltrimethylammonium chloride	831	816142	Dodecyltrimethylammonium chloride	1524	818759	Tetra-n-butylammonium hydroxide
363	821944	Alkylbenzyltrimethylammonium chloride	851	800874	Ethylammonium chloride	1525	822152	Tetra-n-butylammonium iodide
363	814363	N-Alkyl-N,N-dimethyl-N-benzylammonium chloride	862	800948	Ethylenediammonium dichloride	1525	818244	Tetra-n-butylammonium tetrafluoroborate
403	814357	3-Aminoquinuclidine dihydrochloride	862	814619	Ethylenediammonium diiodide	1529	840006	Tetradecyltrimethylammonium bromide
415	801221	Ammonium sulfite	862	820031	Ethylenediammonium sulfate	1529	822147	Tetraethylammonium bromide
447	818228	Benzylammonium chloride	868	818424	Ethylhexadecyldimethylammonium bromide	1529	822148	Tetraethylammonium chloride monohydrate
456	814140	Benzyltributylammonium chloride	947	814119	Hexadecyltrimethylammonium bromide	1529	822149	Tetraethylammonium hydroxide
456	843254	Benzyltriethylammonium bromide	947	814087	Hexadecyltrimethylammonium chloride	1529	818246	Tetraethylammonium tetrafluoroborate
456	810298	Benzyltriethylammonium chloride	947	814692	Hexadecyltrimethylammonium-p-toluenesulfonate	1531	841874	Tetraheptylammonium iodide
456	841564	Benzyltriethylammonium tetrafluoroborate	984	822334	Hydroxylammonium chloride	1537	841249	Tetramethylammonium acetate
456	814231	Benzyltrimethylammonium bromide	985	814803	Hydroxylammonium sulfate	1538	822156	Tetramethylammonium chloride
457	821961	Benzyltrimethylammonium chloride	1131	806020	Methylammonium chloride	1538	814748	Tetramethylammonium hydroxide
457	801816	Benzyltrimethylammonium hydroxide	1155	814540	O-Methylhydroxylammonium chloride	1539	821097	Tetramethylammonium tetrafluoroborate
457	814633	Betain hydrochloride	1169	818985	2-Methyl-1,4-phenylenediammonium sulfate	1542	821102	N,N,N',N'-Tetramethyl-1,4-phenylenediammonium dichloride
582	840092	L-Carnitine	1184	818079	Methyltrialkylammonium chloride	1545	814002	Tetra-n-octylammonium bromide
583	841774	DL-Carnitine hydrochloride	1316	808428	Phenyltrimethylammonium chloride	1546	841762	Tetrapentylammonium iodide
618	814654	N-Chloromethylen-N,N-dimethyl ammonium chloride	1393	821100	Pyrrolidine-1-dithiocarboxylic acid ammonium salt	1547	818735	Tetrapropylammonium bromide
735	814364	Didecyltrimethylammonium chloride	1508	818484	N-(3-Sulfopropyl)-N-methacroyloxyethyl-N,N-dimethylammonium betaine	1547	814068	Tetrapropylammonium hydroxide
739	820393	Diethylammonium chloride	1523	841188	Tetra-n-butylammonium borohydride	1575	814088	Tributylmethylammonium chloride
778	818130	(2-Dimethylamino-4-nitrophenyl) phosphoric acid diammonium salt monohydrate	1523	818839	Tetra-n-butylammonium bromide	1585	821135	Triethylammonium chloride
780	845029	Dimethylammonium chloride	1523	814645	Tetra-n-butylammonium chloride	1601	821178	Trimethylammonium chloride
780	803052	Dimethylammonium chloride	1523	818164	Tetra-n-butylammonium fluoride trihydrate			

DL-2-Amino-4-methylpentanoic acid → DL-Leucine page 1076

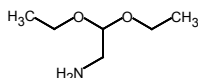
L-2-Amino-4-methylpentanoic acid → (S)-(+)-Leucine page 1077

DL-2-Amino-4-methylvalerianic acid → DL-Leucine page 1076

L-2-Amino-3-methylvalerianic acid → (S)-(+)-Leucine page 1077

L-2-Amino-4-methylvalerianic acid → (S)-(+)-Leucine page 1077

## 843222 2-Aminoacetaldehyde diethylacetal for synthesis



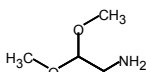
C<sub>6</sub>H<sub>15</sub>NO<sub>2</sub>  
 ■ CAS-No. 645-36-3 ■ EC-No. 211-439-4  
 ■ Spec. density 0.916 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 45 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 133.19 g/mol ■ Melting point -78 °C  
 ■ Boiling point 160 - 163 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3,

H226; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 2922 50 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-AMINOACETALDEHYD-DIETHYLACETAL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-AMINOACETALDEHYDE DIETHYLACETAL), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-AMINOACETALDEHYDE DIETHYLACETAL),

3, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.915 - 0.919  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43222.0025	Glass bottle	25 ml	inquire
8.43222.0100	Glass bottle	100 ml	inquire

## 800368 Aminoacetaldehyde dimethyl acetal for synthesis



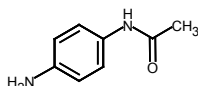
C<sub>4</sub>H<sub>11</sub>NO<sub>2</sub>  
 2,2-Dimethoxyethylamine, 1-Amino-2,2-dimethoxyethane  
 ■ CAS-No. 22483-09-6 ■ EC-No. 245-026-5  
 ■ Refractive index 1.417 (20 °C, 589 nm)  
 ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 41 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 105.13 g/mol ■ pH value (H<sub>2</sub>O) (undiluted), alkaline ■ Boiling point 135 - 139 °C (126 hPa)  
 ■ WGK 2

■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 3700 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2922 50 00 ■ Disposal 3  
 ■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(AMINOACETALDEHYDIMETHYLACETAL), 8 (3), II ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(AMINOACETALDEHYDDIMETHYLACETAL), 8 (3), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(AMINOACETALDEHYDDIMETHYLACETAL), 8 (3), II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,973 - 0,975  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00368.0025	Glass bottle	25 ml	inquire
8.00368.0100	Glass bottle	100 ml	inquire

## 800262 4'-Aminoacetanilide for synthesis



C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O  
 4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>NHCOCH<sub>3</sub>  
*p*-Aminoacetanilide, 4-(Acetylamino)aniline, N-(4-Aminophenyl)acetamide, *p*-Acetamidoaniline  
 ■ CAS-No. 122-80-5 ■ EC-No. 204-576-6

■ Flash point 195 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 150.17 g/mol  
 ■ pH value 7.2 (1 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 165 °C  
 ■ Bulk density 550 - 650 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 2500 mg/kg  
 ■ LGK 10 - 13

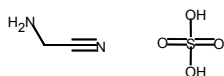
■ HS-No. 2924 29 98 ■ Disposal 3  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 163 °C  
 Melting range (upper value) ..... ≤ 166 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00262.0250	Plastic bottle	250 g	inquire

*p*-Aminoacetanilide → 4'-Aminoacetanilide page 376

Aminoacetic acid → Glycine page 928

## 841034 Aminoacetonitrile sulfate for synthesis



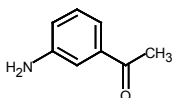
C<sub>3</sub>H<sub>10</sub>N<sub>4</sub>O<sub>4</sub>S  
 Glycinonitrile sulphate  
 ■ CAS-No. 5466-22-8 ■ EC-No. 226-772-0  
 ■ M = 210.2 g/mol ■ Melting point 118 - 122 °C

■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(AMINOACETONITRILSULFAT), 6,1, III  
 ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(AMINOACETONITRILE SULPHATE), 6,1, III  
 ■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,

N.O.S.(AMINOACETONITRILE SULPHATE), 6,1, III  
**Specification**  
 Assay (acidimetric) ..... ≥ 96,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41034.0050	Glass bottle	50 g	inquire

## 820060 3'-Aminoacetophenone for synthesis



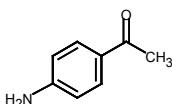
C<sub>8</sub>H<sub>9</sub>NO  
 3-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COCH<sub>3</sub>  
 3-Acetylaniline  
 ■ CAS-No. 99-03-6 ■ EC-No. 202-722-3

■ Vapour pressure 0.013 hPa (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 135.16 g/mol  
 ■ Melting point 94 - 97 °C  
 ■ Boiling point 289 - 291 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1870 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2922 39 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 94 °C  
 Melting range (upper value) ..... ≤ 97 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20060.0100	Glass bottle	100 g	inquire

## 800273 4'-Aminoacetophenone for synthesis



C<sub>8</sub>H<sub>9</sub>NO  
 4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COCH<sub>3</sub>  
 1-(4-Aminophenyl)-ethanone  
 ■ CAS-No. 99-92-3 ■ EC-No. 202-801-2

■ Solub. in H<sub>2</sub>O 6.5 g/l (25 °C) ■ M = 135.16 g/mol  
 ■ Melting point 103 - 106 °C  
 ■ Bulk density 580 kg/m<sup>3</sup>  
 ■ Boiling point 292 - 294 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 381 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 39 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 103 °C  
 Melting range (upper value) ..... ≤ 106 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00273.0050	Plastic bottle	50 g	inquire

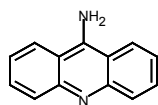
## Amino acids analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
484	101894	Brij® 35 solution	778	103094	5-Dimethylaminonaphthalene-1-sulfonyl chloride	1325	111452	Phthaldialdehyde
646	100244	Citric acid monohydrate				1558	107815	Tin(II) chloride dihydrate
665	820193	Cyanogen bromide	866	115118	Ethylene glycol monomethyl ether	1559	110789	Titanium(III) chloride solution about 15%
665	820194	Cyanogen bromide	1081	105679	Lithium chloride			
			1208	106762	Ninhydrin			

## Amino acids and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
346	112422	N-Acetyl-L-cysteine	681	102839	L-Cysteine hydrochloride monohydrate	1085	105700	L-Lysine monohydrochloride
356	101008	β-Alanine				1114	105707	L-Methionine
357	101007	L-Alanine	682	102837	L-Cystine	1252	106906	L-Ornithine monohydrochloride
391	124802	5-Aminolevulinic acid hydrochloride	924	100291	L-Glutamic acid	1297	107257	DL-Phenylalanine
424	101542	L-Arginine	925	100289	L-Glutamine	1297	107256	L-Phenylalanine
424	101543	L-Arginine monohydrochloride	928	104201	Glycine	1366	107434	L-Proline
425	101566	L-Asparagine monohydrate	959	104351	L-Histidine	1416	107769	L-Serine
426	100126	L-Aspartic acid	959	104350	L-Histidine monohydrochloride monohydrate	1556	108411	L-Threonine
647	112117	L-Citrulline	993	104506	L-Hydroxyproline	1620	108374	L-Tryptophan
657	105206	Creatinine	1047	105362	L-Isoleucine	1622	108371	L-Tyrosine
681	102838	L-Cysteine	1076	105360	L-Leucine	1627	108495	L-Valine
			1085	112233	L-Lysine monohydrate			

## 818362 9-Aminoacridine for synthesis



$C_{13}H_{10}N_2$   
9-Acridinylamine, Aminacrine  
■ CAS-No. 90-45-9 ■ EC-No. 201-995-6

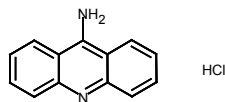
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 194.23 g/mol ■ Melting point 231 - 234 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 97.0 %  
Melting range (lower value)..... ≥ 231 °C  
Melting range (upper value)..... ≤ 234 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18362.0010	Glass bottle	10 g	inquire

## 801112 9-Aminoacridine hydrochloride monohydrate for synthesis



$C_{13}H_{11}ClN_2 \cdot H_2O$   
 $C_{13}H_{10}N_2 \cdot HCl \cdot H_2O$   
■ CAS-No. 52417-22-8 ■ EC-No. 205-145-5  
■ Solub. in H<sub>2</sub>O 3.3 g/l ■ M = 248.71 g/mol

- Melting point 240 - 244 °C
- WGK 3
- GHS: P262
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (argentometric, calc. on anhydrous substance)..... ≥ 97,0 % (m)  
Loss on drying ..... 6,0 - 8,0 % (m)

Identity (IR)..... conforms

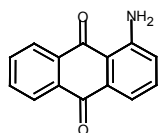
Ord.No.	Packaging	Quantity	Price
8.01112.0002	Glass bottle	2 g	inquire
8.01112.0025	Plastic bottle	25 g	inquire
8.01112.0100	Plastic bottle	100 g	inquire

1-Aminoadamantane hydrochloride → 1-Adamantaneammonium chloride page 354  
1-Aminoadamantane sulfate → Amantadine sulfate page 371  
DL-3-Aminoalanine Hydrochloride → DL-2,3-Diaminopropionic acid monohydrochloride page 697

Aminoalcohols → Alcohols  
1-Amino-4-anilinoanthraquinone → Oracet blue 2R (C.I. 61110) page 1245  
2-Aminoanisole → o-Anisidine page 419

3-Aminoanisole → m-Anisidine page 419  
4-Aminoanisole → p-Anisidine page 419

## 841590 1-Aminoanthraquinone for synthesis



- $C_{14}H_9NO_2$   
■ CAS-No. 82-45-1 ■ EC-No. 201-423-5  
■ M = 223.23 g/mol ■ Melting point 251 - 254 °C  
■ WGK 1  
■ LGK 10 - 13  
■ HS-No. 2922 39 00 ■ Disposal 3

## Specification

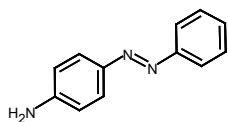
Assay (HPLC, area%) ..... ≥ 96.0 % (a/a)  
Melting range (lower value)..... ≥ 250 °C  
Melting range (upper value)..... ≤ 255 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41590.0100	Plastic bottle	100 g	inquire

4-Aminoantipyrene → 4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one page 385



## 820980 4-Aminoazobenzene for synthesis



$C_{12}H_{11}N_3$   
 4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>N=NC<sub>6</sub>H<sub>5</sub>  
 4-(Phenylazo)aniline, *p*-Aminodiphenylimide, Aminoazobenzene  
 ■ CAS-No. 60-09-3 ■ EC-No. 200-453-6  
 ■ Spec. density 1.19 g/cm<sup>3</sup> ■ Flash point 203 °C  
 ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ M = 197.24 g/mol  
 ■ pH value 6.3 (0.1 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 121 - 124 °C

■ Bulk density 700 kg/m<sup>3</sup> ■ Boiling point 360 °C (1013 hPa) ■ Ignition temp. >365 °C  
 ■ WGK 3  
 ■ GHS: Carcinogenicity, Acute aquatic toxicity, Chronic aquatic toxicity, Danger, H350, H410, P201, P273, P308 + P313  
 ■ LD50 oral rat 1450 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ EC-Index-No. 611-008-00-4 ■ LGK 6.1A  
 ■ HS-No. 2927 00 00  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(4-AMINOAZOBENZOL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-AMINOAZOBENZENE), 9, III, Marine Pollutant: P

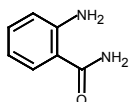
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-AMINOAZOBENZENE), 9, III

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98 %  
 Melting range  
 - (lower value)..... ≥ 121 °C  
 - (upper value)..... ≤ 124 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20980.0005	Glass bottle	5 g	inquire
8.20980.0250	Glass bottle	250 g	inquire

## 820065 2-Aminobenzamide for synthesis



$C_7H_8N_2O$   
 2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CONH<sub>2</sub>  
 Anthranilamide  
 ■ CAS-No. 88-68-6 ■ EC-No. 201-851-2  
 ■ Flash point >185 °C ■ Solub. in H<sub>2</sub>O < 5 g/l

(20 °C) ■ M = 136.15 g/mol  
 ■ Melting point 109 - 112 °C  
 ■ Bulk density 300 kg/m<sup>3</sup> ■ Boiling point 300 °C (1013 mbar) ■ Ignition temp. 590 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P260, P305 + P351 + P338  
 ■ LC50 rat > 5.4 mg/l  
 ■ LD50 oral rat 2200 mg/kg  
 ■ LGK 10 - 13

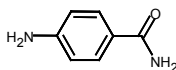
■ HS-No. 2924 29 98 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 109 °C  
 Melting range (upper value)..... ≤ 112 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20065.0100	Plastic bottle	100 g	inquire

## 801418 4-Aminobenzamide for synthesis



$C_7H_8N_2O$   
 4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CONH<sub>2</sub>  
 4-Aminobenzoic acid amide  
 ■ CAS-No. 2835-68-9 ■ EC-No. 220-612-3

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 136.15 g/mol ■ Melting point 180 - 183 °C  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P262, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 29 98 ■ Disposal 3

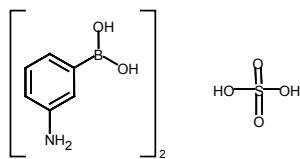
## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98.0 % (m)  
 Melting range (lower value)..... ≥ 180 °C  
 Melting range (upper value)..... ≤ 183 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01418.0100	Plastic bottle	100 g	inquire

Aminobenzene → Aniline page 315

## 841597 3-Aminobenzeneboronic acid hemisulfate for synthesis



$C_{12}H_{18}B_2N_2O_8S$   
 ■ CAS-No. 66472-86-4 ■ EC-No. 266-376-5  
 ■ M = 371.97 g/mol ■ Melting point >310 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13

■ HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41597.0001	Glass bottle	1 g	inquire

## 843494 1-Aminobenzene-3-sulfonic acid for synthesis



$C_6H_7NO_3S$   
 ■ CAS-No. 121-47-1 ■ EC-No. 204-473-6  
 ■ Spec. density 0.6 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 12800 mg/l (7 °C) ■ M = 173.19 g/mol

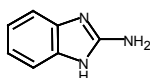
4-Aminobenzenesulfonic acid → Sulfanilic acid page 173  
 4-Aminobenzeneethiol → 4-Aminothiophenol page 405

■ Melting point 288 °C (decomposition)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352  
 ■ EC-Index-No. 612-013-00-4 ■ LGK 10 - 13  
 ■ HS-No. 2921 42 00

Assay (acidimetric)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43494.0025	Glass bottle	25 g	inquire
8.43494.0250	Glass bottle	250 g	inquire

## 821948 2-Aminobenzimidazole for synthesis



$C_7H_7N_3$   
 2-Benzimidazolylamine  
 ■ CAS-No. 934-32-7 ■ EC-No. 213-280-6

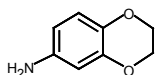
■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 133.15 g/mol ■ Melting point 226 - 231 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3

Melting range (lower value)..... ≥ 226 °C  
 Melting range (upper value)..... ≤ 231 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21948.0010	Glass bottle	10 g	inquire

2-Amino-benzo[b]thiophene-3-carboxylic acid ethyl ester → Ethyl-2-amino-benzo(b)thiophene-3-carboxylate page 850

## 818480 6-Amino-1,4-benzodioxane for synthesis

C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>

3,4-Ethylenedioxyaniline

- CAS-No. 22013-33-8 ■ EC-No. 244-718-4
- Refractive index 1.5987 (20 °C, 589 nm)
- Spec. density 1.25 g/cm<sup>3</sup> (20 °C)
- Flash point >112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 151.16 g/mol

- Melting point 30 °C ■ Boiling point 156 - 158 °C (12 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352
- LGK 10
- HS-No. 2932 99 00 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(6-AMINO-1,4-BENZODIOXAN), 6.1, II
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(6-AMINO-1,4-BENZODIOXANE), 6.1, II

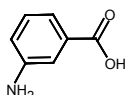
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(6-AMINO-1,4-BENZODIOXANE), 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.251 - 1.253  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18480.0010	Glass bottle	10 ml	inquire

## 800104 3-Aminobenzoic acid for synthesis

C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>3-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COOH

- CAS-No. 99-05-8 ■ EC-No. 202-724-4

- Spec. density 1.51 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 5.9 g/l (20 °C) ■ M = 137.13 g/mol
- Melting point 174 °C ■ Bulk density 550 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

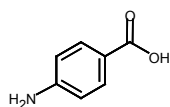
## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 173 °C  
Melting range (upper value) ..... ≤ 176 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00104.0100	Plastic bottle	100 g	inquire

## 822312 4-Aminobenzoic acid for synthesis

C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>NH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>COOH

PABA

- CAS-No. 150-13-0 ■ EC-No. 205-753-0
- Spec. density 1.38 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 4.7 g/l (20 °C) ■ M = 137.14 g/mol ■ pH value 3.5 (5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 186 - 189 °C
- Bulk density 200 kg/m<sup>3</sup>
- WGK 2
- LD50 oral rat 6000 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 99,0 % (m)  
Melting range (lower value) ..... ≥ 185 °C  
Melting range (upper value) ..... ≤ 188 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22312.0250	Plastic bottle	250 g	inquire
8.22312.1000	Plastic bottle	1 kg	inquire

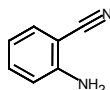
4-Aminobenzoic acid amide → 4-Aminobenzamide  
page 378

2-Aminobenzoic acid ethyl ester → Ethyl 2-aminobenzoate page 850

2-Aminobenzoic acid methyl ester → Methyl 2-aminobenzoate page 1130

4-Aminobenzoic acid methyl ester → Methyl 4-aminobenzoate page 1130

## 801419 2-Aminobenzonitrile for synthesis

C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CN

Anthranilic acid nitrile, Anthranilonitrile, 2-Cyananiline

- CAS-No. 1885-29-6 ■ EC-No. 217-549-9
- Spec. density 1.11 g/cm<sup>3</sup> (50 °C)
- Flash point 145 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) practically insoluble ■ M = 118.13 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral, (aqueous suspension) ■ Melting point 46 - 49 °C
- Boiling point 148 - 150 °C (27 hPa)
- Ignition temp. >200 °C DIN 51794
- WGK 1
- LGK 6.1A
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(4-AMINO BENZONITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(2-AMINO BENZONITRILE), 6.1, II

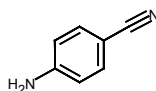
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(2-AMINO BENZONITRILE), 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 47 °C  
Melting range (upper value) ..... ≤ 50 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01419.0025	Glass bottle	25 g	inquire
8.01419.0100	Glass bottle	100 g	inquire

## 814183 4-Aminobenzonitrile for synthesis

C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CN

4-Cyanoaniline

- CAS-No. 873-74-5 ■ EC-No. 212-850-1
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 118.13 g/mol ■ Melting point 84 - 87 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310
- LD50 oral rat 283 mg/kg
- LGK 6.1C
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(4-AMINO BENZONITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(4-AMINO BENZONITRILE), 6.1, III
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,

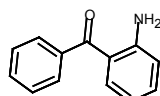
- N.O.S.(4-AMINO BENZONITRILE), 6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 84 °C  
Melting range (upper value) ..... ≤ 87 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14183.0010	Glass bottle	10 g	inquire

## 841771 2-Aminobenzophenone for synthesis

C<sub>13</sub>H<sub>11</sub>NO

CAS-No. 2835-77-0 ■ EC-No. 220-613-9

- Flash point 240 °C ■ M = 197.23 g/mol

- Melting point 105 - 108 °C
- Boiling point 280 °C (1013 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2922 39 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 105 °C

Melting range (upper value) ..... ≤ 108 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41771.0010	Plastic bottle	10 g	inquire
8.41771.0100	Plastic bottle	100 g	inquire



A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

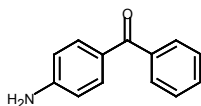
X

Y

Z



## 818379 4-Aminobenzophenone for synthesis



C<sub>13</sub>H<sub>11</sub>NO  
4-Benzoylaniline

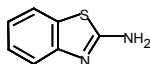
- CAS-No. 1137-41-3 ■ EC-No. 214-506-6
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 197.23 g/mol ■ Melting point 118 - 121 °C
- Boiling point 245 - 247 °C (17 hPa)
- WGK 3
- HS-No. 2922 39 00 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 118 °C  
Melting range (upper value)..... ≤ 121 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18379.0005	Plastic bottle	5 g	inquire

## 801268 2-Aminobenzothiazole for synthesis



C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>S  
2-Benzothiazolylamine

- CAS-No. 136-95-8 ■ EC-No. 205-268-4
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 150.2 g/mol

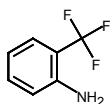
- mol ■ Melting point 127 - 130 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2934 20 80 ■ Disposal 3

**Specification**  
Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
Melting range (lower value)..... ≥ 127 °C  
Melting range (upper value)..... ≤ 130 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01268.0050	Plastic bottle	50 g	inquire
8.01268.0250	Plastic bottle	250 g	inquire

## 800390 2-Aminobenzotrifluoride for synthesis



C<sub>7</sub>H<sub>6</sub>F<sub>3</sub>N  
2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CF<sub>3</sub>  
α,α,α-Trifluoro-*o*-toluidine, 2-(Trifluoromethyl)aniline  
■ CAS-No. 88-17-5 ■ EC-No. 201-806-7  
■ Refractive index 1.481 (20 °C, 589 nm) ■ Vapour pressure 1.3 hPa ■ Spec. density 1.30 g/cm<sup>3</sup>

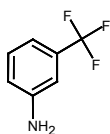
- (20 °C) ■ Flash point 56 °C ■ Solub. in H<sub>2</sub>O 4 g/l (20 °C) ■ M = 161.12 g/mol ■ Melting point -33 °C ■ Boiling point 65 - 67 °C (20 hPa)
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411; Serious eye damage, Category 1, H318, P210, P273, P280, P305 + P351 + P338, P313
- LD50 oral rat 480 mg/kg
- LGK 3
- HS-No. 2921 43 00 ■ Disposal 3

- ADR-RID UN 2942 2-Trifluoromethylanilin, 6.1, III
- IMDG-Code UN 2942 2-TRIFLUOROMETHYLANILINE, 6.1, III
- IATA-DGR UN 2942 2-TRIFLUOROMETHYLANILINE, 6.1, III

**Specification**  
Assay (GC, area%)..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,294 - 1,296  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00390.0100	Glass bottle	100 ml	inquire

## 800391 3-Aminobenzotrifluoride for synthesis



C<sub>7</sub>H<sub>6</sub>F<sub>3</sub>N  
3-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CF<sub>3</sub>  
3-(Trifluoromethyl)aniline, α,α,α-Trifluoro-*m*-toluidine  
■ CAS-No. 98-16-8 ■ EC-No. 202-643-4  
■ Refractive index 1.4802 (20 °C, 589 nm) ■ Vapour pressure 1.6 hPa (20 °C)

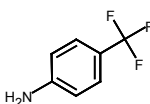
- Spec. density 1.30 g/cm<sup>3</sup> (20 °C)
- Flash point 91 °C ■ Solub. in H<sub>2</sub>O 5 g/l (20 °C)
- M = 161.13 g/mol ■ Melting point 5 - 7 °C
- Boiling point 186 - 188 °C (1013 hPa)
- Ignition temp. 600 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411; Acute toxicity, Category 4, Oral, H302, P273, P302 + P352, P305 + P351 + P338
- LC50 rat 5.7 - 7.0 mg/l
- LD50 oral rat 480 mg/kg ■ LD50 dermal rabbit 1330 mg/kg

- LGK 10
- HS-No. 2921 43 00 ■ Disposal 3
- ADR-RID UN 2948 3-Trifluoromethylanilin, 6.1, II
- IMDG-Code UN 2948 3-TRIFLUOROMETHYLANILINE, 6.1, II
- IATA-DGR UN 2948 3-TRIFLUOROMETHYLANILINE, 6.1, II

**Specification**  
Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,294 - 1,297  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00391.0250	Glass bottle	250 ml	inquire

## 822172 4-Aminobenzotrifluoride for synthesis



C<sub>7</sub>H<sub>6</sub>F<sub>3</sub>N  
4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CF<sub>3</sub>  
4-(Trifluoromethyl)aniline, α,α,α-Trifluoro-*p*-toluidine  
■ CAS-No. 455-14-1 ■ EC-No. 207-236-5  
■ Refractive index 1.485 (20 °C, 589 nm) ■ Vapour pressure 1 hPa (38 °C) ■ Spec. density 1.30 g/cm<sup>3</sup> (20 °C) ■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 161.12 g/mol

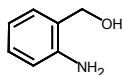
- Melting point 3 - 8 °C ■ Boiling point 82 - 84 °C (16 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 1, H410; Acute aquatic toxicity, Category 1, H400; Eye irritation, Category 2, H319, P273, P305 + P351 + P338, P309 + P310
- LD50 oral rat 128 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 6.1 C
- HS-No. 2921 43 00 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(4-AMINOBENZOTRIFLUORID), 6.1, III

- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(4-AMINOBENZOTRIFLUORIDE), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(4-AMINOBENZOTRIFLUORIDE), 6.1, III

**Specification**  
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1,294 - 1,297  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22172.0005	Glass bottle	5 ml	inquire
8.22172.0025	Glass bottle	25 ml	inquire

## 818365 2-Aminobenzyl alcohol for synthesis



C<sub>7</sub>H<sub>9</sub>NO  
2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH  
2-(Hydroxymethyl)aniline  
■ CAS-No. 5344-90-1 ■ EC-No. 226-293-7

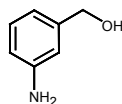
- Refractive index 1.4905 (19 °C, 589 nm)
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 123.15 g/mol ■ Melting point 81 - 84 °C
- Boiling point 159 - 161 °C (13 hPa)
- WGK 3
- HS-No. 2922 19 85 ■ Disposal 3

**Specification**  
Assay (HPLC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 81 °C  
Melting range (upper value)..... ≤ 84 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18365.0010	Plastic bottle	10 g	inquire

## 818762 3-Aminobenzyl alcohol for synthesis



C<sub>7</sub>H<sub>9</sub>NO  
3-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH  
3-(Hydroxymethyl)aniline

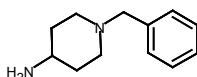
- CAS-No. 1877-77-6 ■ EC-No. 217-514-8
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 123.16 g/mol ■ Melting point 91 - 94 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 19 85 ■ Disposal 3

**Specification**  
Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 91 °C  
Melting range (upper value)..... ≤ 94 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18762.0025	Plastic bottle	25 g	inquire

## 818483 4-Amino-N-benzylpiperidine for synthesis



C<sub>12</sub>H<sub>18</sub>N<sub>2</sub>  
■ CAS-No. 50541-93-0 ■ EC-No. 256-620-9  
■ Refractive index 1.453 (20 °C, 589 nm)  
■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)

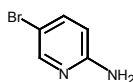
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 190.28 g/mol ■ pH value 11.4 (10 g/l, H<sub>2</sub>O) ■ Boiling point 152 °C (13 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

1-Amino-3-bromobenzene → 3-Bromoaniline page 488  
4-Amino-3-bromotoluene → 2-Bromo-4-methylaniline page 505

**Specification**  
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.006 - 1.009  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18483.0010	Glass bottle	10 ml	inquire

## 841006 2-Amino-5-bromopyridine for synthesis



C<sub>5</sub>H<sub>5</sub>BrN<sub>2</sub>  
■ CAS-No. 1072-97-5 ■ EC-No. 214-019-9  
■ M = 173.01 g/mol ■ Melting point 136 - 139 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 96,0 % (a/a)  
Melting range (lower value)..... ≥ 135 °C  
Melting range (upper value)..... ≤ 138 °C  
Identity (IR)..... passes test

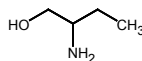
Ord.No.	Packaging	Quantity	Price
8.41006.0005	Glass bottle	5 g	inquire

1-Aminobutane → page 539

2-Aminobutane → sec-Butylamine page 540

4-Aminobutanethiol 4-methoxytrityl resin → page 273

## 801410 2-Amino-1-butanol for synthesis



C<sub>4</sub>H<sub>11</sub>NO  
CH<sub>3</sub>CH<sub>2</sub>CH(NH<sub>2</sub>)CH<sub>2</sub>OH  
■ CAS-No. 96-20-8 ■ EC-No. 202-488-2  
■ Vapour pressure 1 hPa (30 °C)  
■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C)  
■ Flash point 91 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
■ M = 89.13 g/mol ■ Melting point -2 °C  
■ Boiling point 172 - 174 °C (1013 mbar)

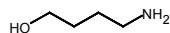
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 A
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-AMINO-1-BUTANOL), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-AMINO-1-BUTANOL), 8, II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-AMINO-1-BUTANOL), 8, II

**Specification**  
Assay (GC, area%)..... ≥ 95,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,943 - 0,945  
Water (K. F.)..... ≤ 0,20 %(m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01410.0100	Glass bottle	100 ml	inquire

## 841818 4-Amino-1-butanol for synthesis



C<sub>4</sub>H<sub>11</sub>NO  
■ CAS-No. 13325-10-5 ■ EC-No. 236-364-4  
■ Spec. density 0.962 g/cm<sup>3</sup> (20 °C)  
■ Flash point 107 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 89.13 g/mol  
■ Melting point 16 - 18 °C ■ Boiling point 206 °C (1013 hPa)  
■ WGK 1

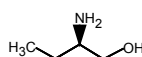
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 A
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(4-AMINO-1-BUTANOL), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(4-AMINO-1-BUTANOL), 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(4-AMINO-1-BUTANOL), 8, III

**Specification**  
Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,958 - 0,965  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41818.0005	Glass bottle	5 ml	inquire

## 818728 (R)-(-)-2-Amino-1-butanol for synthesis



C<sub>4</sub>H<sub>11</sub>NO  
CH<sub>3</sub>CH<sub>2</sub>CH(NH<sub>2</sub>)CH<sub>2</sub>OH  
■ CAS-No. 5856-63-3 ■ EC-No. 227-476-4  
■ Refractive index 1.4525 (20 °C, 589 nm)  
■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C)  
■ Flash point 82 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
■ M = 89.13 g/mol ■ pH value 11.1 (8.9 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -2 °C  
■ Boiling point 172 - 174 °C

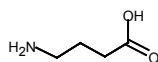
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 A
- HS-No. 2922 19 85 ■ Disposal 1
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-AMINO-1-BUTANOL), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-AMINO-1-BUTANOL), 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-AMINO-1-BUTANOL), 8, II

**Specification**  
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.944 - 0.948  
Spec. rotation [α<sub>D</sub><sup>20</sup> (undiluted)]..... -10.5 - -9.5 °  
Water (K. F.)..... ≤ 2.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18728.0005	Glass bottle	5 ml	inquire
8.18728.0050	Glass bottle	50 ml	inquire

# Aminob

## 800302 4-Aminobutyric acid for synthesis



C<sub>4</sub>H<sub>9</sub>NO<sub>2</sub>  
H<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>COOH  
GABA

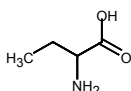
- CAS-No. 56-12-2 ■ EC-No. 200-258-6
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 103.12 g/mol
- Melting point 200 - 202 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00302.0100	Glass bottle	100 g	inquire

## 818855 DL-2-Aminobutyric acid for synthesis



C<sub>4</sub>H<sub>9</sub>NO<sub>2</sub>

- CAS-No. 2835-81-6 ■ EC-No. 220-616-5
- Solub. in H<sub>2</sub>O 210 g/l (25 °C) ■ M = 103.12 g/mol
- Melting point 304 °C (decomposition)
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99,0 % (m)  
Identity (IR) ..... conforms

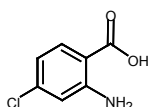
Ord.No.	Packaging	Quantity	Price
8.18855.0025	Plastic bottle	25 g	inquire

6-Aminocaproic acid → 6-Aminohexanoic acid  
page 389

6-Aminocaproic acid lactam → ε-Caprolactam  
page 569

Aminocarboxylic acids → Carboxylic acids

## 814453 2-Amino-4-chlorobenzoic acid for synthesis



C<sub>7</sub>H<sub>6</sub>ClNO<sub>2</sub>  
2-(NH<sub>2</sub>)-4-(Cl)C<sub>6</sub>H<sub>3</sub>COOH  
4-Chloroanthranilic acid  
■ CAS-No. 89-77-0 ■ EC-No. 201-938-5

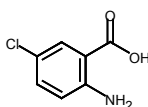
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 171.58 g/mol ■ Melting point 231 - 233 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 99,0 Area %  
Melting range (lower value) ..... ≥ 227 °C  
Melting range (upper value) ..... ≤ 231 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14453.0010	Glass bottle	10 g	inquire
8.14453.0050	Plastic bottle	50 g	inquire

## 820275 2-Amino-5-chlorobenzoic acid for synthesis



C<sub>7</sub>H<sub>6</sub>ClNO<sub>2</sub>  
2-(NH<sub>2</sub>)-5-(Cl)C<sub>6</sub>H<sub>3</sub>COOH  
5-Chloroanthranilic acid  
■ CAS-No. 635-21-2 ■ EC-No. 211-230-8

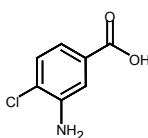
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 171.58 g/mol
- Melting point 209 - 212 °C (decomposition)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 209 °C  
Melting range (upper value) ..... ≤ 212 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20275.0010	Plastic bottle	10 g	inquire

## 841233 3-Amino-4-chlorobenzoic acid for synthesis



C<sub>7</sub>H<sub>6</sub>ClNO<sub>2</sub>  
■ CAS-No. 2840-28-0 ■ EC-No. 220-635-9

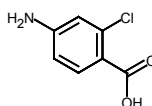
- M = 171.58 g/mol ■ Melting point 214 - 215 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

### Specification

Assay (acidimetric) ..... ≥ 98,0 %  
Melting range (lower value) ..... ≥ 210 °C  
Melting range (upper value) ..... ≤ 214 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41233.0025	Plastic bottle	25 g	inquire

## 841104 4-Amino-2-chlorobenzoic acid for synthesis



C<sub>7</sub>H<sub>6</sub>ClNO<sub>2</sub>  
■ CAS-No. 2457-76-3 ■ EC-No. 219-540-5  
■ M = 171.58 g/mol

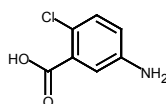
- Melting point 220 °C (decomposition)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 207 °C  
Melting range (upper value) ..... ≤ 212 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41104.0001	Plastic bottle	1 g	inquire

## 843105 5-Amino-2-chlorobenzoic acid for synthesis



C<sub>7</sub>H<sub>6</sub>ClNO<sub>2</sub>  
■ CAS-No. 89-54-3 ■ EC-No. 201-916-5  
■ Solub. in H<sub>2</sub>O 479 mg/l (25 °C) ■ M = 171.58 g/mol
- Melting point 184 - 187 °C

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

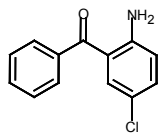
### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 184 °C

Melting range (upper value) ..... ≤ 187 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43105.0005	Glass bottle	5 g	inquire
8.43105.0025	Glass bottle	25 g	inquire

## 801312 2-Amino-5-chlorobenzophenone for synthesis



C<sub>13</sub>H<sub>10</sub>ClNO  
2-(NH<sub>2</sub>)-5-(Cl)C<sub>6</sub>H<sub>3</sub>CO C<sub>6</sub>H<sub>5</sub>

5-Chloro-2-aminobenzophenone  
 ■ CAS-No. 719-59-5 ■ EC-No. 211-949-7  
 ■ Flash point 211 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 231.68 g/mol  
 ■ Melting point 97 - 99 °C ■ Boiling point 207 °C (1013 hPa)  
 ■ WGK 2  
 ■ LD50 oral rat 10000 mg/kg  
 ■ LGK 10 - 13

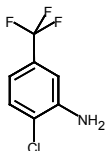
■ HS-No. 2922 39 00 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 95 °C  
 Melting range (upper value)..... ≤ 99 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01312.0250	Plastic bottle	250 g	inquire

## 841772 3-Amino-4-chlorobenzotrifluoride for synthesis



C<sub>7</sub>H<sub>5</sub>ClF<sub>3</sub>N  
 ■ CAS-No. 121-50-6 ■ EC-No. 204-475-7  
 ■ Vapour pressure 0.15 hPa  
 ■ Spec. density 1.428 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 75 °C ■ Solub. in H<sub>2</sub>O 11 g/l (60 °C)  
 ■ M = 195.57 g/mol ■ Melting point 10 °C

■ Boiling point 82 - 83 °C (12 hPa)  
 ■ Ignition temp. >=560 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 43 00 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(3-AMINO-4-CHLOROBENZOTRIFLUORID), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3-AMINO-4-

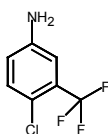
CHLOROBENZOTRIFLUORIDE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3-AMINO-4-CHLOROBENZOTRIFLUORIDE), 9, III

**Specification**

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,426 - 1,430  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41772.0050	Glass bottle	50 ml	inquire

## 841686 5-Amino-2-chlorobenzotrifluoride for synthesis



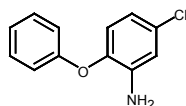
C<sub>7</sub>H<sub>5</sub>ClF<sub>3</sub>N  
 (C<sub>6</sub>H<sub>3</sub>)ClNH<sub>2</sub>CF<sub>3</sub>  
 ■ CAS-No. 320-51-4 ■ EC-No. 206-277-6

■ Flash point >134 °C ■ M = 195.57 g/mol  
 ■ Melting point 36 - 37 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 43 00 ■ Disposal 3

Assay (HPLC, area%) ..... ≥ 95,0 Area %  
 Melting range (lower value)..... ≥ 36 °C  
 Melting range (upper value)..... ≤ 37 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41686.0050	Glass bottle	50 g	inquire

## 840103 2-Amino-4-chloro-diphenyl ether for synthesis



C<sub>12</sub>H<sub>10</sub>ClNO  
 5-Chloro-2-phenoxyaniline

■ CAS-No. 93-67-4 ■ EC-No. 202-266-5  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ M = 219.67 g/mol  
 ■ Melting point 41 - 45 °C  
 ■ WGK 2  
 ■ HS-No. 2922 29 00 ■ Disposal 3

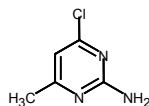
Melting range (upper value)..... ≤ 45 °C  
 Identity (IR)..... passes test

**Specification**

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Melting range (lower value)..... ≥ 41 °C

Ord.No.	Packaging	Quantity	Price
8.40103.0025	Glass bottle	25 g	inquire
8.40103.0100	Glass bottle	100 g	inquire

## 841276 2-Amino-4-chloro-6-methylpyrimidine for synthesis



C<sub>5</sub>H<sub>6</sub>ClN<sub>2</sub>

■ CAS-No. 5600-21-5 ■ EC-No. 227-018-3  
 ■ M = 143.58 g/mol ■ Melting point 184 - 189 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 59 95 ■ Disposal 3

Melting range (lower value)..... ≥ 180 °C  
 Melting range (upper value)..... ≤ 185 °C  
 Identity (IR)..... passes test

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98,0 %

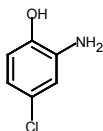
Ord.No.	Packaging	Quantity	Price
8.41276.0005	Plastic bottle	5 g	inquire

4-Amino-3-chloronitrobenzene → 2-Chloro-4-nitroaniline page 622

2-Amino-5-chloronitrobenzene → 4-Chloro-2-nitroaniline page 622

5-Amino-2-chloronitrobenzene → 4-Chloro-3-nitroaniline page 623

## 802609 2-Amino-4-chlorophenol for synthesis



C<sub>6</sub>H<sub>6</sub>ClNO  
 2-(NH<sub>2</sub>)-4-(Cl)C<sub>6</sub>H<sub>3</sub>OH  
 5-Chloro-2-hydroxyaniline, 4-Chloro-2-aminophenol  
 ■ CAS-No. 95-85-2 ■ EC-No. 202-458-9

■ Vapour pressure 0.0018 hPa (25 °C) ■ Solub. in H<sub>2</sub>O 2.3 g/l (25 °C) ■ M = 143.57 g/mol  
 ■ Melting point 140 - 143 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 690 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2922 29 00  
 ■ ADR-RID UN 2673 2-Amino-4-chlorophenol, 6,1, II ■ IMDG-Code UN 2673 2-AMINO-4-CHLOROPHENOL, 6,1, II

■ IATA-DGR UN 2673 2-AMINO-4-CHLOROPHENOL, 6,1, II

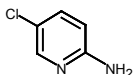
**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 134 °C  
 Melting range (upper value)..... ≤ 138 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02609.0250	Glass bottle	250 g	inquire

1-Amino-3-chloropropane hydrochloride → 3-Chloropropylamine hydrochloride page 632

## 802217 2-Amino-5-chloropyridine for synthesis



C<sub>5</sub>H<sub>5</sub>ClN<sub>2</sub>  
 2-(NH<sub>2</sub>)-5-(Cl)C<sub>5</sub>H<sub>3</sub>N  
 5-Chloro-2-pyridylamine  
 ■ CAS-No. 1072-98-6 ■ EC-No. 214-020-4  
 ■ Flash point 160 °C ■ Solub. in H<sub>2</sub>O 1.0 g/l (20 °C) ■ M = 128.56 g/mol  
 ■ Melting point 77 - 80 °C  
 ■ Boiling point 127 - 129 °C (15 hPa)

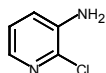
■ Ignition temp. >700 °C  
 ■ WGK 2  
 ■ GHS: P262  
 ■ LD50 oral rat > 800 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-AMINO-5-CHLOROPYRIDIN), 6.1, II  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-5-CHLOROPYRIDINE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-5-CHLOROPYRIDINE), 6.1, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 133 °C  
 Melting range (upper value)..... ≤ 136 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02217.0010	Glass bottle	10 g	inquire
8.02217.0050	Glass bottle	50 g	inquire

## 802200 3-Amino-2-chloropyridine for synthesis



C<sub>5</sub>H<sub>5</sub>ClN<sub>2</sub>  
 3-(NH<sub>2</sub>)-2-(Cl)C<sub>5</sub>H<sub>3</sub>N  
 2-Chloro-3-pyridylamine  
 ■ CAS-No. 6298-19-7 ■ EC-No. 228-572-9  
 ■ Flash point 185 °C ■ Solub. in H<sub>2</sub>O 30 g/l (20 °C)

■ M = 128.56 g/mol ■ pH value 7 (30 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 77 - 80 °C  
 ■ Bulk density 700 kg/m<sup>3</sup>  
 ■ Boiling point 130 - 134 °C (17 hPa)  
 ■ Ignition temp. 685 °C  
 ■ WGK 3  
 ■ GHS: P262  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 77 °C  
 Melting range (upper value)..... ≤ 80 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02200.0010	Glass bottle	10 g	inquire

2-Amino-4-chlorotoluene → 5-Chloro-2-methylaniline page 617

2-Amino-6-chlorotoluene → 3-Chloro-2-methylaniline page 617

6-Amino-m-cresol → 2-Amino-5-methylphenol page 393

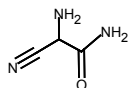
2-Amino-p-cresol → 2-Amino-4-methylphenol page 393

4-Amino-m-cresol → 4-Amino-3-methylphenol page 393

3-Aminocrotonic acid methyl ester → Methyl 3-aminocrotonate page 1130

p-Aminocumene → 4-Isopropylaniline page 1052

## 814902 2-Amino-2-cyanoacetamide for synthesis



C<sub>3</sub>H<sub>5</sub>N<sub>3</sub>O  
 ACA  
 ■ CAS-No. 6719-21-7 ■ EC-No. 229-771-3

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 99.09 g/mol  
 ■ Melting point 119 - 122 °C  
 ■ WGK 1  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13 ■ Store below +15 °C.  
 ■ HS-No. 2926 90 95 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 97,0 %

Melting range (lower value)..... ≥ 120 °C  
 Melting range (upper value)..... ≤ 124 °C  
 Identity (IR)..... passes test

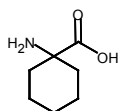
Ord.No.	Packaging	Quantity	Price
8.14902.0005	Glass bottle	5 g	inquire
8.14902.0050	Glass bottle	50 g	inquire

5-Amino-4-cyanopyrazole → 5-Aminopyrazole-4-carbonitrile page 402

Aminocycloheptane → Cycloheptylamine page 668

Aminocyclohexane → Cyclohexylamine page 674

## 841860 1-Aminocyclohexanecarboxylic acid for synthesis



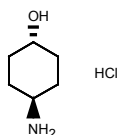
C<sub>7</sub>H<sub>13</sub>NO<sub>2</sub>  
 ■ CAS-No. 2756-85-6 ■ EC-No. 220-411-0  
 ■ M = 143.18 g/mol ■ Melting point >300 °C  
 ■ WGK 3  
 ■ HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41860.0010	Plastic bottle	10 g	inquire

## 840073 trans-4-Aminocyclohexanol hydrochloride for synthesis



C<sub>6</sub>H<sub>14</sub>ClNO  
 C<sub>6</sub>H<sub>13</sub>NO\*HCl  
 trans-4-Hydroxycyclohexylamine hydrochloride

■ CAS-No. 50910-54-8  
 ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 151.64 g/mol ■ pH value 7 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 225 - 227 °C  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13

■ HS-No. 2922 19 85 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 225 °C  
 Melting range (upper value)..... ≤ 227 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40073.0010	Plastic bottle	10 g	inquire

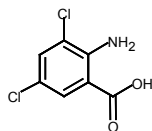
Aminocyclooctane → Cyclooctylamine page 676

Aminocyclopentane → Cyclopentylamine page 678

Aminocyclopropane → Cyclopropylamine page 679



## 820432 2-Amino-3,5-dichlorobenzoic acid for synthesis

C<sub>7</sub>H<sub>5</sub>Cl<sub>2</sub>NO<sub>2</sub>2-(NH<sub>2</sub>)-3,5-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>2</sub>COOH

3,5-Dichloroanthranilic acid

■ CAS-No. 2789-92-6 ■ EC-No. 220-520-3

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 206.03 g/

mol ■ Melting point 226 - 229 °C

■ WGK 2

■ LD50 oral rat 4120 mg/kg

■ LGK 6.1A

■ HS-No. 2922 49 85 ■ Disposal 4

■ ADR-RID UN 2811 Giftiger organischer fester

Stoff, n.a.g.(2-AMINO-3,5-

DICHLORBENZOEAEURE), 6.1, II ■ IMDG-Code UN

2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-

3,5-DICHLOROBENZOIC ACID), 6.1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(2-AMINO-3,5-DICHLOROBENZOIC ACID),

6.1, II

**Specification**

Assay (acidimetric)..... ≥ 97.0 %

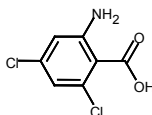
Melting range (lower value)..... ≥ 228 °C

Melting range (upper value)..... ≤ 233 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20432.0005	Glass bottle	5 g	inquire
8.20432.0025	Glass bottle	25 g	inquire

## 815106 2-Amino-4,6-dichlorobenzoic acid for synthesis

C<sub>7</sub>H<sub>5</sub>Cl<sub>2</sub>NO<sub>2</sub>

■ CAS-No. 20776-63-0

■ Solub. in H<sub>2</sub>O 1.25 g/l (20 °C) ■ M = 206.03 g/mol ■ pH value 2.3 (H<sub>2</sub>O, 20 °C)

■ Melting point 180 - 185 °C

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319, P302 + P352,

P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2922 49 85 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 95.0 % (m)

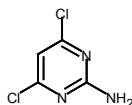
Melting range (lower value)..... ≥ 180 °C

Melting range (upper value)..... ≤ 185 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.15106.0010	Glass bottle	10 g	inquire

## 841666 2-Amino-4,6-dichloropyrimidine for synthesis

C<sub>4</sub>H<sub>3</sub>Cl<sub>2</sub>N<sub>3</sub>

■ CAS-No. 56-05-3 ■ EC-No. 200-253-9

■ M = 163.99 g/mol

■ Melting point 216 - 220 °C (sublimed)

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319, P302 + P352,

P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2933 59 95 ■ Disposal 3

**Specification**

Assay (HPLC, area%)..... ≥ 98.0 Area %

Melting range (lower value)..... ≥ 219 °C

Melting range (upper value)..... ≤ 222 °C

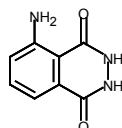
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41666.0005	Plastic bottle	5 g	inquire

1-Amino-2-(diethylamino)ethane → N,N-Diethylethylenediamine page 746

1-Amino-2,4-difluorobenzene → 2,4-Difluoroaniline page 751

## 820071 5-Amino-2,3-dihydrophthalazine-1,4-dione for synthesis

C<sub>8</sub>H<sub>7</sub>N<sub>3</sub>O<sub>2</sub>**Luminol**

■ CAS-No. 521-31-3 ■ EC-No. 208-309-4

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 177.16 g/

mol ■ Melting point 318 - 320 °C

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2933 99 80 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 95.0 %

Identity (IR)..... passes test

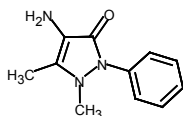
Ord.No.	Packaging	Quantity	Price
8.20071.0001	Glass bottle	1 g	inquire
8.20071.0010	Plastic bottle	10 g	inquire
	Plastic bottle	6 x 10 g	inquire

1-Amino-2,2-dimethoxyethane → Aminoacetaldehyde dimethyl acetal page 376

1-Amino-2-dimethylaminoethane → N,N-Dimethylethylenediamine page 787

(S)-2-Amino-3,3-dimethylbutyric acid → L-(+)-tert-Leucine page 1076

## 107293 4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one GR for analysis

C<sub>11</sub>H<sub>13</sub>N<sub>3</sub>O

4-Aminoantipyrene

■ CAS-No. 83-07-8 ■ EC-No. 201-452-3

■ Solub. in H<sub>2</sub>O 56 g/l (20 °C) ■ M = 203.24 g/mol■ pH value 7.1 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)

■ Melting point 107 - 109 °C

■ Bulk density 430 kg/m<sup>3</sup>

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302

■ LD50 oral rat 1700 mg/kg

■ LGK 10 - 13

■ HS-No. 2933 11 90 ■ Disposal 3

**Specification**

Assay (perchloric acid titration)..... ≥ 99%

Identity (IR-spectrum)..... passes test

Melting point..... 107 - 109 °C

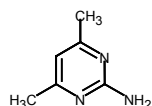
Sulfated ash..... ≤ 0.1 %

Loss on drying (90 °C)..... ≤ 0.5 %

Sensitivity test (to phenol)..... passes test

Ord.No.	Packaging	Quantity	Price
1.07293.0010	Glass bottle	10 g	inquire
1.07293.0100	Plastic bottle	100 g	inquire

## 841739 2-Amino-4,6-dimethylpyrimidine for synthesis

C<sub>6</sub>H<sub>9</sub>N<sub>3</sub>

■ CAS-No. 767-15-7 ■ EC-No. 212-181-5

■ M = 123.15 g/mol ■ Melting point 152 - 155 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2933 59 95 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 97.0 % (m)

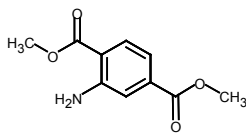
Melting range (lower value)..... ≥ 150 °C

Melting range (upper value)..... ≤ 154 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41739.0025	Plastic bottle	25 g	inquire
8.41739.0100	Plastic bottle	100 g	inquire

## 818675 2-Aminodimethyl terephthalate for synthesis

C<sub>10</sub>H<sub>11</sub>NO<sub>4</sub>

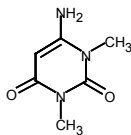
- 2-(NH<sub>2</sub>)-C<sub>6</sub>H<sub>3</sub>-1,4-(COOCH<sub>3</sub>)<sub>2</sub>  
*Aminoterephthalic acid dimethyl ester*  
 ■ CAS-No. 5372-81-6 ■ EC-No. 226-364-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 209.2 g/mol  
 ■ Melting point 129 - 132 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 129 °C  
 Melting range (upper value)..... ≤ 132 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18675.0050	Glass bottle	50 g	inquire

## 818507 4-Amino-1,3-dimethyluracil for synthesis

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>

1,3-Dimethyl-4-aminouracil, 1,3-Dimethyl-2,6-

- dioxo-4-aminotetrahydropyrimidine*  
 ■ CAS-No. 6642-31-5 ■ EC-No. 229-662-0  
 ■ Solub. in H<sub>2</sub>O 6 g/l (20 °C) ■ M = 155.15 g/mol  
 ■ pH value 6.9 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 294 - 296 °C  
 ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 10 - 13

- HS-No. 2933 59 95 ■ Disposal 3

## Specification

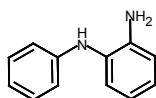
Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18507.0050	Plastic bottle	50 g	inquire
8.18507.0250	Plastic bottle	250 g	inquire

2-Aminodiphenyl → 2-Biphenylamine page 461

Aminodiphenylacetic acid → Diphenylglycin page 817

## 841841 2-Aminodiphenylamine for synthesis

C<sub>12</sub>H<sub>12</sub>N<sub>2</sub>*N-Phenyl-o-phenylenediamine*

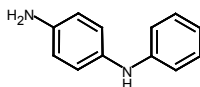
- CAS-No. 534-85-0 ■ EC-No. 208-606-9  
 ■ M = 184.24 g/mol ■ Melting point 75 - 78 °C  
 ■ Boiling point 106 - 108 °C (0.5 hPa)

- WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2921 59 90 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)  
 Melting range (lower value)..... ≥ 75 °C  
 Melting range (upper value)..... ≤ 78 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41841.0010	Glass bottle	10 g	inquire

## 814648 4-Aminodiphenylamine for synthesis

C<sub>12</sub>H<sub>12</sub>N<sub>2</sub>(C<sub>6</sub>H<sub>5</sub>)NH(C<sub>6</sub>H<sub>4</sub>)NH<sub>2</sub>*Diphenyl black, N-Phenyl-p-phenylenediamine*

- CAS-No. 101-54-2 ■ EC-No. 202-951-9  
 ■ Vapour pressure 1 hPa ■ Spec. density 1.09 g/m<sup>3</sup>  
 ■ Flash point 199 °C ■ Solub. in H<sub>2</sub>O 0.6 g/l (20 °C) ■ M = 184.24 g/mol ■ pH value 8.9 (0.5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 72 - 75 °C  
 ■ Boiling point 354 °C (1013 hPa)  
 ■ Ignition temp. >500 °C

- WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P262, P273, P280, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 464 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 59 90 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(4-AMINODIPHENYLAMIN), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-AMINODIPHENYLAMINE), 9, III, Marine

Pollutant: P

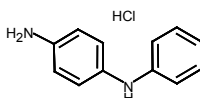
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-AMINODIPHENYLAMINE), 9, III

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 72 °C  
 Melting range (upper value)..... ≤ 75 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14648.0100	Glass bottle	100 g	inquire
8.14648.1000	Glass bottle	1 kg	inquire

## 800405 4-Aminodiphenylamine hydrochloride for synthesis

C<sub>12</sub>H<sub>13</sub>ClN<sub>2</sub>4-(NH<sub>2</sub>)-C<sub>6</sub>H<sub>4</sub>NHC<sub>6</sub>H<sub>5</sub> \* HCl*4-Anilinoanilinium chloride, N-Phenyl-p-phenylenediamine hydrochloride*

- CAS-No. 56426-15-4 ■ EC-No. 260-173-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 220.7 g/mol ■ Melting point 258 - 261 °C  
 ■ WGK 3  
 ■ GHS: Warning, Eye irritation, Category 2, H319;  
 Skin sensitisation, Category 1, H317, P262, P280, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 59 90 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 98.0 % (m)  
 Melting range (lower value)..... ≥ 258 °C  
 Melting range (upper value)..... ≤ 261 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00405.0100	Plastic bottle	100 g	inquire

1-Aminododecan → Dodecylamine page 829

2-Aminoethanesulfonic acid → Taurine page 1519

2-Aminoethanethiolhydrochloride → Cysteaminium chloride page 681

2-Aminoethanol dihydrogen phosphate → 2-Aminoethyl dihydrogen phosphate page 387

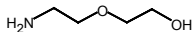
2-Aminoethanol hydrochloride → 2-

Hydroxyethylammonium chloride page 981

Aminoethers → Ethers



## 818431 2-(2-Aminoethoxy)ethanol for synthesis

C<sub>4</sub>H<sub>11</sub>NO<sub>2</sub>NH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OH

Ethylene glycol mono(2-aminoethyl) ether

■ CAS-No. 929-06-6 ■ EC-No. 213-195-4

■ Vapour pressure &lt; 0.1 hPa (20 °C)

■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 2.0 - 15.5 % (V) ■ Flash point 127 °C ■ Solub.

in H<sub>2</sub>O (20 °C) soluble ■ M = 105.14 g/mol■ pH value 10.2 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point -11 °C

■ Boiling point 125 - 131 °C (30 hPa)

■ Ignition temp. 370 °C

■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310

■ LD50 oral rat 3000 mg/kg ■ LD50 dermal rabbit &gt; 3000 mg/kg

■ LGK 8A

■ HS-No. 2922 19 85

■ ADR-RID UN 3055 2-(2-Aminoethoxy)-ethanol,

8, III ■ IMDG-Code UN 3055 2-(2-AMINOETHOXY)

ETHANOL, 8, III

■ IATA-DGR UN 3055 2-(2-AMINOETHOXY)

ETHANOL, 8, III

■ Specification

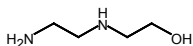
Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 1.054 - 1.055

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18431.0100	Glass bottle	100 ml	inquire
8.18431.0500	Glass bottle	500 ml	inquire

## 800360 2-(2-Aminoethylamino)ethanol for synthesis

C<sub>4</sub>H<sub>12</sub>N<sub>2</sub>OH<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NHCH<sub>2</sub>CH<sub>2</sub>OH

■ CAS-No. 111-41-1 ■ EC-No. 203-867-5

■ Vapour pressure &lt; 0.01 hPa (20 °C)

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 3.3 - 10.1 % (V) ■ Flash point 144 °C ■ Solub.

in H<sub>2</sub>O (20 °C) soluble ■ M = 104.15 g/mol■ pH value 11.8 (111 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point -28 °C

■ Boiling point 237 - 243 °C (1013 hPa)

■ Ignition temp. 345 °C

■ WGK 1

■ GHS: Danger, Reproductive toxicity, Category

1B, H360Df; Skin corrosion, Category 1B, H314;

Skin sensitisation, Category 1, H317; Specific

target organ toxicity - single exposure, Category

3, H335, P201, P280, P301 + P330 + P331, P302 +

P352, P304 + P340, P305 + P351 + P338, P309 +

P310

■ LD50 oral rat 3000 mg/kg ■ LD50 dermal rabbit &gt;

&gt; 2000 mg/kg

■ EC-Index-No. 603-194-00-0 ■ LGK 6.1A

■ HS-No. 2922 19 85

■ ADR-RID UN 2735 Amine, flüssig, ätzend,

n.a.g.(2-(2-AMINOETHYLAMINO)ETHANOL), 8, II

■ IMDG-Code UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(2-(2-AMINOETHYLAMINO)

ETHANOL), 8, II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(2-(2-AMINOETHYLAMINO)

ETHANOL), 8, II

■ Specification

Assay (GC, area%) ..... ≥ 98.0 Area %

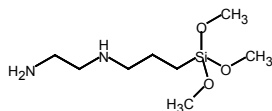
Density (d 20 °C/ 4 °C) ..... 1,029 - 1,031

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00360.0100	Glass bottle	100 ml	inquire
8.00360.0500	Glass bottle	500 ml	inquire

N-(2-Aminoethyl)aminomethyl polystyrene → page 282

## 819172 N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane for synthesis

C<sub>8</sub>H<sub>22</sub>N<sub>2</sub>O<sub>3</sub>Si

■ CAS-No. 1760-24-3 ■ EC-No. 217-164-6

■ Vapour pressure 1.5 hPa (20 °C)

■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C)

■ Flash point 136 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble, Hydrolysis ■ M = 222.36 g/mol ■ pH value 10 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Boiling point 261 - 263 °C (1013 hPa)

■ Ignition temp. 300 °C

■ WGK 1

■ GHS: Warning, Eye irritation, Category 2, H319;

Skin irritation, Category 2, H315; Skin

sensitisation, Category 1, H317; Chronic aquatic

toxicity, Category 3, H412, P273, P280, P302 +

P352, P305 + P351 + P338

■ LD50 oral rat 2413 mg/kg ■ LD50 dermal rat &gt;

2000 mg/kg

■ LGK 10 - 13

■ HS-No. 2931 90 90 ■ Disposal 3

■ Specification

Assay (GC, area%) ..... ≥ 97.0 Area %

Density (d 20 °C/ 4 °C) ..... 1,016 - 1,024

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.19172.0100	Glass bottle	100 ml	inquire
	Glass bottle	6 x 100 ml	inquire
8.19172.0500	Glass bottle	500 ml	inquire

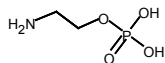
1-Amino-2-ethylbenzene → 2-Ethylaniline page 851

1-Amino-4-ethylbenzene → 4-Ethylaniline page 852

1-Amino-3-ethylbenzene → 3-Ethylaniline page 851

β-Aminoethyl chloride hydrochloride → 2-Chloroethylammonium chloride page 610

## 820061 2-Aminoethyl dihydrogen phosphate for synthesis

C<sub>2</sub>H<sub>8</sub>NO<sub>4</sub>PH<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>OPO(OH)<sub>2</sub>

Colamine phosphoric acid, Ethanolamine

dihydrogen phosphate, 2-Hydroxyethylammonium

dihydrogen phosphate, O-Phosphoethanolamine

■ CAS-No. 1071-23-4 ■ EC-No. 213-988-5

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 141.06 g/

mol ■ Melting point 241 - 243 °C

■ WGK 3

■ LD50 oral rat 5820 mg/kg

■ LGK 10 - 13

■ HS-No. 2922 19 85

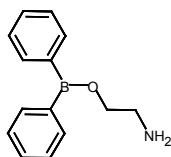
■ Specification

Assay (acidimetric) ..... ≥ 98.0 %

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20061.0010	Glass bottle	10 g	inquire
8.20061.0050	Glass bottle	50 g	inquire

## 841636 2-Aminoethyl diphenyl borate for synthesis

C<sub>14</sub>H<sub>16</sub>BNO

Diphenylboric acid-2-aminoethyl ester

■ CAS-No. 524-95-8 ■ EC-No. 208-366-5

■ M = 225.09 g/mol ■ Melting point 189 - 194 °C

■ WGK 3

■ GHS: Warning, Specific target organ toxicity -

single exposure, Category 3, H335; Skin irritation,

Category 2, H315; Eye irritation, Category 2, H319,

P260, P302 + P352, P304 + P340, P305 + P351 +

P338

■ LGK 10 - 13 ■ Store below +15 °C.

■ HS-No. 2931 90 90 ■ Disposal 3

■ Specification

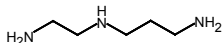
Assay (HClO<sub>4</sub>) ..... ≥ 98.0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41636.0005	Glass bottle	5 g	inquire
8.41636.8500	Glass bottle	500 mg	inquire

2-Aminoethyl methyl ether → 2-Methoxyethylamine page 1120

## 843583 N-(2-Aminoethyl)-1,3-propanediamine for synthesis

C<sub>5</sub>H<sub>13</sub>N<sub>3</sub>

- CAS-No. 13531-52-7 ■ EC-No. 236-882-0
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 8.1 % (V) ■ Flash point 98 °C DIN 51758
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 117.2 g/mol
- pH value >7 (H<sub>2</sub>O, 20 °C) ■ Melting point 10 °C
- Boiling point 221 °C ■ Ignition temp. 325 °C DIN 51794
- WGK 1

- GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 650 mg/kg ■ LD50 dermal rabbit 190 mg/kg
- LGK 6.1A
- HS-No. 2921 29 00
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(N-(2-AMINOETHYL)-1,3-PROPANDIAMIN), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(N-(2-

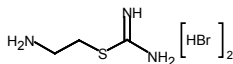
AMINOETHYL)-1,3-PROPANDIAMINE), 8 (6.1), II  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(N-(2-AMINOETHYL)-1,3-PROPANDIAMINE), 8 (6.1), II

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.935 - 0.940  
 Water (GC, area%) ..... ≤ 1.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43583.0025	Glass bottle	25 ml	inquire

## 820064 S-(2-Aminoethyl)thiuronium bromide hydrobromide for synthesis

C<sub>3</sub>H<sub>11</sub>Br<sub>2</sub>N<sub>3</sub>S

H<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>S(=NH)NH<sub>2</sub> \* 2HBr  
 AET

- CAS-No. 56-10-0 ■ EC-No. 200-257-0
- Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 281.02 g/mol
- Melting point 188 - 191 °C

- WGK 3
- LGK 6.1A
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(S-(2-AMINOETHYL)THIURONIUMBROMIDHYDROBROMID), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(S-(2-AMINOETHYL)-THIURONIUMBROMIDHYDROBROMIDE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(S-(2-AMINOETHYL)-THIURONIUMBROMIDHYDROBROMIDE), 6.1, II

## Specification

Assay (argentometric) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 188 °C  
 Melting range (upper value) ..... ≤ 191 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20064.0010	Glass bottle	10 g	inquire

N-(2-Aminoethyl)aniline → N-

Phenylethylenediamine page 1304

(4-(2-aminoethyl)-benzenesulfonyl fluoride

hydrochloride) → Pefabloc® SC (4-(2-Aminoethyl)-benzolsulfonylfluorid-hydrochloride) page 1262

N-(2-Aminoethyl)ethanolamine → 2-(2-

Aminoethylamino)ethanol page 387

3-(2-Aminoethyl)indole → Tryptamine page 1619

4-(2-Aminoethyl)phenol hydrochloride → 2-(4-

Hydroxyphenyl)ethylammonium chloride page 992

N-(2-Aminoethyl)piperazine → 2-(1-Piperazinyl)

ethylamine page 1330

4-(2-Aminoethyl)pyrocatechol hydrochloride → 3-

Hydroxytyraminium chloride page 997

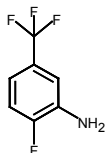
2-Aminofluorene → 2-Fluorenamine page 893

1-Amino-2-fluorobenzene → 2-Fluoroaniline page 896

1-Amino-3-fluorobenzene → 3-Fluoroaniline page 897

1-Amino-4-fluorobenzene → 4-Fluoroaniline page 897

## 841318 3-Amino-4-fluorobenzotrifluoride for synthesis

C<sub>7</sub>H<sub>5</sub>F<sub>4</sub>N

2-Fluoro-5-trifluoromethylaniline

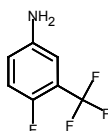
- CAS-No. 535-52-4
- Spec. density 1.378 g/cm<sup>3</sup> (20 °C)
- Flash point 70 °C ■ M = 179.11 g/mol
- Boiling point 155 °C (1013 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2921 43 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.395 - 1.400  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41318.0001	Glass bottle	1 ml	inquire
8.41318.0010	Glass bottle	10 ml	inquire

## 841067 5-Amino-2-fluorobenzotrifluoride for synthesis

C<sub>7</sub>H<sub>5</sub>F<sub>4</sub>NFC<sub>6</sub>H<sub>3</sub>(CF<sub>3</sub>)NH<sub>2</sub>

- CAS-No. 2357-47-3 ■ EC-No. 219-095-7
- Spec. density 1.393 g/cm<sup>3</sup> (20 °C)
- Flash point 75 °C ■ M = 179.11 g/mol
- Boiling point 207 - 208 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 10 - 13
- HS-No. 2921 43 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.411 - 1.415  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41067.0001	Glass bottle	1 ml	inquire

2-Amino-4-fluorotoluene → 5-Fluoro-2-methylaniline page 902

2-Aminoglutaric acid → (S)-(+)-Glutamic acid page 924

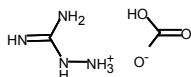
L-α-Aminoglutaric acid → L-Glutamic acid page 924

2-Aminoglutaric acid hydrochloride → L-Glutamic acid hydrochloride page 924

Aminoguanidine bicarbonate → 1-

Aminoguanidinium hydrogen carbonate page 389

## 801417 1-Aminoguanidinium hydrogen carbonate for synthesis

C<sub>2</sub>H<sub>8</sub>N<sub>4</sub>O<sub>3</sub>CH<sub>5</sub>N<sub>4</sub> \* H<sub>2</sub>CO<sub>3</sub>*Aminoguanidine bicarbonate*

■ CAS-No. 2582-30-1 ■ EC-No. 219-956-7

■ Spec. density 1.56 g/cm<sup>3</sup> (20 °C) ■ Solub. inH<sub>2</sub>O < 5 g/l (20 °C) ■ M = 136.11 g/mol■ pH value 8.9 (5 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 125 °C decomposes

■ Bulk density 700 kg/m<sup>3</sup> ■ Ignition temp. 245 °C

■ WGK 2

■ GHS: Warning, Skin sensitization, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352

■ LD50 oral rat &gt; 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2928 00 90 ■ Disposal 3

■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1-

AMINO GUANIDINIUMHYDROGENCARBONAT), 9,

III ■ IMDG-Code UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1-

AMINO GUANIDINIUM HYDROGEN CARBONATE),

9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1-AMINO GUANIDINIUM HYDROGEN CARBONATE), 9, III

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 97,0 % (m)

Identity (IR)..... conforms

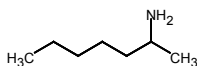
Ord.No.	Packaging	Quantity	Price
8.01417.0250	Plastic bottle	250 g	inquire

1-Aminoguanidinium sulfate → Bis(1-aminoguanidinium) sulfate page 463

α-Amino-δ-guanidino valerianic acid

hydrochloride → L-Arginine monohydrochloride page 424

## 841027 2-Aminoheptane for synthesis

C<sub>7</sub>H<sub>17</sub>N*2-Heptylamine, 1-Methylhexylamine*

■ CAS-No. 123-82-0 ■ EC-No. 204-655-5

■ Spec. density 0.768 g/cm<sup>3</sup> (20 °C)

■ Flash point 54 °C ■ M = 115.22 g/mol

■ Boiling point 142 - 144 °C

■ WGK 3

■ GHS: Warning, Flammable liquid, Category 3,

H226; Skin irritation, Category 2, H315; Eye

irritation, Category 2, H319; Specific target organ

toxicity - single exposure, Category 3, H335, P210,

P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 3

■ HS-No. 2921 19 99 ■ Disposal 3

■ ADR-RID UN 2733 Amine, entzündbar, ätzend,

n.a.g.(2-AMINOHEPTAN), 3 (8), III ■ IMDG-

Code UN 2733 AMINES, FLAMMABLE, CORROSIVE,

N.O.S.(2-AMINOHEPTANE), 3 (8), III, Segregation

Group: 18 (Alkalis)

■ IATA-DGR UN 2733 AMINES, FLAMMABLE,

CORROSIVE, N.O.S.(2-AMINOHEPTANE), 3 (8), III

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)

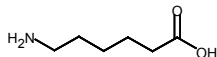
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41027.0010	Glass bottle	10 ml	inquire
8.41027.0025	Glass bottle	25 ml	inquire
8.41027.0100	Glass bottle	100 ml	inquire

1-Aminohexadecan → Hexadecylamine page 947

1-Aminohexane → Hexylamine page 957

## 800145 6-Aminohexanoic acid for synthesis

C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub>H<sub>2</sub>N(CH<sub>2</sub>)<sub>5</sub>COOH*6-Aminocaproic acid*

■ CAS-No. 60-32-2 ■ EC-No. 200-469-3

■ Flash point 207 - 209 °C ■ Solub. in H<sub>2</sub>O 800 g/l (20 °C) ■ M = 131.17 g/mol ■ pH value 7.0 - 7.5 (50 g/l, H<sub>2</sub>O, 20 °C)

■ WGK 1

■ LD50 oral rat 3400 mg/kg

■ LGK 10 - 13

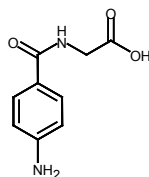
■ HS-No. 2922 49 85 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 99,0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00145.0005	Glass bottle	5 g	inquire
8.00145.0250	Plastic bottle	250 g	inquire
8.00145.1000	Plastic bottle	1 kg	inquire

## 814621 4-Aminohippuric acid for synthesis

C<sub>9</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>*N-(4-Aminobenzoyl)aminoacetic acid, N-(4-Aminobenzoyl)glycine*

■ CAS-No. 61-78-9 ■ EC-No. 200-518-9

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble■ M = 194.18 g/mol ■ pH value 3.0 - 3.5 (20 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 199 - 202 °C (decomposition)

■ Bulk density 380 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2924 29 98 ■ Disposal 3

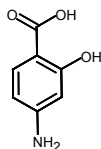
**Specification**

Assay (HPLC, area%)..... ≥ 98,0 Area %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14621.0025	Plastic bottle	25 g	inquire

## 800426 4-Amino-2-hydroxybenzoic acid for synthesis

C<sub>7</sub>H<sub>7</sub>NO<sub>3</sub>4-(NH<sub>2</sub>)-2-(OH)C<sub>6</sub>H<sub>3</sub>COOH*4-Aminosalicylic acid, PAS*

■ CAS-No. 65-49-6 ■ EC-No. 200-613-5

■ Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 153.13 g/mol■ pH value 3.5 (1 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 150 °C

■ WGK 2

■ LD50 oral rat 4000 mg/kg

■ LGK 10 - 13

■ HS-No. 2922 50 00 ■ Disposal 3

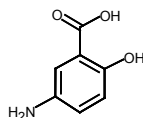
**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00426.0050	Plastic bottle	50 g	inquire
8.00426.0250	Plastic bottle	250 g	inquire

## 820095 5-Amino-2-hydroxybenzoic acid for synthesis

C<sub>7</sub>H<sub>7</sub>NO<sub>3</sub>5-(NH<sub>2</sub>)-2-(OH)C<sub>6</sub>H<sub>3</sub>COOH*5-Aminosalicylic acid*

■ CAS-No. 89-57-6 ■ EC-No. 201-919-1

■ Solub. in H<sub>2</sub>O 0.84 g/l (20 °C) ■ M = 153.13 g/mol ■ pH value 4.0 - 4.1 (0.8 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 280 °C (decomposition)

■ Bulk density 300 kg/m<sup>3</sup> ■ Ignition temp. 280 °C

■ WGK 2

■ LD50 oral rat 2800 mg/kg ■ LD50 dermal rat &gt;

5000 mg/kg

■ LGK 10 - 13

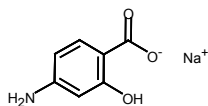
■ HS-No. 2922 50 00 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 97,0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20095.0250	Plastic bottle	250 g	inquire

## 820096 4-Amino-2-hydroxybenzoic acid sodium salt dihydrate for synthesis



$C_7H_6NNaO_3 \cdot 2H_2O$   
 4-(NH<sub>2</sub>)-2-(OH)C<sub>6</sub>H<sub>3</sub>COONa \* 2H<sub>2</sub>O  
 4-Aminosalicylic acid sodium salt, PAS-Na

■ CAS-No. 6018-19-5 ■ EC-No. 205-091-2  
 ■ Solub. in H<sub>2</sub>O 956 g/l (20 °C) ■ M = 175.12 g/mol  
 ■ pH value 6.5 - 8.5 (20 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 250 - 254 °C (decomposition)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319; Specific target  
 organ toxicity - single exposure, Category 3, H335,  
 P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13  
 ■ HS-No. 2922 50 00 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Water (K. F.)..... 16.0 - 18.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20096.0250	Plastic bottle	250 g	inquire

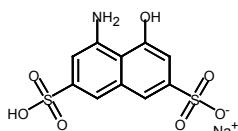
(2S,3R)-(-)-2-Amino-3-hydroxybutyrate → (2S,  
 3R)-(-)-Threonine page 1555

2-Amino-2-(hydroxymethyl)-1,3-propanediol →  
 page 1616

(S)-(-)-2-Amino-4-hydroxybutyric acid → L-(-)-  
 Homoserine page 961

2-Amino-2-hydroxymethyl-1,3-propanediol →  
 page 168

## 820078 4-Amino-5-hydroxynaphthalene-2,7-disulfonic acid monosodium salt for synthesis



$C_{10}H_8NNaO_7S_2$

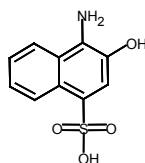
1-Amino-8-naphthol-3,6-disulfonic acid  
 monosodium salt  
 ■ CAS-No. 5460-09-3 ■ EC-No. 226-736-4  
 ■ Solub. in H<sub>2</sub>O 11.4 g/l (20 °C) ■ M = 341.28 g/mol  
 ■ Bulk density 550 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 21 00 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 85.0 %  
 Water (K. F.)..... 8.0 - 12.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20078.0100	Plastic bottle	100 g	inquire
8.20078.0500	Plastic bottle	500 g	inquire

## 100099 1-Amino-2-hydroxy-4-naphthalenesulfonic acid for determination of phosphate



$C_{10}H_9NO_4S$   
 1-Amino-2-naphthol-4-sulfonic acid  
 ■ CAS-No. 116-63-2 ■ EC-No. 204-147-3

■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 239.24 g/mol ■ Bulk density 280 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 21 00 ■ Disposal 3

650  
 Sulfated ash..... ≤ 0.5 %  
 Loss on drying (105 °C)..... ≤ 5.0 %  
 Performance test (for determination of phosphate)  
 ..... conforms

**Specification**

Assay (acidimetric)..... ≥ 98.0 %  
 Identity (IR-spectrum)..... conforms  
 in sodium carbonate soluble components conforms  
 Spec. Absorptivity A 1%/1cm  
 (257 nm, 0.001 %, 1 cm, NaOH (0.1 mol/l)).... 590 -

Ord.No.	Packaging	Quantity	Price
1.00099.0025	Plastic bottle	25 g	inquire
1.00099.0100	Plastic bottle	100 g	inquire

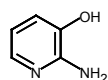
(R)-α-Amino-4-hydroxyphenylacetic acid → (R)-  
 (-)-2-(4-Hydroxyphenyl)glycine page 992

DL-2-Amino-3-hydroxypropionic acid → DL-Serine  
 page 1416

2-Amino-3-hydroxypropionic acid → (S)-(+)-  
 Serine page 1417

(S)-(+)-2-Amino-3-hydroxypropionic acid → (S)-  
 (+)-Serine page 1417

## 814539 2-Amino-3-hydroxypyridine for synthesis



$C_5H_6N_2O$   
 2-Amino-3-pyridinol  
 ■ CAS-No. 16867-03-1 ■ EC-No. 240-886-8  
 ■ M = 110.11 g/mol ■ Melting point 167 - 170 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral,  
 H301; Skin irritation, Category 2, H315; Eye

irritation, Category 2, H319, P260, P302 + P352,  
 P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat > 50 - 200 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2933 39 99 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester  
 Stoff, n.a.g.(2-AMINO-3-HYDROXYPYRIDIN), 6.1,  
 III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,  
 N.O.S.(2-AMINO-3-HYDROXY-PYRIDINE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,  
 N.O.S.(2-AMINO-3-HYDROXY-PYRIDINE), 6.1, III

**Specification**

Assay (HPLC, area%)..... ≥ 98.0 Area %  
 Melting range (lower value)..... ≥ 167 °C  
 Melting range (upper value)..... ≤ 170 °C  
 Identity (IR)..... conforms

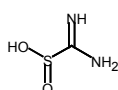
Ord.No.	Packaging	Quantity	Price
8.14539.0025	Plastic bottle	25 g	inquire
8.14539.0100	Plastic bottle	100 g	inquire

4-Amino-5-hydroxytoluene → 2-Amino-5-  
 methylphenol page 393

2-Amino-5-hydroxytoluene → 4-Amino-3-  
 methylphenol page 393

3-Amino-4-hydroxytoluene → 2-Amino-4-  
 methylphenol page 393

## 820082 Aminoiminomethanesulfinic acid for synthesis



$CH_4N_2O_2S$   
 HN=C(NH<sub>2</sub>)SO<sub>2</sub>H  
 Formamidinesulfinic acid, Thiourea dioxide  
 ■ CAS-No. 1758-73-2 ■ EC-No. 217-157-8  
 ■ Spec. density 1.68 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O 27 g/l (20 °C) ■ M = 108.12 g/mol  
 ■ pH value 4 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 123 °C (decomposition)  
 ■ Bulk density 850 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Self-heating substances and  
 mixtures, Category 2, H252; Eye irritation,  
 Category 2, H319; Skin irritation, Category 2,  
 H315; Acute toxicity, Category 4, Oral, H302;  
 Acute toxicity, Category 2, Inhalation, H330, P302  
 + P352, P304 + P340, P305 + P351 + P338, P309  
 + P310  
 ■ LC50 rat 0.164 mg/l  
 ■ LD50 dermal rat > 2000 mg/kg

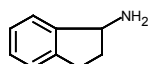
■ LGK 4.2  
 ■ HS-No. 2930 90 99 ■ Disposal 9  
 ■ ADR-RID UN 3341 Thioharnstoffdioxid, 4.2, III  
 ■ IMDG-Code UN 3341 THIOUREA DIOXIDE, 4.2, III  
 ■ IATA-DGR UN 3341 THIOUREA DIOXIDE, 4.2, III

**Specification**

Assay (iodometric)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20082.0250	Plastic bottle	250 gr	inquire
8.20082.1000	Plastic bottle	1 kg	inquire

## 841192 1-Aminoindane for synthesis

C<sub>9</sub>H<sub>11</sub>N

1-Indanamine

- CAS-No. 34698-41-4 ■ EC-No. 252-158-7
- Spec. density 1.038 g/cm<sup>3</sup> (20 °C)
- Flash point 94 °C ■ M = 133.19 g/mol

- Melting point 1.5 °C ■ Boiling point 96 - 98 °C (10.7 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2921 49 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.029 - 1.035  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41192.0001	Glass bottle	1 ml	inquire
8.41192.0005	Glass bottle	5 ml	inquire

1-Amino-2-iodobenzene → 2-Iodoaniline page 1007

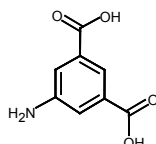
1-Amino-3-iodobenzene → 3-Iodoaniline page 1007

1-Amino-4-iodobenzene → 4-Iodoaniline page 1008

α-Amino-iso-butyric acid → 2-Methylalanine page 1129

α-Aminoisobutyric acid → 2-Methylalanine page 1129

## 801246 5-Aminoisophthalic acid for synthesis

C<sub>8</sub>H<sub>7</sub>NO<sub>4</sub>

- CAS-No. 99-31-0 ■ EC-No. 202-748-5

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 181.15 g/mol ■ Melting point 150 - 156 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1600 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (acidimetric, calc. on anhydrous substance) ..  
..... ≥ 98,0 % (m)  
Water (K. F.)..... 4,0 - 6,0 % (m)  
Identity (IR)..... conforms

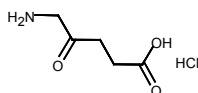
Ord.No.	Packaging	Quantity	Price
8.01246.0050	Plastic bottle	50 g	inquire

1-Aminoisopropanol → Aminopropanol page 400

Aminoisopropyl alcohol → Aminopropanol page 400

L-α-Aminoisovaleric acid → (S)-(+)-Valine page 1627

## 124802 5-Aminolevulinic acid hydrochloride for biochemistry

C<sub>5</sub>H<sub>10</sub>ClNO<sub>3</sub>C<sub>5</sub>H<sub>9</sub>NO<sub>3</sub>\*HCl

- 5-Amino-4-oxopentanoic acid hydrochlorid, 5-Aminolevulinic Acid Hydrochloride
- CAS-No. 5451-09-2 ■ EC-No. 226-679-5

- Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ M = 167.59 g/mol ■ Melting point 150 - 156 °C
  - Bulk density 400 kg/m<sup>3</sup>
  - WGK 2
  - LGK 10 - 13
  - HS-No. 2922 50 00 ■ Disposal 3
- Slightly soluble in ethanol and methanol. Natural herbicide.

## Specification

Assay (perchloric acid titration)..... ≥ 99,0 %

Identity (IR-spectrum)..... conforms  
Melting range..... 150 - 156 °C  
Heavy metals (as Pb)..... ≤ 0.001 %  
TLC-Test..... conforms

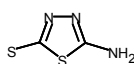
Ord.No.	Packaging	Quantity	Price
1.24802.0500	Glass bottle	500 mg	inquire
1.24802.2500	Glass bottle	2.5 g	inquire

Aminomalonic acid diethyl ester hydrochloride → Diethyl aminomalonate hydrochloride page 739

2-Amino-3-mercaptopropionic acid → (R)-(-)-Cysteine page 681

α-Amino-β-mercapto propionic acid → L-Cysteine page 681

## 814266 2-Amino-5-mercapto-1,3,4-thiadiazole for synthesis

C<sub>2</sub>H<sub>3</sub>N<sub>3</sub>S<sub>2</sub>

- CAS-No. 2349-67-9 ■ EC-No. 219-078-4

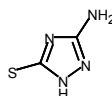
- Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 133.18 g/mol
- pH value 3.9 (2 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 350 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 98,0 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14266.0050	Plastic bottle	50 g	inquire

## 814267 3-Amino-5-mercapto-1,2,4-triazole for synthesis

C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>S

- CAS-No. 16691-43-3 ■ EC-No. 240-735-6
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 116.14 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

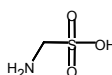
Assay (of S)..... ≥ 98,0 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14267.0010	Plastic bottle	10 g	inquire

2-Aminomesitylene → 2,4,6-Trimethylaniline page 1601

Aminomethane → Methylamine page 1129

## 841035 Aminomethanesulfonic acid for synthesis

CH<sub>5</sub>NO<sub>3</sub>S

- CAS-No. 13881-91-9 ■ EC-No. 237-649-6
- Solub. in H<sub>2</sub>O 17 g/l (17 °C) ■ M = 111.11 g/mol
- pH value 3.2 (17 g/l, H<sub>2</sub>O, 17 °C)
- Melting point 184 °C (decomposition)
- WGK 3

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8A
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2585 Alkylsulfonsäuren, fest, 8, III
- IMDG-Code UN 2585 ALKYL SULPHONIC ACIDS, SOLID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2585 ALKYL SULPHONIC ACIDS, SOLID, 8, III

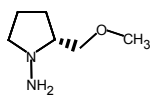
## Specification

Assay (acidimetric)..... ≥ 97,0 %  
Melting range (lower value)..... ≥ 177 °C  
Melting range (upper value)..... ≤ 182 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41035.0050	Glass bottle	50 g	inquire



## 818270 (R)-(+)-1-Amino-2-(methoxymethyl)pyrrolidine for synthesis



C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>O  
 RAMP, Enders reagent  
 ■ CAS-No. 72748-99-3  
 ■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)

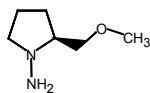
- Flash point 71 °C ■ M = 130.18 g/mol
- Boiling point 62 - 66 °C (7 hPa)
- WGK 3
- GHS: Warning
- LGK 10 ■ Store at +2°C to +8°C.
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 95.0 %  
 Density (d 20 °C/ 4 °C)..... 0.974 - 0.979  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18270.0001	Glass bottle	1 ml	inquire

## 818271 (S)-(-)-1-Amino-2-(methoxymethyl)pyrrolidine for synthesis



C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>O  
 SAMP, Enders reagent  
 ■ CAS-No. 59983-39-0

- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 71 °C ■ M = 130.18 g/mol
- Boiling point 56 - 57 °C (4 hPa)
- WGK 3
- GHS: Warning
- LGK 10 ■ Store at +2°C to +8°C.
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

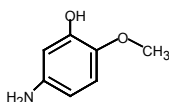
- IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%)..... ≥ 95.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18271.0001	Glass bottle	1 ml	inquire

## 814583 5-Amino-2-methoxyphenol for synthesis



C<sub>7</sub>H<sub>9</sub>NO<sub>2</sub>  
 ■ CAS-No. 1687-53-2 ■ EC-No. 216-873-8  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 139.15 g/mol
- Melting point 128 - 131 °C
- Bulk density 605 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2922 50 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 128 °C  
 Melting range (upper value)..... ≤ 131 °C  
 Identity (IR)..... conforms

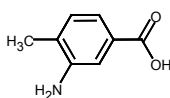
Ord.No.	Packaging	Quantity	Price
8.14583.0010	Glass bottle	10 g	inquire
8.14583.0050	Glass bottle	50 g	inquire

Aminomethylated polystyrene EHL (200-400 mesh), 2% DVB → page 282

Aminomethylated polystyrene HL (100-200 mesh) → page 264

Aminomethylated polystyrene LL (100-200 mesh) → page 264

## 840171 3-Amino-4-methylbenzoic acid for synthesis



C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>  
 3-Amino-p-toluic acid

- CAS-No. 2458-12-0 ■ EC-No. 219-543-1
- Spec. density 1 g/cm<sup>3</sup> ■ M = 151.16 g/mol
- WGK 3
- HS-No. 2922 49 85 ■ Disposal 3

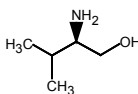
## Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 165 °C

Melting range (upper value)..... ≤ 168 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40171.0050	Glass bottle	50 g	inquire

## 814615 (R)-(-)-2-Amino-3-methylbutanol for synthesis



C<sub>5</sub>H<sub>13</sub>NO  
 D-Valinol  
 ■ CAS-No. 4276-09-9  
 ■ Spec. density 0.93 g/cm<sup>3</sup> ■ Flash point 90 °C

- M = 103.16 g/mol ■ Melting point 30 - 34 °C
- WGK 1
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good
- IATA-DGR No Dangerous Good

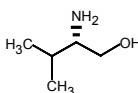
## Specification

Assay (GC, area%)..... ≥ 97,0 Area %

Melting range (lower value)..... ≥ 30 °C  
 Melting range (upper value)..... ≤ 34 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=10 in water)..... -12,0 - -10,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14615.0001	Glass bottle	1 g	inquire

## 814082 (S)-(+)-2-Amino-3-methyl-1-butanol for synthesis



C<sub>5</sub>H<sub>13</sub>NO  
 CH<sub>3</sub>(CH<sub>2</sub>)CHCH(NH<sub>2</sub>)CH<sub>2</sub>OH  
 L-Valinol  
 ■ CAS-No. 2026-48-4 ■ EC-No. 217-975-5  
 ■ Refractive index 1.4548 (20 °C, 589 nm)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C)

- Flash point 78 °C ■ Solub. in
- H<sub>2</sub>O (20 °C) insoluble ■ M = 103.16 g/mol
- Melting point 31 - 32 °C
- Boiling point 91 - 92 °C (13 hPa)
- WGK 3
- LGK 10 ■ Store at +2°C to +8°C.
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-AMINO-3-METHYL-1-BUTANOL), 6,1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-3-METHYL-1-

BUTANOL), 6,1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-3-METHYL-1-BUTANOL), 6,1, II

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,932 - 0,934  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (undiluted)..... 14,0 - 15,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14082.0001	Glass bottle	1 ml	inquire

2-Amino-3-methylbutyric acid → (S)-(+)-Valine page 1627

1-Aminomethyl-2-chlorobenzene → 2-Chlorobenzylamine page 603

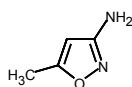
3-(Aminomethyl)heptane → 2-Ethylhexylamine page 870

L-2-Amino-3-methyl butyric acid → (S)-(+)-Valine page 1627

2-Aminomethylfuran → Furfurylamine page 918

Aminomethylidene trimethanol → Tris(hydroxymethyl)aminomethane page 168

## 814182 3-Amino-5-methylisoxazol for synthesis

C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>O

■ CAS-No. 1072-67-9 ■ EC-No. 214-013-6

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 98.1 g/mol
- pH value 6.0 - 7.5 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 56 - 60 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

## Specification

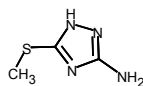
Assay (GC, area%)..... ≥ 97,0 Area %  
 Melting range (lower value)..... ≥ 56 °C  
 Melting range (upper value)..... ≤ 60 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14182.0050	Glass bottle	50 g	inquire

2-Amino-4-methylmercaptobutyric acid →  
 Methionin page 1114

L-2-Amino-4-methylmercaptobutyric acid →  
 L-Methionin page 1114

## 814460 3-Amino-5-(methylmercapto)-1H-1,2,4-triazole for synthesis

C<sub>3</sub>H<sub>6</sub>N<sub>4</sub>S

■ CAS-No. 45534-08-5 ■ EC-No. 256-242-4

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 130.17 g/mol
- Melting point 135 - 138 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)

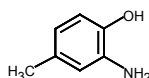
Melting range (lower value)..... ≥ 135 °C  
 Melting range (upper value)..... ≤ 138 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14460.0010	Glass bottle	10 g	inquire

1-Aminomethylnaphthalene → 1-Naphthylmethylamine page 1203

Aminomethyl NovaGel™ → page 268

## 821675 2-Amino-4-methylphenol for synthesis

C<sub>7</sub>H<sub>9</sub>NO2-(NH<sub>2</sub>)-4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>OH

2-Amino-p-cresol, 3-Amino-4-hydroxytoluene, 2-Hydroxy-5-methylaniline

■ CAS-No. 95-84-1 ■ EC-No. 202-457-3

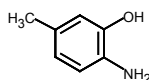
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 123.15 g/mol ■ Melting point 133 - 136 °C
- Bulk density 500 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2922 29 00 ■ Disposal 3
- ADR-RID UN 2512 Aminophenole, 6.1, III
- IMDG-Code UN 2512 AMINOPHENOLS, 6.1, III
- IATA-DGR UN 2512 AMINOPHENOLS, 6.1, III

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 133 °C  
 Melting range (upper value)..... ≤ 136 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21675.0100	Glass bottle	100 g	inquire

## 820085 2-Amino-5-methylphenol for synthesis

C<sub>7</sub>H<sub>9</sub>NO2-(NH<sub>2</sub>)-5-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>OH

6-Amino-m-cresol, 4-Amino-5-hydroxytoluene, 2-Hydroxy-4-methylaniline, 2-Hydroxy-p-toluidine

■ CAS-No. 2835-98-5 ■ EC-No. 220-620-7

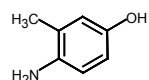
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 123.15 g/mol ■ Melting point 160 - 162 °C
- Bulk density 515 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2922 29 00 ■ Disposal 9
- ADR-RID UN 2512 Aminophenole, 6.1, III
- IMDG-Code UN 2512 AMINOPHENOLS, 6.1, III
- IATA-DGR UN 2512 AMINOPHENOLS, 6.1, III

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 159 °C  
 Melting range (upper value)..... ≤ 162 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20085.0025	Glass bottle	25 g	inquire
8.20085.0100	Glass bottle	100 g	inquire

## 800416 4-Amino-3-methylphenol for synthesis

C<sub>7</sub>H<sub>9</sub>NO4-(NH<sub>2</sub>)-3-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>OH

2-Amino-5-hydroxytoluene, 4-Amino-m-cresol, 4-Hydroxy-2-methylaniline

■ CAS-No. 2835-99-6 ■ EC-No. 220-621-2

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 123.15 g/mol

■ Melting point 177 - 179 °C

■ WGK 1

- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 1100 mg/kg
- LGK 10 - 13
- HS-No. 2922 29 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(4-AMINO-3-METHYLPHENOL), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-

AMINO-3-METHYLPHENOL), 9, III, Marine Pollutant: P

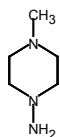
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-AMINO-3-METHYLPHENOL), 9, III

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00416.0050	Glass bottle	50 g	inquire

## 820086 1-Amino-4-methylpiperazine for synthesis

C<sub>5</sub>H<sub>13</sub>N<sub>3</sub>

N-Methyl-N'-aminopiperazine

■ CAS-No. 6928-85-4 ■ EC-No. 230-053-7

■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C)■ Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

■ M = 115.17 g/mol ■ Boiling point 172 - 175 °C

- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 4320 mg/kg
- LGK 8A ■ Store at +2°C to +8°C.
- HS-No. 2933 59 95 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(AMINOMETHYLPIPERAZIN), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(AMINOMETHYLPIPERAZINE), 8, II, Segregation Group: 18 (Alkalil)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(AMINOMETHYLPIPERAZINE), 8, II

## Specification

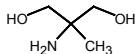
Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.954 - 0.956  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20086.0005	Glass bottle	5 ml	inquire
8.20086.0050	Glass bottle	50 ml	inquire

2-Amino-2-methylpropane → tert-Butylamine page 540



## 801464 2-Amino-2-methyl-1,3-propanediol for synthesis



C<sub>4</sub>H<sub>11</sub>NO<sub>2</sub>  
 H<sub>2</sub>N(CH<sub>2</sub>)C(CH<sub>2</sub>OH)<sub>2</sub>  
**Ammediol**  
 ■ CAS-No. 115-69-5 ■ EC-No. 204-100-7  
 ■ Vapour pressure 13.3 hPa (152 °C)  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 2500 g/l (20 °C) ■ M = 105.13 g/mol ■ pH value 10 - 11 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 102 - 105 °C  
 ■ Boiling point 150 - 152 °C (13 hPa)  
 ■ WGK 1

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 17000 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 3259 Amine, fest, ätzend, n.a.g.(2-AMINO-2-METHYL-1,3-PROPANDIOL), 8, III  
 ■ IMDG-Code UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.(2-AMINO-2-METHYL-1,3-PROPANDIOLE), 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 3259 AMINES, SOLID, CORROSIVE,

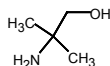
N.O.S.(2-AMINO-2-METHYL-1,3-PROPANDIOLE), 8, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 107 °C  
 Melting range (upper value)..... ≤ 110 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01464.0050	Plastic bottle	50 g	inquire
8.01464.0250	Plastic bottle	250 g	inquire

## 801465 2-Amino-2-methyl-1-propanol for synthesis



C<sub>4</sub>H<sub>11</sub>NO  
**Isobutanolamine**  
 ■ CAS-No. 124-68-5 ■ EC-No. 204-709-8  
 ■ Refractive index 1.448 (20 °C, 589 nm) ■ Vapour pressure 0.45 hPa (20 °C) ■ Spec. density 0.95 g/cm<sup>3</sup> (25 °C) ■ Flash point 77.8 °C ■ M = 89.14 g/mol ■ pH value 11.3 (10 g/l, H<sub>2</sub>O)  
 ■ Melting point 30 - 31 °C ■ Boiling point 165 °C

(1013 hPa) (anhydrous) ■ Ignition temp. 438 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 3, H412, P273, P305 + P351 + P338, P302 + P352  
 ■ LD50 oral rat 2900 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 603-070-00-6 ■ LGK 10 - 13  
 ■ HS-No. 2922 19 85 ■ Disposal 3

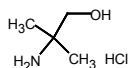
**Specification**

Assay (GC, area%)..... 93,0 - 98,0 Area %

Water (K. F.)..... ≤ 0,80 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01465.0250	Glass bottle	250 ml	inquire
8.01465.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.01465.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.01465.9026	Plastic container	25 l	inquire

## 814099 2-Amino-2-methyl-1-propanol hydrochloride for synthesis



C<sub>4</sub>H<sub>12</sub>ClNO  
 (CH<sub>3</sub>)<sub>2</sub>C(NH<sub>2</sub>)CH<sub>2</sub>OH \* HCl  
**AMP hydrochloride**  
 ■ CAS-No. 3207-12-3 ■ EC-No. 221-713-5

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 125.60 g/mol ■ Melting point 203 - 206 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 19 85 ■ Disposal 3

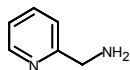
**Specification**

Assay (argentometric)..... ≥ 99,0 % (m)  
 Melting range (lower value)..... ≥ 203 °C

Melting range (upper value)..... ≤ 206 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14099.0100	Plastic bottle	100 g	inquire
8.14099.1000	Plastic bottle	1 kg	inquire

## 814427 2-(Aminomethyl)pyridine for synthesis



C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>  
 2-Pyridinemethanamine, 2-Picolylamine  
 ■ CAS-No. 3731-51-9 ■ EC-No. 223-090-5  
 ■ Refractive index 1.5465 (20 °C, 589 nm)  
 ■ Vapour pressure 0.1 hPa (20 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 90 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 108.14 g/mol ■ pH value 11 - 12 (100 g/l,

H<sub>2</sub>O, 20 °C) ■ Boiling point 202 - 204 °C  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2933 39 99 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-(AMINOMETHYL)-PYRIDIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-(AMINOMETHYL)-PYRIDINE), 8, III, Segregation Group: 18 (Alkalis)

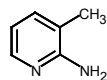
■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-(AMINOMETHYL)-PYRIDINE), 8, III

**Specification**

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,053 - 1,060  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14427.0025	Glass bottle	25 ml	inquire

## 822201 2-Amino-3-methylpyridine for synthesis



C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>  
 2-(NH<sub>2</sub>)-3-(CH<sub>3</sub>)C<sub>5</sub>H<sub>3</sub>N  
 2-Amino-3-picoline, 3-Methyl-2-pyridylamine  
 ■ CAS-No. 1603-40-3 ■ EC-No. 216-501-4  
 ■ Refractive index 1.5782 (20 °C, 589 nm)  
 ■ Spec. density 1.073 g/cm<sup>3</sup> ■ Flash point 118 °C  
 ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 108.14 g/mol ■ Melting point 29 - 32 °C  
 ■ Boiling point 221 - 222 °C

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 100 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2933 39 99 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-AMINO-3-METHYLPYRIDIN), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(2-AMINO-3-METHYLPYRIDINE), 6.1, III

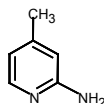
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-3-METHYLPYRIDINE), 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 96,0 % (a/a)  
 Melting range (lower value)..... ≥ 29 °C  
 Melting range (upper value)..... ≤ 32 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22201.0100	Glass bottle	100 g	inquire

## 800386 2-Amino-4-methylpyridine for synthesis

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>2-(NH<sub>2</sub>)-4-(CH<sub>3</sub>)C<sub>5</sub>H<sub>3</sub>N

4-Methyl-2-pyridylamine, 2-Amino-4-picoline

■ CAS-No. 695-34-1 ■ EC-No. 211-780-9

■ Flash point 118 °C ■ Solub. in H<sub>2</sub>O 41 g/l (20 °C)

■ M = 108.14 g/mol ■ Melting point 99 °C

■ Boiling point 231 °C (1013 hPa)

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 200 mg/kg
- LGK 6.1C
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-AMINO-4-METHYLPYRIDIN), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-4-METHYLPYRIDINE), 6.1, III

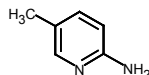
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-4-METHYLPYRIDINE), 6.1, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 97 °C  
 Melting range (upper value) ..... ≤ 100 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00386.0100	Glass bottle	100 g	inquire

## 820087 2-Amino-5-methylpyridine for synthesis

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>2-(NH<sub>2</sub>)-5-(CH<sub>3</sub>)C<sub>5</sub>H<sub>3</sub>N

6-Amino-3-picoline, 5-Methyl-2-pyridylamine

■ CAS-No. 1603-41-4 ■ EC-No. 216-503-5

■ Flash point 118 °C ■ Solub. in H<sub>2</sub>O 1000 g/l

(20 °C) ■ M = 108.14 g/mol

■ Melting point 74 - 77 °C ■ Boiling point 227 °C

■ WGK 3

- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 200 mg/kg
- LGK 6.1C
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-AMINO-5-METHYLPYRIDIN), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(2-AMINO-5-METHYLPYRIDINE), 6.1, III

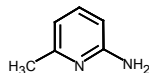
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-5-METHYLPYRIDINE), 6.1, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 74 °C  
 Melting range (upper value) ..... ≤ 77 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20087.0025	Glass bottle	25 g	inquire

## 800417 2-Amino-6-methylpyridine for synthesis

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>2-(NH<sub>2</sub>)-6-(CH<sub>3</sub>)C<sub>5</sub>H<sub>3</sub>N

6-Amino-2-picoline

■ CAS-No. 1824-81-3 ■ EC-No. 217-360-1

■ Flash point 103 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 108.14 g/mol

■ Melting point 40 - 43 °C ■ Boiling point 208 °C

(1013 hPa)

■ WGK 3

- GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P350, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 100 mg/kg ■ LD50 dermal rabbit 125 mg/kg
- LGK 6.1C
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-AMINO-6-METHYLPYRIDIN), 6.1, II

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-6-METHYLPYRIDINE), 6.1, II

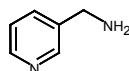
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-6-METHYLPYRIDINE), 6.1, II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 37 °C  
 Melting range (upper value) ..... ≤ 43 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00417.0100	Glass bottle	100 g	inquire

## 807016 3-(Aminomethyl)pyridine for synthesis

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>3-(H<sub>2</sub>NCH<sub>2</sub>)C<sub>5</sub>H<sub>4</sub>N

3-Pyridylmethylamine, 3-Picolylamine

■ CAS-No. 3731-52-0 ■ EC-No. 223-091-0

■ Refractive index 1.551 (20 °C, 589 nm) ■ Vapour

pressure 0.3 hPa (20 °C) ■ Spec. density 1.07 g/

cm<sup>3</sup> (20 °C) ■ Flash point 100 °C ■ Solub. inH<sub>2</sub>O (20 °C) soluble ■ M = 108.14 g/mol■ pH value 11 - 12 (100 g/l, H<sub>2</sub>O, 20 °C)

- Melting point -21 °C ■ Boiling point 226 °C (1013 hPa)
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(3-(AMINOMETHYL)-PYRIDIN), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-(AMINOMETHYL)-PYRIDINE), 8, II,

Segregation Group: 18 (Alkalis)

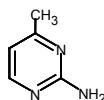
■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-(AMINOMETHYL)-PYRIDINE), 8, II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,069 - 1,070  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07016.0100	Glass bottle	100 ml	inquire

## 814580 2-Amino-4-methylpyrimidine for synthesis

C<sub>5</sub>H<sub>7</sub>N<sub>3</sub>

■ CAS-No. 108-52-1 ■ EC-No. 203-591-5

■ Spec. density 1 g/cm<sup>3</sup> ■ M = 109.13 g/mol

- Melting point 158 - 161 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

**Specification**

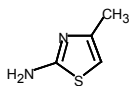
Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 158 °C  
 Melting range (upper value) ..... ≤ 161 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14580.0010	Glass bottle	10 g	inquire

2-Aminomethyltetrahydrofuran → 2-Tetrahydrofurfurylamine page 1534

# Aminom

## 820088 2-Amino-4-methylthiazol for synthesis



C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>S  
4-Methyl-2-thiazolylamine  
■ CAS-No. 1603-91-4 ■ EC-No. 216-505-6

- Flash point 107 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 114.16 g/mol
- Melting point 42 - 45 °C
- Boiling point 231 - 233 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2934 10 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Melting range (lower value)..... ≥ 42 °C  
Melting range (upper value)..... ≤ 45 °C  
Identity (IR)..... passes test

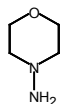
Ord.No.	Packaging	Quantity	Price
8.20088.0025	Glass bottle	25 g	inquire

3-Aminomethyl-3,5,5-trimethylcyclohexylamine  
→ Isophoronediamine page 1050

(2S,3S)-2-Amino-3-methyl-n-valerianic acid →  
(S)-(+)-Isoleucine page 1047

L-2-Amino-3-methylvalerianic acid → (S)-(+)-  
Isoleucine page 1047

## 820089 4-Aminomorpholine for synthesis



C<sub>4</sub>H<sub>10</sub>N<sub>2</sub>O  
■ CAS-No. 4319-49-7 ■ EC-No. 224-347-4  
■ Refractive index 1.4772 (20 °C, 589 nm)  
■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
■ M = 102.13 g/mol ■ Boiling point 168 °C

- (1013 hPa)
- WGK 3
  - GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
  - LGK 3
  - HS-No. 2934 99 90 ■ Disposal 3
  - ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4-AMINOMORPHOLIN), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4-AMINOMORPHOLINE), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(4-AMINOMORPHOLINE), 3, III

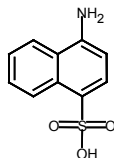
### Specification

Assay (GC, area%)..... ≥ 95.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.048 - 1.055  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20089.0050	Glass bottle	50 ml	inquire

1-Aminonaphthalene → 1-Naphthylamine page 1202

## 841535 4-Aminonaphthalene-1-sulfonic acid for synthesis



C<sub>10</sub>H<sub>9</sub>NO<sub>2</sub>S  
1-Naphthylamine-4-sulfonic acid, Naphthionic acid  
■ CAS-No. 84-86-6 ■ EC-No. 201-567-9

- Spec. density 1.67 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.31 g/l (20 °C) ■ M = 223.24 g/mol
- Melting point >300 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 8A
- HS-No. 2921 45 00 ■ Disposal 3
- ADR-RID UN 2585 Arylsulfonsäuren, fest, 8, III
- IMDG-Code UN 2585 ARYLSULPHONIC ACIDS,

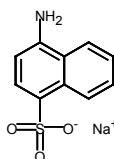
SOLID, 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III

### Specification

Assay (acidimetric)..... ≥ 97.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41535.0050	Plastic bottle	50 g	inquire
8.41535.0100	Plastic bottle	100 g	inquire

## 821949 4-Aminonaphthalene-1-sulfonic acid sodium salt for synthesis



C<sub>10</sub>H<sub>8</sub>NNaO<sub>3</sub>S

- 1-Naphthylamine-4-sulfonic acid sodium salt, Naphthionic acid sodium salt
- CAS-No. 130-13-2 ■ EC-No. 204-975-5
  - Solub. in H<sub>2</sub>O 188 g/l (25 °C) ■ M = 245.23 g/mol
  - pH value 6.8 - 7.0 (10 g/l, H<sub>2</sub>O, 20 °C)
  - Bulk density 800 kg/m<sup>3</sup>
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2921 45 00 ■ Disposal 3

### Specification

Assay (ex Na, calc. on anhydrous substance).....  
..... ≥ 98.0 %  
Water (K. F.)..... 3.0 - 5.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21949.0005	Glass bottle	5 g	inquire
8.21949.0250	Plastic bottle	250 g	inquire

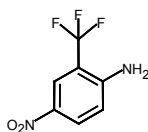
1-Amino-8-naphthol-3,6-disulfonic acid monosodium salt → 4-Amino-5-hydroxynaphthalene-2,7-disulfonic acid monosodium salt page 390

2-Amino-5-nitroanisole → 2-Methoxy-4-nitroaniline page 1121

4-Amino-3-nitroanisole → 4-Methoxy-2-nitroaniline page 1121

1-Amino-2-naphthol-4-sulfonic acid → 1-Amino-2-hydroxy-4-naphthalenesulfonic acid page 390

## 841451 2-Amino-5-nitrobenzotrifluoride for synthesis



C<sub>7</sub>H<sub>3</sub>F<sub>3</sub>N<sub>2</sub>O<sub>2</sub>  
4-Nitro-2-trifluoromethylanilin  
■ CAS-No. 121-01-7 ■ EC-No. 204-443-2  
■ M = 206.12 g/mol ■ Melting point 94 - 95 °C  
■ WGK 2

- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352
- LGK 10 - 13
- HS-No. 2921 43 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-AMINO-5-NITROBENZOTRIFLUORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-5-NITROBENZOTRIFLUORIDE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

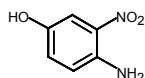
N.O.S.(2-AMINO-5-NITROBENZOTRIFLUORIDE), 6.1, III

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Melting range (lower value)..... ≥ 91 °C  
Melting range (upper value)..... ≤ 94 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41451.0010	Plastic bottle	10 g	inquire

## 814454 4-Amino-3-nitrophenol for synthesis

C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O<sub>3</sub>

■ CAS-No. 610-81-1 ■ EC-No. 210-236-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 154.12 g/l

mol ■ Melting point 149 - 152 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 29 00 ■ Disposal 3

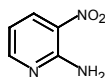
**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 149 °C

Melting range (upper value)..... ≤ 152 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14454.0005	Glass bottle	5 g	inquire

## 814448 2-Amino-3-nitropyridine for synthesis

C<sub>5</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub>

■ CAS-No. 4214-75-9 ■ EC-No. 224-144-0  
 ■ Flash point 167 °C ■ Solub. in H<sub>2</sub>O 3 g/l (20 °C)  
 ■ M = 139.11 g/mol ■ Melting point 163 °C  
 ■ Ignition temp. 560 °C

■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

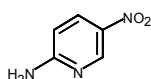
**Specification**

Assay (HPLC, area%)..... ≥ 99,0 % (a/a)

Melting range (lower value)..... ≥ 164 °C  
 Melting range (upper value)..... ≤ 167 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14448.0005	Plastic bottle	5 g	inquire

## 814072 2-Amino-5-nitropyridine for synthesis

C<sub>5</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub>

2-(NH<sub>2</sub>)-5-(NO<sub>2</sub>)C<sub>5</sub>H<sub>3</sub>N  
 ■ CAS-No. 4214-76-0 ■ EC-No. 224-145-6  
 ■ Flash point 224 °C ■ Solub. in H<sub>2</sub>O 1.6 g/l (13 °C) ■ M = 139.11 g/mol

■ Melting point 185 - 188 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)

Melting range (lower value)..... ≥ 185 °C  
 Melting range (upper value)..... ≤ 188 °C  
 Assay (HPLC, area%)..... ≥ 98,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14072.0025	Plastic bottle	25 g	inquire

2-Amino-3-nitrotoluene → 2-Methyl-6-nitroaniline page 1163

2-Amino-5-nitrotoluene → 2-Methyl-4-nitroaniline page 1163

2-Amino-6-nitrotoluene → 2-Methyl-3-nitroaniline page 1163

4-Amino-3-nitrotoluene → 4-Methyl-2-nitroaniline page 1163

p-Amino-N,N-diethylaniline → N,N-Diethyl-1,4-phenylenediamine page 748

4-Amino-N,N-diethylaniline sulfate → N,N-Diethyl-1,4-phenylenediammonium sulfate page 749

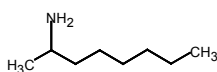
4-Amino-N,N-dimethylaniline → N,N-Dimethyl-1,4-phenylenediamine page 798

4-Amino-N,N-dimethylaniline dihydrochloride → N,N-Dimethyl-1,4-phenylenediammonium dichloride page 798

1-Aminononane → Nonylamine page 1235

1-Aminooctadecane → Octadecylamine page 1239

## 822092 2-Amino-octane for synthesis

C<sub>8</sub>H<sub>19</sub>NCH<sub>3</sub>(CH<sub>2</sub>)<sub>5</sub>CH(NH<sub>2</sub>)CH<sub>3</sub>

1-Methylheptylamine

■ CAS-No. 693-16-3 ■ EC-No. 211-744-2  
 ■ Refractive index 1.4251 (25 °C, 589 nm)  
 ■ Spec. density 0.77 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 50 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 129.25 g/mol ■ Boiling point 165 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 127 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2921 19 99 ■ Disposal 9  
 ■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(2-AMINO-OCTAN), 8 (3), II  
 ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(2-

AMINO-OCTANE), 8 (3), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(2-AMINO-OCTANE), 8 (3), II

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 0,771 - 0,772  
 Identity (IR)..... passes test

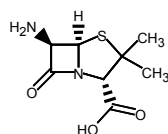
Ord.No.	Packaging	Quantity	Price
8.22092.0025	Glass bottle	25 ml	inquire

1-Amino-octane → Octylamine page 1244

5-Amino-4-oxopentanoic acid hydrochlorid → 5-Aminolevulinic acid hydrochloride page 391

Amino PEGA resin → page 264

## 841670 6-Aminopenicillanic acid for synthesis

C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>O<sub>3</sub>S

6-APA

■ CAS-No. 551-16-6 ■ EC-No. 208-993-4  
 ■ M = 216.26 g/mol  
 ■ Melting point 205 °C (decomposition)  
 ■ WGK 2  
 ■ LGK 10 - 13 ■ Store below +15°C.

■ HS-No. 2934 99 90 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41670.0010	Glass bottle	10 g	inquire

Aminopentafluorobenzene → Pentafluoroaniline page 1265

DL-2-Aminopentanoic acid → DL-Norvaline page 1236

1-Aminopentane → n-Pentylamine page 1273

L-2-Aminopentanoic acid → L-Norvaline page 1236

# Aminop

## 841226 5-Amino-1-pentanol for synthesis



- C<sub>5</sub>H<sub>13</sub>NO
- CAS-No. 2508-29-4 ■ EC-No. 219-718-2
  - Spec. density 0.94 g/cm<sup>3</sup> (20 °C)
  - Flash point >150 °C ■ M = 103.16 g/mol
  - pH value 13.2 (500 g/l, H<sub>2</sub>O, 20 °C)
  - Melting point 35 - 37 °C ■ Boiling point 222 °C (1013 hPa) ■ Ignition temp. 355 °C
  - WGK 1
  - GHS: Danger, Acute toxicity, Category 4, Oral,

- H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 500 - 2000 mg/kg
  - LGK 8A
  - HS-No. 2922 19 85 ■ Disposal 3
  - ADR-RID UN 3259 Amine, fest, ätzend, n.a.g.(5-AMINO-1-PENTANOL), 8, III ■ IMDG-Code UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.(5-AMINO-1-PENTANOL), 8, III, Segregation Group: 18 (Alkalis)
  - IATA-DGR UN 3259 AMINES, SOLID, CORROSIVE,

N.O.S.(5-AMINO-1-PENTANOL), 8, III

### Specification

- Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Melting range (lower value)..... ≥ 32 °C  
 Melting range (upper value)..... ≤ 35 °C  
 Identity (IR)..... passes test

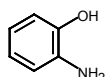
Ord.No.	Packaging	Quantity	Price
8.41226.0025	Glass bottle	25 g	inquire

- N-(4-Aminophenyl)acetamide → 4'-Aminoacetanilide page 376  
 1-(4-Aminophenyl)ethanone → 4'-Aminoacetophenone page 376

- 2'-Aminophenetol → o-Phenetidine page 1288  
 3'-Aminophenetol → m-Phenetidine page 1288

4'-Aminophenetol → p-Phenetidine page 1288

## 800419 2-Aminophenol for synthesis



- C<sub>6</sub>H<sub>7</sub>NO
- 2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>OH
- 2-Hydroxyaniline, 2-Amino-1-hydroxy benzene
- CAS-No. 95-55-6 ■ EC-No. 202-431-1
  - Vapour pressure 14 hPa (153 °C)
  - Spec. density 1.328 g/cm<sup>3</sup> (20 °C)
  - Flash point >175 °C ■ Solub. in H<sub>2</sub>O 17 g/l (20 °C) ■ M = 109.12 g/mol ■ pH value 6.5 - 7.5 (10 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 172 - 174 °C (sublimed)
- Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 150 °C (15 hPa) ■ Ignition temp. 190 °C
- WGK 2
- GHS: Warning, Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P281, P308 + P313
- LD50 oral rat 1300 mg/kg
- EC-Index-No. 612-033-00-3 ■ LGK 10 - 13
- HS-No. 2922 29 00
- ADR-RID UN 2512 Aminophenole, 6.1, III
- IMDG-Code UN 2512 AMINOPHENOLS, 6.1, III

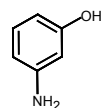
■ IATA-DGR UN 2512 AMINOPHENOLS, 6.1, III

### Specification

- Assay (HClO<sub>4</sub>)..... ≥ 99.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00419.0005	Glass bottle	5 g	inquire
8.00419.0250	Glass bottle	250 g	inquire
8.00419.1000	Glass bottle	1 kg	inquire
8.00419.9050	Fibre carton	50 kg	inquire

## 800420 3-Aminophenol for synthesis



- C<sub>6</sub>H<sub>7</sub>NO
- 3-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>OH
- 3-Hydroxyaniline
- CAS-No. 591-27-5 ■ EC-No. 209-711-2
  - Vapour pressure < 0.1 hPa (20 °C)
  - Spec. density 0.99 g/cm<sup>3</sup> (25 °C)
  - Flash point 178 °C ■ Solub. in H<sub>2</sub>O 26 g/l (20 °C)
  - M = 109.13 g/mol ■ pH value 6.8 (10 g/l, H<sub>2</sub>O,

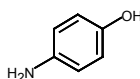
- 20 °C) ■ Melting point 122 °C
- Bulk density 700 kg/m<sup>3</sup> ■ Boiling point 164 °C (15 hPa) ■ Ignition temp. >600 °C
  - WGK 2
  - GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
  - LD50 oral rat 924 mg/kg
  - EC-Index-No. 612-127-00-4 ■ LGK 6.1C
  - HS-No. 2922 29 00 ■ Disposal 3
  - ADR-RID UN 2512 Aminophenole, 6.1, III
  - IMDG-Code UN 2512 AMINOPHENOLS, 6.1, III
  - IATA-DGR UN 2512 AMINOPHENOLS, 6.1, III

### Specification

- Assay (HClO<sub>4</sub>)..... ≥ 99.0 % (m)  
 Melting range (lower value)..... ≥ 120 °C  
 Melting range (upper value)..... ≤ 123 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00420.0005	Glass bottle	5 g	inquire
8.00420.0250	Glass bottle	250 g	inquire
8.00420.1000	Glass bottle	1 kg	inquire
8.00420.9050	Fibre carton	50 kg	inquire

## 800421 4-Aminophenol for synthesis



- C<sub>6</sub>H<sub>7</sub>NO
- 4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>OH
- 4-Hydroxyaniline
- CAS-No. 123-30-8 ■ EC-No. 204-616-2
  - Vapour pressure 0.4 hPa (110 °C)
  - Spec. density 1.29 g/cm<sup>3</sup> ■ Flash point 195 °C
  - Solub. in H<sub>2</sub>O 16 g/l (20 °C) ■ M = 109.13 g/mol
  - Melting point 186 °C ■ Boiling point 284 °C (1013 hPa) (decomposition)

- Ignition temp. >250 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Germ cell mutagenicity, Category 2, H341; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P281, P304 + P340, P308 + P313
- LD50 oral rat 375 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg
- EC-Index-No. 612-128-00-X ■ LGK 6.1C
- HS-No. 2922 29 00 ■ Disposal 3
- ADR-RID UN 2512 Aminophenole, 6.1, III

■ IMDG-Code UN 2512 AMINOPHENOLS, 6.1, III  
 ■ IATA-DGR UN 2512 AMINOPHENOLS, 6.1, III

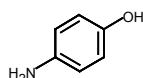
### Specification

- Assay (HClO<sub>4</sub>)..... ≥ 99 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00421.0005	Glass bottle	5 g	inquire
8.00421.0250	Glass bottle	250 g	inquire
8.00421.1000	Glass bottle	1 kg	inquire
	Glass bottle	6 x 1 kg	inquire
8.00421.9050	Fibre carton	50 kg	inquire



## 845129 p-Aminophenol for pharma synthesis, non-GMP

C<sub>6</sub>H<sub>7</sub>NO4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>OH

4-Hydroxyaniline

- CAS-No. 123-30-8 ■ EC-No. 204-616-2
- Vapour pressure 0.4 hPa (110 °C)
- Spec. density 1.29 g/cm<sup>3</sup> ■ Flash point 195 °C
- Solub. in H<sub>2</sub>O 16 g/l (20 °C) ■ M = 109.13 g/mol
- Melting point 186 °C ■ Boiling point 284 °C (1013 hPa) (decomposition)
- Ignition temp. >250 °C

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Germ cell mutagenicity, Category 2, H341; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P281, P304 + P340, P308 + P313
- LD50 oral rat 375 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg
- EC-Index-No. 612-128-00-X ■ LGK 6.1C
- HS-No. 2922 29 00 ■ Disposal 3
- ADR-RID UN 2512 Aminophenole, 6.1, III
- IMDG-Code UN 2512 AMINOPHENOLS, 6.1, III
- IATA-DGR UN 2512 AMINOPHENOLS, 6.1, III

## Specification

Colour (visual)..... white to off white  
 Appearance of substance (visual)..... powder  
 Assay (HClO<sub>4</sub>)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 186 °C  
 Melting range (upper value)..... ≤ 191 °C  
 Identity (IR)..... passes test

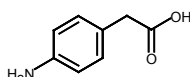
Ord.No.	Packaging	Quantity	Price
8.45129.0250	Glass bottle	250 g	inquire
8.45129.1000	Glass bottle	1 kg	inquire

Aminophenol ethers → Phenols and phenol ethers

4-Aminophenol hydrochloride → 4-Hydroxyanilinium chloride page 976

Aminophenols → Phenols and phenol ethers

## 800422 4-Aminophenylacetic acid for synthesis

C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>COOH

■ CAS-No. 1197-55-3 ■ EC-No. 214-828-7

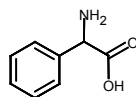
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 151.16 g/mol
- Melting point 201 °C (decomposition)
- WGK 2
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 97,0 % (m)  
 Melting range (lower value)..... ≥ 199 °C  
 Melting range (upper value)..... ≤ 202 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00422.0010	Glass bottle	10 g	inquire

## 807070 DL-α-Aminophenylacetic acid for synthesis

C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>C<sub>6</sub>H<sub>5</sub>CH(NH<sub>2</sub>)COOH

DL-α-Phenylaminoacetic acid, DL-α-Phenylglycine

- CAS-No. 2835-06-5 ■ EC-No. 220-608-1
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 151.16 g/mol
- Melting point 290 °C (sublimed)
- WGK 1
- LGK 10 - 13

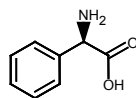
■ HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07070.0100	Plastic bottle	100 g	inquire

## 807073 (R)-(-)-α-Aminophenylacetic acid for resolution of racemates for synthesis

C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>C<sub>6</sub>H<sub>5</sub>CH(NH<sub>2</sub>)COOH

(R)-(-)-α-Phenylaminoacetic acid, D(-)-α-

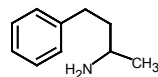
Phenylglycine

- CAS-No. 875-74-1 ■ EC-No. 212-876-3
- Spec. density 1.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 151.16 g/mol
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

Assay (HPLC, area%)..... ≥ 99,0 Area %  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=2 in HCl 1 mol/l).]-158,0 - -156,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07073.0025	Plastic bottle	25 g	inquire

## 841074 3-Amino-1-phenyl-butane for synthesis

C<sub>10</sub>H<sub>15</sub>N

4-Phenyl-2-butylamine, 1-Methyl-3-phenylpropylamine

- CAS-No. 22374-89-6 ■ EC-No. 244-942-2
- Spec. density 0.928 g/cm<sup>3</sup> (20 °C)
- Flash point 97 °C ■ M = 149.23 g/mol
- pH value 11.6 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point ≤ -70 °C
- Boiling point 220 - 222 °C
- Ignition temp. 330 °C

- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 165 mg/kg ■ LD50 dermal rabbit 360 mg/kg
- LGK 6.1A
- HS-No. 2921 49 00 ■ Disposal 9
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(3-AMINO-1-PHENYL-BUTAN), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID,

TOXIC, N.O.S.(3-AMINO-1-PHENYL-BUTANE), 8 (6.1), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(3-AMINO-1-PHENYL-BUTANE), 8 (6.1), II

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 0.924 - 0.928  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41074.0010	Glass bottle	10 ml	inquire
8.41074.0050	Glass bottle	50 ml	inquire

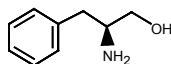
2-Aminophenyl methyl ether → o-Anisidine page 419

4-Aminophenyl methyl ether → p-Anisidine page 419

3-Aminophenyl methyl ether → m-Anisidine page 419

1-Amino-3-phenylpropane → 3-Phenylpropylamine page 1313

## 814132 (S)-(-)-2-Amino-3-phenyl-1-propanol for synthesis

C<sub>9</sub>H<sub>13</sub>NO

L(-)-Phenylalaninol

- CAS-No. 3182-95-4 ■ EC-No. 221-674-4
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 151.2 g/mol

- mol ■ Melting point 91 - 94 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2922 19 85 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)  
 Melting range (lower value)..... ≥ 91 °C  
 Melting range (upper value)..... ≤ 94 °C

Spec. rotation [α<sub>D</sub><sup>20</sup> (c=5 in ethanol)..... -25,0 - -23,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14132.0001	Glass bottle	1 g	inquire

# Aminop

2-Amino-3-phenylpropionic acid → DL-

Phenylalanine page 1297

α-Amino-β-phenyl propionic acid → L-

Phenylalanine page 1297

L-2-Amino-3-phenylpropionic acid → (S)-(-)-

Phenylalanine page 1297

4-Aminophenyltriphenylmethane → 4-

(Triphenylmethyl)aniline page 1611

2-Amino-3-picoline → 2-Amino-3-methylpyridine  
page 394

2-Amino-4-picoline → 2-Amino-4-methylpyridine  
page 395

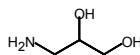
6-Amino-2-picoline → 2-Amino-6-methylpyridine  
page 395

6-Amino-3-picoline → 2-Amino-5-methylpyridine  
page 395

1-Aminopropane → Propylamine page 1374

2-Aminopropane → Isopropylamine page 1052

## 818522 3-Amino-1,2-propanediol for synthesis



C<sub>3</sub>H<sub>9</sub>NO<sub>2</sub>

NH<sub>2</sub>CH<sub>2</sub>CH(OH)CH<sub>2</sub>OH

1-Amino-2,3-propanediol

■ CAS-No. 616-30-8 ■ EC-No. 210-475-8

■ Refractive index 1.492 (20 °C, 589 nm) ■ Vapour

pressure 0.01 hPa (20 °C) ■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Flash point 186 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 91.11 g/mol  
 ■ pH value 11 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Boiling point 140 - 141 °C (12 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat 7500 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 19 85 ■ Disposal 3

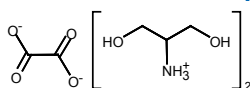
### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.185 - 1.187  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18522.0025	Glass bottle	25 ml	inquire

1-Amino-2,3-propanediol → 3-Amino-1,2-propanediol page 400

## 814191 2-Amino-1,3-propanediol oxalate (2:1) for synthesis



C<sub>8</sub>H<sub>20</sub>N<sub>2</sub>O<sub>8</sub>

■ CAS-No. 24070-20-0

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 272.25 g/mol ■ pH value 5.5 - 7.5 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 200 °C (decomposition)

■ Bulk density 460 kg/m<sup>3</sup>

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352  
 ■ EC-Index-No. 607-007-00-3 ■ LGK 10 - 13  
 ■ HS-No. 2922 19 85  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-AMINO-1,3-PROPANDIOLOXALAT), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-1,3-PROPANDIOL OXALATE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-AMINO-1,3-PROPANDIOL OXALATE), 6.1,

III

### Specification

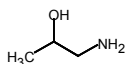
Assay (acidimetric) ..... ≥ 98.0 % (m)  
 Melting range (lower value) ..... ≥ 191 °C  
 Melting range (upper value) ..... ≤ 194 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14191.0050	Glass bottle	50 g	inquire

2-Aminopropanoic acid → (S)-(+)-Alanine page 357

α-Aminopropanoic acid → (S)-(+)-Alanine page 357

## Aminopropanol



C<sub>3</sub>H<sub>9</sub>NO

H<sub>2</sub>NCH<sub>2</sub>CH(OH)CH<sub>3</sub>

Aminoisopropyl

alcohol, Hydroxypropylamine, Isopropanolamine

■ CAS-No. 78-96-6 ■ EC-No. 201-162-7

■ Refractive index 1.4483 (20 °C, 589 nm)

■ Vapour pressure 1.93 hPa (20 °C)

■ Spec. density 0.962 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 10.4 % (V) ■ Flash point 71 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 75.11 g/mol  
 ■ pH value 11.3 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 2 °C ■ Boiling point 160 °C  
 ■ Ignition temp. 335 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 2700 mg/kg ■ LD50 dermal rabbit

1600 mg/kg

■ EC-Index-No. 603-082-00-1 ■ LGK 8A

■ HS-No. 2922 19 85 ■ Disposal 3

■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(1-AMINO-2-PROPANOL), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1-AMINO-2-PROPANOL), 8, II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1-AMINO-2-PROPANOL), 8, II

## 807020 Aminopropanol (mixture of isomers) for synthesis

### Specification

Assay isomers (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 0,959 - 0,961

1-amino-2-propanol (GC, area%) ..... ≥ 90,0 Area %

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07020.0100	Glass bottle	100 ml	inquire
8.07020.1000	Glass bottle	1 l	inquire

## 845049 Aminopropanol (mixture of isomers) for pharma synthesis, non-GMP

### Specification

Colour number (Hazen) (Hazen) ..... ≤ 20

Assay isomers (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 0,959 - 0,961

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45049.0100	Glass bottle	100 ml	inquire
8.45049.1000	Glass bottle	1 l	inquire



## 800423 3-Amino-1-propanol for synthesis



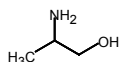
C<sub>3</sub>H<sub>9</sub>NO  
H<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OH  
 ■ CAS-No. 156-87-6 ■ EC-No. 205-864-4  
 ■ Vapour pressure 16 hPa (80 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.5 - 10.6 % (V) ■ Flash point 101 °C  
 ■ Kin. viscosity 29.9 mm<sup>2</sup>/s (23 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 75.11 g/mol  
 ■ pH value 11.6 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 11 °C ■ Boiling point 187 - 190 °C  
 ■ Ignition temp. 375 °C  
 ■ WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314;  
 Corrosive to metals, Category 1, H290, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1300 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2922 19 85  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(3-AMINO-1-PROPANOL), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-AMINO-1-PROPANOL), 8, II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-AMINO-1-PROPANOL), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 0.986 - 0.988  
 Water (K. F.) ..... ≤ 0.3 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00423.0005	Glass bottle	5 ml	inquire
8.00423.0250	Glass bottle	250 ml	inquire

## 801009 DL-2-Amino-1-propanol for synthesis



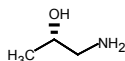
C<sub>3</sub>H<sub>9</sub>NO  
CH<sub>3</sub>CH(NH<sub>2</sub>)CH<sub>2</sub>OH  
*DL-Alaninol, DL-2-Aminopropyl alcohol*  
 ■ CAS-No. 6168-72-5 ■ EC-No. 228-207-3  
 ■ Refractive index 1.4495 (20 °C, 589 nm)  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 83 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

■ M = 75.11 g/mol ■ Melting point 8 °C  
 ■ Boiling point 173 - 176 °C (1013 hPa)  
 ■ Ignition temp. 370 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-AMINO-1-PROPANOL), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE,

N.O.S.(2-AMINO-1PROPANOL), 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-AMINO-1PROPANOL), 8, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.964 - 0.966  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01009.0005	Glass bottle	5 ml	inquire

## 818231 (S)-(+)-1-Amino-2-propanol for synthesis



C<sub>3</sub>H<sub>9</sub>NO  
H<sub>2</sub>NCH<sub>2</sub>CH(OH)CH<sub>3</sub>  
*S-(+)-Isopropanolamine*  
 ■ CAS-No. 2799-17-9 ■ EC-No. 220-533-4  
 ■ Refractive index 1.4437 (20 °C, 589 nm)  
 ■ Vapour pressure 6.7 hPa (20 °C)  
 ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 71 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 75.11 g/mol ■ Melting point 20 - 23 °C

■ Boiling point 158 - 162 °C (1013 hPa)  
 ■ Ignition temp. 335 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 4260 mg/kg ■ LD50 dermal rabbit 1640 mg/kg  
 ■ EC-Index-No. 603-082-00-1 ■ LGK 8A  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(1-AMINO-2-PROPANOL), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE,

N.O.S.(1-AMINO-2-PROPANOL), 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1-AMINO-2-PROPANOL), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 20 °C  
 Melting range (upper value) ..... ≤ 23 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=2 in water) ...] 17.0 - 18.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18231.0001	Glass bottle	1 g	inquire

## 841217 (S)-(+)-2-Amino-1-propanol for synthesis



C<sub>3</sub>H<sub>9</sub>NO  
*L-Alaninol*  
 ■ CAS-No. 2749-11-3 ■ EC-No. 220-388-7  
 ■ Spec. density 0.965 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 62 °C ■ M = 75.11 g/mol  
 ■ Boiling point 72 - 73 °C (14.7 hPa)  
 ■ WGK 2

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat > 2300 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-AMINO-1-PROPANOL), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-AMINO-1PROPANOL), 8, II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-AMINO-1PROPANOL), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=2 in ethanol) 20.0 - 23.0 °  
 Identity (IR) ..... passes test

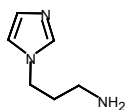
Ord.No.	Packaging	Quantity	Price
8.41217.0001	Glass bottle	1 ml	inquire

3-Amino-1-propene → Allylamine page 364  
 3-Aminopropionic acid → β-Alanine page 356

L-2-Aminopropionic acid → (S)-(+)-Alanine page 357  
 3-Aminopropyl alcohol → 3-Amino-1-propanol page 401

DL-2-Aminopropyl alcohol → DL-2-Amino-1-propanol page 401

## 814852 1-(3-Aminopropyl)-imidazole for synthesis



C<sub>6</sub>H<sub>11</sub>N<sub>3</sub>  
 ■ CAS-No. 5036-48-6 ■ EC-No. 225-730-9  
 ■ Vapour pressure 0.2 hPa (80 °C)  
 ■ Spec. density 1.062 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 6.4 % (V) ■ Flash point 154 °C DIN 51758 ■ Kin. viscosity 14.1 mm<sup>2</sup>/s (23 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 125.18 g/mol

■ pH value 11.3 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -68 °C ■ Boiling point 296 °C  
 ■ Ignition temp. 400 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1780 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2933 29 90 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(1-(3-AMINOPROPYL)-IMIDAZOL), 8, II

■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1-(3-AMINOPROPYL)-IMIDAZOLE), 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1-(3-AMINOPROPYL)-IMIDAZOLE), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,058 - 1,061  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14852.0051	Glass bottle	50 ml	inquire

# Aminop

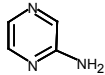
4-(3-Aminopropyl)morpholine → 3-Morpholino propylamine page 1193

N-(3-Aminopropyl)morpholine → 3-Morpholino propylamine page 1193

3-Aminopropyltriethoxysilane → 3-(Triethoxysilyl) propylamine page 1584

(3-Aminopropyl)trimethoxysilane → 3-(Trimethoxysilyl)-propylamine page 1600

## 801338 2-Aminopyrazine for synthesis



C<sub>4</sub>H<sub>5</sub>N<sub>3</sub>  
 ■ CAS-No. 5049-61-6 ■ EC-No. 225-748-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 95.1 g/mol

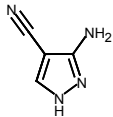
- Melting point 117 - 120 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 117 °C

Melting range (upper value) ..... ≤ 120 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01338.0010	Glass bottle	10 g	inquire

## 841044 5-Aminopyrazole-4-carbonitrile for synthesis



C<sub>4</sub>H<sub>4</sub>N<sub>4</sub>  
 5-Amino-4-cyanopyrazole  
 ■ CAS-No. 16617-46-2 ■ EC-No. 240-665-6  
 ■ M = 108.10 g/mol ■ Melting point 173 - 175 °C  
 ■ WGK 3

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 6.1C ■ Store below +15°C.
- HS-No. 2933 19 90 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(5-AMINOPYRAZOL-4-CARBONITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(5-AMINOPYRAZOLE-4-CARBONITRILE), 6.1, III
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, III

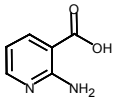
N.O.S.(5-AMINOPYRAZOLE-4-CARBONITRILE), 6.1, III

**Specification**  
 Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 173 °C  
 Melting range (upper value) ..... ≤ 176 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41044.0001	Glass bottle	1 g	inquire

3-Aminopyrazole-4-carboxylic acid ethyl ester → Ethyl (3-aminopyrazole 4-carboxylate) page 851

## 843936 2-Aminopyridin-3-carboxylic acid for synthesis



C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>  
 NH<sub>2</sub>-C<sub>5</sub>H<sub>3</sub>N-COOH  
 2-Aminonicotinic acid  
 ■ CAS-No. 5345-47-1 ■ EC-No. 226-296-3

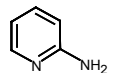
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 138.12 g/mol ■ Melting point 297 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**  
 Colour (visual)..... white to pale yellow  
 Appearance of substance (visual)..... powder

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.43936.0005	Glass bottle	5 g	inquire
8.43936.0025	Plastic bottle	25 g	inquire

## 801113 2-Aminopyridine for synthesis



C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>  
 2-(NH<sub>2</sub>)C<sub>5</sub>H<sub>4</sub>N  
 2-Pyridylamine  
 ■ CAS-No. 504-29-0 ■ EC-No. 207-988-4  
 ■ Vapour pressure 5 hPa (125 °C)  
 ■ Flash point 92 °C ■ Solub. in H<sub>2</sub>O 890 g/l (21 °C)  
 ■ M = 94.11 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) alkaline, Aqueous solution  
 ■ Melting point 55 - 58 °C ■ Bulk density 600 kg/

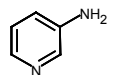
- m<sup>3</sup> ■ Boiling point 209 - 211 °C (1013 hPa)
- Ignition temp. >630 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 200 mg/kg
- LGK 6.1A
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2671 Aminopyridine, 6.1, II
- IMDG-Code UN 2671 AMINOPYRIDINES, 6.1, II,

Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2671 AMINOPYRIDINES, 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 57 °C  
 Melting range (upper value) ..... ≤ 60 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01113.0100	Glass bottle	100 g	inquire
8.01113.0500	Glass bottle	500 g	inquire

## 801110 3-Aminopyridine for synthesis



C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>  
 3-(NH<sub>2</sub>)C<sub>5</sub>H<sub>4</sub>N  
 3-Pyridylamine  
 ■ CAS-No. 462-08-8 ■ EC-No. 207-322-2  
 ■ Vapour pressure 1 hPa (25 °C)  
 ■ Flash point 88 °C ■ Solub. in H<sub>2</sub>O >1000 g/l (20 °C) ■ M = 94.11 g/mol ■ pH value 10 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 60 - 63 °C

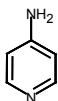
- Bulk density 500 kg/m<sup>3</sup>
- Boiling point 250 - 252 °C
- Ignition temp. 628 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310
- LGK 6.1A
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2671 Aminopyridine, 6.1, II
- IMDG-Code UN 2671 AMINOPYRIDINES, 6.1, II,

Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2671 AMINOPYRIDINES, 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 60 °C  
 Melting range (upper value) ..... ≤ 63 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01110.0025	Glass bottle	25 g	inquire

## 801111 4-Aminopyridine for synthesis



C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>  
4-(NH<sub>2</sub>)C<sub>5</sub>H<sub>4</sub>N  
4-Pyridylamine  
■ CAS-No. 504-24-5 ■ EC-No. 207-987-9  
■ Spec. density 1.26 g/cm<sup>3</sup> (25 °C)  
■ Flash point 156 °C ■ Solub. in  
H<sub>2</sub>O (20 °C) soluble ■ M = 94.11 g/mol

- Melting point 157 - 160 °C
- Boiling point 274 °C (1013 hPa)
- Ignition temp. 640 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Oral, H300; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 21 mg/kg
- LGK 6.1A
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2671 Aminopyridine, 6.1, II

- IMDG-Code UN 2671 AMINOPYRIDINES, 6.1, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2671 AMINOPYRIDINES, 6.1, II

**Specification**

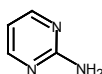
Assay (GC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 157 °C  
Melting range (upper value)..... ≤ 160 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01111.0010	Glass bottle	10 g	inquire
8.01111.0025	Glass bottle	25 g	inquire

Aminopyridines → Heterocycles

2-Amino-3-pyridinol → 2-Amino-3-hydroxypyridine page 390

## 801270 2-Aminopyrimidine for synthesis



C<sub>4</sub>H<sub>5</sub>N<sub>3</sub>  
2-Pyrimidinylamine  
■ CAS-No. 109-12-6 ■ EC-No. 203-648-4  
■ Flash point 103 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) soluble ■ M = 95.1 g/mol
- Melting point 122 - 125 °C
- Bulk density 650 kg/m<sup>3</sup>
- Boiling point 158 - 160 °C (186 hPa)
- WGK 2
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
Melting range (lower value)..... ≥ 122 °C  
Melting range (upper value)..... ≤ 125 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01270.0100	Glass bottle	100 g	inquire

4-Aminopyrocatechol dimethyl ether → 3,4-Dimethoxyaniline page 769

## 814887 (3S)-(-)-Aminopyrrolidine for synthesis



C<sub>4</sub>H<sub>10</sub>N<sub>2</sub>  
■ CAS-No. 128345-57-3  
■ Spec. density 0.985 g/cm<sup>3</sup> (20 °C)  
■ Flash point 68 °C ■ M = 86.14 g/mol  
■ Boiling point 164 - 165 °C (1013 hPa)  
■ WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 2735 Polyamine, flüssig, ätzend, n.a.g. ((3S)-(-)-AMINOPYRROLIDIN), 8, III ■ IMDG-Code UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. ((3S)-(-)-AMINOPYRROLIDINE), 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2735 POLYAMINES, LIQUID,

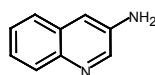
CORROSIVE, N.O.S. ((3S)-(-)-AMINOPYRROLIDINE), 8, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C / 4 °C)..... 0,984 - 0,988  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)]..... -21,0 - -19,0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14887.0001	Glass bottle	1 g	inquire

## 841634 3-Aminoquinoline for synthesis



C<sub>9</sub>H<sub>8</sub>N<sub>2</sub>  
■ CAS-No. 580-17-6 ■ EC-No. 209-455-1  
■ M = 144.17 g/mol ■ Melting point 96 - 98 °C  
■ WGK 3

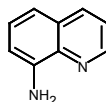
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 49 90 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)

Melting range (lower value)..... ≥ 93 °C  
Melting range (upper value)..... ≤ 96 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41634.0001	Glass bottle	1 g	inquire

## 820068 8-Aminoquinoline for synthesis



C<sub>9</sub>H<sub>8</sub>N<sub>2</sub>  
■ CAS-No. 578-66-5 ■ EC-No. 209-427-9  
■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

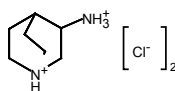
- M = 144.17 g/mol ■ Melting point 61 - 64 °C
- Boiling point 157 - 162 °C (27 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 49 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 61 °C  
Melting range (upper value)..... ≤ 64 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20068.0005	Glass bottle	5 g	inquire

## 814357 3-Aminoquinuclidine dihydrochloride for synthesis



C<sub>7</sub>H<sub>16</sub>Cl<sub>2</sub>N<sub>2</sub>  
C<sub>7</sub>H<sub>14</sub>N<sub>2</sub>\*2HCl

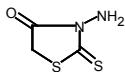
- CAS-No. 6530-09-2 ■ EC-No. 229-424-6
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 199.12 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (argentometric)..... ≥ 99,0 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14357.0005	Glass bottle	5 g	inquire

## 814586 N-Aminorhodanine for synthesis

C<sub>3</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>S

3-Amino-2-thioxo-4-thiazolidinone

■ CAS-No. 1438-16-0 ■ EC-No. 215-870-9

■ Spec. density 1 g/cm<sup>3</sup> ■ M = 148.21 g/mol

■ Melting point 98 - 101 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 1, Oral, H300; Skin irritation, Category 2, H315; Eye

irritation, Category 2, H319, P262, P302 + P352,

P305 + P351 + P338, P309 + P310

■ LD50 oral rat 2.2 mg/kg

■ LGK 6.1A

■ HS-No. 2934 10 00 ■ Disposal 9

■ ADR-RID UN 2811 Giftiger organischer fester

Stoff, n.a.g.(3-AMINO-2-THIOXO-4-

THIAZOLIDINON), 6.1, I ■ IMDG-Code UN 2811

TOXIC SOLID, ORGANIC, N.O.S.(3-AMINO-2-

THIOXO-4-THIAZOLIDINONE), 6.1, I

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3-AMINO-2-THIOXO-4-THIAZOLIDINONE),

4-Aminosalicylic acid → 4-Amino-2-hydroxybenzoic acid page 389

4-Aminosalicylic acid sodium salt → 4-Amino-2-hydroxybenzoic acid sodium salt dihydrate page 390

L-2-Aminosuccinamic acid → (S)-(+)-Asparagine monohydrate page 426

L-Aminosuccinic acid → (S)-(+)-Aspartic acid page 426

L-2-Aminosuccinic acid → (S)-(+)-Aspartic acid page 426

L-α-Aminosuccinic acid → L-Aspartic acid page 426

6.1, I

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 98 °C

Melting range (upper value) ..... ≤ 101 °C

Identity (IR) ..... conforms

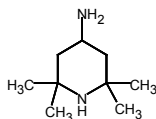
Ord.No.	Packaging	Quantity	Price
8.14586.0010	Glass bottle	10 g	inquire

2-Aminosuccinic acid 4-amide → (S)-(+)-Asparagine monohydrate page 426

Aminosulfonic acid → page 372

Aminoterephthalic acid dimethyl ester → 2-Aminodimethyl terephthalate page 386

## 814722 4-Amino-2,2,6,6-tetramethylpiperidine for synthesis

C<sub>9</sub>H<sub>20</sub>N<sub>2</sub>

Triacetonediamine, TAD

■ CAS-No. 36768-62-4 ■ EC-No. 253-197-2

■ Refractive index 1.469 (25 °C) ■ Vapour pressure ≤ 20 hPa (20 °C)

■ Spec. density 0.893 g/cm<sup>3</sup> (20 °C)■ Flash point 75 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble■ M = 156.27 g/mol ■ pH value 12.3 (99 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point 12 - 15 °C

■ Boiling point 199 °C (1013 hPa)

■ Ignition temp. 300 °C

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 4, Oral,

H302; Skin corrosion, Category 1B, H314; Chronic

aquatic toxicity, Category 3, H412; Corrosive to

metals, Category 1, H290, P280, P301 + P330 +

P331, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 1000 mg/kg

■ LGK 8A

■ HS-No. 2933 39 99 ■ Disposal 3

■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(4-AMINO-2,2,6,6-TETRAMETHYLPIPERIDIN),

8, II ■ IMDG-Code UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(4-AMINO-2,2,6,6-

TETRAMETHYLPIPERIDINE), 8, II, Segregation

Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(4-AMINO-2,2,6,6-

TETRAMETHYLPIPERIDINE), 8, II

## Specification

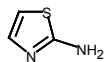
Assay (GC, area%) ..... ≥ 97,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 0,890 - 0,895

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14722.0100	Glass bottle	100 ml	inquire

## 801272 2-Aminothiazole for synthesis

C<sub>3</sub>H<sub>4</sub>N<sub>2</sub>S

2-Thiazolylamine

■ CAS-No. 96-50-4 ■ EC-No. 202-511-6

■ Vapour pressure &lt; 1 hPa (20 °C) ■ Solub. in

H<sub>2</sub>O 100 g/l (20 °C) ■ M = 100.13 g/mol■ pH value 9.6 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 86 - 89 °C ■ Bulk density 600 kg/

m<sup>3</sup> ■ Boiling point 117 °C (20 hPa)

■ Ignition temp. 600 °C

■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302

■ LD50 oral rat 480 mg/kg

■ LGK 10 - 13

■ HS-No. 2934 10 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 86 °C

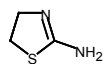
Melting range (upper value) ..... ≤ 91 °C

Identity (IR) ..... conforms

Chloride (Cl) ..... ≤ 0,50 % (m)

Ord.No.	Packaging	Quantity	Price
8.01272.0100	Plastic bottle	100 g	inquire
8.01272.0500	Plastic bottle	500 g	inquire

## 801313 2-Amino-2-thiazoline for synthesis

C<sub>3</sub>H<sub>4</sub>N<sub>2</sub>S2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>SH

■ CAS-No. 1779-81-3 ■ EC-No. 217-224-1

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 102.16 g/

mol ■ Melting point 76 - 79 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2934 10 00 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 % (m)

Melting range (lower value) ..... ≥ 76 °C

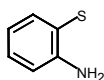
Melting range (upper value) ..... ≤ 79 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01313.0050	Plastic bottle	50 g	inquire

6-Amino-2-thiocytosine → 4,6-Diamino-2-pyrimidinethiol page 698

## 801335 2-Aminothiophenol for synthesis

C<sub>6</sub>H<sub>7</sub>NS2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>SH

2-Mercaptoaniline

■ CAS-No. 137-07-5 ■ EC-No. 205-277-3

■ Refractive index 1.6405 (20 °C, 589 nm)

■ Vapour pressure 1 hPa (69 °C)

■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)■ Flash point 79 °C ■ Solub. in H<sub>2</sub>O 0.027 g/l

■ M = 125.18 g/mol ■ Melting point 26 °C

■ Boiling point 234 °C (1013 hPa)

■ WGK 3

■ GHS: Warning, Specific target organ toxicity -

single exposure, Category 3, H335; Skin irritation,

Category 2, H315; Eye irritation, Category 2,

H319; Acute aquatic toxicity, Category 1, H400;

Corrosive to metals, Category 1, H290, P273, P302

+ P352, P304 + P340, P305 + P351 + P338

■ LGK 8A ■ Store below +15 °C.

■ HS-No. 2930 90 99 ■ Disposal 3

■ ADR-RID UN 1759 Ätzender fester Stoff,

n.a.g.(2-AMINOTHIOPHENOL), 8, II ■ IMDG-

Code UN 1759 CORROSIVE SOLID, N.O.S.(2-

AMINOTHIOPHENOL), 8, II

■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(2-AMINOTHIOPHENOL), 8, II

## Specification

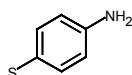
Assay (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,173 - 1,177

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01335.0025	Glass bottle	25 ml	inquire
8.01335.0100	Glass bottle	100 ml	inquire

## 841602 4-Aminothiophenol for synthesis

C<sub>6</sub>H<sub>7</sub>NSSH(C<sub>6</sub>H<sub>4</sub>)NH<sub>2</sub>

4-Aminobenzenethiol, 4-Mercaptoaniline

■ CAS-No. 1193-02-8 ■ EC-No. 214-763-4

■ Flash point >=110 °C ■ Solub. in H<sub>2</sub>O 7.3 g/l (25 °C) ■ M = 125.18 g/mol

■ Melting point 40 - 44 °C

- Boiling point 140 - 145 °C (20 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13 ■ Store below +15 °C.
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-AMINOTHIOPHENOL), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(4-AMINOTHIOPHENOL), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-AMINOTHIOPHENOL), 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41602.0005	Glass bottle	5 g	inquire
8.41602.0025	Glass bottle	25 g	inquire

3-Amino-2-thioxo-4-thiazolidinone → N-

Aminorhodanine page 404

2-Aminotoluene → page 1568

3-Aminotoluene → m-Toluidine page 1568

4-Aminotoluene → page 1569

p-Aminotoluene hydrochloride → p-Toluidinium chloride page 1569

3-Amino-p-toluic acid → 3-Amino-4-methylbenzoic acid page 392

## 814495 3-Amino-1H-1,2,4-triazole for synthesis

C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>

Amitrol

■ CAS-No. 61-82-5 ■ EC-No. 200-521-5

■ Vapour pressure &lt; 0.1 hPa (20 °C)

■ Spec. density 1.138 g/cm<sup>3</sup> (20 °C) ■ Solub. inH<sub>2</sub>O 280 g/l (25 °C) ■ M = 84.08 g/mol■ pH value 6.4 - 7.4 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 149 - 152 °C

■ Bulk density 650 kg/m<sup>3</sup> ■ Ignition temp. >225 °C

■ WGK 2

- GHS: Warning, Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P281, P308 + P313
- LD50 oral rat 1100 mg/kg ■ LD50 dermal rat > 10000 mg/kg
- EC-Index-No. 613-011-00-6 ■ LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(3-AMINO-4H-1,2,4-TRIAZOL), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(3-AMINO-4H-1,2,4-TRIAZOLE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(3-AMINO-4H-1,2,4-TRIAZOLE), 9, III

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 97.0 % (m)  
 Melting range (lower value)..... ≥ 153 °C  
 Melting range (upper value)..... ≤ 158 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14495.0100	Plastic bottle	100 g	inquire
8.14495.0500	Plastic bottle	500 g	inquire

## 801309 4-Amino-1,2,4-triazole for synthesis

C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>

4-Amino-4H-1,2,4-triazole

■ CAS-No. 584-13-4 ■ EC-No. 209-533-5

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 84.08 g/mol ■ pH value < 7 (H<sub>2</sub>O, 20 °C)
- Melting point 83 - 86 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

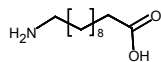
**Specification**Assay (HClO<sub>4</sub>)..... ≥ 98.0 % (m)

Melting range (lower value)..... ≥ 83 °C  
 Melting range (upper value)..... ≤ 86 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01309.0025	Glass bottle	25 g	inquire

4-Amino-4H-1,2,4-triazole → 4-Amino-1,2,4-triazole page 405

## 801228 11-Aminoundecanoic acid for synthesis

C<sub>11</sub>H<sub>23</sub>NO<sub>2</sub>H<sub>2</sub>N(CH<sub>2</sub>)<sub>10</sub>COOH

■ CAS-No. 2432-99-7 ■ EC-No. 219-417-6

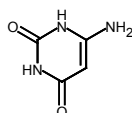
- Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 201.3 g/mol
- Melting point >185 °C ■ Bulk density 500 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 99.0 % (m)

Melting range (lower value)..... ≥ 185 °C  
 Melting range (upper value)..... ≤ 190 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01228.0250	Plastic bottle	250 g	inquire

## 841698 4(6)-Aminouracil for synthesis

C<sub>4</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub>

■ CAS-No. 873-83-6 ■ EC-No. 212-854-3

■ M = 127.1 g/mol ■ Melting point 360 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2933 59 95 ■ Disposal 3

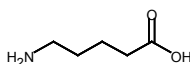
**Specification**

Assay (HPLC, area%)..... ≥ 98.0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41698.0100	Glass bottle	100 g	inquire

N-Aminourea hydrochloride → page 1415

## 841495 5-Aminovaleric acid for synthesis

C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>

5-Aminopentanoic acid

■ CAS-No. 660-88-8 ■ EC-No. 211-544-5

■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 117.14 g/mol

mol ■ Melting point 157 - 158 °C (decomposition)

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2922 49 85 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 97.0 %

Melting range (lower value)..... ≥ 152 °C

Melting range (upper value)..... ≤ 156 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41495.0005	Plastic bottle	5 g	inquire
8.41495.0025	Plastic bottle	25 g	inquire



# Aminov

D-2-Aminovaleric acid → D-Norvaline page 1236  
DL-2-Aminovaleric acid → DL-Norvaline page 1236  
L-2-Aminovaleric acid → L-Norvaline page 1236

4-Aminoveratrol → 3,4-Dimethoxyaniline page 769  
2-Amino-3-(4-hydroxyphenyl)propionic acid  
methyl ester hydrochloride → L-  
Methyltyrosinate hydrochloride page 1185  
Amitrol → 3-Amino-1H-1,2,4-triazole page 405

Ammediol → 2-Amino-2-methyl-1,3-propanediol  
page 394

## 815008 Ammonia-D3 26% solution in D<sub>2</sub>O deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™



D<sub>5</sub>NO  
ND<sub>4</sub>OD  
■ Vapour pressure 535 hPa (20 °C)  
■ Spec. density 1.056 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O,  
20 °C) strongly alkaline ■ Boiling point 36 °C  
■ WGK 2  
■ GHS: Danger, Corrosive to metals, Category 1,  
H290; Skin corrosion, Category 1B, H314; Specific

target organ toxicity - single exposure, Category  
3, H335; Acute aquatic toxicity, Category 1, H400,  
P273, P280, P301 + P330 + P331, P304 + P340,  
P305 + P351 + P338, P309 + P310  
■ LGK 8B  
■ HS-No. 2845 90 10  
■ ADR-RID UN 2672 Ammoniaklösung, 8, III  
■ IMDG-Code UN 2672 AMMONIA SOLUTION, 8,  
III, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2672 AMMONIA SOLUTION, 8, III  
**Specification**  
Deuteration degree..... ≥ 99.5 %  
Assay (weight%)..... ≥ 26 %

Ord.No.	Packaging	Quantity	Price
8.15008.0010	Glass ampoule	10 ml	inquire
8.15008.0025	Glass bottle	25 ml	inquire

Ammonia nitrate → page 413

## Ammonia solution 25%



Ammonium hydroxide solution, Ammonia water  
■ Vapour pressure 483 hPa (20 °C)  
■ Spec. density 0.903 g/cm<sup>3</sup> (20 °C) ■ Explosive  
limit 15.4 - 33.6 % (V) ■ Solub. in  
H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O,  
20 °C) strongly alkaline ■ Melting point -57.5 °C  
■ Boiling point 37.7 °C

■ WGK 2  
■ GHS: Danger, Corrosive to metals, Category 1,  
H290; Skin corrosion, Category 1B, H314; Specific  
target organ toxicity - single exposure, Category  
3, H335; Acute aquatic toxicity, Category 1, H400,  
P273, P280, P301 + P330 + P331, P304 + P340,  
P305 + P351 + P338, P309 + P310

■ LGK 8B  
■ HS-No. 2814 20 00 ■ Disposal 13  
■ ADR-RID UN 2672 Ammoniaklösung, 8, III  
■ IMDG-Code UN 2672 AMMONIA SOLUTION, 8,  
III, Segregation Group: 18 (Alkalis)  
■ IATA-DGR UN 2672 AMMONIA SOLUTION, 8, III

## 105432 Ammonia solution 25% for analysis EMSURE®

**Specification**  
Assay (acidimetric, NH<sub>3</sub>)..... ≥ 25.0 %  
Carbonate (as CO<sub>2</sub>)..... ≤ 10 ppm  
Chloride (Cl)..... ≤ 0.5 ppm  
Phosphate (PO<sub>4</sub>)..... ≤ 0.5 ppm  
Sulphate (SO<sub>4</sub>)..... ≤ 2 ppm  
Sulphide (S)..... ≤ 0.2 ppm  
Ag (Silver)..... ≤ 0.020 ppm  
Al (Aluminium)..... ≤ 0.500 ppm  
Au (Gold)..... ≤ 0.100 ppm  
Ba (Barium)..... ≤ 0.050 ppm  
Bi (Bismuth)..... ≤ 0.100 ppm  
Ca (Calcium)..... ≤ 0.500 ppm  
Cd (Cadmium)..... ≤ 0.050 ppm  
Co (Cobalt)..... ≤ 0.050 ppm  
Cr (Chromium)..... ≤ 0.050 ppm  
Cu (Copper)..... ≤ 0.100 ppm

Fe (Iron)..... ≤ 0.100 ppm  
Ga (Gallium)..... ≤ 0.020 ppm  
In (Indium)..... ≤ 0.020 ppm  
K (Potassium)..... ≤ 0.500 ppm  
Li (Lithium)..... ≤ 0.020 ppm  
Mg (Magnesium)..... ≤ 0.100 ppm  
Mn (Manganese)..... ≤ 0.050 ppm  
Mo (Molybdenum)..... ≤ 0.050 ppm  
Na (Sodium)..... ≤ 0.500 ppm  
Ni (Nickel)..... ≤ 0.050 ppm  
Pb (Lead)..... ≤ 0.050 ppm  
Pt (Platinum)..... ≤ 0.100 ppm  
Sn (Tin)..... ≤ 0.100 ppm  
Sr (Strontium)..... ≤ 0.100 ppm  
Ti (Titanium)..... ≤ 0.100 ppm  
Tl (Thallium)..... ≤ 0.050 ppm

Zn (Zinc)..... ≤ 0.100 ppm  
Substances reducing potassium permanganate (as  
O)..... ≤ 5 ppm  
Residue on ignition (as SO<sub>4</sub>)..... ≤ 10 ppm  
Non volatile matter..... ≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.05432.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.05432.1011	Plastic bottle	1 l	inquire
1.05432.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.05432.5000	Plastic bottle	5 l	inquire
	Plastic bottle	20 x 5 l	inquire
1.05432.9025	Plastic container	25 l	inquire

## 105428 Ammonia solution 25 % Suprapur®

**Specification**  
Assay (acidimetric, NH<sub>3</sub>)..... ≥ 25.0 %  
Colour..... ≤ 10 Hazen  
Carbonate (as CO<sub>2</sub>)..... ≤ 10 ppm  
Chloride (Cl)..... ≤ 500 ppb  
Phosphate (PO<sub>4</sub>)..... ≤ 50 ppb  
Sulphate (SO<sub>4</sub>)..... ≤ 500 ppb  
Ag (Silver)..... ≤ 0.5 ppb  
Al (Aluminium)..... ≤ 5.0 ppb  
As (Arsenic)..... ≤ 1.0 ppb  
Au (Gold)..... ≤ 0.5 ppb  
Ba (Barium)..... ≤ 0.5 ppb  
Be (Beryllium)..... ≤ 0.5 ppb  
Bi (Bismuth)..... ≤ 0.5 ppb  
Ca (Calcium)..... ≤ 2.0 ppb  
Cd (Cadmium)..... ≤ 0.5 ppb  
Co (Cobalt)..... ≤ 0.5 ppb

Cr (Chromium)..... ≤ 1.0 ppb  
Cu (Copper)..... ≤ 1.0 ppb  
Fe (Iron)..... ≤ 2.0 ppb  
Ga (Gallium)..... ≤ 0.5 ppb  
Ge (Germanium)..... ≤ 0.5 ppb  
Hg (Mercury)..... ≤ 2.0 ppb  
In (Indium)..... ≤ 0.5 ppb  
K (Potassium)..... ≤ 2.0 ppb  
Li (Lithium)..... ≤ 0.5 ppb  
Mg (Magnesium)..... ≤ 2.0 ppb  
Mn (Manganese)..... ≤ 0.5 ppb  
Mo (Molybdenum)..... ≤ 0.5 ppb  
Na (Sodium)..... ≤ 10.0 ppb  
Ni (Nickel)..... ≤ 1.0 ppb  
Pb (Lead)..... ≤ 0.5 ppb  
Pt (Platinum)..... ≤ 0.5 ppb

Sb (Antimony)..... ≤ 0.5 ppb  
Sn (Tin)..... ≤ 0.5 ppb  
Sr (Strontium)..... ≤ 0.5 ppb  
Ti (Titanium)..... ≤ 0.5 ppb  
Tl (Thallium)..... ≤ 0.5 ppb  
V (Vanadium)..... ≤ 0.5 ppb  
Zn (Zinc)..... ≤ 1.0 ppb  
Zr (Zirconium)..... ≤ 0.5 ppb  
Residue on ignition (as sulphate)..... ≤ 2 ppm  
The actual values are subject to unavoidable  
systematic variations in this concentration range.

Ord.No.	Packaging	Quantity	Price
1.05428.0250	Plastic bottle	250 ml	inquire
1.05428.1000	Plastic bottle	1 l	inquire

## 105423 Ammonia solution 28–30% for analysis EMSURE® ACS, Reag. Ph Eur



## Ammonia water, Ammonium hydroxide solution

- Vapour pressure 635 hPa (20 °C)
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 15.4 - 33.6 % (V) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly alkaline ■ Melting point -72 °C
- Boiling point 32 °C
- WGK 2
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2814 20 00
- ADR-RID UN 2672 Ammoniaklösung, 8, III
- IMDG-Code UN 2672 AMMONIA SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2672 AMMONIA SOLUTION, 8, III

## Specification

Assay (acidimetric, NH<sub>3</sub>)..... 28.0 - 30.0 %  
 Identity..... passes test  
 Appearance..... passes test

Appearance of solution.....	passes test
Carbonate (as CO <sub>2</sub> ).....	≤ 10 ppm
Chloride (Cl).....	≤ 0.3 ppm
Nitrate (NO <sub>3</sub> ).....	≤ 2 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 0.5 ppm
Heavy metals (as Pb).....	≤ 0.5 ppm
Silicate (as SiO <sub>2</sub> ).....	≤ 5 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 2 ppm
Sulphide (S).....	≤ 0.2 ppm
Ag (Silver).....	≤ 0.020 ppm
Al (Aluminium).....	≤ 0.500 ppm
As (Arsenic).....	≤ 0.500 ppm
Au (Gold).....	≤ 0.100 ppm
Ba (Barium).....	≤ 0.050 ppm
Bi (Bismuth).....	≤ 0.100 ppm
Ca (Calcium).....	≤ 0.500 ppm
Cd (Cadmium).....	≤ 0.050 ppm
Co (Cobalt).....	≤ 0.050 ppm
Cr (Chromium).....	≤ 0.050 ppm
Cu (Copper).....	≤ 0.100 ppm
Fe (Iron).....	≤ 0.100 ppm
Ga (Gallium).....	≤ 0.020 ppm
In (Indium).....	≤ 0.020 ppm
K (Potassium).....	≤ 0.500 ppm

Li (Lithium).....	≤ 0.020 ppm
Mg (Magnesium).....	≤ 0.100 ppm
Mn (Manganese).....	≤ 0.050 ppm
Mo (Molybdenum).....	≤ 0.050 ppm
Na (Sodium).....	≤ 0.500 ppm
Ni (Nickel).....	≤ 0.050 ppm
Pb (Lead).....	≤ 0.050 ppm
Pt (Platinum).....	≤ 0.100 ppm
Sn (Tin).....	≤ 0.100 ppm
Sr (Strontium).....	≤ 0.100 ppm
Ti (Titanium).....	≤ 0.100 ppm
Tl (Thallium).....	≤ 0.050 ppm
Zn (Zinc).....	≤ 0.100 ppm
Pyridine and related substances.....	≤ 2 ppm
Substances reducing potassium permanganate.....	≤ 5 ppm
Residue after ignition.....	≤ 10 ppm
Non volatile matter.....	≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.05423.1000	Glass bottle	1 l	inquire
1.05423.2500	Glass bottle	2.5 l	inquire
1.05423.9025	Plastic container	25 l	inquire

## 105426 Ammonia solution 32% extra pure



## Ammonium hydroxide solution, Ammonia water

- Vapour pressure 837 hPa (20 °C)
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 15.4 - 33.6 % (V) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly alkaline ■ Melting point -91.5 °C
- Boiling point 37.7 °C (1013 hPa)
- WGK 2
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P304 + P340,

- P305 + P351 + P338, P309 + P310
- LGK 8B ■ Store at +15°C to +25°C.
- HS-No. 2814 20 00 ■ Disposal 13
- ADR-RID UN 2672 Ammoniaklösung, 8, III
- IMDG-Code UN 2672 AMMONIA SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2672 AMMONIA SOLUTION, 8, III

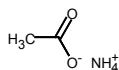
## Specification

Assay (acidimetric, NH<sub>3</sub>)..... ≥ 30 %  
 Identity..... passes test  
 Colour..... ≤ 10 Hazen  
 Chloride (Cl)..... ≤ 0.002 %

Sulphate (SO <sub>4</sub> ).....	≤ 0.003 %
Heavy metals (as Pb).....	≤ 0.0001 %
Fe (Iron).....	≤ 0.0005 %
Substances reducing potassium permanganate (as O).....	≤ 0.0008 %
Residue on ignition (as sulphates).....	≤ 0.003 %

Ord.No.	Packaging	Quantity	Price
1.05426.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.05426.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## Ammonium acetate



C<sub>2</sub>H<sub>7</sub>NO<sub>2</sub>  
 CH<sub>3</sub>COONH<sub>4</sub>

- CAS-No. 631-61-8 ■ EC-No. 211-162-9
- Spec. density 1.17 g/cm<sup>3</sup> (20 °C)
- Flash point 136 °C ■ Solub. in H<sub>2</sub>O 1480 g/l (4 °C) ■ M = 77.08 g/mol ■ pH value 6.7 - 7.3 (50 g/l, H<sub>2</sub>O, 25 °C) ■ Melting point 114 °C
- Bulk density 410 kg/m<sup>3</sup>

- WGK 1
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2915 29 00 ■ Disposal 14
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## 101115 Ammonium acetate extra pure

## Specification

Assay (acidimetric)..... ≥ 96,0 %  
 Identity..... passes test  
 pH-value (5 %; water)..... 6,0 - 7,5  
 Chloride (Cl)..... ≤ 0,002 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0,01 %

Heavy metals (as Pb)..... ≤ 0,0005 %  
 Fe (Iron)..... ≤ 0,001 %  
 Residue on ignition (as sulphate)..... ≤ 0,02 %  
 Water..... ≤ 2,5 %

Ord.No.	Packaging	Quantity	Price
1.01115.1000	Plastic bottle	1 kg	inquire
1.01115.5000	Plastic bottle	5 kg	inquire

## 101116 Ammonium acetate for analysis EMSURE® ACS, Reag. Ph Eur

## Specification

Assay (acidimetric)..... ≥ 98,0 %  
 Insoluble matter..... ≤ 0,005 %  
 pH-value (5 %; water, 25 °C)..... 6,7 - 7,3  
 Chloride (Cl)..... ≤ 0,0005 %  
 Nitrate (NO<sub>3</sub>)..... ≤ 0,001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0,001 %  
 Heavy metals (as Pb)..... ≤ 0,0002 %  
 Ca (Calcium)..... ≤ 0,001 %

Fe (Iron)..... ≤ 0,0002 %  
 Substances reducing potassium permanganate (as formic acid)..... ≤ 0,005 %  
 Residue on ignition (as sulphate)..... ≤ 0,01 %  
 Water..... ≤ 2,0 %  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01116.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.01116.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.01116.5000	Plastic bottle	5 kg	inquire
1.01116.9050	Fibre carton	50 kg	inquire



# Ammoni

## 116103 Ammonium acetate Fractopur®

### Specification

Assay (acidimetric).....	≥ 98.0 %
Appearance of solution (5 mol/l, Water).....	passes test
pH-value (5 %; water).....	6.7 - 7.3
Chloride (Cl).....	≤ 0.0005 %
Nitrate (NO <sub>3</sub> ).....	≤ 0.001 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.001 %
Heavy metals (as Pb).....	≤ 0.0005 %
Al (Aluminium).....	≤ 0.0005 %
Ba (Barium).....	≤ 0.0005 %
Bi (Bismuth).....	≤ 0.0005 %
Ca (Calcium).....	≤ 0.001 %
Cd (Cadmium).....	≤ 0.0005 %

Co (Cobalt).....	≤ 0.0005 %
Cr (Chromium).....	≤ 0.0005 %
Cu (Copper).....	≤ 0.0005 %
Fe (Iron).....	≤ 0.0002 %
K (Potassium).....	≤ 0.005 %
Li (Lithium).....	≤ 0.0005 %
Mg (Magnesium).....	≤ 0.0005 %
Mn (Manganese).....	≤ 0.0005 %
Mo (Molybdenum).....	≤ 0.0005 %
Na (Sodium).....	≤ 0.005 %
Ni (Nickel).....	≤ 0.0005 %
Pb (Lead).....	≤ 0.0005 %
Sr (Strontium).....	≤ 0.0005 %

Zn (Zinc).....	≤ 0.0005 %
Residue on ignition (as sulphate).....	≤ 0.01 %
Substances reducing potassium permanganate (as formic acid).....	≤ 0.005 %
UV absorption (260 nm; 1 mol/l; 1 cm; water).....	≤ 0.01
UV absorption (280 nm; 1 mol/l; 1 cm; water).....	≤ 0.007
Water.....	≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.16103.0250	Plastic bottle	250 g	inquire

Ammonium alum → Aluminium ammonium sulfate dodecahydrate page 368

Ammonium aluminium sulfate → Aluminium ammonium sulfate dodecahydrate page 368

## 101220 Ammonium amidosulfonate for analysis (for detection of sulfonamide in blood) EMSURE® ACS, Reag.

Ph Eur

H<sub>6</sub>N<sub>2</sub>O<sub>5</sub>S  
H<sub>2</sub>NSO<sub>3</sub>NH<sub>4</sub>  
Amidosulfonic acid ammonium salt, Ammonium sulfamate, Sulfamic acid ammonium salt  
■ CAS-No. 7773-06-0 ■ EC-No. 231-871-7  
■ Solub. in H<sub>2</sub>O 1950 g/l (20 °C) ■ M = 114.13 g/mol  
■ pH value 5.0 - 6.0 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 132 - 134 °C  
■ Bulk density 680 kg/m<sup>3</sup> ■ Boiling point 160 °C (1013 hPa) decomposes  
■ WGK 1  
■ GHS: Warning, Acute toxicity, Category 4, Oral,

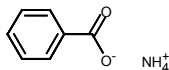
H302  
■ LD50 oral rat 2000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2842 90 80 ■ Disposal 14  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
Dangerous Good  
■ IATA-DGR No Dangerous Good  
**Specification**  
Assay (acidimetric)..... ≥ 99.0 %  
In water insoluble matter..... ≤ 0.02 %  
Melting point..... 132.0 - 134.0 °C

pH-value (5 %; water)..... 5.0 - 6.0  
Chloride (Cl)..... ≤ 0.001 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0.02 %  
Heavy metals (as Pb)..... ≤ 0.0005 %  
Fe (Iron)..... ≤ 0.0005 %  
Residue on ignition (as SO<sub>4</sub>)..... ≤ 0.05 %  
Loss on drying (105 °C)..... ≤ 0.5 %  
ACS conforms

Ord.No.	Packaging	Quantity	Price
1.01220.0100	Plastic bottle	100 g	inquire

Ammonium aurin tricarboxylate → Aurin tricarboxylic acid ammonium salt page 426

## 101118 Ammonium benzoate extra pure



C<sub>7</sub>H<sub>9</sub>NO<sub>2</sub>  
C<sub>6</sub>H<sub>5</sub>COONH<sub>4</sub>  
■ CAS-No. 1863-63-4 ■ EC-No. 217-468-9  
■ Spec. density 1.26 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 139.15 g/mol  
■ pH value 6.4 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 198 °C (decomposition)

■ WGK 1  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
■ LD50 oral rat 825 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2916 31 00 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
Dangerous Good  
■ IATA-DGR No Dangerous Good  
**Specification**  
Assay (perchloric acid titration)..... ≥ 98.0 %

Identity (IR-spectrum)..... passes test  
pH-value (10 %; water)..... 6,0 - 8,0  
Heavy metals (as Pb)..... ≤ 0,001 %  
Oxidizable matter..... passes test  
Residual solvents (Ph.Eur./ICH)..... excluded by production process

Ord.No.	Packaging	Quantity	Price
1.01118.1000	Plastic bottle	1 kg	inquire
1.01118.9050	Fibre carton	50 kg	inquire

## 101125 Ammonium bromide for analysis EMSURE® ACS

H<sub>4</sub>BrN  
NH<sub>4</sub>Br  
■ CAS-No. 12124-97-9 ■ EC-No. 235-183-8  
■ Vapour pressure 1.3 hPa (198 °C)  
■ Spec. density 2.43 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 742 g/l (20 °C) ■ M = 97.94 g/mol  
■ pH value 4.8 (50 g/l, H<sub>2</sub>O, 25 °C)  
■ Melting point 542 °C (closed capillary tube)  
■ Bulk density 1100 kg/m<sup>3</sup>  
■ WGK 1  
■ LD50 oral rat 2714 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2827 59 00 ■ Disposal 14

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
Dangerous Good  
■ IATA-DGR No Dangerous Good  
**Specification**  
Assay (argentometric)..... ≥ 99.5 %  
Insoluble matter..... ≤ 0.005 %  
pH-value (5 %; water)..... 4.5 - 6.0  
Bromate (BrO<sub>3</sub>)..... ≤ 0.002 %  
Chloride (Cl)..... ≤ 0.2 %  
Iodide (I)..... passes test  
Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
Heavy metals (as Pb)..... ≤ 0.0005 %

As (Arsenic)..... ≤ 0.0002 %  
Ba (Barium)..... ≤ 0.002 %  
Ca (Calcium)..... ≤ 0.01 %  
Cu (Copper)..... ≤ 0.0003 %  
Fe (Iron)..... ≤ 0.0005 %  
Mg (Magnesium)..... ≤ 0.002 %  
Residue on ignition..... ≤ 0.01 %  
Conform to ACS

Ord.No.	Packaging	Quantity	Price
1.01125.1000	Plastic bottle	1 kg	inquire
1.01125.9025	Fibre carton	25 kg	inquire

## 109478 Ammonium buffer solution for complexometry (ammonium chloride/ammonia) pH = 10-11 Titripur®

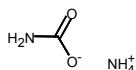
■ Spec. density 0.978 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 10.5 (H<sub>2</sub>O, 20 °C)  
■ Boiling point 80 - 100 °C  
■ WGK 2  
■ GHS: Danger, Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335; Corrosive to metals, Category 1,

H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 10 - 13  
■ HS-No. 3822 00 00 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
Dangerous Good  
■ IATA-DGR No Dangerous Good

**Specification**  
pH-value (20 °C)..... 10.0 - 11.0

Ord.No.	Packaging	Quantity	Price
1.09478.1000	Plastic bottle	1 l	inquire

## 101134 Ammonium carbamate for analysis EMSURE®

CH<sub>6</sub>N<sub>2</sub>O<sub>2</sub>H<sub>2</sub>NCOONH<sub>4</sub>

Ammonium carbamate, Carbamic acid ammonium salt

- CAS-No. 1111-78-0 ■ EC-No. 214-185-2
- Vapour pressure 82 hPa (20 °C)
- Spec. density 1.6 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 790 g/l (20 °C) ■ M = 78.07 g/mol
- pH value 10 (100 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 152 °C (closed capillary tube)
- Bulk density 750 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313
- LD50 oral rat 681 - 1470 mg/kg
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (acidimetric).....	≥ 99,5 %
Chloride (Cl).....	≤ 0,0003 %
Nitrate (NO <sub>3</sub> ).....	≤ 0,001 %
Phosphate (PO <sub>4</sub> ).....	≤ 0,0005 %
Sulphate (SO <sub>4</sub> ).....	≤ 0,001 %
Heavy metals (as Pb).....	≤ 0,0005 %
Ca (Calcium).....	≤ 0,003 %
Fe (Iron).....	≤ 0,0002 %
Residue on ignition (as sulphate).....	≤ 0,002 %

Ord.No.	Packaging	Quantity	Price
1.01134.0500	Plastic bottle	500 g	inquire

Ammonium carbamate → Ammonium carbamate page 409

## 159504 Ammonium carbonate for analysis EMSURE® ACS,Reag. Ph Eur

CH<sub>6</sub>N<sub>2</sub>O<sub>2</sub> \* CH<sub>3</sub>NO<sub>2</sub> (1:1)

salt of hartshorn

- CAS-No. 10361-29-2 ■ EC-No. 233-786-0
- Vapour pressure 69 hPa (20 °C) ■ Solub. in H<sub>2</sub>O 320 g/l (20 °C) ■ M = 157.13 g/mol
- pH value 9.4 (100 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 780 - 830 kg/m<sup>3</sup>
- WGK 1 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280,

P302 + P352, P305 + P351 + P338, P313

- LD50 oral rat > 1800 - < 2150 mg/kg
- LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2836 99 17 ■ Disposal 14
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (acidimetric, NH <sub>3</sub> ).....	≥ 30.0 %
Identity.....	passes test

Description.....	white crystals
Insoluble matter.....	≤ 0.005 %
Chloride (Cl).....	≤ 0.0005 %
Sulfur compounds (as SO <sub>4</sub> ).....	≤ 0.002 %
Heavy metals (as Pb).....	≤ 0.0005 %
Fe (Iron).....	≤ 0.0005 %
Non-volatile matter.....	≤ 0.01 %
Conforms ACS, Reag. Ph. Eur.	

Ord.No.	Packaging	Quantity	Price
1.59504.0250	Plastic bottle	250 g	inquire
1.59504.1000	Plastic bottle	1 kg	inquire

Ammonium Cell Test → page 50

## 102276 Ammonium cerium(IV) nitrate for analysis EMSURE® ACS,Reag. Ph Eur

H<sub>8</sub>CeN<sub>8</sub>O<sub>18</sub>(NH<sub>4</sub>)<sub>2</sub>[Ce(NO<sub>3</sub>)<sub>6</sub>]

di-Ammonium-hexanitratocerate(IV), Cerium(IV) ammonium nitrate

- CAS-No. 16774-21-3 ■ EC-No. 240-827-6
- Spec. density 2.49 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 1410 g/l (20 °C) ■ M = 548.22 g/mol
- pH value 1 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 108 °C ■ Bulk density 1200 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P210, P280, P305 +

P351 + P338

- LD50 oral rat > 300 - 2000 mg/kg
- LGK 5.1 B
- HS-No. 2846 10 00 ■ Disposal 14
- ADR-RID UN 1477 Nitrate, anorganische, n.a.g.(AMMONIUMCER(IV)-NITRAT), 5.1, II
- IMDG-Code UN 1477 NITRATES, INORGANIC, N.O.S.(AMMONIUM CERIUM(IV) NITRATE), 5.1, II
- IATA-DGR UN 1477 NITRATES, INORGANIC, N.O.S.(AMMONIUM CERIUM(IV) NITRATE), 5.1, II

## Specification

Assay (oxidimetric, (NH <sub>4</sub> ) <sub>2</sub> Ce(NO <sub>3</sub> ) <sub>6</sub> ).....	≥ 99.0 %
--	----------

Substances insoluble in diluted sulfuric acid.....	≤ 0.005 %
Chloride (Cl).....	≤ 0.001 %
Phosphate (PO <sub>4</sub> ).....	≤ 0.005 %
Heavy metals (as Pb).....	≤ 0.002 %
Fe (Iron).....	≤ 0.003 %
Na (Sodium).....	≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.02276.0100	Plastic bottle	100 g	inquire
1.02276.1000	Plastic bottle	1 kg	inquire

102277 Ammonium cerium(IV) nitrate solution c(NH<sub>4</sub>)<sub>2</sub> Ce(NO<sub>3</sub>)<sub>6</sub> = 0.1 mol/l (0,1 N) Titripur®

- Spec. density 1.098 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) acidic
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 2796 Schwefelsäure, 8, II ■ IMDG-Code UN 2796 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)

IATA-DGR UN 2796 SULPHURIC ACID, 8, II

## Specification

Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur). Amount-of-substance concentration .0.1000 mol/l The concentration of this volumetric solution was determined with volumetric standard Iron(II) ethylenediammonium sulfate (Merck article number 1.02402). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage

probability). The certified value is traceable to primary standard NIST SRM 8040 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Iron(II)-ethylenediammonium sulfate measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.02277.1000	Glass bottle	1 l	inquire

## 102273 Ammonium cerium(IV) sulfate dihydrate for analysis EMSURE® ACS

CeH<sub>16</sub>N<sub>4</sub>O<sub>16</sub>S<sub>4</sub> \* 2H<sub>2</sub>O(NH<sub>4</sub>)<sub>4</sub>Ce(SO<sub>4</sub>)<sub>4</sub> \* 2H<sub>2</sub>O

Cerium(IV) ammonium sulfate

- CAS-No. 10378-47-9 ■ EC-No. 231-567-4
- Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 632.55 g/mol
- pH value 1.2 (100 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 800 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13

- HS-No. 2846 10 00 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (potentiometric, (NH <sub>4</sub> ) <sub>4</sub> Ce(SO <sub>4</sub> ) <sub>4</sub> * 2 H <sub>2</sub> O).....	≥ 99.0 %
Substances insoluble in diluted sulfuric acid.....	≤ 0.005 %

.....	≤ 0.005 %
Chloride (Cl).....	≤ 0.001 %
Phosphate (PO <sub>4</sub> ).....	≤ 0.005 %
Heavy metals (as Pb).....	≤ 0.005 %
Fe (Iron).....	≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.02273.0100	Plastic bottle	100 g	inquire

# Ammoni

## Ammonium chloride

H<sub>2</sub>CIN  
NH<sub>4</sub>Cl  
*Sal ammoniac*  
■ CAS-No. 12125-02-9 ■ EC-No. 235-186-4  
■ Vapour pressure 1.3 hPa (30 °C)  
■ Spec. density 1.52 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
H<sub>2</sub>O 372 g/l (20 °C) ■ M = 53.49 g/mol

■ pH value 4.5 - 5.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 335 °C (sublimed)  
■ Bulk density 500 kg/m<sup>3</sup> ■ Ignition temp. >400 °C  
■ WGK 1  
■ GHS: Warning, Acute toxicity, Category 4, Oral,  
H302; Eye irritation, Category 2, H319, P305 +  
P351 + P338

■ LD50 oral rat 1410 mg/kg  
■ EC-Index-No. 017-014-00-8 ■ LGK 10 - 13  
■ HS-No. 2827 10 00 ■ Disposal 14  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
Dangerous Good  
■ IATA-DGR No Dangerous Good



### 101145 Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
Assay (argentometric)..... ≥ 99.8 %  
Assay (argentometric; calculated on dried  
substance)..... 99.0 - 100.5 %  
Identity..... passes test  
Appearance of solution..... passes test  
Insoluble matter..... ≤ 0.005 %  
Acidity or alkalinity..... passes test  
pH-value (5 %; water, 25 °C)..... 4.5 - 5.5  
Bromide, Iodide (Br,I)..... passes test  
Nitrate (NO<sub>3</sub>)..... ≤ 0.0005 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.0002 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %  
Heavy metals (as Pb)..... ≤ 0.0005 %  
Ca (Calcium)..... ≤ 0.0005 %  
Cu (Copper)..... ≤ 0.0002 %  
Fe (Iron)..... ≤ 0.0002 %  
K (Potassium)..... ≤ 0.005 %  
Mg (Magnesium)..... ≤ 0.0005 %  
Na (Sodium)..... ≤ 0.005 %  
Ni (Nickel)..... ≤ 0.0001 %  
Pb (Lead)..... ≤ 0.0001 %  
Zn (Zinc)..... ≤ 0.0002 %

Loss on drying (105 °C)..... ≤ 1.0 %  
Residue on ignition (as sulphate)..... ≤ 0.01 %  
Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01145.0500	Plastic bottle	500 g	inquire
1.01145.1000	Plastic bottle	1 kg	inquire
1.01145.5000	Plastic bottle	5 kg	inquire
1.01145.9025	Fibre carton	25 kg	inquire
1.01145.9050	Fibre carton	50 kg	inquire

### 101143 Ammonium chloride 99.995 Suprapur®

**Specification**  
Purity (metallic)..... ≥ 99.995 %  
Al (Aluminium)..... ≤ 0.050 ppm  
Ba (Barium)..... ≤ 5.0 ppm  
Ca (Calcium)..... ≤ 0.50 ppm  
Cd (Cadmium)..... ≤ 0.010 ppm  
Co (Cobalt)..... ≤ 0.010 ppm  
Cu (Copper)..... ≤ 0.010 ppm  
Fe (Iron)..... ≤ 0.10 ppm

K (Potassium)..... ≤ 5.00 ppm  
Li (Lithium)..... ≤ 0.10 ppm  
Mg (Magnesium)..... ≤ 0.050 ppm  
Mn (Manganese)..... ≤ 0.010 ppm  
Na (Sodium)..... ≤ 1.0 ppm  
Ni (Nickel)..... ≤ 0.010 ppm  
Pb (Lead)..... ≤ 0.010 ppm  
Sr (Strontium)..... ≤ 0.50 ppm

Tl (Thallium)..... ≤ 0.010 ppm  
Zn (Zinc)..... ≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.01143.0050	Plastic bottle	50 g	inquire
1.01143.0500	Plastic bottle	500 g	inquire

Ammonium citrate dibasic → di-Ammonium  
hydrogen citrate page 411

Ammonium compounds → Amines and ammonium  
compounds

## Ammonium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
723	110888	Dichloroisocyanuric acid sodium salt dihydrate	1448	106541	Sodium nitroprusside dihydrate			
1204	109028	Nessler's reagent	1450	106601	Sodium salicylate			

## Ammonium dihydrogen phosphate

H<sub>2</sub>NO<sub>4</sub>P  
(NH<sub>4</sub>)H<sub>2</sub>PO<sub>4</sub>  
*Ammonium biphosphate, Ammonium phosphate  
monobasic, Primary ammonium  
phosphate, Monoammonium orthophosphate*  
■ CAS-No. 7722-76-1 ■ EC-No. 231-764-5  
■ Vapour pressure 0.066 hPa (125 °C)  
■ Spec. density 1.80 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 368 g/l (20 °C) ■ M = 115.02 g/mol  
■ pH value 3.8 - 4.4 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 190 °C  
■ Bulk density 800 - 1100 kg/m<sup>3</sup>  
■ WGK 1  
■ LD50 oral rat 5750 mg/kg ■ LD50 dermal rabbit  
> 7940 mg/kg  
■ LGK 10 - 13

■ HS-No. 3105 40 00 ■ Disposal 14  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
Dangerous Good  
■ IATA-DGR No Dangerous Good  
Suitable as a matrix modifier for graphite-oven  
atomic absorption spectrometry (G-AAS).

### 101126 Ammonium dihydrogen phosphate for analysis EMSURE® ACS,Reag. Ph Eur

**Specification**  
Assay (acidimetric)..... ≥ 99.0 %  
Insoluble matter..... ≤ 0,005 %  
pH-value (5 %; water, 25 °C)..... 3,8 - 4,4  
pH-value (2.3%; water)..... about 4.2  
Chloride (Cl)..... ≤ 0,0005 %  
Nitrate (NO<sub>3</sub>)..... ≤ 0,001 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0,005 %

Heavy metals (as Pb)..... ≤ 0,0005 %  
Ca (Calcium)..... ≤ 0,001 %  
Fe (Iron)..... ≤ 0,001 %  
K (Potassium)..... ≤ 0,005 %  
Mg (Magnesium)..... ≤ 0,0005 %  
Na (Sodium)..... ≤ 0,005 %  
corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01126.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.01126.9050	Fibre carton	50 kg	inquire

### 101440 Ammonium dihydrogen phosphate 99.99 Suprapur®

**Specification**  
Purity (metallic)..... ≥ 99.99 %  
Assay (acidimetric)..... ≥ 99 %  
Nitrate (NO<sub>3</sub>)..... ≤ 5 ppm  
Sulphate (SO<sub>4</sub>)..... ≤ 50 ppm  
As (Arsenic)..... ≤ 0.2 ppm  
Ba (Barium)..... ≤ 2.0 ppm  
Ca (Calcium)..... ≤ 0.10 ppm  
Cd (Cadmium)..... ≤ 0.010 ppm  
Ce (Cerium)..... ≤ 0.01 ppm  
Co (Cobalt)..... ≤ 0.010 ppm  
Cr (Chromium)..... ≤ 0.010 ppm

Cs (Cesium)..... ≤ 50 ppm  
Cu (Copper)..... ≤ 0.010 ppm  
Fe (Iron)..... ≤ 0.10 ppm  
Hg (Mercury)..... ≤ 0.05 ppm  
K (Potassium)..... ≤ 10 ppm  
La (Lanthanum)..... ≤ 0.010 ppm  
Li (Lithium)..... ≤ 1.0 ppm  
Mg (Magnesium)..... ≤ 0.10 ppm  
Mn (Manganese)..... ≤ 0.010 ppm  
Na (Sodium)..... ≤ 10 ppm  
Ni (Nickel)..... ≤ 0.010 ppm

Pb (Lead)..... ≤ 0.010 ppm  
Rb (Rubidium)..... ≤ 10 ppm  
Sm (Samarium)..... ≤ 0.010 ppm  
Sr (Strontium)..... ≤ 0.10 ppm  
Tl (Thallium)..... ≤ 0.01 ppm  
Y (Yttrium)..... ≤ 0.010 ppm  
Yb (Ytterbium)..... ≤ 0.010 ppm  
Zn (Zinc)..... ≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.01440.0050	Plastic bottle	50 g	inquire

## 101164 Ammonium fluoride for analysis EMSURE® ACS

FH<sub>4</sub>N  
NH<sub>4</sub>F  
*Fluoroammonium*  
■ CAS-No. 12125-01-8 ■ EC-No. 235-185-9  
■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
H<sub>2</sub>O 820 g/l (20 °C) ■ M = 37.04 g/mol  
■ pH value 6 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Bulk density 250 - 350 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 3,  
Inhalation, H331; Acute toxicity, Category 3,  
Dermal, H311; Acute toxicity, Category 3, Oral,  
H301, P280, P309 + P310, P302 + P352, P304 +  
P340  
■ EC-Index-No. 009-006-00-8 ■ LGK 6.1B

■ HS-No. 2826 19 10 ■ Disposal 23  
■ ADR-RID UN 2505 Ammoniumfluorid, 6.1, III  
■ IMDG-Code UN 2505 AMMONIUM FLUORIDE,  
6.1, III, Segregation Group: 2 (Ammonium  
compounds)  
■ IATA-DGR UN 2505 AMMONIUM FLUORIDE, 6.1,  
III

**Specification**

Assay (precipitation titration, NH<sub>4</sub>F) ..... ≥ 98.0 %  
Ammonium hydrogen difluoride (NH<sub>4</sub>HF<sub>2</sub>) .. ≤ 0.5 %  
Chloride (Cl) ..... ≤ 0.001 %  
Hexafluorosilicate (SiF<sub>6</sub>) ..... ≤ 0.1 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
Heavy metals (as Pb) ..... ≤ 0.0005 %

Fe (Iron) ..... ≤ 0.0005 %  
K (Potassium) ..... ≤ 0.002 %  
Na (Sodium) ..... ≤ 0.002 %  
Water ..... ≤ 5 %  
Insoluble matter ..... ≤ 0.005 %  
Residue on ignition ..... ≤ 0.01 %  
Conform to ACS

Ord.No.	Packaging	Quantity	Price
1.01164.0250	Plastic bottle	250 g	inquire
1.01164.1000	Plastic bottle	1 kg	inquire
1.01164.9025	Fibre carton	25 kg	inquire

## Ammonium heptamolybdate tetrahydrate

H<sub>24</sub>Mo<sub>7</sub>N<sub>6</sub>O<sub>24</sub> \* 4 H<sub>2</sub>O  
(NH<sub>4</sub>)<sub>6</sub>Mo<sub>7</sub>O<sub>24</sub> \* 4 H<sub>2</sub>O  
*Ammonium molybdate, Hexammonium  
heptamolybdate 4-hydrate*  
■ CAS-No. 12054-85-2 ■ EC-No. 234-722-4  
■ Spec. density 2.498 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 400 g/l (20 °C) ■ M = 1235.86 g/mol  
■ pH value 5.3 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 90 °C Elimination of water of  
crystallisation ■ Bulk density 800 kg/m<sup>3</sup>  
■ WGK 1  
■ LGK 10 - 13

■ HS-No. 2841 70 00 ■ Disposal 15  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
Dangerous Good  
■ IATA-DGR No Dangerous Good  
Reagent for the determination of phosphate and  
silicate.

## 101181 Ammonium heptamolybdate tetrahydrate (ammonium molybdate) powder extra pure

**Specification**  
Assay (precipitative titration) ..... ≥ 99.0 %  
Identity ..... passes test  
Chloride (Cl) ..... ≤ 0.002 %  
Phosphate, Arsenate, Silicate (as PO<sub>4</sub>) ..... ≤ 0.002 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.02 %  
Fe (Iron) ..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.01181.0250	Plastic bottle	250 g	inquire
1.01181.1000	Plastic bottle	1 kg	inquire

## 101180 Ammonium heptamolybdate tetrahydrate (ammonium molybdate) cryst. extra pure

**Specification**  
Assay (precipitative titration) ..... 99.3 - 101.8 %  
Identity ..... passes test  
Insoluble substances ..... ≤ 0.005 %  
Chloride (Cl) ..... ≤ 0.002 %  
Nitrate (NO<sub>3</sub>) ..... passes test  
Phosphate (PO<sub>4</sub>) ..... ≤ 0.0005 %

Phosphate, Arsenate, Silicate (as PO<sub>4</sub>) ..... passes test  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.02 %  
Heavy metals (as Pb) ..... ≤ 0.001 %  
K (Potassium) ..... ≤ 0.005 %  
Mg (Magnesium) ..... ≤ 0.005 %  
Na (Sodium) ..... ≤ 0.005 %  
Magnesium and alkali salts ..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.01180.0250	Plastic bottle	250 g	inquire
1.01180.1000	Plastic bottle	1 kg	inquire
1.01180.9025	Plastic drum	25 kg	inquire

## 101182 Ammonium heptamolybdate tetrahydrate GR for analysis ACS,ISO,Reag. Ph Eur

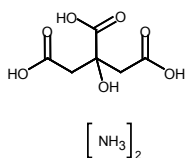
**Specification**  
Assay (as MoO<sub>3</sub>) ..... 81.0 - 83.0 %  
Assay ((NH<sub>4</sub>)<sub>6</sub>Mo<sub>7</sub>O<sub>24</sub> \* 4 H<sub>2</sub>O) ..... ≥ 99.0 %  
Insoluble matter ..... ≤ 0.005 %  
Chloride (Cl) ..... ≤ 0.0005 %  
Nitrate (NO<sub>3</sub>) ..... passes test  
Phosphate (PO<sub>4</sub>) ..... ≤ 0.0005 %  
Phosphate, Arsenate, Silicate (as PO<sub>4</sub>) .. ≤ 0.0005 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %

Heavy metals (as Pb) ..... ≤ 0.001 %  
Cu (Copper) ..... ≤ 0.001 %  
Fe (Iron) ..... ≤ 0.0005 %  
Mg (Magnesium) ..... ≤ 0.005 %  
K (Potassium) ..... ≤ 0.002 %  
Na (Sodium) ..... ≤ 0.01 %  
Pb (Lead) ..... ≤ 0.001 %  
Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01182.0250	Plastic bottle	250 g	inquire
1.01182.1000	Plastic bottle	1 kg	inquire
1.01182.5000	Plastic bottle	5 kg	inquire
1.01182.9025	Steel drum	25 kg	inquire

di-Ammonium-hexanitratocerate(IV) → Ammonium cerium(IV) nitrate page 409

## 101154 di-Ammonium hydrogen citrate for analysis EMSURE® ACS,Reag. Ph Eur



C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>O<sub>7</sub>  
C<sub>6</sub>H<sub>8</sub>O<sub>7</sub> \* 2NH<sub>3</sub>  
*Ammonium citrate dibasic, Diammonium hydrogen  
citrate*  
■ CAS-No. 3012-65-5 ■ EC-No. 221-146-3  
■ Spec. density 1.48 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
H<sub>2</sub>O (20 °C) soluble ■ M = 226.19 g/mol

■ pH value 3.3 - 5.3 (23 g/l, H<sub>2</sub>O)  
■ Bulk density 400 - 600 kg/m<sup>3</sup>  
■ Boiling point (1013 hPa) (decomposition)  
■ WGK 1  
■ GHS: Warning, Eye irritation, Category 2, H319,  
P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2918 15 00 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
Dangerous Good  
■ IATA-DGR No Dangerous Good

**Specification**

Assay (alkalimetric) ..... 99.0 - 102.0 %  
Insoluble matter ..... ≤ 0.005 %  
pH-value (0.1 mol/L) ..... 3.3 - 5.3

Chloride (Cl) ..... ≤ 0.0005 %  
Oxalate (C<sub>2</sub>O<sub>4</sub>) ..... passes test (Limit about 0.05 %)  
Phosphate (PO<sub>4</sub>) ..... ≤ 0.0005 %  
Total sulfur (as SO<sub>4</sub>) ..... ≤ 0.005 %  
Heavy metals (as Pb) ..... ≤ 0.0005 %  
Fe (Iron) ..... ≤ 0.0005 %  
Residue on ignition (as sulphate) ..... ≤ 0.01 %  
Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01154.0500	Plastic bottle	500 g	inquire
1.01154.2500	Plastic bottle	2.5 kg	inquire
1.01154.9050	Fibre carton	50 kg	inquire



# Ammoni

## 101207 di-Ammonium hydrogen phosphate for analysis EMSURE® ACS, Reag. Ph Eur

H<sub>9</sub>N<sub>2</sub>O<sub>4</sub>P  
(NH<sub>4</sub>)<sub>2</sub>HPO<sub>4</sub>  
*Ammonium biphosphate, Ammonium phosphate dibasic, Diammonium hydrogen phosphate, Fyrex*  
■ CAS-No. 7783-28-0 ■ EC-No. 231-987-8  
■ Spec. density 1.619 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 690 g/l (20 °C) ■ M = 132.05 g/mol  
■ pH value 7.6 - 8.2 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Bulk density 800 - 1000 kg/m<sup>3</sup>  
■ WGK 1  
■ LD50 oral rat 6500 mg/kg ■ LD50 dermal rabbit > 7950 mg/kg  
■ LGK 10 - 13

■ HS-No. 3105 30 00 ■ Disposal 14  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
■ IATA-DGR No Dangerous Good  
**Specification**  
Assay (acidimetric)..... ≥ 99.0 %  
Insoluble matter..... ≤ 0.005 %  
pH-value (5 %; water; 25 °C)..... 7.8 - 8.1  
pH-value (20 %; water)..... about 8  
Chloride (Cl)..... ≤ 0.0005 %  
Nitrate (NO<sub>3</sub>)..... ≤ 0.001 %  
Sulphate..... ≤ 0.004 %

Heavy metals (as Pb)..... ≤ 0.0005 %  
Ca (Calcium)..... ≤ 0.001 %  
Fe (Iron)..... ≤ 0.001 %  
K (Potassium)..... ≤ 0.001 %  
Mg (Magnesium)..... ≤ 0.0005 %  
Na (Sodium)..... ≤ 0.001 %  
Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01207.0500	Plastic bottle	500 g	inquire
1.01207.9050	Fibre carton	50 kg	inquire

## 103776 Ammonium iron(III) sulfate dodecahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur

H<sub>4</sub>NFeO<sub>8</sub>S<sub>2</sub> \* 12 H<sub>2</sub>O  
(NH<sub>4</sub>)Fe(SO<sub>4</sub>)<sub>2</sub> \* 12H<sub>2</sub>O  
*Alum iron, Ferric ammonium sulfate, Iron alum, Iron(III) ammonium sulfate*  
■ CAS-No. 7783-83-7 ■ EC-No. 233-382-4  
■ Solub. in H<sub>2</sub>O 1240 g/l (25 °C) ■ M = 482.19 g/mol  
■ pH value 1.8 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 39 - 41 °C ■ Bulk density 750 kg/m<sup>3</sup>  
■ WGK 1  
■ LGK 10 - 13 ■ Store below +15°C.  
■ HS-No. 2833 30 00 ■ Disposal 15  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
■ IATA-DGR No Dangerous Good  
**Specification**  
Assay (iodometric)..... 99.0 - 102.0 %  
Insoluble matter..... ≤ 0.005 %  
Chloride (Cl)..... ≤ 0.0005 %  
Nitrate (NO<sub>3</sub>)..... ≤ 0.01 %  
Cu (Copper)..... ≤ 0.001 %  
Fe II (Iron II)..... ≤ 0.001 %  
Ca (Calcium)..... ≤ 0.01 %  
K (Potassium)..... ≤ 0.005 %  
Mg (Magnesium)..... ≤ 0.001 %

Mn (Manganese)..... ≤ 0.005 %  
Na (Sodium)..... ≤ 0.01 %  
Pb (Lead)..... ≤ 0.0005 %  
Zn (Zinc)..... ≤ 0.001 %  
Corresponds to ACS, ISO, Reag. Ph. Eur.

Ord.No.	Packaging	Quantity	Price
1.03776.0500	Plastic bottle	500 g	inquire
1.03776.1000	Plastic bottle	1 kg	inquire
1.03776.5000	Plastic bottle	5 kg	inquire
1.03776.9050	Fibre carton	50 kg	inquire

## 103792 Ammonium iron(II) sulfate hexahydrate for analysis EMSURE® ISO

FeH<sub>8</sub>N<sub>2</sub>O<sub>8</sub>S<sub>2</sub> \* 6 H<sub>2</sub>O  
(NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>2</sub> \* 6 H<sub>2</sub>O  
*Ferrous ammonium sulfate, Mohr's salt, Iron(II) ammonium sulfate*  
■ CAS-No. 7783-85-9 ■ EC-No. 233-151-8  
■ Spec. density 1.86 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 269 g/l (20 °C) ■ M = 392.14 g/mol  
■ pH value 3 - 5 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 100 °C (decomposition)  
■ Bulk density 900 kg/m<sup>3</sup>  
■ WGK 1  
■ LD50 oral rat 3250 mg/kg  
■ LGK 10 - 13 ■ Store at +15°C to +25°C.  
■ HS-No. 2842 90 80 ■ Disposal 14

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
■ IATA-DGR No Dangerous Good  
**Specification**  
Assay (manganometric)..... 99.0 - 101.5 %  
pH-value (5 %; water)..... 3.0 - 5.0  
Chloride (Cl)..... ≤ 0.001 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.002 %  
Iron(III)-salts (Fe<sup>3+</sup>)..... ≤ 0.02 %  
Ca (Calcium)..... ≤ 0.002 %  
Cu (Copper)..... ≤ 0.002 %  
K (Potassium)..... ≤ 0.01 %  
Mg (Magnesium)..... ≤ 0.01 %

Mn (Manganese)..... ≤ 0.05 %  
Na (Sodium)..... ≤ 0.01 %  
Pb (Lead)..... ≤ 0.001 %  
Zn (Zinc)..... ≤ 0.003 %  
Corresponds to ISO

Ord.No.	Packaging	Quantity	Price
1.03792.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.03792.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.03792.5000	Plastic bottle	5 kg	inquire
1.03792.9050	Fibre carton	50 kg	inquire

## 109864 Ammonium iron(II) sulfate solution for 250 ml, c[(NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>2</sub>] = 0.1 mol/l (0.1 N) Titrisol®

■ Spec. density 1.25 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.4 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8B  
■ HS-No. 2842 90 80 ■ Disposal 28  
■ ADR-RID UN 2796 Schwefelsäure, 8, II ■ IMDG-Code UN 2796 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2796 SULPHURIC ACID, 8, II  
**Specification**  
Concentration after dilution to 0.25 liter: c[(NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>2</sub>] = 0.1 mol/l  
Amount-of-substance concentration . 0.1000 mol/l  
The concentration of this solution was determined with volumetric standard potassium dichromate (Merck article number 1.02403). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The

certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium dichromate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09864.0001	Plastic ampoule	1 amp	inquire

Ammonium metavanadate → Ammonium monovanadate page 412

Ammonium molybdate → page 411

## 101226 Ammonium monovanadate GR for analysis Reag. Ph Eur

H<sub>4</sub>NO<sub>3</sub>V  
NH<sub>4</sub>VO<sub>3</sub>  
*Ammonium metavanadate, Ammonium vanadate*  
■ CAS-No. 7803-55-6 ■ EC-No. 232-261-3  
■ Spec. density 2.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 5.1 g/l (20 °C) ■ M = 116.97 g/mol  
■ pH value 7 (5.1 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 200 °C (decomposition)  
■ Bulk density 1000 kg/m<sup>3</sup>  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P305 + P351 + P338, P309 +

P310  
■ LC50 rat 2.5 mg/l  
■ LD50 oral rat 169 mg/kg ■ LD50 dermal rat > 2500 mg/kg  
■ LGK 6.1B  
■ HS-No. 2841 90 30 ■ Disposal 15  
■ ADR-RID UN 2859 Ammoniummetavanadat, 6.1, II ■ IMDG-Code UN 2859 AMMONIUM METAVANADATE, 6.1, II, Segregation Group: 2 (Ammonium compounds)  
■ IATA-DGR UN 2859 AMMONIUM METAVANADATE, 6.1, II  
Component of the molybdate-vanadate reagent for the determination of phosphate.

**Specification**  
Assay (titration with Fe II)..... ≥ 99.0 %  
Chloride (Cl)..... ≤ 0.002 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.005 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
Fe (Iron)..... ≤ 0.003 %  
Pb (Lead)..... ≤ 0.003 %  
Corresponds to Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01226.0100	Plastic bottle	100 g	inquire
1.01226.0250	Plastic bottle	250 g	inquire
1.01226.1000	Plastic bottle	1 kg	inquire

## Ammonium nitrate

H<sub>4</sub>N<sub>2</sub>O<sub>3</sub>NH<sub>4</sub>NO<sub>3</sub>

Nitric acid ammonia, Ammonia nitrate

- CAS-No. 6484-52-2 ■ EC-No. 229-347-8
- Spec. density 1.72 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1920 g/l (20 °C) ■ M = 80.04 g/mol
- pH value 4.5 - 7.0 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 169 °C

- Bulk density 600 - 700 kg/m<sup>3</sup>
- Boiling point 302 °C (1013 hPa)
- WGK 1
- GHS: Warning, Oxidising solid, Category 3, H272, P210
- LC50 rat > 88.8 mg/l
- LD50 oral rat 2462 mg/kg
- LGK 5.1C

- HS-No. 3105 10 00 ■ Disposal 14
- ADR-RID UN 1942 Ammoniumnitrat, 5.1, III
- IMDG-Code UN 1942 AMMONIUM NITRATE, 5.1, III, Segregation Group: 2 (Ammonium compounds)
- IATA-DGR UN 1942 AMMONIUM NITRATE, 5.1, III

## 101187 Ammonium nitrate extra pure

## Specification

Assay (alkalimetric).....	≥ 95.0 %	Heavy metals (as Pb).....	≤ 0.001 %
Identity.....	passes test	Ca (Calcium).....	≤ 0.005 %
Chloride (Cl).....	≤ 0.002 %	Fe (Iron).....	≤ 0.0005 %
Phosphate (PO <sub>4</sub> ).....	≤ 0.0005 %	Mg (Magnesium).....	≤ 0.001 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.01 %	Residue on ignition (as sulphate).....	≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.01187.1000	Plastic bottle	1 kg	inquire
1.01187.5000	Plastic bottle	5 kg	inquire

## 101188 Ammonium nitrate for analysis EMSURE® ACS

## Specification

Assay (alkalimetric).....	≥ 95.0 %	Heavy metals (as Pb).....	≤ 0.0005 %
Insoluble matter.....	≤ 0.005 %	Ca (Calcium).....	≤ 0.003 %
pH-value (5 %; water, 25 °C).....	4.5 - 6.0	Fe (Iron).....	≤ 0.0002 %
Chloride (Cl).....	≤ 0.0003 %	Residue on ignition (as sulphate).....	≤ 0.01 %
Nitrite (NO <sub>2</sub> ).....	≤ 0.0005 %	The following parameter from a double TOC determination of one batch: Combustible matter, including organic components (as carbon) ≤ 0.2 % (meets the specified value) In accordance with class 5.1 UN 1942.	
Nitrite (NO <sub>2</sub> ).....	passes test		
Phosphate (PO <sub>4</sub> ).....	≤ 0.0005 %		
Sulphate (SO <sub>4</sub> ).....	≤ 0.002 %		

Ord.No.	Packaging	Quantity	Price
1.01188.0500	Plastic bottle	500 g	inquire
1.01188.1000	Plastic bottle	1 kg	inquire
1.01188.5000	Plastic bottle	5 kg	inquire

## 102596 Ammonium nitrate solution 1 mol/l acc. to DIN 19730

- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ Boiling point 100 °C (1013 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 3105 10 00 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good
- Solution for the extraction of mobile heavy metals from soil samples.

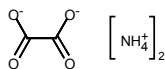
## Specification

Assay.....	0.99 - 1.01 mol/l	Pb (Lead).....	≤ 0.005 ppm
pH-value.....	5 - 6	Sb (Antimony).....	≤ 0.005 ppm
As (Arsenic).....	≤ 0.005 ppm	Tl (Thallium).....	≤ 0.005 ppm
Be (Beryllium).....	≤ 0.001 ppm	U (Uranium).....	≤ 0.001 ppm
Cd (Cadmium).....	≤ 0.002 ppm	V (Vanadium).....	≤ 0.005 ppm
Co (Cobalt).....	≤ 0.005 ppm	Zn (Zinc).....	≤ 0.005 ppm
Cr (Chromium).....	≤ 0.005 ppm		
Cu (Copper).....	≤ 0.005 ppm		
Hg (Mercury).....	≤ 0.001 ppm		
Mg (Magnesium).....	≤ 0.001 ppm		
Mo (Molybdenum).....	≤ 0.005 ppm		
Ni (Nickel).....	≤ 0.010 ppm		

Ord.No.	Packaging	Quantity	Price
1.02596.2500	Plastic bottle	2.5 l	inquire

Ammonium-N,N-tetramethylenedithiocarbamate → page 1394

## di-Ammonium oxalate monohydrate

C<sub>2</sub>H<sub>8</sub>N<sub>2</sub>O<sub>4</sub> \* H<sub>2</sub>O  
(NH<sub>4</sub>)<sub>2</sub>C<sub>2</sub>O<sub>4</sub> \* H<sub>2</sub>O

Oxalic acid ammonium salt

- CAS-No. 6009-70-7 ■ EC-No. 214-202-3
- Vapour pressure (20 °C) low
- Spec. density 1.50 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 45 g/l (20 °C) (anhydrous substance)
- M = 142.11 g/mol ■ pH value 6.4 (14 g/l, H<sub>2</sub>O)
- Melting point 70 °C (decomposition)

- Bulk density 480 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352
- EC-Index-No. 607-007-00-3 ■ LGK 10 - 13
- HS-No. 2917 11 00 ■ Disposal 3

## 101190 di-Ammonium oxalate monohydrate extra pure

## Specification

Assay (manganometric).....	≥ 99.0 %	Fe (Iron).....	≤ 0.002 %
Chloride (Cl).....	≤ 0.01 %	Residue on ignition (as sulphate).....	≤ 0.1 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.02 %		
Heavy metals (as Pb).....	≤ 0.005 %		

Ord.No.	Packaging	Quantity	Price
1.01190.1000	Plastic bottle	1 kg	inquire
1.01190.9050	Fibre carton	50 kg	inquire

## 101192 di-Ammonium oxalate monohydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

## Specification

Assay (manganometric).....	99.5 - 101.0 %	Ca (Calcium).....	≤ 0.001 %
Insoluble matter.....	≤ 0.005 %	Fe (Iron).....	≤ 0.0002 %
Chloride (Cl).....	≤ 0.0005 %	K (Potassium).....	≤ 0.001 %
Nitrate (NO <sub>3</sub> ).....	≤ 0.002 %	Mg (Magnesium).....	≤ 0.001 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.002 %	Na (Sodium).....	≤ 0.001 %
Heavy metals (as Pb).....	≤ 0.0005 %	Residue on ignition (as sulphate).....	≤ 0.02 %

Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01192.0250	Plastic bottle	250 g	inquire
1.01192.1000	Plastic bottle	1 kg	inquire

# Ammoni

## Ammonium peroxodisulfate



H<sub>8</sub>N<sub>2</sub>O<sub>8</sub>S<sub>2</sub>  
(NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>8</sub>  
Ammonium persulfate, Peroxidisulfuric acid  
diammonium salt  
■ CAS-No. 7727-54-0 ■ EC-No. 231-786-5  
■ Spec. density 1.98 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
H<sub>2</sub>O 620 g/l (20 °C) ■ M = 228.19 g/mol  
■ pH value 3.2 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 120 °C (decomposition)  
■ Bulk density 900 kg/m<sup>3</sup>

■ WGK 1  
■ GHS: Danger, Oxidising solid, Category 3, H272;  
Acute toxicity, Category 4, Oral, H302; Skin  
irritation, Category 2, H315; Eye irritation,  
Category 2, H319; Specific target organ toxicity -  
single exposure, Category 3, H335; Respiratory  
sensitisation, Category 1, H334; Skin sensitisation,  
Category 1, H317, P280, P305 + P351 + P338,  
P302 + P352, P304 + P341, P342 + P311  
■ LD50 oral rat 495 mg/kg

■ EC-Index-No. 016-060-00-6 ■ LGK 5.1B  
■ HS-No. 2833 40 00 ■ Disposal 22  
■ ADR-RID UN 1444 Ammoniumpersulfat, 5.1, III  
■ IMDG-Code UN 1444 AMMONIUM  
PERSULPHATE, 5.1, III, Segregation Group: 2  
(Ammonium compounds)  
■ IATA-DGR UN 1444 AMMONIUM PERSULPHATE,  
5.1, III

### 101200 Ammonium peroxodisulfate extra pure

#### Specification

Assay (iodometric) ..... ≥ 98.0 %  
Identity ..... passes test  
Chloride (Cl) ..... ≤ 0.002 %  
Heavy metals (as Pb) ..... ≤ 0.003 %

Fe (Iron) ..... ≤ 0.001 %  
Mn (Manganese) ..... ≤ 0.0002 %  
Residue on ignition (as SO<sub>4</sub>) ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.01200.1000	Plastic bottle	1 kg	inquire
1.01200.5000	Plastic bottle	5 kg	inquire
1.01200.9025	Plastic drum	25 kg	inquire

### 101201 Ammonium peroxodisulfate for analysis EMSURE® ACS,Reag. Ph Eur

#### Specification

Assay (iodometric) ..... ≥ 98.0 %  
Insoluble matter ..... ≤ 0.005 %  
Titrable free acid ..... ≤ 0.04 meq/g  
Chloride, Chlorate (as Cl) ..... ≤ 0.001 %  
Heavy metals (as Pb) ..... ≤ 0.001 %  
Fe (Iron) ..... ≤ 0.001 %

Mn (Manganese) ..... ≤ 0.00005 %  
Residue on ignition (as SO<sub>4</sub>) ..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.01201.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.01201.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.01201.5000	Plastic bottle	5 kg	inquire
1.01201.9050	Fibre carton	50 kg	inquire

Ammonium persulfate → page 414

sec. Ammonium phosphate → di-Ammonium  
hydrogen phosphate page 412

Ammonium purpurate, acid → Murexide page 172

Ammonium sodium hydrogen phosphate → Sodium  
ammonium hydrogen phosphate tetrahydrate  
page 1426

Ammonium sulfamate → Ammonium  
amidosulfonate page 408

## Ammonium sulfate

H<sub>8</sub>N<sub>2</sub>O<sub>4</sub>S  
(NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>  
■ CAS-No. 7783-20-2 ■ EC-No. 231-984-1  
■ Spec. density 1.77 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
H<sub>2</sub>O 754 g/l (20 °C) ■ M = 132.14 g/mol  
■ pH value 5 (100 g/l, H<sub>2</sub>O) ■ Bulk density

850 kg/m<sup>3</sup>  
■ WGK 1  
■ LD50 oral rat 2840 mg/kg  
■ LGK 10 - 13  
■ HS-No. 3105 10 00 ■ Disposal 14  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
■ IATA-DGR No Dangerous Good  
Reagent for reversible precipitation of proteins,  
especially enzymes.

### 101217 Ammonium sulfate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

#### Specification

Assay (alkalimetric) ..... ≥ 99.5 %  
Insoluble matter ..... ≤ 0.001 %  
pH-value (5 %; water, 25 °C) ..... 5.0 - 6.0  
Chloride (Cl) ..... ≤ 0.0003 %  
Nitrate (NO<sub>3</sub>) ..... ≤ 0.001 %  
Phosphate (PO<sub>4</sub>) ..... ≤ 0.0005 %  
Heavy metals (as Pb) ..... ≤ 0.0005 %  
Al (Aluminium) ..... ≤ 0.000075 %  
As (Arsenic) ..... ≤ 0.00002 %  
Ca (Calcium) ..... ≤ 0.001 %  
Cd (Cadmium) ..... ≤ 0.0001 %

Cr (Chromium) (\*) ..... ≤ 0.000075 %  
Cu (Copper) ..... ≤ 0.0002 %  
Fe (Iron) ..... ≤ 0.0002 %  
Mg (Magnesium) ..... ≤ 0.0005 %  
Pb (Lead) ..... ≤ 0.0002 %  
Zn (Zinc) ..... ≤ 0.0001 %  
Residue on ignition (as sulphate) ..... ≤ 0.005 %  
Loss on drying (105 °C) ..... ≤ 0.1 %  
\* specified acc. to EMEA/CHMP/SWP/4446/2000.  
Other residues of metal catalysts or metal  
reagents acc. to this guideline are not likely to be

present.  
Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01217.0100	Plastic bottle	100 g	inquire
1.01217.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.01217.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.01217.9025	Fibre carton	25 kg	inquire
1.01217.9050	Fibre carton	50 kg	inquire

### 101209 Ammonium sulfate 99.9999 Suprapur®

#### Specification

Purity (metallic) ..... ≥ 99.9999 %  
Assay (acidimetric) ..... ≥ 99.5 %  
Chloride (Cl) ..... ≤ 3 ppm  
Nitrate (NO<sub>3</sub>) ..... ≤ 10 ppm  
Phosphate (PO<sub>4</sub>) ..... ≤ 5 ppm  
Ag (Silver) ..... ≤ 0.010 ppm  
Al (Aluminium) ..... ≤ 0.050 ppm  
Ba (Barium) ..... ≤ 0.050 ppm  
Be (Beryllium) ..... ≤ 0.010 ppm  
Bi (Bismuth) ..... ≤ 0.050 ppm  
Ca (Calcium) ..... ≤ 0.100 ppm

Cd (Cadmium) ..... ≤ 0.005 ppm  
Co (Cobalt) ..... ≤ 0.005 ppm  
Cr (Chromium) ..... ≤ 0.010 ppm  
Cu (Copper) ..... ≤ 0.005 ppm  
Fe (Iron) ..... ≤ 0.050 ppm  
Ga (Gallium) ..... ≤ 0.050 ppm  
In (Indium) ..... ≤ 0.050 ppm  
K (Potassium) ..... ≤ 0.100 ppm  
Li (Lithium) ..... ≤ 0.050 ppm  
Mg (Magnesium) ..... ≤ 0.010 ppm  
Mn (Manganese) ..... ≤ 0.010 ppm

Na (Sodium) ..... ≤ 0.100 ppm  
Ni (Nickel) ..... ≤ 0.010 ppm  
Pb (Lead) ..... ≤ 0.005 ppm  
Sr (Strontium) ..... ≤ 0.010 ppm  
Tl (Thallium) ..... ≤ 0.005 ppm  
Zn (Zinc) ..... ≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.01209.0050	Plastic bottle	50 g	inquire
1.01209.0500	Plastic bottle	500 g	inquire

### 101211 Ammonium sulfate for biochemistry

#### Specification

Assay (alkalimetric) ..... ≥ 99.5 %  
Insoluble matter ..... ≤ 0.005 %  
pH-value (5 %; water) ..... 4.5 - 5.5  
Chloride (Cl) ..... ≤ 0.0005 %  
Nitrate (NO<sub>3</sub>) ..... ≤ 0.001 %  
Phosphate (PO<sub>4</sub>) ..... ≤ 0.0005 %  
As (Arsenic) ..... ≤ 0.0001 %

Ca (Calcium) ..... ≤ 0.001 %  
Cd (Cadmium) ..... ≤ 0.0001 %  
Cu (Copper) ..... ≤ 0.0001 %  
Fe (Iron) ..... ≤ 0.0002 %  
Pb (Lead) ..... ≤ 0.0001 %  
Zn (Zinc) ..... ≤ 0.0001 %  
Residue on ignition (as sulphate) ..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.01211.0250	Plastic bottle	250 g	inquire
1.01211.1000	Plastic bottle	1 kg	inquire
1.01211.5000	Plastic bottle	5 kg	inquire
1.01211.9050	Fibre carton	50 kg	inquire



## 105442 Ammonium sulfide solution GR for analysis



- Vapour pressure 450 hPa (20 °C)
- Spec. density 0.997 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4 - 46 % (V) ■ Flash point 15 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.5 (450 g/l, H<sub>2</sub>O)
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P233, P240, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2830 90 85 ■ Disposal 6
- ADR-RID UN 2683 Ammoniumsulfid, Lösung, 8

(3, 6.1), II ■ IMDG-Code UN 2683 AMMONIUM SULPHIDE SOLUTION, 8 (3, 6.1), II, Segregation Group: 2 (Ammonium compounds), 18 (Alkalis) ■ IATA-DGR UN 2683 AMMONIUM SULPHIDE SOLUTION, 8 (3, 6.1), II  
Precipitant for Ni, Co, Mn, Zn.

**Specification**

Assay (as (NH<sub>4</sub>)<sub>2</sub>S from sulphide)..... ≥ 20 %  
Chloride (Cl)..... ≤ 0.05 %  
Ca (Calcium)..... ≤ 0.003 %  
Cu (Copper)..... ≤ 0.0005 %

Fe (Iron)..... ≤ 0.0005 %  
K (Potassium)..... ≤ 0.001 %  
Mg (Magnesium)..... ≤ 0.0005 %  
Na (Sodium)..... ≤ 0.005 %  
Pb (Lead)..... ≤ 0.0005 %  
Residue on ignition (800 °C as sulphate)..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.05442.1000	Glass bottle	1 l	inquire
1.05442.9025	Plastic container	25 l	inquire

## 801221 Ammonium sulfite (35% solution in water) for synthesis



- Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.5 - 7.6 (H<sub>2</sub>O, 20 °C) ■ Melting point 4 - 8 °C
- Boiling point 101 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P305 + P351 + P338

- LGK 10 - 13
- HS-No. 2832 20 00 ■ Disposal 6
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (iodometric)..... 37,0 - 40,0 % (m)

Density (d 20 °C/ 4 °C)..... 1,195 - 1,205

Ord.No.	Packaging	Quantity	Price
8.01221.1000	Plastic bottle	1 l	inquire
8.01221.2500	Plastic bottle	2.5 l	inquire
8.01221.9025	Plastic container	25 l	inquire

Ammonium Test → page 50

Ammonium Test in freshwater and seawater → page 49

Ammonium Test Refill pack → page 51

## 843945 Ammonium tetrafluoroborate for synthesis

- H<sub>4</sub>BF<sub>4</sub>N
- CAS-No. 13826-83-0 ■ EC-No. 237-531-4
- Spec. density 1.85 g/cm<sup>3</sup> (20 °C)
- M = 104.84 g/mol ■ pH value 3.5 (5 g/l, H<sub>2</sub>O, 20 °C)
- WGK 3

- LGK 10 - 13
- HS-No. 2826 90 80 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43945.0100	Plastic bottle	100 g	inquire
8.43945.1000	Plastic bottle	1 kg	inquire
8.43945.9025	Plastic drum	25 kg	inquire

tetra-Ammonium-tetrasulfatocerate(IV) → Ammonium cerium(IV) sulfat dihydrate page 409

## 101213 Ammonium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur



- CH<sub>4</sub>N<sub>2</sub>S
- NH<sub>4</sub>SCN
- Ammonium sulfocyanide, Ammonium rhodanide, Thiocyanic acid ammonium salt, Ammonium sulfocyanate*
- CAS-No. 1762-95-4 ■ EC-No. 217-175-6
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 1.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1600 g/l (20 °C) ■ M = 76.12 g/mol
- pH value 4.8 - 5.8 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 150 °C
- Bulk density 600 - 700 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312;

- Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352
- LD50 oral rat 500 mg/kg
- EC-Index-No. 615-004-00-3 ■ LGK 10 - 13
- HS-No. 2842 90 80 ■ Disposal 6
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (argentometric)..... ≥ 99.0 %  
Insoluble matter..... ≤ 0.005 %  
pH-value (5 %; water, 25 °C)..... 4.8 - 5.8  
Chloride (Cl)..... ≤ 0.005 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0.0025 %  
Sulphide (S)..... ≤ 0.001 %

Heavy metals (as Pb)..... ≤ 0.0005 %  
Cu (Copper)..... ≤ 0.0004 %  
Fe (Iron)..... ≤ 0.0001 %  
Pb (Lead)..... ≤ 0.0004 %  
Residue on ignition (as sulphate)..... ≤ 0.03 %  
Iodine consuming substances  
..... ≤ 0.02 %  
..... ≤ 0.004 meq/g  
Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01213.0500	Plastic bottle	500 g	inquire
1.01213.9025	Fibre carton	25 kg	inquire

109079 Ammonium thiocyanate solution c(NH<sub>4</sub>SCN) = 0.1 mol/l (0.1 N) Titripur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 2842 90 80 ■ Disposal 28

**Specification**

Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP).  
Amount-of-substance concentration . 0.1000 mol/l

The concentration of this volumetric solution was determined with silver nitrate standard solution (Merck article number 1.09081) standardized against volumetric standard sodium chloride (Merck article number 1.02406). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard

NIST SRM 999b (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard sodium chloride, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09079.1000	Plastic bottle	1 l	inquire

109900 Ammonium thiocyanate solution for 1000 ml, c(NH<sub>4</sub>SCN) = 0.1 mol/l (0.1 N) Titrisol®

- Ammonium sulfocyanide*
- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 2842 90 80 ■ Disposal 28

**Specification**

Concentration after dilution to 1 liter: (NH<sub>4</sub>SCN) = 0.1 mol/l  
Amount-of-substance concentration . 0.1000 mol/l

Determination method: Argentometric titration.  
The concentration of this solution was determined with silver nitrate standard solution (Merck article number 1.09081) standardized against volumetric standard sodium chloride (Merck article number 1.02406). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 999b (NIST: National

Institute of Standards and Technology, USA) by means of volumetric standard sodium chloride, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09900.0001	Plastic ampoule	1 amp	inquire

# Ammoni

## 101208 Ammonium thiosulfate 98%+

H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>S<sub>2</sub>  
(NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 7783-18-8 ■ EC-No. 231-982-0  
 ■ Spec. density 1.64 g/cm<sup>3</sup> (23 °C) ■ Solub. in H<sub>2</sub>O 1800 g/l (20 °C) ■ M = 148.19 g/mol  
 ■ pH value 6.0 - 6.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 150 °C (decomposition)  
 ■ Bulk density 650 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat 2890 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2832 30 00 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Fixing salt for photography.

### Specification

Assay (iodometric) ..... ≥ 98.0 %  
 pH-value (5 %; water) ..... 5.0 - 7.0  
 Chloride (Cl) ..... ≤ 0.05 %  
 Sulfate and sulphite (as SO<sub>4</sub>) ..... ≤ 1 %

Sulphide (S) ..... ≤ 0.001 %  
 Heavy metals (as Pb) ..... ≤ 0.002 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.002 %  
 Na (Sodium) ..... ≤ 2 %

Ord.No.	Packaging	Quantity	Price
1.01208.1000	Plastic bottle	1 kg	inquire
1.01208.9025	Fibre carton	25 kg	inquire

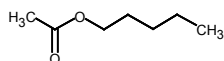
Ammonium vanadate → Ammonium monovanadate page 412

AMP hydrochloride → 2-Amino-2-methyl-1-propanol hydrochloride page 394

AMPD → 2-Amino-2-methyl-1,3-propanediol page 394

AMPS → 2-Acrylamido-2-methylpropanesulfonic acid page 353

## 818700 n-Amyl acetate EEMPLURA®



C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>  
 CH<sub>3</sub>COO(CH<sub>2</sub>)<sub>4</sub>CH<sub>3</sub>  
 Pear oil, n-Pentyl acetate, Acetic acid pentyl ester  
 ■ CAS-No. 628-63-7 ■ EC-No. 211-047-3  
 ■ Refractive index 1.4031 (20 °C, 589 nm)  
 ■ Vapour pressure 6 hPa (20 °C)  
 ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 7.5 % (V) ■ Flash point 41 °C ■ Solub. in

H<sub>2</sub>O 10 g/l (20 °C) ■ M = 130.19 g/mol  
 ■ Saturation conc. 31 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -71 °C ■ Boiling point 149 °C (1013 hPa) ■ Ignition temp. 350 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LD50 oral rat > 1600 mg/kg  
 ■ EC-Index-No. 607-130-00-2 ■ LGK 3  
 ■ HS-No. 2915 39 00 ■ Disposal 3  
 ■ ADR-RID UN 1104 Amylacetate, 3, III ■ IMDG-Code UN 1104 AMYL ACETATES, 3, III

■ IATA-DGR UN 1104 AMYL ACETATES, 3, III

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.875 - 0.877  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18700.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.18700.5000	Steel drum	5 l	inquire

iso-Amyl acetate → Isoamyl acetate page 304

## n-Amyl alcohol



C<sub>5</sub>H<sub>12</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>OH  
 1-Pentanol, Pentyl alcohol  
 ■ CAS-No. 71-41-0 ■ EC-No. 200-752-1  
 ■ Refractive index 1.41 (20 °C, 589 nm) ■ Vapour pressure 2.6 hPa (20 °C) ■ Spec. density 0.815 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 13.9 (25 °C)  
 ■ Explosive limit 1.6 % (V) ■ Flash point 49 °C

■ Solub. in H<sub>2</sub>O 22 g/l (20 °C) ■ M = 88.15 g/mol  
 ■ pH value (22 g/l, H<sub>2</sub>O, 20 °C) neutral  
 ■ Saturation conc. 11 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -79 °C ■ Boiling point 138 °C (1013 hPa) ■ Evaporation number 2.7  
 ■ Ignition temp. 300 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single

exposure, Category 3, H335; Skin irritation, Category 2, H315, P302 + P352  
 ■ LD50 oral rat 3670 mg/kg ■ LD50 dermal rabbit 2306 mg/kg  
 ■ EC-Index-No. 603-200-00-1 ■ LGK 3  
 ■ HS-No. 2905 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1105 Pentanole, 3, III ■ IMDG-Code UN 1105 PENTANOLS, 3, III  
 ■ IATA-DGR UN 1105 PENTANOLS, 3, III

## 807500 n-Amyl alcohol for synthesis

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,814 - 0,815  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07500.0100	Plastic bottle	100 ml	inquire
8.07500.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.07500.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

## 100975 n-Amyl alcohol (Pentan-1-ol) for analysis EMSURE®

### Specification

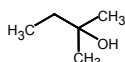
Purity (GC) ..... ≥ 98.5 %  
 Identity (IR) ..... conforms  
 Free acid (as CH<sub>3</sub>COOH) ..... ≤ 0.005 %  
 Al (Aluminium) ..... ≤ 0.00005 %  
 B (Boron) ..... ≤ 0.000002 %  
 Ba (Barium) ..... ≤ 0.00001 %  
 Ca (Calcium) ..... ≤ 0.00005 %  
 Cd (Cadmium) ..... ≤ 0.000005 %  
 Co (Cobalt) ..... ≤ 0.000002 %

Cr (Chromium) ..... ≤ 0.000002 %  
 Cu (Copper) ..... ≤ 0.000002 %  
 Fe (Iron) ..... ≤ 0.00005 %  
 Mg (Magnesium) ..... ≤ 0.00001 %  
 Mn (Manganese) ..... ≤ 0.000002 %  
 Ni (Nickel) ..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.00001 %  
 Sn (Tin) ..... ≤ 0.00001 %  
 Zn (Zinc) ..... ≤ 0.00001 %

Valerian aldehyde (GC) ..... ≤ 0.1 %  
 Readily carbonizable substances ..... conforms  
 Evaporation residue ..... ≤ 0.005 %  
 Water ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.00975.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00975.2500	Glass bottle	2.5 l	inquire

## 806193 tert-Amyl alcohol EEMPLURA®

C<sub>5</sub>H<sub>12</sub>OCH<sub>3</sub>CH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>OH

Amylenehydrate, 2-Methyl-2-butanol, tert-Pentyl alcohol, Dimethyl ethyl carbinol

- CAS-No. 75-85-4 ■ EC-No. 200-908-9
- Refractive index 1.4052 (20 °C, 589 nm)
- Vapour pressure 15.5 hPa (20 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 9.6 % (V) ■ Flash point 20.5 °C
- Kin. viscosity 5 mm<sup>2</sup>/s (23 °C) ■ Solub. in

- H<sub>2</sub>O 118 g/l (20 °C) ■ M = 88.15 g/mol
- pH value 6.0 (118 g/l, H<sub>2</sub>O, 20 °C) neutral
- Saturation conc. 11 g/m<sup>3</sup> (20 °C) Air
- Melting point -8.4 °C ■ Boiling point 102 °C (1013 hPa) ■ Ignition temp. 425 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P302 + P352
- LD50 oral rat 5200 mg/kg
- EC-Index-No. 603-007-00-2 ■ LGK 3
- HS-No. 2905 19 00 ■ Disposal 3

- ADR-RID UN 1105 Pentanole, 3, II ■ IMDG-Code UN 1105 PENTANOLS, 3, II
- IATA-DGR UN 1105 PENTANOLS, 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,808 - 0,809  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06193.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

sec-n-Amyl alcohol → 2-Pentanol page 307

Amylaldehyde → Pentanal page 1267

n-Amylamine → n-Pentylamine page 1273

n-Amylbenzene → n-Pentylbenzene page 1273

Amyl bromide → 1-Bromopentane page 509

iso-Amyl bromide → 1-Bromo-3-methylbutane page 506

Amyl chloride → 1-Chloropentane page 626

Amylenehydrate → tert-Amyl alcohol page 299

Amyl ether → Di-n-amy ether page 699

n-Amyl ethyl ketone → 3-Octanone page 1243

## 820058 Amyl formate for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>HCOO(CH<sub>2</sub>)<sub>4</sub>CH<sub>3</sub>

Pentyl formate, Formic acid amyl ester, Formic acid pentyl ester

- CAS-No. 638-49-3 ■ EC-No. 211-340-6
- Refractive index 1.3992 (20 °C, 589 nm)
- Vapour pressure 70 hPa (50 °C)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 10 % (V) ■ Flash point 26 °C ■ Solub. in

H<sub>2</sub>O (20 °C) slightly soluble, (slow decomposition)

- M = 116.15 g/mol ■ Melting point -73 °C
- Boiling point 129 - 131 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P210, P304 + P340, P305 + P351 + P338
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- EC-Index-No. 607-018-00-3 ■ LGK 3

- HS-No. 2915 13 00 ■ Disposal 3
- ADR-RID UN 1109 Amylformiate, 3, III ■ IMDG-Code UN 1109 AMYL FORMATES, 3, III
- IATA-DGR UN 1109 AMYL FORMATES, 3, III

## Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.886 - 0.889  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20058.0100	Glass bottle	100 ml	inquire

Amyl iodide → 1-Iodopentane page 1012

Amyl mercaptan → 1-Pentanethiol page 1270

n-Amyl methyl ketone → 2-Heptanone page 939

iso-Amyl nitrite → Isopentyl nitrite page 1050

n-Amyl nitrite → n-Pentyl nitrite page 1273

Amylum → page 1500

Anaerobic agar acc. to Brewer → page 99

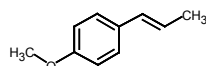
Anaerobiosis indicator → page 110

Anaeroclip bag closure for Anaerocult® → page 109

Anaerocult® → page 109

Anaerostat® → page 110

## 800429 trans-Anethole for synthesis

C<sub>10</sub>H<sub>12</sub>O

1-(4-Methoxyphenyl)-1-propene, 4-Propenylanisole, 1-Methoxy-4-propenylbenzene

- CAS-No. 4180-23-8 ■ EC-No. 224-052-0
- Refractive index 1.56 (20 °C, 589 nm) ■ Vapour pressure 1.33 hPa (63 °C) ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Flash point 96 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 148.20 g/mol
- pH value 7 (H<sub>2</sub>O) ■ Melting point 21 - 23 °C

- Boiling point 235 - 237 °C (1013 hPa)
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 2090 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2909 30 90 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(ANETHOL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(ANETHOLE), 9, III, Marine Pollutant: P

- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(ANETHOLE), 9, III

## Specification

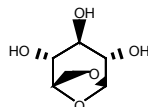
Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,987 - 0,989  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00429.0100	Glass bottle	100 ml	inquire
8.00429.0250	Glass bottle	250 ml	inquire

ANGELOTTI perfringens selective agar → page 104

1,5-Anhydro-3,4,6-tri-O-benzoyl-2-benzoyloxy-D-arabino-hex-1-enitol → (-)-Tetra-O-benzoyl-2-hydroxy-D-glucal page 1522

## 818549 (-)-1,6-Anhydro-β-D-glucopyranose for synthesis

C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>

1,6-Anhydro-β-D-glucose, Levoglucosan

- CAS-No. 498-07-7 ■ EC-No. 207-855-0
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 162.14 g/mol ■ Melting point 174 - 177 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

## Specification

Assay (DSC) ..... ≥ 99,0 %

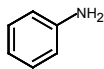
Melting range (lower value) ..... ≥ 174 °C  
 Melting range (upper value) ..... ≤ 177 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=10 in water) ..... -67,0 - -65,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18549.0001	Glass bottle	1 g	inquire

1,6-Anhydro-β-D-glucose → (-)-1,6-Anhydro-β-D-glucopyranose page 417

# Anilin

## Aniline



C<sub>6</sub>H<sub>7</sub>N  
C<sub>6</sub>H<sub>5</sub>NH<sub>2</sub>  
*Aminobenzene, Phenylamine, Benzenamine*  
■ CAS-No. 62-53-3 ■ EC-No. 200-539-3  
■ Refractive index 1.5863 (20 °C, 589 nm)  
■ Vapour pressure 0.5 hPa (20 °C)  
■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 6.89 (20 °C) ■ El. dipole moment 1.55 (20 °C) ■ Explosive limit 1.2 - 11 % (V)  
■ Flash point 76 °C ■ Solub. in H<sub>2</sub>O 36 g/l (20 °C)

■ M = 93.13 g/mol ■ pH value 8.8 (36 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 2 g/m<sup>3</sup> (20 °C) Air  
■ Melting point -6.2 °C ■ Boiling point 184 °C (1013 hPa) ■ Water absorption 540 g/kg (30 °C)  
■ Ignition temp. 540 °C  
■ WGK 2  
■ GHS: Danger, Carcinogenicity, Category 2, H351; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Acute aquatic

toxicity, Category 1, H400, P273, P280, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LC50 rat 3.3 mg/l  
■ LD50 oral rat 871 mg/kg ■ LD50 dermal rabbit 840 mg/kg  
■ EC-Index-No. 612-008-00-7 ■ LGK 6.1A  
■ HS-No. 2921 41 00 ■ Disposal 9  
■ ADR-RID UN 1547 Anilin, 6.1, II ■ IMDG-Code UN 1547 ANILINE, 6.1, II, Marine Pollutant: P  
■ IATA-DGR UN 1547 ANILINE, 6.1, II



### 822256 Aniline for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,020 - 1,022  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22256.0100	Glass bottle	100 ml	inquire
8.22256.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.22256.5000	Alu bottle	5 l	inquire

### 101261 Aniline for analysis EMSURE®

#### Specification

Purity (GC) ..... ≥ 99.5 %  
Identity (IR) ..... conforms  
Nitrobenzene (GC) ..... ≤ 0.003 %

Sulfated ash ..... ≤ 0.005 %  
Water ..... ≤ 0.1 %

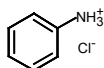
Ord.No.	Packaging	Quantity	Price
1.01261.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

Aniline hydrochloride → Anilinium chloride page 418

Anilines → Amines and ammonium compounds

Aniline-4-sulfonic acid → page 173

### 820099 Anilinium chloride for synthesis



C<sub>6</sub>H<sub>5</sub>CIN  
C<sub>6</sub>H<sub>5</sub>NH<sub>2</sub> \* HCl  
*Aniline hydrochloride*  
■ CAS-No. 142-04-1 ■ EC-No. 205-519-8  
■ Flash point 193 °C ■ Solub. in H<sub>2</sub>O 1070 g/l (25 °C) ■ M = 129.58 g/mol  
■ Melting point 199 - 202 °C  
■ Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 245 °C (1013 hPa)  
■ WGK 2

■ GHS: Danger, Carcinogenicity, Category 2, H351; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 840 mg/kg  
■ EC-Index-No. 612-009-00-2 ■ LGK 6.1A  
■ HS-No. 2921 41 00 ■ Disposal 9  
■ ADR-RID UN 1548 Anilinhydrochlorid, 6.1, III

■ IMDG-Code UN 1548 ANILINE HYDROCHLORIDE, 6.1, III  
■ IATA-DGR UN 1548 ANILINE HYDROCHLORIDE, 6.1, III  
**Specification**  
Assay (argentometric) ..... ≥ 99.0 %  
Melting range (lower value) ..... ≥ 196 °C  
Melting range (upper value) ..... ≤ 201 °C  
Identity (IR) ..... passes test

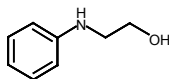


Ord.No.	Packaging	Quantity	Price
8.20099.0250	Glass bottle	250 g	inquire
8.20099.1000	Glass bottle	1 kg	inquire

4-Anilinoanilinium chloride → 4-Aminodiphenylamine hydrochloride page 386

4-Anilinobenzene sulfonic acid barium salt → Diphenylamine-4-sulfonic acid barium salt page 814

### 806908 2-Anilinoethanol for synthesis



C<sub>8</sub>H<sub>11</sub>NO  
C<sub>6</sub>H<sub>5</sub>NHCH<sub>2</sub>CH<sub>2</sub>OH  
*N-(2-Hydroxyethyl)aniline, N-Phenylethanolamine, 2-(Phenylamino)ethanol*  
■ CAS-No. 122-98-5 ■ EC-No. 204-588-1  
■ Refractive index 1.5793 (20 °C, 589 nm)  
■ Vapour pressure 1.46 hPa (100 °C)  
■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 6.8 % (V) ■ Flash point 153 °C DIN 51758  
■ Solub. in H<sub>2</sub>O 4.5 g/l (20 °C) ■ M = 137.18 g/mol

■ pH value 10.2 (10 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point -30 °C  
■ Boiling point 284 - 286 °C  
■ Ignition temp. 410 °C DIN 51794  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Serious eye damage, Category 1, H318; Specific target organ toxicity - repeated exposure, Category 2, H373, P280, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 2230 mg/kg ■ LD50 dermal rabbit 68 mg/kg  
■ LGK 6.1A  
■ HS-No. 2922 19 85 ■ Disposal 9  
■ ADR-RID UN 2810 Giftiger organischer flüssiger

Stoff, n.a.g.(2-ANILINOETHANOL), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-ANILINOETHANOL), 6.1, II  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-ANILINOETHANOL), 6.1, II

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,094 - 1,096  
Identity (IR) ..... conforms



Ord.No.	Packaging	Quantity	Price
8.06908.0100	Glass bottle	100 ml	inquire
8.06908.0500	Glass bottle	500 ml	inquire

3-(4-Anilinophenylazo)benzenesulfonic acid sodium salt → Metanil yellow page 1108

Anise alcohol → 4-Methoxybenzyl alcohol page 1117

Anion exchangers → page 8

m-Anise alcohol → 3-Methoxybenzyl alcohol page 1117

m-Anisaldehyde → 3-Methoxybenzaldehyde page 1115

o-Anise alcohol → 2-Methoxybenzyl alcohol page 1117

o-Anisaldehyde → 2-Methoxybenzaldehyde page 1115

m-Anise acid → 3-Methoxybenzoic acid page 1116

o-Anise acid → 2-Methoxybenzoic acid page 1116

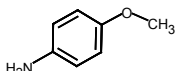
p-Anise acid → 4-Methoxybenzoic acid page 1116

p-Anise acid nitrile → 4-Methoxybenzotrile page 1116

p-Anise acid sodium salt → 4-Methoxybenzoic acid sodium salt page 1116



## p-Anisidine

C<sub>7</sub>H<sub>9</sub>NO4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>4-Methoxyaniline, 4-Aminoanisole,  
4-Aminophenyl methyl ether

■ CAS-No. 104-94-9 ■ EC-No. 203-254-2

■ Vapour pressure 0.02 hPa (20 °C)

■ Spec. density 1.06 g/cm<sup>3</sup> (63 °C)■ Flash point 122 °C ■ Solub. in H<sub>2</sub>O 21 g/l (20 °C)

■ M = 123.15 g/mol ■ pH value 7.7 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 55 - 58 °C  
 ■ Bulk density 700 kg/m<sup>3</sup> ■ Boiling point 243 °C  
 ■ Ignition temp. 450 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400, P201, P273, P280, P302 + P352,

P304 + P340, P309 + P310

■ LD50 oral rat 1320 mg/kg ■ LD50 dermal rat 3200 mg/kg

■ EC-Index-No. 612-112-00-2 ■ LGK 6.1A

■ HS-No. 2922 29 00 ■ Disposal 9

■ ADR-RID UN 3143 Farbstoffzwischenprodukt, fest, giftig, n.a.g.(ENTH. P-ANISIDIN), 6.1, III

■ IMDG-Code UN 3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.(CONT. P-ANISIDIN), 6.1, III

■ IATA-DGR UN 3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.(CONT. P-ANISIDIN), 6.1, III

## 800458 p-Anisidine for synthesis

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 55 °C

Melting range (upper value) ..... ≤ 59 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00458.0100	Glass bottle	100 g	inquire
8.00458.0500	Glass bottle	500 g	inquire

## 845003 p-Anisidine for pharma synthesis, non-GMP

## Specification

Appearance of substance (visual) ..... crystals

Assay (GC, area%) ..... ≥ 99,0 % (a/a)

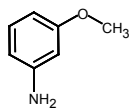
Melting range (lower value) ..... ≥ 55 °C

Melting range (upper value) ..... ≤ 59 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45003.0100	Glass bottle	100 g	inquire
8.45003.0500	Glass bottle	500 g	inquire

## 800462 m-Anisidine for synthesis

C<sub>7</sub>H<sub>9</sub>NO3-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>

3-Methoxyaniline, 3-Aminoanisole, 3-Aminophenyl methyl ether

■ CAS-No. 536-90-3 ■ EC-No. 208-651-4

■ Refractive index 1.5794 (20 °C, 589 nm)

■ Vapour pressure 0.035 hPa (20 °C)

■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)

■ Flash point 126 °C ■ Solub. in H<sub>2</sub>O 18 g/l (20 °C)  
 ■ M = 123.15 g/mol ■ Melting point -2 - 0 °C  
 ■ Boiling point 250 - 252 °C (1013 mbar)  
 ■ Ignition temp. 545 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LGK 6.1A

■ HS-No. 2922 29 00 ■ Disposal 9  
 ■ ADR-RID UN 1602 Farbstoff, flüssig, giftig, n.a.g., 6.1, III ■ IMDG-Code UN 1602 DYE LIQUID, TOXIC, N.O.S., 6.1, III  
 ■ IATA-DGR UN 1602 DYE LIQUID, TOXIC, N.O.S., 6.1, III

## Specification

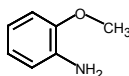
Assay (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,101 - 1,103

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00462.0100	Glass bottle	100 ml	inquire

## 800461 o-Anisidine for synthesis

C<sub>7</sub>H<sub>9</sub>NO2-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>

2-Aminophenyl methyl ether, 2-Methoxyaniline, 2-Aminoanisole

■ CAS-No. 90-04-0 ■ EC-No. 201-963-1

■ Refractive index 1.573 (20 °C, 589 nm) ■ Vapour pressure 1.3 hPa (20 °C) ■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Flash point 100 °C ■ Solub. in H<sub>2</sub>O 15 g/l (25 °C) ■ M = 123.15 g/mol

■ pH value 7.3 (1 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 5 °C ■ Boiling point 225 °C (1013 hPa) ■ Ignition temp. 437 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P201, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LD50 oral rat 1150 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ EC-Index-No. 612-035-00-4 ■ LGK 6.1 C

■ HS-No. 2922 29 00 ■ Disposal 9  
 ■ ADR-RID UN 2431 Anisidine, 6.1, III ■ IMDG-Code UN 2431 ORTHO-ANISIDINE, 6.1, III  
 ■ IATA-DGR UN 2431 ANISIDINES, 6.1, III

## Specification

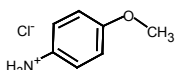
Assay (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,092 - 1,093

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00461.0100	Glass bottle	100 ml	inquire
8.00461.0500	Glass bottle	500 ml	inquire

## 820103 p-Anisidinium chloride for synthesis

C<sub>7</sub>H<sub>10</sub>ClNO4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>NH<sub>3</sub>Cl

p-Anisidinium chloride, 4-Methoxyanilinium chloride

■ CAS-No. 20265-97-8 ■ EC-No. 243-657-0

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 159.62 g/mol ■ Melting point 217 - 220 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373, P280, P302 + P352, P304 + P340, P315, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2922 29 00  
 ■ ADR-RID UN 3143 Farbstoffzwischenprodukt, fest, giftig, n.a.g.(4-ANISIDINHYDROCHLORID), 6.1, II ■ IMDG-Code UN 3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.(4-ANISIDINHYDROCHLORIDE)

, 6.1, II  
 ■ IATA-DGR UN 3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.(4-ANISIDINHYDROCHLORIDE), 6.1, II

## Specification

Assay (argentometric) ..... ≥ 99,0 %

Melting range (lower value) ..... ≥ 217 °C

Melting range (upper value) ..... ≤ 220 °C

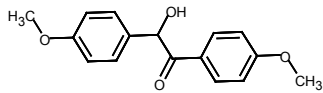
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20103.0050	Glass bottle	50 g	inquire

p-Anisil → 4,4'-Dimethoxybenzil page 770

# Anisoi

## 841595 p-Anisoin for synthesis



C<sub>16</sub>H<sub>16</sub>O<sub>4</sub>  
4,4'-Dimethoxybenzoin

- CAS-No. 119-52-8 ■ EC-No. 204-330-8
- M = 272.3 g/mol ■ Melting point 111 - 112 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

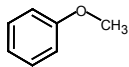
### Specification

Assay (HPLC, area%) ..... ≥ 96.0 % (a/a)

Melting range (lower value)..... ≥ 108 °C  
Melting range (upper value) ..... ≤ 112 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41595.0025	Plastic bottle	25 g	inquire

## 801452 Anisole for synthesis



C<sub>7</sub>H<sub>8</sub>O  
C<sub>6</sub>H<sub>5</sub>OCH<sub>3</sub>  
Methyl phenyl ether, Methoxybenzene  
■ CAS-No. 100-66-3 ■ EC-No. 202-876-1  
■ Vapour pressure 3.2 hPa (20 °C)  
■ Spec. density 0.994 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.34 - 6.3 %(V) ■ Flash point 44 °C ■ Solub. in H<sub>2</sub>O 1.6 g/l (25 °C) ■ M = 108.13 g/mol  
■ pH value (H<sub>2</sub>O, 20 °C) not applicable

- Melting point -37 °C ■ Boiling point 156 °C (1013 hPa) ■ Ignition temp. 475 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P262
- LC50 rat > 6.51 mg/l
- LD50 oral rat 3700 mg/kg
- LGK 3
- HS-No. 2909 30 90 ■ Disposal 3
- ADR-RID UN 2222 Anisol, 3, III ■ IMDG-Code UN 2222 ANISOLE, 3, III
- IATA-DGR UN 2222 ANISOLE, 3, III

### Specification

Assay (GC, area%)..... ≥ 99 %  
Density (d 20 °C/ 4 °C) ..... 0.993 - 0.994  
Identity (IR)..... passes test

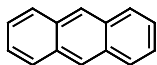
Ord.No.	Packaging	Quantity	Price
8.01452.0100	Glass bottle	100 ml	inquire
8.01452.0500	Glass bottle	500 ml	inquire
8.01452.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.01452.2500	Glass bottle	2.5 l	inquire
8.01452.9025	Plastic container	25 l	inquire

o-Anisoyl chloride → 2-Methoxybenzoyl chloride  
page 1117

p-Anisoyl chloride → 4-Methoxybenzoyl chloride  
page 1117

Anisylethanol → 2-(4-Methoxyphenyl)ethanol page 1124

## 820109 Anthracene for synthesis



C<sub>14</sub>H<sub>10</sub>  
Paranaphthalene  
■ CAS-No. 120-12-7 ■ EC-No. 204-371-1  
■ Vapour pressure 0.000008 hPa (25 °C)  
■ Explosive limit 0.6 %(V) ■ Flash point 121 °C  
■ Solub. in H<sub>2</sub>O < 0.0001 g/l (20 °C)  
■ M = 178.23 g/mol ■ Melting point 213 - 216 °C  
■ Bulk density 330 kg/m<sup>3</sup> ■ Boiling point 340 °C (1013 hPa) ■ Ignition temp. 540 °C

- WGK 2
- GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273
- LD50 oral rat > 16000 mg/kg
- LGK 10 - 13
- HS-No. 2902 90 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ANTHRACEN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ANTHRACENE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID,  
N.O.S.(ANTHRACENE), 9, III

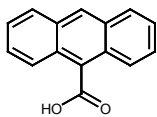
### Specification

Assay (GC, area%)..... ≥ 96.0 % (a/a)  
Melting range (lower value)..... ≥ 213 °C  
Melting range (upper value) ..... ≤ 216 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20109.0100	Plastic bottle	100 g	inquire
8.20109.0250	Plastic bottle	250 g	inquire

9-Anthracenecarbaldehyde → 9-Anthraldehyde page 420

## 821952 9-Anthracenecarboxylic acid for synthesis



C<sub>15</sub>H<sub>10</sub>O<sub>2</sub>  
9-Anthroic acid

- CAS-No. 723-62-6 ■ EC-No. 211-964-9
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 222.24 g/mol ■ Melting point 214 - 217 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

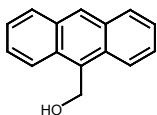
### Specification

Assay (acidimetric)..... ≥ 98.0 %

Melting range (lower value)..... ≥ 214 °C  
Melting range (upper value) ..... ≤ 217 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21952.0010	Plastic bottle	10 g	inquire

## 841050 Anthracene-9-methanol for synthesis



C<sub>15</sub>H<sub>12</sub>O  
9-Anthrylmethanol, 9-(Hydroxymethyl)-anthracene  
■ CAS-No. 1468-95-7 ■ EC-No. 215-998-5

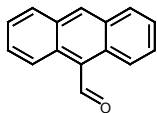
- M = 208.25 g/mol ■ Melting point 162 - 164 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(ANTHRACEN-9-METHANOL), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(9-ANTHRACENEMETHANOL), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(9-ANTHRACENEMETHANOL), 6.1, III

### Specification

Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)  
Melting range (lower value)..... ≥ 159 °C  
Melting range (upper value) ..... ≤ 163 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41050.0010	Plastic bottle	10 g	inquire

## 820110 9-Anthraldehyde for synthesis



C<sub>15</sub>H<sub>10</sub>O  
9-Anthracenecarbaldehyde

- CAS-No. 642-31-9 ■ EC-No. 211-383-0
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 206.24 g/mol ■ Melting point 102 - 105 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2912 29 00 ■ Disposal 3

### Specification

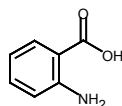
Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 102 °C  
Melting range (upper value) ..... ≤ 105 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20110.0005	Glass bottle	5 g	inquire
8.20110.0025	Plastic bottle	25 g	inquire

Anthranilamide → 2-Aminobenzamide page 378

## 820112 Anthranilic acid for synthesis

C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COOH

2-Aminobenzoic acid

■ CAS-No. 118-92-3 ■ EC-No. 204-287-5

■ Vapour pressure 0.001 hPa (52.6 °C)

■ Spec. density 1.41 g/cm<sup>3</sup> (20 °C)

- Flash point 150 °C ■ Solub. in H<sub>2</sub>O 5.7 g/l (25 °C) ■ M = 137.14 g/mol
- pH value (H<sub>2</sub>O) acidic
- Melting point 146 - 148 °C
- Bulk density 500 kg/m<sup>3</sup> ■ Ignition temp. >530 °C
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LC50 rat > 5.3 mg/l
- LD50 oral rat 4550 mg/kg
- LGK 10 - 13
- HS-No. 2922 43 00 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 144 °C  
 Melting range (upper value)..... ≤ 147 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20112.0100	Plastic bottle	100 g	inquire
8.20112.1000	Plastic bottle	1 kg	inquire

Anthranilic acid ethyl ester → Ethyl 2-aminobenzoate page 850

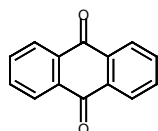
Anthranilic acid methyl ester → Methyl 2-aminobenzoate page 1130

Anthranilic acid N-carboxylic acid anhydride → Isoato anhydride page 1040

Anthranilic acid nitrile → 2-Aminobenzonitrile page 379

Anthranilonitrile → 2-Aminobenzonitrile page 379

## 800465 Anthraquinone for synthesis

C<sub>14</sub>H<sub>8</sub>O<sub>2</sub>

9,10-Dihydro-9,10-anthracenedione

■ CAS-No. 84-65-1 ■ EC-No. 201-549-0

- Vapour pressure 1.33 hPa (190 °C)
- Flash point 185 °C ■ Solub. in H<sub>2</sub>O < 0.001 g/l (20 °C) ■ M = 208.22 g/mol
- Melting point 282 - 285 °C
- Bulk density 600 kg/m<sup>3</sup>
- Boiling point 379 - 381 °C
- Ignition temp. 650 °C
- WGK 1
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13

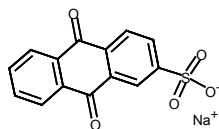
- HS-No. 2914 61 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 282 °C  
 Melting range (upper value)..... ≤ 286 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00465.0100	Plastic bottle	100 g	inquire
8.00465.0500	Plastic bottle	500 g	inquire

## 841031 Anthraquinone-2-sulfonic acid sodium salt for synthesis

C<sub>14</sub>H<sub>7</sub>NaO<sub>5</sub>S

9,10-Dihydro-9,10-dioxo-anthracene-2-sulfonic acid sodium salt

■ CAS-No. 131-08-8 ■ EC-No. 205-009-5

■ M = 310.25 g/mol ■ Melting point &gt;320 °C

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2914 70 00 ■ Disposal 3

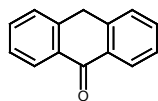
## Specification

Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)  
 Water (K. F.)..... ≤ 5.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41031.0100	Plastic bottle	100 g	inquire
8.41031.0500	Plastic bottle	500 g	inquire

9-Anthraic acid → 9-Anthracenecarboxylic acid page 420

## Anthrone

C<sub>14</sub>H<sub>10</sub>O

9,10-Dihydro-9-oxoanthracene

■ CAS-No. 90-44-8 ■ EC-No. 201-994-0

■ Solub. in H<sub>2</sub>O 4.6 mg/l (20 °C) ■ M = 194.23 g/mol

■ Melting point 151 - 156 °C

- Bulk density 450 kg/m<sup>3</sup>

■ WGK 2

■ LGK 10 - 13

■ HS-No. 2914 39 00 ■ Disposal 3

## 801461 Anthrone for synthesis

## Specification

Assay (GC, area%)..... ≥ 97,0 Area %

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01461.0010	Plastic bottle	10 g	inquire
8.01461.0025	Plastic bottle	25 g	inquire
8.01461.0100	Plastic bottle	100 g	inquire

## 101468 Anthrone GR for analysis ACS, Reag. Ph Eur

## Specification

Purity (GC)..... ≥ 98.0 %

Identity (IR-spectrum)..... conforms

Appearance... Almost white pale yellow to greenish yellow crystal needles or crystalline powder.

Solubility in ethyl acetate (20 g/l)..... conforms

Appearance of solution (Into Toluol (50 g/l))..... conforms

..... conforms

Appearance of solution

(Into Sulfuric acid (96 %, 20 g/l))..... conforms

Melting point ..... 153 - 157 °C

Absorbance of reagent solution

(425 nm; 0,5 g/l; sulphuric acid 65 %)..... ≤ 0.75

Absorbance of reagent solution

(620 nm; 0,5 g/l; sulphuric acid 65 %)..... ≤ 0.045

Fe (Iron)..... ≤ 0.001 %

Sensitivity to carbohydrates

(A (620 nm, Glucose 750 µg/25 ml))..... ≥ 0.90

Sensitivity to carbohydrates (linearity)..... conforms

Suitability as reagent (of carbohydrate in TLC)..... conforms

..... conforms

Water (according to Karl Fischer)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.01468.0010	Glass bottle	10 g	inquire

9-Anthryl-methanol → Anthracene-9-methanol page 420

Antichlor → Sodium thiosulfate page 1455

Anti-foaming agent → page 1419

## Anti-foaming agents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1419	107743	Silicon anti-foaming agent						

Antimonous acid → page 422



# Antimo

## 107832 Antimony powder for analysis particle size < 150 µm EMSURE®

Sb  
 ■ CAS-No. 7440-36-0 ■ EC-No. 231-146-5  
 ■ Spec. density 6.7 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 121.75 g/mol  
 ■ Melting point 630 °C  
 ■ Bulk density 2000 - 3000 kg/m<sup>3</sup>  
 ■ Boiling point 1637 °C  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335, P262

■ LD50 oral rat 7000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 8110 10 00 ■ Disposal 15  
 ■ ADR-RID UN 2871 Antimon-Pulver, 6.1, III  
 ■ IMDG-Code UN 2871 ANTIMONY POWDER, 6.1, III  
 ■ IATA-DGR UN 2871 ANTIMONY POWDER, 6.1, III

**Specification**  
 Assay (bromometric) ..... ≥ 99.8 %

As (Arsenic) ..... ≤ 0.005 %  
 Cu (Copper) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.01 %  
 Pb (Lead) ..... ≤ 0.005 %  
 Sieve residue (> 150 µm) ..... ≤ 3 %

Ord.No.	Packaging	Quantity	Price
1.07832.0025	Plastic bottle	25 g	inquire

## Antimony(III) chloride

Cl<sub>3</sub>Sb  
 SbCl<sub>3</sub>  
*Antimonous acid, Antimony trichloride*  
 ■ CAS-No. 10025-91-9 ■ EC-No. 233-047-2  
 ■ Vapour pressure 0.16 hPa (20 °C)  
 ■ Spec. density 3.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 931 g/l (20 °C) Hydrolysis ■ M = 228.1 g/mol  
 ■ pH value (H<sub>2</sub>O) acidic ■ Melting point 73 °C  
 ■ Bulk density 1600 kg/m<sup>3</sup> ■ Boiling point 233 °C

(1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314;  
 Chronic aquatic toxicity, Category 2, H411, P273, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 525 mg/kg  
 ■ EC-Index-No. 051-001-00-8 ■ LGK 8 B  
 ■ HS-No. 2827 39 85 ■ Disposal 15

■ ADR-RID UN 1733 Antimontrichlorid, 8, II  
 ■ IMDG-Code UN 1733 ANTIMONY TRICHLORIDE, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1733 ANTIMONY TRICHLORIDE, 8, II  
 Reagent for vitamin A, catalyst for organic synthesis, spray reagent for thin layer chromatography.

Ord.No.	Packaging	Quantity	Price
8.14656.0250	Glass bottle	250 g	inquire
8.14656.1000	Glass bottle	1 kg	inquire

## 814656 Antimony(III) chloride for synthesis

**Specification**  
 Assay (iodometric) ..... ≥ 99,0 %(m)

## 107838 Antimony(III) chloride for analysis EMSURE® ACS

**Specification**  
 Assay (bromometric) ..... ≥ 99.0 %  
 Matter insoluble in chloroform ..... ≤ 0.02 %  
 Substances insoluble in hydrochloric acid ..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 As (Arsenic) ..... ≤ 0.005 %

Ca (Calcium) ..... ≤ 0.005 %  
 Cu (Copper) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.002 %  
 K (Potassium) ..... ≤ 0.01 %  
 Na (Sodium) ..... ≤ 0.005 %  
 Pb (Lead) ..... ≤ 0.003 %

Ord.No.	Packaging	Quantity	Price
1.07838.0250	Glass bottle	250 g	inquire
1.07838.1000	Glass bottle	1 kg	inquire

## 807837 Antimony(V) chloride for synthesis

Cl<sub>5</sub>Sb  
 SbCl<sub>5</sub>  
*Antimony pentachloride*  
 ■ CAS-No. 7647-18-9 ■ EC-No. 231-601-8  
 ■ Vapour pressure 1.1 hPa (20 °C)  
 ■ Spec. density 2.35 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 299.01 g/mol ■ Melting point 3 - 4 °C  
 ■ Boiling point 140 °C  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314;

Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 720 mg/m<sup>3</sup>  
 ■ LD50 oral rat 1115 mg/kg  
 ■ EC-Index-No. 051-002-00-3 ■ LGK 8 B  
 ■ HS-No. 2827 39 85 ■ Disposal 24  
 ■ ADR-RID UN 1730 Antimonpentachlorid, flüssig, 8, II ■ IMDG-Code UN 1730 ANTIMONY PENTACHLORIDE, LIQUID, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1730 ANTIMONY PENTACHLORIDE, LIQUID, 8, II  
**Specification**  
 Assay (iodometric) ..... ≥ 98,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.07837.0025	Glass bottle	25 ml	inquire
8.07837.0100	Glass bottle	100 ml	inquire

## Antimony, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1392	100612	Pyrogallol	191	107599	Rhodamine B (C.I. 45170)	1421	101515	Silver diethyldithiocarbamate

## 807839 Antimony(III) fluoride for synthesis

F<sub>3</sub>Sb  
 SbF<sub>3</sub>  
*Antimony trifluoride*  
 ■ CAS-No. 7783-56-4 ■ EC-No. 232-009-2  
 ■ Spec. density 4.38 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 4430 g/l (20 °C) Hydrolysis ■ M = 178.74 g/mol ■ Melting point 292 °C  
 ■ Bulk density 1500 kg/m<sup>3</sup> ■ Boiling point 376 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3,

Dermal, H311; Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ EC-Index-No. 051-004-00-4 ■ LGK 6.1B  
 ■ HS-No. 2826 19 90 ■ Disposal 23  
 ■ ADR-RID UN 1549 Anorganische Antimonverbindung, fest, n.a.g.(ANTIMON(III)-FLUORID), 6.1, III ■ IMDG-Code UN 1549 ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.(ANTIMONY TRIFLUORIDE), 6.1, III  
 ■ IATA-DGR UN 1549 ANTIMONY COMPOUND,

INORGANIC, SOLID, N.O.S.(ANTIMONY TRIFLUORIDE), 6.1, III  
 Versatile fluorinating agent/1/.  
**Specification**  
 Assay (iodometric) ..... ≥ 99,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.07839.0005	Glass bottle	5 g	inquire
8.07839.0250	Plastic bottle	250 g	inquire
8.07839.1000	Plastic bottle	1 kg	inquire

812034 Antimony(V) fluoride for synthesis



F<sub>5</sub>Sb  
SbF<sub>5</sub>  
*Antimony pentafluoride*  
■ CAS-No. 7783-70-2 ■ EC-No. 232-021-8  
■ Spec. density 2.99 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
■ M = 216.74 g/mol ■ Melting point 7 °C  
■ Boiling point 149 - 150 °C (1013 hPa)  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 4,

Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ EC-Index-No. 051-003-00-9 ■ LGK 8B  
■ HS-No. 2826 19 90 ■ Disposal 23  
■ ADR-RID UN 1732 Antimonpentafluorid, 8 (6.1), II ■ IMDG-Code UN 1732 ANTIMONY PENTAFLUORIDE, 8 (6.1), II, Segregation Group: 1

(Acids)  
■ IATA-DGR UN 1732 ANTIMONY PENTAFLUORIDE, 8 (6.1), II  
**Specification**  
Assay (iodometric) ..... ≥ 98,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.12034.0100	Alu bottle	100 g	inquire

Antimony(III) oxide

O<sub>3</sub>Sb<sub>2</sub>  
Sb<sub>2</sub>O<sub>3</sub>  
*di-Antimony trioxide*  
■ CAS-No. 1309-64-4 ■ EC-No. 215-175-0  
■ Vapour pressure 13.3 hPa (660 °C)  
■ Spec. density 5.4 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 2.70 mg/

l (20 °C) ■ M = 291.49 g/mol  
■ Melting point 656 °C (sublimed)  
■ Bulk density 800 - 1300 kg/m<sup>3</sup>  
■ Boiling point 1550 °C (1013 hPa)  
■ WGK 2  
■ GHS: Warning, Carcinogenicity, Category 2,

H351, P281, P308 + P313  
■ LD50 oral rat > 34600 mg/kg  
■ EC-Index-No. 051-005-00-X ■ LGK 10 - 13  
■ HS-No. 2825 80 00 ■ Disposal 15  
Reagent for alkaloids.

107835 Antimony(III) oxide extra pure

**Specification**  
Assay (bromometric) ..... ≥ 99.0 %  
Matter insoluble in tartaric acid ..... ≤ 1.0 %  
Al (Aluminium) ..... ≤ 20 ppm  
As (Arsenic) ..... ≤ 500 ppm  
Ca (Calcium) ..... ≤ 20 ppm  
Cu (Copper) ..... ≤ 20 ppm  
Fe (Iron) ..... ≤ 50 ppm  
K (Potassium) ..... ≤ 10 ppm  
Mg (Magnesium) ..... ≤ 20 ppm  
Na (Sodium) ..... ≤ 20 ppm  
Pb (Lead) ..... ≤ 500 ppm  
Particle size (D 50) ..... 1.0 - 3.0 µm

Ord.No.	Packaging	Quantity	Price
1.07835.2500	Plastic bottle	2.5 kg	inquire
1.07835.9050	Fibre carton	50 kg	inquire

107836 Antimony(III) oxide for analysis EMSURE®

**Specification**  
Assay (bromometric) ..... ≥ 99.0 %  
Substances insoluble in hydrochloric acid ≤ 0.01 %  
Substances soluble in water ..... ≤ 0.05 %  
Chloride (Cl) ..... ≤ 0.05 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
As (Arsenic) ..... ≤ 0.03 %  
Ca (Calcium) ..... ≤ 0.002 %  
Cu (Copper) ..... ≤ 0.002 %  
Fe (Iron) ..... ≤ 0.003 %  
K (Potassium) ..... ≤ 0.002 %  
Na (Sodium) ..... ≤ 0.002 %  
Pb (Lead) ..... ≤ 0.025 %

Ord.No.	Packaging	Quantity	Price
1.07836.0100	Plastic bottle	100 g	inquire
1.07836.1000	Plastic bottle	1 kg	inquire

Antimony pentachloride → Antimony(V) chloride page 422	di-Antimony trioxide → page 423	AOX Sample Preparation Set → page 51
Antimony pentafluoride → Antimony(V) fluoride page 423	Antimony triphenyl → Triphenylantimony page 1610	AOX Standard → page 51
Antimony potassium tartrate → Potassium antimony(III) oxide tartrate trihydrate page 1343	Antistatic device → page 327	6-APA → 6-Aminopenicillanic acid page 397
Antimony trichloride → page 422	AOX Cell Test → page 51	APT Agar (All-purpose agar cont. Tween®) → page 99
Antimony trifluoride → Antimony(III) fluoride page 422	AOX Enrichment Set → page 51	Apura → page 173

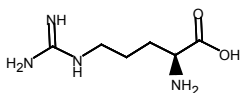
Aquaculture, Fish farming, Aquaristic

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
49	114657	Ammonium Test in freshwater and seawater	63	114651	Copper Test in freshwater and seawater	74	114662	Oxygen Test in freshwater and seawater
54	114653	Carbonate Hardness Test in freshwater and seawater	66	114660	Iron Test in freshwater and seawater	79	114661	Phosphate Test in freshwater and seawater
55	114670	Chlorine Test in freshwater and seawater	71	111169	Nitrate Test in freshwater	87	114652	Total Hardness Test in freshwater
90	111102	Compact Laboratory for Aquaristics	72	114658	Nitrite Test in freshwater and seawater			
90	111151	Compact Laboratory for Water Testing	74	114663	Oxygen Reaction Bottle			

Aquamerck®, analytical test kits → page 49	Araliphatic alcohols → Alcohols	Araliphatic ketones → Ketones
Aquaquant®, analytical test kits → page 49	Araliphatic aldehydes → Aldehydes	Araliphatic mercaptans → Sulfur compounds
Aquatex® → page 187	Araliphatic alkane halides → Organohalogen compounds	Areometer → page 90
Arachyl alcohol → 1-Eicosanol page 834	Araliphatic carboxylic acid halides → Carboxylic acid derivatives	

# Argini

## 101542 L-Arginine for biochemistry



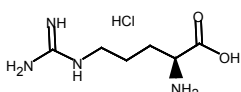
$C_6H_{14}N_4O_2$   
**Arg**  
 ■ CAS-No. 74-79-3 ■ EC-No. 200-811-1  
 ■ Solub. in  $H_2O$  148.7 g/l (20 °C) ■ M = 174.2 g/mol  
 ■ pH value 11.4 (100 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 238 °C (decomposition)  
 ■ Bulk density 640 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat > 5110 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2925 29 00 ■ Disposal 3  
 Soluble in water and mineral acids

**Specification**  
 Assay (perchloric acid titration, calculated on dried substance) .....  $\geq 99.0$  %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ..... white to almost white, fine-grain powder or colorless crystals  
 Appearance of solution (0.5 mol/l, water) ..... clear and colorless  
 Spec. rotation  
 ( $\alpha$  20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +25.0 to +26.5°  
 UV-Absorption (260 nm; 0.5 mol/l; 1 cm; water) .....  $\leq 0.35$   
 UV-Absorption (280 nm; 0.5 mol/l; 1 cm; water) .....  $\leq 0.15$   
 Chloride (Cl) .....  $\leq 0.02$  %  
 Sulphate (SO<sub>4</sub>) .....  $\leq 0.01$  %  
 Heavy metals (as Pb) .....  $\leq 0.001$  %  
 As (Arsenic) .....  $\leq 0.0005$  %

Ca (Calcium) .....  $\leq 0.001$  %  
 Co (Cobalt) .....  $\leq 0.0005$  %  
 Fe (Iron) .....  $\leq 0.0005$  %  
 K (Potassium) .....  $\leq 0.0005$  %  
 Mg (Magnesium) .....  $\leq 0.0005$  %  
 Na (Sodium) .....  $\leq 0.005$  %  
 NH<sub>4</sub> (Ammonium) .....  $\leq 0.01$  %  
 Zn (Zinc) .....  $\leq 0.0005$  %  
 Foreign amino acids .....  $\leq 0.3$  %  
 Other ninhydrine positive substances .....  $\leq 0.1$  %  
 Loss on drying (105 °C; 3 h) .....  $\leq 0.5$  %

Ord.No.	Packaging	Quantity	Price
1.01542.0100	Plastic bottle	100 g	inquire
1.01542.1000	Plastic bottle	1 kg	inquire
1.01542.9010	Plastic drum	10 kg	inquire

## 816001 (S)-(+)-Arginine hydrochloride for synthesis



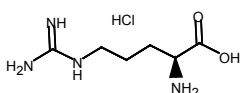
$C_6H_{15}ClN_4O_2$   
 $C_6H_{14}N_4O_2 \cdot HCl$   
*α-Amino-δ-guanidino valerianic acid hydrochloride, alpha-Amino-delta-guanidino*

*valerianic acid hydrochloride, Arg*  
 ■ CAS-No. 1119-34-2 ■ EC-No. 214-275-1  
 ■ Spec. density 1.42 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  730 g/l (20 °C) ■ M = 210.66 g/mol  
 ■ pH value 5.7 (100 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 218 °C ■ Bulk density 1250 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat 12000 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2925 29 00 ■ Disposal 3  
**Specification**  
 Assay (argentometric) .....  $\geq 99.0$  % (m)  
 Spec. rotation [ $\alpha$ °/D (c=8 in HCl 6 mol/l)] ..... 21.5 - 23.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16001.0100	Plastic bottle	100 g	inquire

## 101543 L-Arginine monohydrochloride for biochemistry



$C_6H_{15}ClN_4O_2$   
 $C_6H_{14}N_4O_2 \cdot HCl$   
*α-Amino-δ-guanidino valerianic acid hydrochloride, alpha-Amino-delta-guanidino valerianic acid hydrochloride, Arg*  
 ■ CAS-No. 1119-34-2 ■ EC-No. 214-275-1  
 ■ Spec. density 1.42 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  730 g/l (20 °C) ■ M = 210.66 g/mol  
 ■ pH value 5.7 (100 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 218 °C ■ Bulk density 1250 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat 12000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2925 29 00 ■ Disposal 3

Soluble in water and mineral acids  
**Specification**  
 Assay (perchloric acid titration, calculated on dried substance) .....  $\geq 99.0$  %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ..... white to almost white, fine powder  
 Appearance of solution (1 mol/l, water) ..... clear and colorless  
 Spec. rotation  
 ( $\alpha$  20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +21.0 to +22.0°  
 UV-Absorption (260 nm; 1 mol/l; 1 cm; water) .....  $\leq 0.20$   
 UV-Absorption (280 nm; 1 mol/l; 1 cm; water) .....  $\leq 0.05$   
 Sulphate (SO<sub>4</sub>) .....  $\leq 0.01$  %  
 Heavy metals (as Pb) .....  $\leq 0.001$  %  
 As (Arsenic) .....  $\leq 0.0005$  %  
 Ca (Calcium) .....  $\leq 0.001$  %

Co (Cobalt) .....  $\leq 0.0005$  %  
 Fe (Iron) .....  $\leq 0.0005$  %  
 K (Potassium) .....  $\leq 0.0005$  %  
 Mg (Magnesium) .....  $\leq 0.0005$  %  
 Na (Sodium) .....  $\leq 0.005$  %  
 Zn (Zinc) .....  $\leq 0.0005$  %  
 NH<sub>4</sub> (Ammonium) .....  $\leq 0.01$  %  
 Foreign amino acids .....  $\leq 0.3$  %  
 Other ninhydrine positive substances .....  $\leq 0.2$  %  
 Loss on drying (105 °C; 3 h) .....  $\leq 0.3$  %

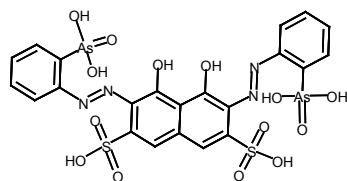
Ord.No.	Packaging	Quantity	Price
1.01543.0050	Plastic bottle	50 g	inquire
1.01543.0250	Plastic bottle	250 g	inquire
1.01543.1000	Plastic bottle	1 kg	inquire
1.01543.9010	Plastic drum	10 kg	inquire

L-Arginine monohydrochloride → (S)-(+)-Arginine hydrochloride page 424  
 Armstrong acid → 1,5-Naphthalenedisulfonic acid page 1198  
 Aromatic aldehydes → Aldehydes

Aromatic amines → Amines and ammonium compounds  
 Aromatic carboxylic acid halides → Carboxylic acid derivatives  
 Aromatic halides → Organohalogen compounds

Aromatic hydrocarbons → Hydrocarbons  
 Aromatic mercaptans → ur compounds  
 Aromatic nitro compounds → Nitro compounds

## 110107 Arsenazo III metal indicator



$C_{22}H_{18}As_2N_4O_{14}S_2$   
*2,7-Bis(2-arsenophenylazo)-1,8-dihydroxynaphthalene-3,6-disulfonic acid*  
 ■ CAS-No. 1668-00-4 ■ EC-No. 216-788-6  
 ■ Solub. in  $H_2O$  (20 °C) slightly soluble  
 ■ M = 776.36 g/mol ■ pH value 2.3 (10 g/l,  $H_2O$ ,

20 °C) ■ Bulk density 850 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Chronic aquatic toxicity, Category 1, H410; Acute aquatic toxicity, Category 1, H400, P273, P304 + P340, P309 + P310  
 ■ EC-Index-No. 033-002-00-5 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 15  
 ■ ADR-RID UN 3465 Organische Arsenverbindung, fest, n.a.g.(ARSENAZO III), 6.1, II ■ IMDG-Code UN 3465 ORGANOARSENIC COMPOUND, SOLID, N.O.S.(ARSENAZO III), 6.1, II  
 ■ IATA-DGR UN 3465 ORGANOARSENIC COMPOUND, SOLID, N.O.S.(ARSENAZO III), 6.1, II

Use as metal indicator: 0.1 % in water  
**Specification**  
 Identity (UV/VIS-Spectrum) ..... passes test  
 Absorption maximum  $\lambda_{max}$  (buffer pH 10.0) ..... 569 - 576 nm  
 Spec. Absorptivity A 1%/1cm ( $\lambda_{max}$ ; 0.025 g/l; buffer pH 10.0; calculated on anhydrous substance) ..... 300 - 450  
 Loss on drying (110 °C) .....  $\leq 10$  %  
 Suitability as indicator ..... passes test

Ord.No.	Packaging	Quantity	Price
1.10107.0005	Glass bottle	5 g	inquire

## 100115 Arsenic lumps for analysis (protective gas: nitrogen) EMSURE®



As  
 ■ CAS-No. 7440-38-2 ■ EC-No. 231-148-6  
 ■ Spec. density 5.73 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 74.92 g/mol ■ Melting point 817 °C (28000 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral,

H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P309 + P310  
 ■ LD50 oral rat 763 mg/kg  
 ■ EC-Index-No. 033-001-00-X ■ LGK 6.1B  
 ■ HS-No. 2804 80 00 ■ Disposal 15  
 ■ ADR-RID UN 1558 Arsen, 6.1, II ■ IMDG-Code UN 1558 ARSENIC, 6.1, II

■ IATA-DGR UN 1558 ARSENIC, 6.1, II

**Specification**  
 Identity..... conforms

Ord.No.	Packaging	Quantity	Price
1.00115.0025	Metal can	25 g	inquire

Arsenic compounds → Organoelement compounds

Arsenic, determination → Silver diethyldithiocarbamate page 1421

109939 Arsenic standard 1000 mg As, (As<sub>2</sub>O<sub>5</sub> in H<sub>2</sub>O) Titrisol®

■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.7 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1A, H350; Chronic aquatic toxicity, Category 2, H411, P201, P273, P308 + P313  
 ■ LGK 6.1B  
 ■ HS-No. 2811 29 90 ■ Disposal 15

■ ADR-RID UN 1556 Arsenverbindung, flüssig, n.a.g.(ARSENPTOXIDLOESUNG), 6.1, II ■ IMDG-Code UN 1556 ARSENIC COMPOUND, LIQUID, N.O.S.(ARSENIC PENTOXIDE), 6.1, II  
 ■ IATA-DGR UN 1556 ARSENIC COMPOUND, LIQUID, N.O.S.(ARSENIC PENTOXIDE), 6.1, II

content (As)..... 1000 mg / Ampoule  
 Determination method: ICP - OES (traceable of NIST - SRM 3103a) Accuracy of the method: +/- 5 mg

Ord.No.	Packaging	Quantity	Price
1.09939.0001	Plastic ampoule	1 amp	inquire

Arsenic standard for aqueous matrices → Arsenic standard page 425

Arsenic standard solution for aqueous matrices ready for use → page 1466

Arsenic Test → page 51

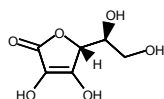
Arsenic triphenyl → Triphenylarsine page 1610  
 1-(2-Arsonophenylazo)-2-hydroxy-3,6-naphthalene-disulfonic acid sodium salt → Thorin page 1555

Aryl phenols → Phenols and phenol ethers

Aryl sulfatase → β-Glucuronidase/aryl sulfatase page 924

Asbestos for Gooch crucibles → Aluminium oxide page 370

## 100468 L(+)-Ascorbic Acid for analysis EMSURE® ACS,ISO,Reg. Ph Eur



C<sub>6</sub>H<sub>8</sub>O<sub>6</sub>

■ CAS-No. 50-81-7 ■ EC-No. 200-066-2  
 ■ Vapour pressure (20 °C) not applicable  
 ■ Spec. density 1.65 g/cm<sup>3</sup> (20 °C)  
 ■ Kin. viscosity (20 °C) not applicable ■ Solub. in H<sub>2</sub>O 330 g/l (24 °C) ■ M = 176.12 g/mol  
 ■ pH value 2.2 - 2.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Saturation conc. (20 °C) Air, no data available  
 ■ Melting point 190 - 192 °C (decomposition)  
 ■ Bulk density 500 - 900 kg/m<sup>3</sup>  
 ■ Ignition temp. 380 °C  
 ■ WGK 1  
 ■ LD50 oral rat 11900 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2936 27 00  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**  
 Assay (iodometric) ..... 99.7 - 100.5 %  
 Identity (IR-spectrum) ..... conforms  
 Appearance ..... white or almost white, crystalline powder  
 Appearance of solution (50 g/l CO<sub>2</sub>-free water) ..... clear (≤ 3 NTU) and not so intense in colour than reference solution BY7  
 pH (50 g/l CO<sub>2</sub>-free water) ..... 2.1 - 2.6  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (100 g/l, water) 20.5 - 21.5 °  
 Chloride (Cl) ..... ≤ 50 ppm  
 Sulphate (SO<sub>4</sub>) ..... ≤ 20 ppm  
 Cu (Copper) ..... ≤ 5 ppm  
 Fe (Iron) ..... ≤ 2 ppm

Heavy metals (as Pb) ..... ≤ 10 ppm  
 Oxalic acid ..... ≤ 0.2 %  
 Related substances (HPLC) (Impurity C) ..... ≤ 0.15 %  
 Related substances (HPLC) (Impurity D) ..... ≤ 0.15 %  
 Related substances (HPLC) (unspecified impurities singly) ..... ≤ 0.10 %  
 Related substances (HPLC) (sum of impurities (except impurity A and D)) ..... ≤ 0.2 %  
 Sulfated ash (600 °C) ..... ≤ 0.05 %  
 Loss on drying (105 °C) ..... ≤ 0.1 %

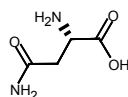
Ord.No.	Packaging	Quantity	Price
1.00468.0100	Plastic bottle	100 g	inquire
1.00468.0500	Plastic bottle	500 g	inquire
1.00468.1000	Plastic bottle	1 kg	inquire

Ascorbic acid, determination → page 52

Ascorbic Acid Test → page 52

Ascorbic Acid Test RQeasy® → page 52

## 101566 L-Asparagine monohydrate for biochemistry



C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub> \* H<sub>2</sub>O

*Asparaginic acid semiamide, Asn*  
 ■ CAS-No. 5794-13-8 ■ EC-No. 200-735-9  
 ■ Solub. in H<sub>2</sub>O 22 g/l (20 °C) ■ M = 150.14 g/mol  
 ■ pH value 4.0 - 5.5 (20 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 215 - 217 °C decomposes  
 ■ Bulk density 530 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3  
 Soluble in water and mineral acids

**Specification**

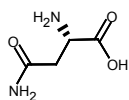
Assay (Perchloric acid titration, calc. on anhydrous

substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ..... white to almost white crystalline powder or colorless crystals  
 Appearance of solution (0.5 mol/l, hydrochloric acid 1 mol/l) ..... clear and colorless  
 Spec. rotation (α<sub>D</sub><sup>20</sup>) (50 g/l, hydrochloric acid 3 mol/l, calc. on anhydrous substance) ..... +34.1 to +35.6°  
 UV-Absorption (260 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l) ..... ≤ 0.05  
 UV-Absorption (280 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l) ..... ≤ 0.05  
 Chloride (Cl) ..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 As (Arsenic) ..... ≤ 0.0005 %  
 Ca (Calcium) ..... ≤ 0.001 %

Co (Cobalt) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.0005 %  
 Mg (Magnesium) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.005 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 Zn (Zinc) ..... ≤ 0.0005 %  
 Aspartic acid ..... ≤ 0.5 %  
 other foreign amino acids ..... ≤ 0.3 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %  
 Water (according to Karl Fischer) ..... 11.5 - 12.5 %

Ord.No.	Packaging	Quantity	Price
1.01566.0100	Plastic bottle	100 g	inquire
1.01566.1000	Plastic bottle	1 kg	inquire
1.01566.9010	Plastic drum	10 kg	inquire

## 816002 (S)-(+)-Asparagine monohydrate for synthesis

C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub> \* H<sub>2</sub>O

Asparaginic acid semiamide, Asn

■ CAS-No. 5794-13-8 ■ EC-No. 200-735-9

■ Solub. in H<sub>2</sub>O 22 g/l (20 °C) ■ M = 150.14 g/mol

- pH value 4.0 - 5.5 (20 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 215 - 217 °C decomposes
- Bulk density 530 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

**Specification**

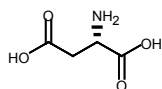
Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=10 in HCl 3 mol/l).....

.....30,0 - 33,0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16002.0025	Plastic bottle	25 g	inquire
8.16002.0100	Plastic bottle	100 g	inquire

L-Asparagine monohydrate → (S)-(+)-Asparagine monohydrate page 426

## 100126 L-Aspartic acid for biochemistry

C<sub>4</sub>H<sub>7</sub>NO<sub>4</sub>

L-α-Aminosuccinic acid, L-α-Aminosuccinic acid, Asp

■ CAS-No. 56-84-8 ■ EC-No. 200-291-6

■ Solub. in H<sub>2</sub>O 4 g/l (20 °C) ■ M = 133.1 g/mol■ pH value 2.5 - 3.5 (4 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 269 - 271 °C (decomposition)

■ Bulk density 430 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2922 49 85 ■ Disposal 3

Soluble in water and mineral acids

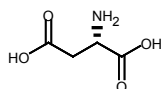
**Specification**

Assay (alkalimetric, calculated on dried substance) ..... ≥ 99,0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ..... white to almost white crystalline powder or colorless crystals  
 Appearance of solution (0.5 mol/l, hydrochloric acid 1 mol/l) ..... clear and colorless  
 Spec. rotation (α<sub>D</sub><sup>20</sup>, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +25.3 to +26.3°  
 UV-Absorption (260 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l) ..... ≤ 0.25  
 UV-Absorption (280 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l) ..... ≤ 0.20  
 Chloride (Cl) ..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 As (Arsenic) ..... ≤ 0.0005 %

Ca (Calcium) ..... ≤ 0.001 %  
 Co (Cobalt) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.0005 %  
 Mg (Magnesium) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.005 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 Zn (Zinc) ..... ≤ 0.0005 %  
 Foreign amino acids ..... ≤ 0.3 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %  
 Loss on drying (105 °C; 3 h) ..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.00126.0100	Plastic bottle	100 g	inquire
1.00126.1000	Plastic bottle	1 kg	inquire
1.00126.9010	Plastic drum	10 kg	inquire

## 816003 (S)-(+)-Aspartic acid for synthesis

C<sub>4</sub>H<sub>7</sub>NO<sub>4</sub>

L-α-Aminosuccinic acid, L-α-Aminosuccinic acid, Asp

■ CAS-No. 56-84-8 ■ EC-No. 200-291-6

- Solub. in H<sub>2</sub>O 4 g/l (20 °C) ■ M = 133.1 g/mol
- pH value 2.5 - 3.5 (4 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 269 - 271 °C (decomposition)
- Bulk density 430 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 99,0 % (m)

Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=8 in HCl 6 mol/l).....  
 .....24,5 - 26,0 °  
 Identity (IR)..... passes test

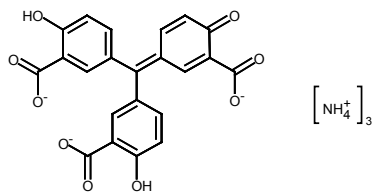
Ord.No.	Packaging	Quantity	Price
8.16003.0100	Plastic bottle	100 g	inquire
8.16003.0500	Plastic bottle	500 g	inquire

L-Aspartic acid → (S)-(+)-Aspartic acid page 426

ATC → Trichloroethylsilane page 1579

Auramine O (C.I. 41000) → page 191

## 100128 Aurin tricarboxylic acid ammonium salt GR for analysis (reagent for aluminium) ACS

C<sub>22</sub>H<sub>23</sub>N<sub>3</sub>O<sub>9</sub>

Aluminon, Ammonium aurin tricarboxylate

- CAS-No. 569-58-4 ■ EC-No. 209-319-1
- Solub. in H<sub>2</sub>O 800 g/l (20 °C) ■ M = 473.44 g/mol
- pH value 5.3 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 220 - 225 °C decomposes
- Bulk density 400 kg/m<sup>3</sup>
- WGK 2
- LD50 oral rat 9000 mg/kg
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

Use as a metal indicator: 0.2 % in water

**Specification**

Assay (acidimetric, calc. on anhydrous substance) ..... ≥ 98%  
 Identity (IR-spectrum) ..... passes test  
 Insoluble matter ..... ≤ 0.1 %  
 Water (according to Karl Fischer) ..... ≤ 10%  
 Sulfated ash ..... ≤ 0.2 %  
 Suitability as reagent (for aluminium).... passes test

Ord.No.	Packaging	Quantity	Price
1.00128.0010	Glass bottle	10 g	inquire

Auto-Hemacolor® → page 198

## Auxiliaries

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
480	107912	Boiling chips granules	922	104017	Glass beads 5 mm	1341	107443	Polyvidone 25
480	107913	Boiling chips granules	922	104018	Glass beads 6 mm	1419	107743	Silicon anti-foaming agent
328	108801	Bottle key	328	109998	Glass rods (plastic-coated)	1419	107746	Silicone grease
328	108804	Container key	922	104086	Glass wool	1419	107921	Silicone high vacuum grease heavy
328	108803	Drum key	935	115265	Heating bath fluid	1419	107742	Silicone oil
922	104014	Glass beads 2 mm	1086	105809	Magnesia rods	1501	104318	Stopcock grease
922	104015	Glass beads 3 mm	1245	106900	Oil bath filling	1625	108462	Uranine AP (C.I. 45350)
922	104016	Glass beads 4 mm	75	110011	Peroxide Test	1633	108641	Water detection paste N

Auxiliaries → Laboratory equipment, auxiliaries

9-Azaanthracene → Acridine page 351

2-Azabiphenyl → 2-Phenylpyridine page 1313

3-Aza-3-(carboxymethyl)pentamethylenedinitrilo-tetraacetic acid → Titriplex® V page 173

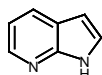
Azacycloheptane → Hexamethyleneimine page 951

Azacyclonol → Diphenyl-4-piperidinethanol page 819

9-Azafluorene → Carbazole page 570



## 801445 7-Azaindole for synthesis

C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>1*H*-Pyrrolo[2,3-*b*]pyridine

■ CAS-No. 271-63-6 ■ EC-No. 205-981-0

- M = 118.13 g/mol ■ Melting point 103 - 106 °C
- Boiling point 270 °C (1004 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**

Assay (GC, area%).....≥ 98,0 Area %

Melting range (lower value).....≥ 103 °C  
 Melting range (upper value).....≤ 106 °C  
 Identity (IR).....conforms

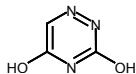
Ord.No.	Packaging	Quantity	Price
8.01445.0001	Glass bottle	1 g	inquire

8-Aza-N-methylbicyclo[3.2.1]octan-3-ol →  
 Tropine page 1619

1-Azanaphthalene → Quinoline page 308

1-Azetatralin → 1,2,3,4-Tetrahydroquinoline page 1536

## 841156 6-Azauracil for synthesis

C<sub>3</sub>H<sub>3</sub>N<sub>3</sub>O<sub>2</sub>1,2,4-Triazine-3,5(2*H*,4*H*)-dione

■ CAS-No. 461-89-2 ■ EC-No. 207-318-0

■ M = 113.07 g/mol ■ Melting point 274 - 275 °C

■ WGK 3

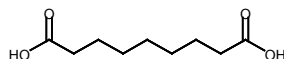
- LGK 10 - 13
- HS-No. 2933 69 80 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(6-AZAUACIL), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(6-AZAUACIL), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(6-AZAUACIL), 6.1, III

**Specification**

Assay (acidimetric).....≥ 98,0 %  
 Melting range (lower value).....≥ 275 °C  
 Melting range (upper value).....≤ 280 °C  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41156.0005	Plastic bottle	5 g	inquire
8.41156.0025	Plastic bottle	25 g	inquire

## Azelaic acid

C<sub>9</sub>H<sub>16</sub>O<sub>4</sub>HOOC(CH<sub>2</sub>)<sub>7</sub>COOH

Nonanedioic acid

- CAS-No. 123-99-9 ■ EC-No. 204-669-1
- Vapour pressure 1.3 hPa (178.3 °C)
- Spec. density 1.029 g/cm<sup>3</sup> (20 °C)
- Flash point 210 °C ■ Solub. in H<sub>2</sub>O 2.4 g/l (20 °C) ■ M = 188.22 g/mol ■ pH value 3.5 (1 g/l, H<sub>2</sub>O) ■ Melting point 106 - 109 °C
- Boiling point 237 °C (20 hPa)

- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P262, P305 + P351 + P338
- LD50 oral rat > 4000 mg/kg ■ LD50 dermal rat > 10 g/kg
- LGK 10 - 13
- HS-No. 2917 13 90 ■ Disposal 3

## 820117 Azelaic acid for synthesis

**Specification**

Assay (GC, area%).....≥ 98,0 % (a/a)

Melting range (lower value).....≥ 106 °C

Melting range (upper value).....≤ 109 °C

Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.20117.0025	Plastic bottle	25 g	inquire
8.20117.0100	Plastic bottle	100 g	inquire

## 820116 Azelaic acid, technical grade for synthesis

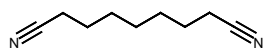
**Specification**

Assay (GC, area%).....≥ 90,0 Area %

Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.20116.0100	Plastic bottle	100 g	inquire
8.20116.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

## 841748 Azelaitrile for synthesis

C<sub>9</sub>H<sub>14</sub>N<sub>2</sub>NC(CH<sub>2</sub>)<sub>7</sub>CN

■ CAS-No. 1675-69-0 ■ EC-No. 216-824-0

■ Spec. density 0.923 g/cm<sup>3</sup> (20 °C)

■ Flash point &gt;110 °C ■ M = 150.22 g/mol

■ Boiling point 175 - 176 °C (14.7 hPa)

■ WGK 1

- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302
- LGK 10
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(AZELAINSAEUREDINITRIL), 6.1, III ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(AZELANITRILE), 6.1, III
- IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC,

N.O.S.(AZELANITRILE), 6.1, III

**Specification**

Assay (GC, area%).....≥ 96,0 Area %

Density (d 20 °C/ 4 °C).....0,923 - 0,927

Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41748.0025	Glass bottle	25 ml	inquire

## 814410 Azetidine for synthesis

C<sub>3</sub>H<sub>7</sub>N

Trimethylene imine

■ CAS-No. 503-29-7 ■ EC-No. 207-963-8

■ Refractive index 1.431 (20 °C, 589 nm) ■ Vapour pressure 237 hPa (25 °C) ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Flash point -20 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 57.09 g/mol

■ Boiling point 61 - 62 °C

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P223, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(TRIMETHYLENIMIN), 3 (8), II ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(TRIMETHYLENIMINE), 3 (8), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(TRIMETHYLENIMINE), 3 (8), II

**Specification**

Assay (GC, area%).....≥ 99,0 Area %

Density (d 20 °C/ 4 °C).....0,844 - 0,847

Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14410.0001	Glass bottle	1 ml	inquire
8.14410.0005	Glass bottle	5 ml	inquire

Azide dextrose broth → page 106

6-Azido-hexanoic acid → page 281

Azido-NovaTag resin → page 260

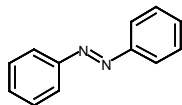
Azidophosphoric acid diphenyl ester → Diphenyl azidophosphate page 814

Azidotrimethylsilane → Trimethylsilyl azide page 1607

## Azo and hydrazo compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
355	841689	Adipic dihydrazide	815	103087	1,5-Diphenylcarbazon	1254	841589	Oxalyl dihydrazide
393	820086	1-Amino-4-methylpiperazine	817	820535	N,N-Diphenylhydrazinium chloride	1266	841572	Pentafluorophenyl hydrazine
396	820089	4-Aminomorpholine	821	818057	1,3-Diphenyltriazen	1306	807250	Phenylhydrazine
428	820118	trans-Azobenzene	172	103092	Dithizone	1306	107251	Phenylhydrazine
428	801595	$\alpha,\alpha'$ -Azoisobutyronitrile	905	841521	4-Fluoro-phenylhydrazine hydrochloride	1313	841580	1-Phenyl-3-pyrazolidinone
442	818027	Benzophenone hydrazone	963	804604	Hydrazin hydrate	1390	841016	4-(2'-Pyridylazo)-resorcinol
463	820073	Bis(1-aminoguanidinium) sulfate	963	804608	Hydrazinium hydroxide	1415	107722	Semicarbazide hydrochloride
511	820217	4-Bromophenylhydrazinium chloride	963	804605	Hydrazinium monobromide	1554	108156	Thiosemicarbazide
629	841213	2-Chlorophenylhydrazine hydrochloride	977	841410	4-Hydroxybenzhydrazide	1555	108294	Thorin
629	841601	4-Chlorophenylhydrazine hydrochloride	990	104593	Hydroxynaphthol blue	1560	101307	Titan yellow (C.I. 19540)
691	814463	N,N'-Diacetylhydrazine	991	841422	2-(4-Hydroxyphenylazo)-benzoic acid	1567	800767	4-Toluenesulfonohydrazide
699	103133	Diantipyrylmethane	1089	108712	Magnesium reagent	1571	841303	o-Tolyldiazine hydrochloride
763	107998	1,8-Dihydroxy-2-(4-sulfophenylazo)naphthalene-3,6-disulfonic acid trisodium salt	1134	104527	3-Methyl-2-benzothiazolinone-hydrazonehydrochloride	1571	841305	p-Tolyldiazine hydrochloride
766	814566	Diisopropylazodicarboxylate	1227	841435	4-(4-Nitrophenylazo)-1-naphthol	1641	108739	Zincon
792	810408	N,N-Dimethylhydrazine	1227	841713	4-(4-Nitrophenylazo)-resorcinol			

## 820118 trans-Azobenzene for synthesis



$C_{12}H_{10}N_2$   
 $C_6H_5N=NC_6H_5$   
 Diazobenzene, Diphenyl diimide, Diphenyldiazene  
 ■ CAS-No. 103-33-3 ■ EC-No. 203-102-5  
 ■ Vapour pressure 0.00048 hPa (25 °C)  
 ■ Spec. density 1.203 g/cm<sup>3</sup> ■ Flash point 100 °C  
 ■ Solub. in H<sub>2</sub>O 6.4 mg/l (25 °C) ■ M = 182.23 g/mol  
 ■ Melting point 66 - 69 °C  
 ■ Boiling point 291 - 294 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P281, P304 + P340, P308 + P313  
 ■ LD50 oral rat 1000 mg/kg  
 ■ EC-Index-No. 611-001-00-6 ■ LGK 6.1 C  
 ■ HS-No. 2927 00 00 ■ Disposal 9  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(TRANS-AZOBENZOL), 9, III ■ IMDG-

Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TRANS-AZOBENZENE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TRANS-AZOBENZENE), 9, III

**Specification**  
 Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Melting range (lower value) ..... ≥ 65 °C  
 Melting range (upper value) ..... ≤ 68 °C  
 Identity (IR) ..... passes test

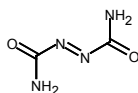
Ord.No.	Packaging	Quantity	Price
8.20118.0025	Glass bottle	25 g	inquire
8.20118.0100	Glass bottle	100 g	inquire

1,1-Azobisformamide → Azodicarboxamide page 428  
 2,2'-Azobis(2-methylpropionitrile) →  $\alpha,\alpha'$ -Azoisobutyronitrile page 428

Azo compounds → Amines and ammonium compounds  
 Azodicarbonamide → Azodicarboxamide page 428

Azodicarbonic acid diisopropyl ester → Diisopropylazodicarboxylate page 766

## 800184 Azodicarboxamide for synthesis

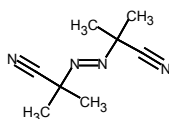


$C_2H_4N_4O_2$   
 $(NCONH_2)_2$   
 Azodicarboxamide, 1,1-Azobisformamide, Dicarbamoyldiimide  
 ■ CAS-No. 123-77-3 ■ EC-No. 204-650-8  
 ■ Spec. density 1.6 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >200 °C ■ Solub. in H<sub>2</sub>O 0.035 g/l

(20 °C) ■ M = 116.08 g/mol ■ pH value 7 (H<sub>2</sub>O) neutral  
 ■ Melting point 225 °C (decomposition)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable solid, Category 1, H228; Respiratory sensitisation, Category 1, H334, P260, P262, P304 + P341, P307 + P310  
 ■ LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 500 mg/kg  
 ■ EC-Index-No. 611-028-00-3 ■ LGK 4.1 B  
 ■ HS-No. 2927 00 00 ■ Disposal 3  
 ■ ADR-RID UN 3242 Azodicarboxamid, 4.1, II

■ IMDG-Code UN 3242 AZODICARBONAMIDE, 4.1, II  
 ■ IATA-DGR UN 3242 AZODICARBONAMIDE, 4.1,  
**Specification**  
 Assay (iodometric) ..... ≥ 98.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00184.0025	Plastic bottle	25 g	inquire
8.00184.0250	Plastic bottle	250 g	inquire

801595  $\alpha,\alpha'$ -Azoisobutyronitrile for synthesis

$C_8H_{12}N_4$   
 $NC(CH_3)_2CN=NC(CH_3)_2CN$   
 ■ CAS-No. 78-67-1 ■ EC-No. 201-132-3  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.35 g/l (25 °C) ■ M = 164.21 g/mol  
 ■ Melting point 97 - 102 °C (decomposition)  
 ■ Bulk density 400 - 500 kg/m<sup>3</sup>

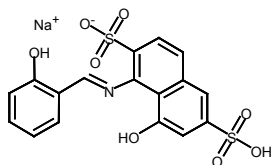
■ WGK 2  
 ■ GHS: Danger, Self-reactive substances and mixtures, Type C, H242; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P210, P280, P273  
 ■ LD50 oral rat 100 mg/kg ■ LD50 dermal rat 950 mg/kg  
 ■ EC-Index-No. 608-019-00-1 ■ LGK 4.1 A  
 ■ HS-No. 2927 00 00 ■ Disposal 10  
 ■ ADR-RID UN 3234 Selbstzersetzlicher Stoff Typ C, fest, temperaturkontrolliert(A,A'-AZOISOBUTYRONITRIL), 4.1, ■ IMDG-Code UN

3234 SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED(A,A'-AZOISOBUTYRONITRILE), 4.1,  
 ■ IATA-DGR UN 3234 SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED(A,A'-AZOISOBUTYRONITRILE), 4.1,  
**Specification**  
 Assay (ex N) ..... ≥ 98.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01595.0250	Plastic bottle	250 g	inquire



**111962 Azomethine H GR for analysis (reagent for the determination of boron)**



C<sub>17</sub>H<sub>12</sub>NNaO<sub>8</sub>S<sub>2</sub>

- CAS-No. 5941-07-1 ■ EC-No. 227-698-1
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 445.39 g/mol ■ Bulk density 500 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2925 29 00 ■ Disposal 3

**Specification**

Identity (IR-spectrum) ..... conforms  
 Spec. Absorptivity A 1%/1cm (236 nm; 0.05 %; 1

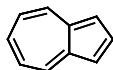
cm; buffer solution pH 5.1)..... ≥ 1200  
 Loss on drying (105 °C) ..... ≤ 2.0 %  
 Suitability for photometric (determination of boron) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.11962.0010	Glass bottle	10 g	inquire
1.11962.0100	Glass bottle	100 g	inquire

Azomycine → 2-Nitroimidazole page 1224

Azo violet → 4-(4-Nitrophenylazo)-resorcinol page 1227

**820119 Azulene for synthesis**



C<sub>10</sub>H<sub>8</sub>

*Bicyclo[5.3.0]decapentaene*

- CAS-No. 275-51-4 ■ EC-No. 205-993-6
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 128.17 g/mol

- mol ■ Melting point 97 - 100 °C
- Boiling point 241 - 243 °C
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2902 19 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 97 °C  
 Melting range (upper value) ..... ≤ 100 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20119.0001	Glass bottle	1 g	inquire

Azure II (C.I. 52010/52015) → page 191

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
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X  
Y  
Z

# Bacill

Bacillus cereus agar → page 99

Bacterial count agar sugar-free FIL-IDF → page 100

## Bacteriology Staining

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
194	115355	CYTOCOLOR® Cytological standard stain acc. to Szczepanik	188	104699	Immersion oil	193	108512	Tb-color carbol fuchsin solution
194	109204	Giemsa's azur eosin methylene blue solution	188	115577	Immersion oil acc. to ISO 8036	193	110630	Tb-color malachite green (oxalate) solution
192	111885	Gram-color	194	113741	Lactophenol blue solution	193	100497	Tb-color modified
192	101603	Gram-Color modified	192	100567	Lugol's solution	193	116450	Tb-color staining kit
192	109218	Gram's crystal violet solution	192	109261	Lugol's solution (diluted iodine-potassium iodide solution)	193	109093	TB-fluor
192	110218	Gram's decolorizing solution	194	101287	Löffler's methylene blue solution	193	101597	TB-Fluor phenol-free
192	109217	Gram's safranin solution	196	101971	Neo-Cytocolor Quick Staining Kit - for cytological samples	193	109215	Ziehl-Neelsen carbol-fuchsin solution
192	100327	Hydrochloric acid in ethanol	192	108000	Sputofluor®			

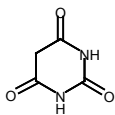
Bactident® → page 110

BAIRD broth → page 104

BHI agar / broth → page 99

BAL → page 172

## Barbituric acid



C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>3</sub>  
 2,4,6-Trihydroxypyrimidine, N,N'-Malonylurea  
 ■ CAS-No. 67-52-7 ■ EC-No. 200-658-0  
 ■ Solub. in H<sub>2</sub>O 11.45 g/l (25 °C) ■ M = 128.08 g/mol  
 ■ pH value 2 - 3 (50 g/l, H<sub>2</sub>O, 60 °C)  
 ■ Melting point 250 - 252 °C (decomposition)

■ Bulk density 720 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 52 00 ■ Disposal 3

### 800133 Barbituric acid for synthesis

#### Specification

Assay (acidimetric)..... ≥ 99.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00133.0100	Plastic bottle	100 g	inquire
8.00133.0250	Plastic bottle	250 g	inquire

### 100132 Barbituric acid for analysis EMSURE®

#### Specification

Assay (acidimetric)..... ≥ 99%  
 Identity (IR-spectrum)..... passes test  
 Chloride (Cl)..... ≤ 40 ppm  
 Heavy metals (as Pb)..... ≤ 50 ppm  
 Fe (Iron)..... ≤ 10 ppm  
 Sulfated ash..... ≤ 0.1 %  
 Loss on drying (105 °C)..... ≤ 0.1 %  
 Suitability as reagent (for cyanide determination)..... passes test

Ord.No.	Packaging	Quantity	Price
1.00132.0025	Plastic bottle	25 g	inquire
1.00132.0100	Plastic bottle	100 g	inquire

Barbituric acid sodium salt → Sodium barbiturate page 1426

## 112046 Barium rods diameter about 2 cm 99+

Ba

■ CAS-No. 7440-39-3 ■ EC-No. 231-149-1  
 ■ Spec. density 3.74 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 137.33 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) (decomposition), strongly alkaline ■ Melting point 725 °C  
 ■ Boiling point 1640 °C  
 ■ WGK 1

■ GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases, Category 2, H261, P262  
 ■ LGK 4.3  
 ■ HS-No. 2805 19 00 ■ Disposal 26  
 ■ ADR-RID UN 1400 Barium, 4.3, II ■ IMDG-Code UN 1400 BARIUM, 4.3, II

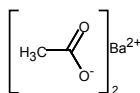
■ IATA-DGR UN 1400 BARIUM, 4.3, II

#### Specification

Identity..... conforms  
 Assay (complexometric)..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
1.12046.0100	Metal can	100 g	inquire

## 101704 Barium acetate for analysis EMSURE® ACS



C<sub>4</sub>H<sub>6</sub>BaO<sub>4</sub>

Ba(CH<sub>3</sub>COO)<sub>2</sub>

■ CAS-No. 543-80-6 ■ EC-No. 208-849-0  
 ■ Spec. density 2.47 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 720 g/l (20 °C) ■ M = 255.42 g/mol  
 ■ pH value 6.5 - 8.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 450 °C ■ Bulk density 1200 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302; Acute toxicity, Category 4, Inhalation, H332, P304 + P340  
 ■ LD50 oral rat 921 mg/kg  
 ■ EC-Index-No. 056-002-00-7 ■ LGK 10 - 13  
 ■ HS-No. 2915 29 00 ■ Disposal 14  
 ■ ADR-RID UN 1564 Bariumverbindung, n.a.g.(BARIUMACETAT), 6.1, III ■ IMDG-Code UN 1564 BARIUM COMPOUND, N.O.S.(BARIUM ACETATE), 6.1, III  
 ■ IATA-DGR UN 1564 BARIUM COMPOUND, N.O.S.(BARIUM ACETATE), 6.1, III

#### Specification

Assay (complexometric)..... 99.0 - 102.0 %  
 Insoluble matter..... ≤ 0.01 %

Chloride (Cl)..... ≤ 0.0005 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ca (Calcium)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.003 %  
 Na (Sodium)..... ≤ 0.005 %  
 Sr (Strontium)..... ≤ 0.15 %  
 Oxidizing Substances (as NO<sub>3</sub>)..... ≤ 0.005 %  
 Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.01704.0500	Plastic bottle	500 g	inquire

## 101714 Barium carbonate for analysis EMSURE® ACS, Reag. Ph Eur



CBaO<sub>3</sub>  
BaCO<sub>3</sub>  
■ CAS-No. 513-77-9 ■ EC-No. 208-167-3  
■ Spec. density 4.43 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.02 g/l (20 °C) ■ M = 197.34 g/mol  
■ pH value 7 - 8 (0.016 g/l, H<sub>2</sub>O, 16 °C)  
■ Melting point >1450 °C (decomposition)  
■ Bulk density 350 kg/m<sup>3</sup>  
■ WGK nwg  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
■ LD50 oral rat 418 mg/kg  
■ EC-Index-No. 056-003-00-2 ■ LGK 10 - 13  
■ HS-No. 2836 60 00 ■ Disposal 14

■ ADR-RID UN 1564 Bariumverbindung, n.a.g.(BARIUMCARBONAT), 6.1, III ■ IMDG-Code UN 1564 BARIUM COMPOUND, N.O.S.(BARIUM CARBONATE), 6.1, III  
■ IATA-DGR UN 1564 BARIUM COMPOUND, N.O.S.(BARIUM CARBONATE), 6.1, III

**Specification**

Assay (complexometric, BaCO<sub>3</sub>) ..... 99.0 - 101.0 %  
Substances insoluble in hydrochloric acid ..... ≤ 0.015 %  
Chloride (Cl) ..... ≤ 0.002 %  
Sulphide (S) ..... ≤ 0.001 %  
Heavy metals (as Pb) ..... ≤ 0.001 %

Ca (Calcium) ..... ≤ 0.02 %  
Fe (Iron) ..... ≤ 0.001 %  
K (Potassium) ..... ≤ 0.005 %  
Na (Sodium) ..... ≤ 0.02 %  
Sr (Strontium) ..... ≤ 0.3 %  
Total of alkali (water soluble) ..... ≤ 0.002 meq/g  
Oxidizing Substances (as NO<sub>3</sub>) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.01714.0250	Plastic bottle	250 g	inquire
1.01714.1000	Plastic bottle	1 kg	inquire

## 101716 Barium chloride 99.995 Suprapur®



BaCl<sub>2</sub>  
Barium dichloride  
■ CAS-No. 10361-37-2 ■ EC-No. 233-788-1  
■ Spec. density 3.9 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 375 g/l (20 °C) ■ M = 208.23 g/mol  
■ pH value 5 - 8 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 963 °C ■ Bulk density 1350 kg/m<sup>3</sup>  
■ Boiling point 1560 °C  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Oral, H301, P301 + P310  
■ LD50 oral rat 118 mg/kg  
■ EC-Index-No. 056-004-00-8 ■ LGK 6.1 B  
■ HS-No. 2827 39 85 ■ Disposal 15  
■ ADR-RID UN 1564 Bariumverbindung, n.a.g.(BARIUMCHLORID), 6.1, III ■ IMDG-Code UN 1564 BARIUM COMPOUND, N.O.S.(BARIUM

CHLORIDE), 6.1, III  
■ IATA-DGR UN 1564 BARIUM COMPOUND, N.O.S.(BARIUM CHLORIDE), 6.1, III

**Specification**

Purity (metallic) ..... ≥ 99.995 %  
Assay (complexometric) ..... ≥ 99.5 %  
Al (Aluminium) ..... ≤ 0.05 ppm  
Ca (Calcium) ..... ≤ 2.00 ppm  
Cd (Cadmium) ..... ≤ 0.005 ppm  
Co (Cobalt) ..... ≤ 0.005 ppm  
Cr (Chromium) ..... ≤ 0.010 ppm  
Cu (Copper) ..... ≤ 0.005 ppm  
Eu (Europium) ..... ≤ 0.010 ppm  
Fe (Iron) ..... ≤ 0.02 ppm  
K (Potassium) ..... ≤ 5.0 ppm  
La (Lanthanum) ..... ≤ 0.010 ppm  
Li (Lithium) ..... ≤ 1.0 ppm

Mg (Magnesium) ..... ≤ 1.00 ppm  
Mn (Manganese) ..... ≤ 0.010 ppm  
Na (Sodium) ..... ≤ 5 ppm  
Ni (Nickel) ..... ≤ 0.005 ppm  
Pb (Lead) ..... ≤ 0.005 ppm  
Rb (Rubidium) ..... ≤ 5.0 ppm  
Sc (Scandium) ..... ≤ 0.010 ppm  
Sm (Samarium) ..... ≤ 0.010 ppm  
Sr (Strontium) ..... ≤ 10.00 ppm  
Tl (Thallium) ..... ≤ 0.010 ppm  
Y (Yttrium) ..... ≤ 0.010 ppm  
Yb (Ytterbium) ..... ≤ 0.010 ppm  
Zn (Zinc) ..... ≤ 0.005 ppm

Ord.No.	Packaging	Quantity	Price
1.01716.0050	Plastic bottle	50 g	inquire
1.01716.0500	Plastic bottle	500 g	inquire

## Barium chloride dihydrate



BaCl<sub>2</sub> \* 2 H<sub>2</sub>O  
Barium dichloride  
■ CAS-No. 10326-27-9 ■ EC-No. 233-788-1  
■ Spec. density 3.86 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 358 g/l (20 °C) (anhydrous substance) ■ M = 244.28 g/mol  
■ pH value 5.2 - 8.0 (50 g/l, H<sub>2</sub>O, 25 °C)  
■ Melting point 963 °C (anhydrous substance)  
■ Bulk density 1200 - 1400 kg/m<sup>3</sup>

■ Boiling point 1560 °C (anhydrous substance)  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Inhalation, H332, P309 + P310  
■ EC-Index-No. 056-004-00-8 ■ LGK 6.1 D  
■ HS-No. 2827 39 85 ■ Disposal 15

■ ADR-RID UN 1564 Bariumverbindung, n.a.g.(BARIUMCHLORID), 6.1, III ■ IMDG-Code UN 1564 BARIUM COMPOUND, N.O.S.(BARIUM CHLORIDE), 6.1, III  
■ IATA-DGR UN 1564 BARIUM COMPOUND, N.O.S.(BARIUM CHLORIDE), 6.1, III

## 101717 Barium chloride dihydrate extra pure

**Specification**

Assay (complexometric) ..... ≥ 99.0 %  
Heavy metals (as Pb) ..... ≤ 0.001 %  
Fe (Iron) ..... ≤ 0.001 %

Substances not precipitated by dilute sulfuric acid (as sulphate) ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.01717.1000	Plastic bottle	1 kg	inquire
1.01717.9050	Fibre carton	50 kg	inquire

## 101719 Barium chloride dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur

**Specification**

Assay (complexometric) ..... ≥ 99.0 %  
Insoluble matter ..... ≤ 0.005 %  
pH-value (5 %; water, 25 °C) ..... 5.2 - 8.0  
Total nitrogen (N) ..... ≤ 0.002 %  
Heavy metals (as Pb) ..... ≤ 0.0005 %  
Oxidizing Substances (as NO<sub>3</sub>) ..... ≤ 0.005 %  
Ca (Calcium) ..... ≤ 0.005 %

Fe (Iron) ..... ≤ 0.0001 %  
K (Potassium) ..... ≤ 0.0025 %  
Na (Sodium) ..... ≤ 0.005 %  
Pb (Lead) ..... ≤ 0.001 %  
Sr (Strontium) ..... ≤ 0.05 %  
Loss on drying (150 °C) ..... 14.0 - 16.0 %  
Corresponds to ACS, ISO, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01719.0500	Plastic bottle	500 g	inquire
1.01719.1000	Plastic bottle	1 kg	inquire
1.01719.5000	Plastic bottle	5 kg	inquire
1.01719.9050	Fibre carton	50 kg	inquire

109962 Barium chloride solution for 1000 ml, c(BaCl<sub>2</sub>) = 0.05 mol/l (0.1 N) Titrisol®

■ Spec. density 1.18 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.3 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
■ LGK 10 - 13  
■ HS-No. 2827 39 85 ■ Disposal 14  
■ ADR-RID UN 3287 Giftiger anorganischer flüssiger Stoff, n.a.g.(BARIUMCHLORIDLÖSUNG), 6.1, III ■ IMDG-Code UN 3287 TOXIC LIQUID, INORGANIC, N.O.S.(BARIUM CHLORID), 6.1, III  
■ IATA-DGR UN 3287 TOXIC LIQUID, INORGANIC, N.O.S.(BARIUM CHLORID), 6.1, III

**Specification**

Concentration after dilution to 1 liter: c(BaCl) = 0.05 mol/l  
Amount-of-substance concentration 0.05000 mol/l  
Determination method: Complexometric titration.  
The concentration of this solution was determined by back-titration with copper(II) nitrate (Merck article number 1.02753) standardized by titriplex(III) solution (Merck article number 1.08431) against volumetric standard zinc (Merck article number 1.02409). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for

95% coverage probability). The certified value is traceable to primary standard NIST SRM 682 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard zinc measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09962.0001	Fibre case	1 amp	inquire

Barium, determination → Rhodizonic acid disodium salt page 1407

Barium diphenylaminesulfonate → Diphenylamine-4-sulfonic acid barium salt page 814

# Barium

## 101722 Barium fluoride 99.99 Suprapur®



BaF<sub>2</sub>  
**Barium difluoride**  
 ■ CAS-No. 7787-32-8 ■ EC-No. 232-108-0  
 ■ Spec. density 4.89 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1.2 g/l (25 °C) ■ M = 175.33 g/mol  
 ■ Melting point 1353 °C ■ Boiling point 2260 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P302 + P352  
 ■ LD50 oral rat 250 mg/kg  
 ■ EC-Index-No. 056-002-00-7 ■ LGK 6.1 D  
 ■ HS-No. 2826 19 90 ■ Disposal 23

■ ADR-RID UN 1564 Bariumverbindung, n.a.g.(BARIUMFLUORID), 6.1, III ■ IMDG-Code UN 1564 BARIUM COMPOUND, N.O.S.(BARIUM FLUORIDE), 6.1, III  
 ■ IATA-DGR UN 1564 BARIUM COMPOUND, N.O.S.(BARIUM FLUORIDE), 6.1, III  
**Specification**  
 Purity (metallic)..... ≥ 99.99 %  
 Ca (Calcium)..... ≤ 50 ppm  
 Cd (Cadmium)..... ≤ 0.5 ppm  
 Co (Cobalt)..... ≤ 0.5 ppm  
 Cu (Copper)..... ≤ 0.5 ppm

Fe (Iron)..... ≤ 0.5 ppm  
 K (Potassium)..... ≤ 20 ppm  
 Li (Lithium)..... ≤ 5 ppm  
 Mg (Magnesium)..... ≤ 5 ppm  
 Mn (Manganese)..... ≤ 0.5 ppm  
 Na (Sodium)..... ≤ 50 ppm  
 Ni (Nickel)..... ≤ 0.5 ppm  
 Pb (Lead)..... ≤ 0.5 ppm  
 Tl (Thallium)..... ≤ 0.5 ppm

Ord.No.	Packaging	Quantity	Price
1.01722.0050	Plastic bottle	50 g	inquire

## Barium hydroxide octahydrate



BaH<sub>2</sub>O<sub>2</sub> \* 8 H<sub>2</sub>O  
 Ba(OH)<sub>2</sub> \* 8 H<sub>2</sub>O  
**Caustic baryta, Barium oxide hydrate octahydrate**  
 ■ CAS-No. 12230-71-6 ■ EC-No. 241-234-5  
 ■ Spec. density 2.18 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 72 g/l (20 °C) ■ M = 315.48 g/mol  
 ■ pH value 14 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution) ■ Melting point 78 °C  
 ■ Bulk density 900 - 1100 kg/m<sup>3</sup>

■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 550 mg/kg  
 ■ EC-Index-No. 056-002-00-7 ■ LGK 8 B  
 ■ HS-No. 2816 40 00 ■ Disposal 14

■ ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(BARIUMHYDROXID), 8 (6.1), II ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(BARIUM HYDROXIDE), 8 (6.1), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(BARIUM HYDROXIDE), 8 (6.1), II

## 101735 Barium hydroxide octahydrate extra pure

**Specification**  
 Assay (acidimetric)..... ≥ 98.0 %  
 Substances insoluble in dilute hydrochloric acid ..... ≤ 0.01 %  
 Carbonate (as BaCO<sub>3</sub>)..... ≤ 2.0 %  
 Chloride (Cl)..... ≤ 0.002 %

Sulphide (S)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.002 %  
 Ca (Calcium)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.001 %  
 Sr (Strontium)..... ≤ 1.0 %

Substances not precipitated by dilute sulfuric acid (as sulphate)..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.01735.1000	Plastic bottle	1 kg	inquire

## 101737 Barium hydroxide octahydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
 Assay (acidimetric)..... ≥ 98.0 %  
 Substances insoluble in dilute hydrochloric acid ..... ≤ 0.005 %  
 Carbonate (as BaCO<sub>3</sub>)..... ≤ 2.0 %  
 Chloride (Cl)..... ≤ 0.001 %  
 Sulphide (S)..... ≤ 0.0005 %

Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ca (Calcium)..... ≤ 0.002 %  
 Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.01 %  
 Na (Sodium)..... ≤ 0.01 %  
 Pb (Lead)..... ≤ 0.001 %

Sr (Strontium)..... ≤ 0.5 %  
 Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01737.0500	Plastic bottle	500 g	inquire

Barium metatitanate → Barium titanate (IV) page 433

## 101729 Barium nitrate for analysis EMSURE® ACS



BaN<sub>2</sub>O<sub>6</sub>  
 Ba(NO<sub>3</sub>)<sub>2</sub>  
 ■ CAS-No. 10022-31-8 ■ EC-No. 233-020-5  
 ■ Spec. density 3.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 90 g/l (20 °C) ■ M = 261.34 g/mol  
 ■ pH value 5.0 - 8.0 (50 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 592 °C ■ Bulk density 1900 g/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P210, P302 + P352  
 ■ LD50 oral rat 355 mg/kg

■ EC-Index-No. 056-002-00-7 ■ LGK 5.1 B  
 ■ HS-No. 2834 29 20 ■ Disposal 14  
 ■ ADR-RID UN 1446 Bariumnitrat, 5.1 (6.1), II  
 ■ IMDG-Code UN 1446 BARIUM NITRATE, 5.1 (6.1), II  
 ■ IATA-DGR UN 1446 BARIUM NITRATE, 5.1 (6.1), II

Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ca (Calcium)..... ≤ 0.002 %  
 Fe (Iron)..... ≤ 0.0002 %  
 K (Potassium)..... ≤ 0.005 %  
 Na (Sodium)..... ≤ 0.005 %  
 Sr (Strontium)..... ≤ 0.05 %

**Specification**  
 Assay (complexometric)..... ≥ 99.0 %  
 Insoluble matter..... ≤ 0.01 %  
 pH-value (5 %; water; 25 °C)..... 5.0 - 8.0  
 Chloride (Cl)..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.01729.0500	Plastic bottle	500 g	inquire
1.01729.9050	Fibre carton	50 kg	inquire

Barium oxide hydrate octahydrate → page 432

## 101738 Barium perchlorate anhydrous for analysis EMSURE®



BaCl<sub>2</sub>O<sub>8</sub>  
 Ba(ClO<sub>4</sub>)<sub>2</sub>  
 ■ CAS-No. 13465-95-7 ■ EC-No. 236-710-4  
 ■ Spec. density 2.74 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1985 g/l (25 °C) ■ M = 336.23 g/mol  
 ■ pH value 5.6 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 505 °C ■ Bulk density 1300 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 1, H271; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P210, P221  
 ■ EC-Index-No. 017-007-00-X ■ LGK 5.1 A

■ HS-No. 2829 90 10 ■ Disposal 22  
 ■ ADR-RID UN 1447 Bariumperchlorat, fest, 5.1 (6.1), II ■ IMDG-Code UN 1447 BARIUM PERCHLORATE, SOLID, 5.1 (6.1), II, Segregation Group: 13 (Perchlorates)  
 ■ IATA-DGR UN 1447 BARIUM PERCHLORATE, SOLID, 5.1 (6.1), II

Ca (Calcium)..... ≤ 0.05 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Water..... ≤ 4.0 %  
 Substances not precipitated by sulfuric acid (as sulphates)..... ≤ 0.20 %

**Specification**  
 Assay (complexometric)..... ≥ 97.0 %  
 Chloride (Cl)..... ≤ 0.01 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.01738.0250	Metal can	250 g	inquire
1.01738.1000	Metal can	1 kg	inquire

**109086 Barium perchlorate solution in 2-propanol/water (80/20) c(Ba(ClO<sub>4</sub>)<sub>2</sub>) = 0.005 mol/l Titripur®**

- Spec. density 0.85 g/cm<sup>3</sup> (20 °C)
- Flash point 21 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 3.3 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336, P210, P305 + P351 + P338
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(BARIUMPERCHLORATLOESUNG IN PROPANOL-(2)), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(BARIUMPERCHLORATE

IN PROPANOL), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(BARIUMPERCHLORATE IN PROPANOL), 3, II  
**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (USP).  
 Amount-of-substance concentration ...0.005 mol/l  
 The concentration of this volumetric solution was determined with titriplex-III standard solution (Merck article number 1.08431) standardized against volumetric standard zinc (Merck article number 1.02409). The determined titer at 20°C was 1.000 with an expanded measurement

uncertainty of +/-0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 682 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard zinc, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09086.1000	Glass bottle	1 l	inquire

**109968 Barium standard 1000 mg Ba, (BaCl<sub>2</sub> in 7% HCl) Titrisol®**

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 12

ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II  
**Specification**  
 content (Ba)..... 1000 mg / Ampoule

Determination method: complexometric titration. (traceable to NIST - SRM 682) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09968.0001	Plastic ampoule	1 amp	inquire

Barium standard for aqueous matrices → Barium standard page 433

Barium standard for aqueous matrices ready for use → page 1466

**101748 Barium sulfate for white standard DIN 5033**

- BaO<sub>3</sub>S  
 BaSO<sub>4</sub>  
*Blanc fixe*  
 ■ CAS-No. 7727-43-7 ■ EC-No. 231-784-4  
 ■ Spec. density 4.5 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O < 0.01 g/l (20 °C) ■ M = 233.39 g/mol  
 ■ pH value 3.5 - 10.0 (100 g/l, H<sub>2</sub>O, 20 °C) suspension ■ Melting point 1380 °C  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ LD50 oral rat > 20000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2833 27 00 ■ Disposal 14

Spectral radiance factor β(λ)<sub>d/0</sub> (400 nm).....  
 Spectral radiance factor β(λ)<sub>d/0</sub> (420 nm).....  
 Spectral radiance factor β(λ)<sub>d/0</sub> (450 nm).....  
 Spectral radiance factor β(λ)<sub>d/0</sub> (500 nm).....  
 Spectral radiance factor β(λ)<sub>d/0</sub> (600 nm).....  
 Spectral radiance factor β(λ)<sub>d/0</sub> (700 nm).....  
 Spectral radiance factor β(λ)<sub>45/0</sub> (360 nm).....  
 Spectral radiance factor β(λ)<sub>45/0</sub> (370 nm).....  
 Spectral radiance factor β(λ)<sub>45/0</sub> (380 nm).....  
 Spectral radiance factor β(λ)<sub>45/0</sub> (390 nm).....  
 Spectral radiance factor β(λ)<sub>45/0</sub> (400 nm).....  
 Spectral radiance factor β(λ)<sub>45/0</sub> (420 nm).....  
 Spectral radiance factor β(λ)<sub>45/0</sub> (450 nm).....  
 Spectral radiance factor β(λ)<sub>45/0</sub> (500 nm).....  
 Spectral radiance factor β(λ)<sub>45/0</sub> (600 nm).....  
 Spectral radiance factor β(λ)<sub>45/0</sub> (700 nm).....

Standard illuminant C 2° CIE 1931 (X).....  
 Standard illuminant C 2° CIE 1931 (Y).....  
 Standard illuminant C 2° CIE 1931 (Z).....  
 Standard illuminant A 10° CIE 1964 (X).....  
 Standard illuminant A 10° CIE 1964 (Y).....  
 Standard illuminant A 10° CIE 1964 (Z).....  
 Standard illuminant D65 10° CIE 1964 (X).....  
 Standard illuminant D65 10° CIE 1964 (Y).....  
 Standard illuminant D65 10° CIE 1964 (Z).....  
 spectral radiance factor is calculated from measurement results  
 Tristimulus values X,Y,Z and reflection factor R457 are calculated from spectral radiance factor β(λ)<sub>d/0</sub>

**Specification**

Certificate of Guarantee  
 PTB-Test.....  
 Official number.....  
 Spectral radiance factor β(λ)<sub>d/0</sub> (350 nm).....  
 Spectral radiance factor β(λ)<sub>d/0</sub> (360 nm).....  
 Spectral radiance factor β(λ)<sub>d/0</sub> (370 nm).....  
 Spectral radiance factor β(λ)<sub>d/0</sub> (380 nm).....  
 Spectral radiance factor β(λ)<sub>d/0</sub> (390 nm).....

Reflection factor R<sub>457</sub>  
 Standard illuminant A 2° CIE 1931 (X).....  
 Standard illuminant A 2° CIE 1931 (Y).....  
 Standard illuminant A 2° CIE 1931 (Z).....  
 Standard illuminant D65 2° CIE 1931 (X).....  
 Standard illuminant D65 2° CIE 1931 (Y).....  
 Standard illuminant D65 2° CIE 1931 (Z).....

Ord.No.	Packaging	Quantity	Price
1.01748.0250	Glass bottle	250 g	inquire

**112048 Barium titanate (IV)**

- BaO<sub>3</sub>Ti  
 BaTiO<sub>3</sub>  
*Barium metatitanate*  
 ■ CAS-No. 12047-27-7 ■ EC-No. 234-975-0  
 ■ Spec. density 6.08 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 233.2 g/mol  
 ■ pH value 9.6 (20 g/l, H<sub>2</sub>O, 25 °C) (slurry)  
 ■ Melting point 1625 °C ■ Bulk density

1400 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302  
 ■ EC-Index-No. 056-002-00-7 ■ LGK 10 - 13  
 ■ HS-No. 2841 90 85 ■ Disposal 14

**Specification**

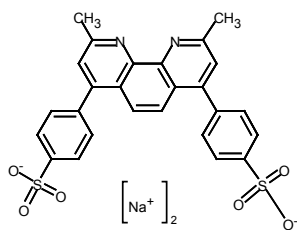
Identity (elemental analysis)..... conforms

Ord.No.	Packaging	Quantity	Price
1.12048.0050	Plastic bottle	50 g	inquire
1.12048.0250	Plastic bottle	250 g	inquire

Barrels → Laboratory equipment, auxiliaries



## 124518 Bathocproinedisulfonic acid disodium salt GR for analysis

C<sub>26</sub>H<sub>18</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>6</sub>S<sub>2</sub>

2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline, 2,9-Dimethyl-4,7-diphenyl-1,10-

phenanthrolinedisulfonic acid disodium salt, 4,7-Diphenyl-1,10-phenanthrolinedisulfonic acid disodium salt

- CAS-No. 52698-84-7 ■ EC-No. 258-111-7
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 564.55 g/mol ■ pH value 10 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 300 °C
- Bulk density 190 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

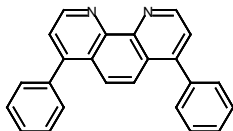
Reagent for copper.

**Specification**

Identity (IR-spectrum) ..... conforms  
 Identity (UV/VIS-Spectrum) ..... conforms  
 Absorption maximum λ max (Buffer pH 5.0; as copper complex) ..... 477 - 485 nm  
 Spec. Absorptivity A 1%/1cm (Amax; 0.05 g/l; buffer pH 5.0; as copper complex) ..... ≥ 90  
 Water (according to Karl Fischer) ..... ≤ 10 %  
 Suitability for copper determination ..... conforms

Ord.No.	Packaging	Quantity	Price
1.24518.0001	Glass bottle	1 g	inquire
1.24518.0005	Glass bottle	5 g	inquire

## 124513 Bathophenanthroline GR for analysis

C<sub>24</sub>H<sub>16</sub>N<sub>2</sub>

4,7-Diphenyl-1,10-phenanthroline

- CAS-No. 1662-01-7 ■ EC-No. 216-767-1
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 332.4 g/mol ■ Melting point 215 - 220 °C
- Bulk density 400 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

Reagent for iron.

**Specification**

Assay (perchloric acid titration) ..... ≥ 99 %(m)  
 Identity (IR-spectrum) ..... conforms  
 Melting range ..... 217 - 222 °C

Ord.No.	Packaging	Quantity	Price
1.24513.0001	Glass bottle	1 g	inquire

BBP → Benzyl butyl phthalate page 448

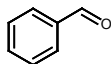
BDMA → N,N-Dimethylbenzylamine page 784

Behenyl alcohol → 1-Docosanol page 826

Benzalacetone → Benzylideneacetone page 451

Benzalacetophenone → Benzylideneacetophenone page 451

## 801756 Benzaldehyde for synthesis

C<sub>7</sub>H<sub>6</sub>OC<sub>6</sub>H<sub>5</sub>CHO

Bitter almond oil

- CAS-No. 100-52-7 ■ EC-No. 202-860-4
- Refractive index 1.545 (20 °C, 589 nm) ■ Vapour pressure 1.3 hPa (20 °C) ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 8.5 %(V)
- Flash point 64 °C ■ Solub. in H<sub>2</sub>O 3.3 g/l (20 °C)
- M = 106.12 g/mol ■ pH value 5.9 (1 g/l, H<sub>2</sub>O)
- Melting point -26 °C ■ Boiling point 179 °C

(1013 hPa) ■ Ignition temp. 190 °C

- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
- LC50 rat > 3 mg/l
- LD50 oral rat 1300 mg/kg ■ LD50 dermal rabbit > 1250 mg/kg
- EC-Index-No. 605-012-00-5 ■ LGK 10 - 13
- HS-No. 2912 21 00 ■ Disposal 3
- ADR-RID UN 1990 Benzaldehyd, 9, III ■ IMDG-Code UN 1990 BENZALDEHYDE, 9, III
- IATA-DGR UN 1990 BENZALDEHYDE, 9, III

**Specification**

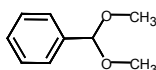
Assay (GC, area%) ..... ≥ 99,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,044 - 1,046  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01756.0100	Glass bottle	100 ml	inquire
8.01756.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.01756.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.01756.2500	Glass bottle	2.5 l	inquire
8.01756.9025	Plastic container	25 l	inquire

Benzaldehyde cyanohydrin → DL-Mandelic acid nitrile page 1094

## 814221 Benzaldehyde dimethyl acetal for synthesis

C<sub>9</sub>H<sub>12</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>CH(OCH<sub>3</sub>)<sub>2</sub>

α,α-Dimethoxytoluene

- CAS-No. 1125-88-8 ■ EC-No. 214-413-0
- Refractive index 1.497 (20 °C, 589 nm)

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point 69 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 152.19 g/mol
- Boiling point 87 - 89 °C (24 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1220 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg

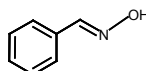
- LGK 10 - 13
- HS-No. 2911 00 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,015 - 1,018  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14221.0100	Glass bottle	100 ml	inquire

## 820234 Benzaldehyde oxime for synthesis

C<sub>7</sub>H<sub>7</sub>NOC<sub>6</sub>H<sub>5</sub>CH=NOH

Benzaldoxime

- CAS-No. 932-90-1 ■ EC-No. 213-261-2

- Spec. density 1.11 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 121.14 g/mol
- Melting point 24 - 27 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 97,0 % (a/a)

Melting range (lower value) ..... ≥ 24 °C  
 Melting range (upper value) ..... ≤ 27 °C  
 Identity (IR) ..... passes test

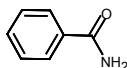
Ord.No.	Packaging	Quantity	Price
8.20234.0025	Glass bottle	25 ml	inquire

Benzaldoxime → Benzaldehyde oxime page 434

Benzalkonium chloride (50% aqueous solution) → page 363

Benzalkonium chloride → page 363

## 802191 Benzamide for synthesis

C<sub>7</sub>H<sub>7</sub>NOC<sub>6</sub>H<sub>5</sub>CONH<sub>2</sub>

Benzoic acid amide

■ CAS-No. 55-21-0 ■ EC-No. 200-227-7

■ Vapour pressure 0.000056 hPa (20 °C)

■ Spec. density 1.34 g/cm<sup>3</sup> (20 °C)■ Flash point 180 °C ■ Solub. in H<sub>2</sub>O 13 g/l (25 °C)

■ M = 121.14 g/mol ■ pH value 6.9

(H<sub>2</sub>O) (saturated solution)

■ Melting point 124 - 127 °C

■ Bulk density 550 kg/m<sup>3</sup> ■ Ignition temp. >500 °C

■ WGK 1

■ GHS: Warning, Germ cell mutagenicity, Category

2, H341; Acute toxicity, Category 4, Oral, H302,

P281, P308 + P313

■ LD50 oral rat 1125 mg/kg

■ LGK 10 - 13

■ HS-No. 2924 29 98 ■ Disposal 3

## Specification

Assay (ex N) ..... ≥ 99.0 % (m)

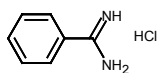
Melting range (lower value) ..... ≥ 124 °C

Melting range (upper value) ..... ≤ 127 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02191.0005	Glass bottle	5 g	inquire
8.02191.0250	Plastic bottle	250 g	inquire

## Benzamidine hydrochloride hydrate

C<sub>7</sub>H<sub>8</sub>ClN<sub>2</sub>·xH<sub>2</sub>OC<sub>7</sub>H<sub>8</sub>N<sub>2</sub>·HCl·xH<sub>2</sub>O

■ CAS-No. 206752-36-5 ■ EC-No. 216-795-4

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 80 - 84 °C

■ Melting point 80 - 84 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2925 29 00 ■ Disposal 3

## 820122 Benzamidine hydrochloride hydrate for synthesis

## Specification

Assay (HPLC, area%) ..... ≥ 99.0 Area %

Water (K. F.) ..... 7.0 - 13.0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20122.0002	Glass bottle	2 g	inquire
8.20122.0025	Glass bottle	25 g	inquire

## 845091 Benzamidine hydrochloride hydrate for pharma synthesis, non-GMP

## Specification

Colour (visual) ..... white to pale yellow

Appearance of substance (visual) ..... powder

Assay (argentometric, calc. on anhydrous

substance) ..... ≥ 99.0 %

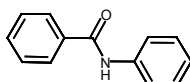
Water (K. F.) ..... ≤ 14.0 %

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45091.0025	Plastic bottle	25 g	inquire
8.45091.1000	Plastic bottle	1 kg	inquire

Benzamine blue → page 192

## 820123 Benzanilide for synthesis

C<sub>13</sub>H<sub>11</sub>NOC<sub>6</sub>H<sub>5</sub>CONHC<sub>6</sub>H<sub>5</sub>

N-Benzoylaniline

■ CAS-No. 93-98-1 ■ EC-No. 202-292-7

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 197.23 g/mol

■ Melting point 162 - 165 °C

■ Bulk density 400 kg/m<sup>3</sup>

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2924 29 98 ■ Disposal 3

Assay (GC, area%) ..... ≥ 99.0 % (a/a)

Melting range (lower value) ..... ≥ 162 °C

Melting range (upper value) ..... ≤ 165 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20123.0005	Glass bottle	5 g	inquire
8.20123.0250	Plastic bottle	250 g	inquire

## Benzene

C<sub>6</sub>H<sub>6</sub>

Benzol

■ CAS-No. 71-43-2 ■ EC-No. 200-753-7

■ Vapour pressure 101 hPa (20 °C)

■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.4 - 8.0 % (V) ■ Flash point -11 °C

■ Kin. viscosity 0.78 mm<sup>2</sup>/s (20 °C) ■ Solub. inH<sub>2</sub>O 1.8 g/l (20 °C) ■ M = 78.11 g/mol

■ Melting point 5.5 °C ■ Boiling point 80.1 °C

■ Ignition temp. 555 °C

■ WGK 3

■ GHS: Danger, Flammable liquid, Category 2,

H225; Carcinogenicity, Category 1A, H350; Germ

cell mutagenicity, Category 1B, H340; Specific

target organ toxicity - repeated exposure,

Category 1, H372; Aspiration hazard, Category 1,

H304; Eye irritation, Category 2, H319; Skin

irritation, Category 2, H315, P201, P210, P233,

P240, P301 + P310, P302 + P352, P305 + P351 +

P338, P308 + P313, P331

■ LC50 rat 44 mg/l

■ LD50 oral rat 930 mg/kg ■ LD50 dermal rabbit &gt;

8260 mg/kg

■ EC-Index-No. 601-020-00-8 ■ LGK 3

■ HS-No. 2902 20 00 ■ Disposal 9

■ ADR-RID UN 1114 Benzen, 3, II ■ IMDG-

Code UN 1114 BENZENE, 3, II

■ IATA-DGR UN 1114 BENZENE, 3, II

## 101782 Benzene EMPLURA®

## Specification

Purity (GC) ..... ≥ 99.5 %

Identity (IR) ..... conforms

Free acid (as HCl) ..... ≤ 0.001 %

Density (d 20 °C/ 4 °C) ..... 0.878 - 0.879

Melting point ..... ≥ 5 °C

Readily carbonizable substances ..... conforms

Evaporation residue ..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.01782.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01782.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01782.6025	Drum stainl. st.	25 l	inquire



# Benzen

## 101783 Benzene for analysis EMSURE® ACS,ISO,Reag. Ph Eur

### Specification

Purity (GC).....	≥ 99.7 %
Identity (IR).....	conforms
Appearance.....	clear
Colour.....	≤ 10 Hazen
Density (d 20 °C/ 4 °C).....	0.877 - 0.879
Acidity.....	≤ 0.00005 meq/g
Alkalinity.....	≤ 0.00005 meq/g
Melting point.....	≥ 5.2 °C
Boiling point.....	79 - 81 °C
Thiophene.....	≤ 0.0001 %
Sulfur compounds (as S).....	≤ 0.003 %
Readily carbonizable substances.....	conforms
Al (Aluminium).....	≤ 0.00005 %

B (Boron).....	≤ 0.000002 %
Ba (Barium).....	≤ 0.00001 %
Ca (Calcium).....	≤ 0.00005 %
Cd (Cadmium).....	≤ 0.000005 %
Co (Cobalt).....	≤ 0.000002 %
Cr (Chromium).....	≤ 0.000002 %
Cu (Copper).....	≤ 0.000002 %
Fe (Iron).....	≤ 0.00001 %
Mg (Magnesium).....	≤ 0.00001 %
Mn (Manganese).....	≤ 0.000002 %
Ni (Nickel).....	≤ 0.000002 %
Pb (Lead).....	≤ 0.00001 %
Sn (Tin).....	≤ 0.00001 %

Zn (Zinc).....	≤ 0.00001 %
Evaporation residue.....	≤ 0.001 %
Water.....	≤ 0.03 %

Corresponds to ACS, ISO-reagent, Ph Eur-reagent

Ord.No.	Packaging	Quantity	Price
1.01783.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01783.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01783.4000	Glass bottle	4 l	inquire

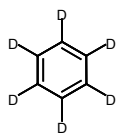
## 109646 Benzene reference substance for gas chromatography

### Specification

Assay (GC).....	≥ 99.9 %
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
1.09646.0005	Glass bottle	5 ml	inquire

## Benzene-D6



C<sub>6</sub>D<sub>6</sub>

Hexadeuterobenzene

- CAS-No. 1076-43-3 ■ EC-No. 214-061-8
- Vapour pressure 101 hPa (20 °C)
- Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.4 - 8.0 % (V) ■ Flash point -11 °C  
 ■ Kin. viscosity 0.78 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 1.8 g/l (20 °C) ■ M = 84.15 g/mol  
 ■ Melting point 6.7 °C ■ Boiling point 79 °C (1013 hPa) ■ Ignition temp. 555 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Carcinogenicity, Category 1A, H350; Germ cell mutagenicity, Category 1B, H340; Specific target organ toxicity - repeated exposure, Category 1, H372; Aspiration hazard, Category 1, H304; Eye irritation, Category 2, H319; Skin

irritation, Category 2, H315, P210, P233, P302 + P352, P305 + P351 + P338, P314  
 ■ LC50 rat 44 mg/l  
 ■ LD50 oral rat 930 mg/kg ■ LD50 dermal rabbit > 8260 mg/kg  
 ■ EC-Index-No. 601-020-00-8 ■ LGK 3  
 ■ HS-No. 2845 90 10 ■ Disposal 9  
 ■ ADR-RID UN 1114 Benzen, 3, II ■ IMDG-Code UN 1114 BENZENE, 3, II  
 ■ IATA-DGR UN 1114 BENZENE, 3, II

## 101766 Benzene-D6 deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™

### Specification

Deuteration degree.....	≥ 99.96 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.005 %
Performance test (NMR-spectrum).....	passes test

Ord.No.	Packaging	Quantity	Price
1.01766.0009	Glass ampoule	10x0.75 ml	inquire
1.01766.0010	Glass ampoule	10 ml	inquire

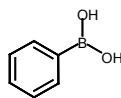
## 101789 Benzene-D6 deuteration degree min. 99.6% for NMR spectroscopy MagniSolv™

### Specification

Deuteration degree.....	≥ 99.6 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.02 %
Performance test (NMR-spectrum).....	passes test

Ord.No.	Packaging	Quantity	Price
1.01789.0009	Glass ampoule	10x0.75 ml	inquire
1.01789.0010	Septum ampoule	10 ml	inquire
1.01789.0100	Glass bottle	100 ml	inquire

## 820131 Benzeneboronic acid for synthesis



C<sub>6</sub>H<sub>7</sub>BO<sub>2</sub>

- CAS-No. 98-80-6 ■ EC-No. 202-701-9
- Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 121.93 g/mol
- pH value 6 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 210 - 220 °C

- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 740 mg/kg
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

### Specification

Assay (HPLC, area%).....	≥ 98.0 Area %
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
8.20131.0010	Glass bottle	10 g	inquire
8.20131.0050	Glass bottle	50 g	inquire
8.20131.8500	Glass bottle	500 mg	inquire

Benzene chloride → page 599

1,2-Benzenedicarbaldehyde → page 1325

1,3-Benzenedicarbaldehyde → Isophthalaldehyde page 1050

1,4-Benzenedicarbaldehyde → Terephthalaldehyde page 1520

1,2-Benzenedicarboxylic acid anhydride → Phthalic anhydride page 1326

1,2-Benzenedicarboxylic acid diisodecyl ester → Diisodecyl phthalate page 765

1,2-Benzenedinitrile → Phthalonitrile page 1327

1,4-Benzenedinitrile → Terephthalodinitrile page 1521

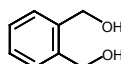
1,2-Benzenedicarboxylic acid → Phthalic acid page 1325

1,3-Benzenedicarboxylic acid → Isophthalic acid page 1051

1,4-Benzenedicarboxylic acid → Terephthalic acid page 1520

1,2-Benzenedicarboxylic acid diisodecyl ester → Diisodecyl phthalate page 765

## 841297 1,2-Benzenedimethanol for synthesis



C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>

1,2-Bishydroxymethylbenzene

- CAS-No. 612-14-6 ■ EC-No. 210-293-9

- M = 138.16 g/mol ■ Melting point 62 - 64 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

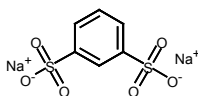
### Specification

Assay (GC, area%).....	≥ 96.5 % (a/a)
Melting range (lower value).....	≥ 60 °C

Melting range (upper value).....	≤ 63 °C
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.41297.0001	Plastic bottle	1 g	inquire
8.41297.0010	Plastic bottle	10 g	inquire

## 802193 1,3-Benzenedisulfonic acid disodium salt for synthesis

C<sub>6</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>6</sub>S<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,3-(SO<sub>3</sub>Na)<sub>2</sub>*di-Sodium benzene-1,3-disulfonate*

■ CAS-No. 831-59-4 ■ EC-No. 212-606-4

- Solub. in H<sub>2</sub>O 663 g/l (20 °C) ■ M = 282.19 g/mol
- pH value 6.9 (500 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 860 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2904 10 00 ■ Disposal 3

**Specification**

Assay (acidimetric after ion exchange) .....  
 ..... ≥ 80,0 %(m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02193.0100	Plastic bottle	100 g	inquire
8.02193.1000	Plastic bottle	1 kg	inquire

Benzenephosphonic dichloride →

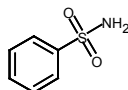
Dichlorophenylphosphine oxide page 730

Benzeneselenyl chloride → Phenylselenyl chloride

page 1314

Benzene sulfochloride → page 437

## 821959 Benzenesulfonamide for synthesis

C<sub>6</sub>H<sub>7</sub>NO<sub>2</sub>SC<sub>6</sub>H<sub>5</sub>SO<sub>2</sub>NH<sub>2</sub>

■ CAS-No. 98-10-2 ■ EC-No. 202-637-1

■ Flash point 250 °C ■ Solub. in H<sub>2</sub>O 4.3 g/l

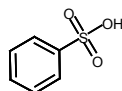
- (16 °C) ■ M = 157.18 g/mol
- Melting point 149 - 152 °C
- Bulk density 700 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 991 mg/kg
- LGK 10 - 13
- HS-No. 2935 00 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 150 °C  
 Melting range (upper value) ..... ≤ 155 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21959.0100	Plastic bottle	100 g	inquire
8.21959.0500	Plastic bottle	500 g	inquire

## Benzenesulfonic acid

C<sub>6</sub>H<sub>6</sub>O<sub>3</sub>SC<sub>6</sub>H<sub>5</sub>SO<sub>3</sub>H*Benzenesulfonic acid*

■ CAS-No. 98-11-3 ■ EC-No. 202-638-7

- Spec. density 1.32 g/cm<sup>3</sup> (47 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O 930 g/l (25 °C) ■ M = 158.17 g/mol ■ pH value 2 (H<sub>2</sub>O, 20 °C) (saturated solution) ■ Melting point 43 °C
- Boiling point 171 °C (0.13 hPa)
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309

- + P310
- LD50 oral rat 1175 mg/kg
- LGK 8A
- HS-No. 2904 10 00 ■ Disposal 3
- ADR-RID UN 2585 Arylsulfonsäuren, fest, 8, III
- IMDG-Code UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III

## 800468 Benzenesulfonic acid for synthesis

**Specification**

Assay (acidimetric) ..... ≥ 97,0 %(m)  
 Water (K. F.) ..... ≤ 2,0 %(m)  
 Sulfuric acid ..... ≤ 1,0 %(m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00468.0005	Glass bottle	5 g	inquire
8.00468.0250	Plastic bottle	250 g	inquire
8.00468.1000	Plastic bottle	1 kg	inquire

## 845004 Benzenesulfonic acid for pharma synthesis, non-GMP

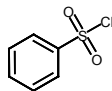
**Specification**

Colour (visual) ..... white to brown  
 Appearance of substance (visual) ..... crystals  
 Assay (acidimetric) ..... ≥ 97,0 %(m)  
 Water (K. F.) ..... ≤ 2,0 %(m)

Sulfuric acid ..... ≤ 1,0 %(m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45004.0250	Plastic bottle	250 g	inquire
8.45004.1000	Plastic bottle	1 kg	inquire

## Benzenesulfonyl chloride

C<sub>6</sub>H<sub>5</sub>ClO<sub>2</sub>S*Benzene sulfochloride*

■ CAS-No. 98-09-9 ■ EC-No. 202-636-6

■ Refractive index 1.553 (20 °C, 589 nm) ■ Vapour pressure 6 hPa (20 °C) ■ Spec. density 1.38 g/cm<sup>3</sup>

- (20 °C) ■ Flash point 123 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble, (decomposition)
- M = 176.62 g/mol ■ Melting point 15 °C
- Boiling point 252 °C (1013 hPa) decomposes
- Ignition temp. 450 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P309 + P310, P301 + P330 + P331, P305 + P351 + P338

- LC50 rat 0.06 mg/l
- LD50 oral rat 1615 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- LGK 8A
- HS-No. 2904 90 95 ■ Disposal 11
- ADR-RID UN 2225 Benzenesulfonylchlorid, 8, III
- IMDG-Code UN 2225 BENZENESULPHONYL CHLORIDE, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2225 BENZENESULPHONYL CHLORIDE, 8, III

## 800470 Benzenesulfonyl chloride for synthesis

**Specification**

Assay (GC, area%) ..... ≥ 98 %  
 Density (d 20 °C/ 4 °C) ..... 1.377 - 1.379  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00470.0100	Glass bottle	100 ml	inquire
8.00470.0500	Glass bottle	500 ml	inquire
8.00470.2500	Glass bottle	2.5 l	inquire

## 845005 Benzenesulfonyl chloride for pharma synthesis, non-GMP

**Specification**

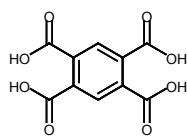
Appearance of substance (visual) ..... clear liquid  
 Colour number (Hazen) ..... ≤ 20  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,377 - 1,379

Identity (IR) ..... passes test  
 Benzene ..... lot specific result

Ord.No.	Packaging	Quantity	Price
8.45005.0100	Glass bottle	100 ml	inquire
8.45005.0500	Glass bottle	500 ml	inquire
8.45005.2500	Glass bottle	2.5 l	inquire

# Benzen

## 800784 1,2,4,5-Benzenetetracarboxylic acid for synthesis



C<sub>10</sub>H<sub>6</sub>O<sub>8</sub>  
C<sub>6</sub>H<sub>2</sub>(COOH)<sub>4</sub>

*Benzene-1,2,4,5-tetracarboxylic acid*  
 ■ CAS-No. 89-05-4 ■ EC-No. 201-879-5  
 ■ Spec. density 1.79 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 15 g/l (25 °C) ■ M = 254.15 g/mol  
 ■ Melting point 250 - 260 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P262, P305 + P351 + P338  
 ■ LGK 10 - 13

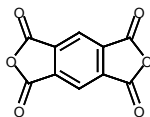
■ HS-No. 2917 39 95

### Specification

Assay (acidimetric)..... ≥ 98,0 %(m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00784.0005	Glass bottle	5 g	inquire
8.00784.0050	Plastic bottle	50 g	inquire
8.00784.0250	Plastic bottle	250 g	inquire

## 807516 1,2,4,5-Benzenetetracarboxylic-1,2:4,5-dianhydride for synthesis



C<sub>10</sub>H<sub>2</sub>O<sub>6</sub>  
*Pyromellitic dianhydride*  
 ■ CAS-No. 89-32-7 ■ EC-No. 201-898-9  
 ■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Flash point 380 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 218.12 g/mol  
 ■ Melting point 284 - 287 °C  
 ■ Bulk density 400 - 600 kg/m<sup>3</sup>  
 ■ Boiling point 397 - 400 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Serious eye damage, Category 1, H318; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P305 + P351 + P338, P302 + P352, P304 + P341, P342 + P311, P313  
 ■ LD50 oral rat 2250 mg/kg

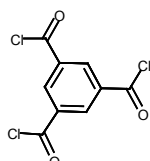
■ EC-Index-No. 607-098-00-X ■ LGK 10 - 13  
 ■ HS-No. 2917 39 95

### Specification

Assay (esterification)..... ≥ 97,0 %(m)  
 Melting range (lower value)..... ≥ 284 °C  
 Melting range (upper value)..... ≤ 288 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07516.0100	Glass bottle	100 g	inquire

## 841731 1,3,5-Benzenetricarbonyl chloride for synthesis



C<sub>9</sub>H<sub>3</sub>Cl<sub>3</sub>O<sub>3</sub>  
*Trimesoyl chloride*  
 ■ CAS-No. 4422-95-1 ■ EC-No. 224-594-8  
 ■ Flash point > 112 °C ■ M = 265.47 g/mol  
 ■ Melting point 34.5 - 36 °C

■ Boiling point 180 °C (21 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2917 39 95 ■ Disposal 11  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(BENZOL-1,3,5-TRICARBONSAEURETRICHLORIDE), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(1,3,5-BENZENETRICARBONYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

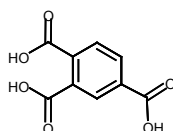
■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(1,3,5-BENZENETRICARBONYL CHLORIDE), 8, II

### Specification

Assay (argentometric)..... ≥ 97,0 %(m)  
 Melting range (lower value)..... ≥ 30 °C  
 Melting range (upper value)..... ≤ 34 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41731.0025	Glass bottle	25 g	inquire

## 820137 1,2,4-Benzenetricarboxylic acid for synthesis



C<sub>9</sub>H<sub>6</sub>O<sub>6</sub>

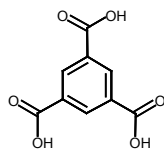
C<sub>6</sub>H<sub>3</sub>-1,2,4-(COOH)<sub>3</sub>  
*Trimellitic acid*  
 ■ CAS-No. 528-44-9 ■ EC-No. 208-432-3  
 ■ Solub. in H<sub>2</sub>O 83 g/l (30 °C) ■ M = 210.14 g/mol  
 ■ Melting point 240 - 245 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 39 20 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20137.0100	Plastic bottle	100 g	inquire

## 801299 1,3,5-Benzenetricarboxylic acid for synthesis



C<sub>9</sub>H<sub>6</sub>O<sub>6</sub>  
 C<sub>6</sub>H<sub>3</sub>-1,3,5-(COOH)<sub>3</sub>

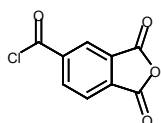
*Trimesic acid*  
 ■ CAS-No. 554-95-0 ■ EC-No. 209-077-7  
 ■ Flash point 328 °C ■ Solub. in H<sub>2</sub>O 15 g/l (20 °C)  
 ■ M = 210.14 g/mol ■ Melting point 345 - 350 °C  
 ■ Bulk density 720 kg/m<sup>3</sup> ■ Ignition temp. 590 °C  
 ■ WGK 1  
 ■ LD50 oral rat 16000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 39 95 ■ Disposal 3

### Specification

Assay (HPLC, area%)..... ≥ 95,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01299.0025	Plastic bottle	25 g	inquire
8.01299.0100	Plastic bottle	100 g	inquire

## 843764 1,2,4-Benzenetricarboxylic acid 1,2-anhydride 4-chloride for synthesis



C<sub>9</sub>H<sub>3</sub>ClO<sub>4</sub>  
 ■ CAS-No. 1204-28-0 ■ EC-No. 214-874-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 210.57 g/mol ■ Melting point 65 - 68 °C  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2917 39 95 ■ Disposal 11  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(BENZOL-1,2,4-TRICARBONSAEURE-1,2-ANHYDRID-4-CHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(1,2,4-BENZENETRICARBOXYLIC ACID 1,2-ANHYDRIDE 4-CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

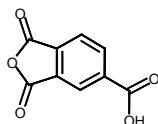
ORGANIC, N.O.S.(1,2,4-BENZENETRICARBOXYLIC ACID 1,2-ANHYDRIDE 4-CHLORIDE), 8, II

### Specification

Assay (morpholine method)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 65 °C  
 Melting range (upper value)..... ≤ 68 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43764.0025	Glass bottle	25 g	inquire
8.43764.0100	Glass bottle	100 g	inquire

## 820138 1,2,4-Benzenetricarboxylic 1,2-anhydride for synthesis

C<sub>9</sub>H<sub>4</sub>O<sub>5</sub>

Trimellitic acid anhydride

- CAS-No. 552-30-7 ■ EC-No. 209-008-0
- Vapour pressure 19 hPa (240 °C) ■ Explosive limit 1 - 7 % (V) ■ Flash point 227 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 192.12 g/mol
- pH value 2 (21 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 164 - 168 °C
- Boiling point 240 °C (19 hPa)
- WGK 1
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Serious eye damage, Category 1, H318; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P260, P280, P302 + P352, P305 + P351 + P338, P313, P304 + P341
- LC50 rat > 7.4 mg/l
- LD50 oral rat > 2730 mg/kg
- LD50 dermal rabbit 23000 mg/kg
- EC-Index-No. 607-097-00-4 ■ LGK 10 - 13

- HS-No. 2917 39 95 ■ Disposal 3

## Specification

Assay (morpholine method) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 164 °C  
 Melting range (upper value) ..... ≤ 168 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20138.0100	Plastic bottle	100 g	inquire
8.20138.0500	Plastic bottle	500 g	inquire

## 843983 Benzethonium chloride for synthesis

C<sub>27</sub>H<sub>42</sub>ClNO<sub>2</sub>

N-Benzyl-N,N-dimethyl-N-[4-(1.1.3.3-tetramethylbutyl)-phenoxyethoxyethyl]ammonium chloride, Benzethonium chloride

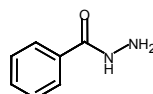
- CAS-No. 121-54-0 ■ EC-No. 204-479-9
- Vapour pressure < 0.001 hPa (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 448.08 g/mol
- pH value 5 - 6.5 (10 g/l, H<sub>2</sub>O)
- Melting point 160 - 166 °C
- Bulk density 440 kg/m<sup>3</sup> ■ Ignition temp. 380 °C
- WGK 2

- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 295 mg/kg
- LGK 6.1C
- HS-No. 2923 90 00 ■ Disposal 3
- ADR-RID UN 2923 Ätzender fester Stoff, giftig,

n.a.g.(BENZETHONIUMCHLORID), 8 (6.1), III  
 ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(BENZETHONIUM CHLORIDE), 8 (6.1), III  
 ■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(BENZETHONIUM CHLORIDE), 8 (6.1), III

Ord.No.	Packaging	Quantity	Price
8.43983.0250	Plastic bottle	250 g	inquire

## Benzhydrazide

C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>OC<sub>6</sub>H<sub>5</sub>CONHNH<sub>2</sub>

Benzoic acid hydrazide

- CAS-No. 613-94-5 ■ EC-No. 210-363-9
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 136.15 g/

mol ■ Melting point 112 - 115 °C  
 ■ Boiling point 267 °C decomposes  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2928 00 90 ■ Disposal 3

## 820125 Benzhydrazide for synthesis

## Specification

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 112 °C  
 Melting range (upper value) ..... ≤ 115 °C  
 Identity (IR) ..... passes test

Sulfated ash ..... ≤ 0.20 %  
 Loss on drying (60 °C; 6 h; vacuum) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
8.20125.0100	Plastic bottle	100 g	inquire
8.20125.1000	Plastic bottle	1 kg	inquire

## 845092 Benzhydrazide for pharma synthesis, non-GMP

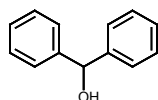
## Specification

Colour (visual) ..... white  
 Appearance of substance (visual) ..... powder  
 Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 112 °C

Melting range (upper value) ..... ≤ 115 °C  
 Identity (IR) ..... passes test  
 Loss on drying (vacuum 60 °C) ..... ≤ 1,0 %  
 Sulfated ash ..... ≤ 0,20 %

Ord.No.	Packaging	Quantity	Price
8.45092.0100	Plastic bottle	100 g	inquire
8.45092.1000	Plastic bottle	1 kg	inquire

## 801644 Benzhydrol for synthesis

C<sub>13</sub>H<sub>12</sub>O(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>CHOH

Hydroxydiphenyl

methane, Diphenylcarbinol, Diphenylmethanol

- CAS-No. 91-01-0 ■ EC-No. 202-033-8

- Flash point 160 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 184.24 g/mol
- Melting point 63 - 65 °C
- Boiling point 297 - 299 °C
- WGK 1

- LD50 oral rat 5000 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 64 °C  
 Melting range (upper value) ..... ≤ 67 °C  
 Identity (IR) ..... conforms

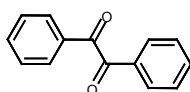
Ord.No.	Packaging	Quantity	Price
8.01644.0250	Plastic bottle	250 g	inquire
8.01644.1000	Plastic bottle	1 kg	inquire

Benzhydryl bromide → Bromodiphenylmethane page 499

Benzhydryl chloride → Chlorodiphenylmethane page 609

Benzhydryl cyanide → Diphenylacetone nitrile page 813

## 801632 Benzil for synthesis

C<sub>14</sub>H<sub>10</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>COCOC<sub>6</sub>H<sub>5</sub>

Dibenzoyl

- CAS-No. 134-81-6 ■ EC-No. 205-157-0
- Vapour pressure 1.3 hPa (128 °C) ■ Solub. in

H<sub>2</sub>O < 0.5 g/l (20 °C) ■ M = 210.23 g/mol  
 ■ Melting point 95 °C ■ Boiling point 346 - 348 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

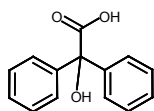
- LD50 oral rat 2710 mg/kg
- LGK 10 - 13
- HS-No. 2914 39 00 ■ Disposal 3

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 93 °C  
 Melting range (upper value) ..... ≤ 97 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01632.0005	Glass bottle	5 g	inquire
8.01632.0250	Plastic bottle	250 g	inquire

# Benzil

## 800140 Benzoic acid for synthesis



$C_{14}H_{12}O_3$   
 $(C_6H_5)_2C(OH)COOH$   
 ■ CAS-No. 76-93-7 ■ EC-No. 200-993-2

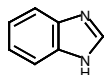
- Solub. in H<sub>2</sub>O 1.41 g/l (25 °C) (experimental)
- M = 228.24 g/mol ■ Melting point 150 - 152 °C
- Boiling point 180 °C (17.3 hPa)
- Ignition temp. 530 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2918 19 50 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 98,0 %(m)

Melting range (lower value)..... ≥ 146 °C  
 Melting range (upper value)..... ≤ 150 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00140.0250	Plastic bottle	250 g	inquire
8.00140.1000	Plastic bottle	1 kg	inquire

## 821956 Benzimidazole for synthesis



$C_7H_6N_2$   
 ■ CAS-No. 51-17-2 ■ EC-No. 200-081-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 118.13 g/mol  
 ■ Melting point 170 - 173 °C

- Boiling point >360 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 170 °C  
 Melting range (upper value)..... ≤ 173 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21956.0100	Plastic bottle	100 g	inquire
8.21956.0500	Plastic bottle	500 g	inquire

Benzoimidazoles → Heterocycles

2-Benzimidazolethiol → 2-Mercaptobenzimidazole  
 page 1100

2(1H)-Benzimidazolone → 2-Hydroxybenzimidazole  
 page 977

2-Benzimidazolylamine → 2-Aminobenzimidazole  
 page 378

Benzine → Petroleum benzine page 313

1H-Benzo[b]pyrrole → Indole page 1002

Benzo-15-crown-5 → Crown ether/Benzo-15-crown-5 page 660

Benzo[cyclopentadien] → Indene page 1001

Benzo[def]phenanthrene → Pyrene page 1383

1,4-Benzodiazine → Quinoxaline page 1398

1,4-Benzodioxan-2-methanol → 2-

(Hydroxymethyl)-1,4-benzodioxane page 987

1,3-Benzodioxol → 1,2-Methylenedioxybenzene  
 page 1150

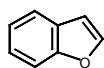
1,3-Benzodioxol-5-amine → 3,4-

Methylenedioxyaniline page 1150

5,6-Benzoflavone → β-Naphthoflavone page 1199

7,8-Benzoflavone → α-Naphthoflavone page 1198

## 820129 Benzo[b]furan for synthesis



$C_8H_6O$   
*Cumaron*  
 ■ CAS-No. 271-89-6 ■ EC-No. 205-982-6  
 ■ Refractive index 1.566 (20 °C, 589 nm) ■ Vapour pressure 0.58 hPa (25 °C) ■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Flash point 50 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 118.13 g/mol  
 ■ Melting point ≤ -18 °C

- Boiling point 173 - 175 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Carcinogenicity, Category 2, H351, P210, P280, P281, P309 + P310
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2932 99 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(BENZO(B)FURAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(BENZO(B)FURANE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(BENZO(B)FURANE), 3, III

**Specification**

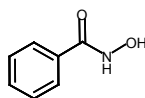
Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.094 - 1.096  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20129.0002	Glass bottle	2 ml	inquire
8.20129.0010	Glass bottle	10 ml	inquire

Benzofurans → Heterocycles

Benzoguanamine → 2,6-Diamino-4-phenyl-1,3,5-triazine page 697

## 820130 Benzohydroxamic acid for synthesis



$C_7H_7NO_2$   
 $C_6H_5CONHOH$   
*N-Hydroxybenzamide, Phenylhydroxamic acid*

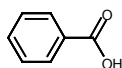
- CAS-No. 495-18-1 ■ EC-No. 207-797-6
- Solub. in H<sub>2</sub>O 22 g/l (6 °C) ■ M = 137.13 g/mol
- Melting point 125 - 128 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 98,0 %

Melting range (lower value)..... ≥ 125 °C  
 Melting range (upper value)..... ≤ 128 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20130.0025	Glass bottle	25 g	inquire

## Benzoic acid



$C_7H_6O_2$   
 $C_6H_5COOH$   
*Phenylformic acid, Benzene carboxylic acid*  
 ■ CAS-No. 65-85-0 ■ EC-No. 200-618-2  
 ■ Vapour pressure 0.001 hPa (20 °C)  
 ■ Spec. density 1.321 g/cm<sup>3</sup> (20 °C)

- Flash point 121 °C ■ Solub. in H<sub>2</sub>O 2.9 g/l (25 °C) ■ M = 122.12 g/mol ■ pH value 2.5 - 3.5 (H<sub>2</sub>O, 20 °C) (saturated solution)
- Melting point 121 - 123 °C
- Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 249 °C (1013 hPa) ■ Ignition temp. 570 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338

- LC50 rat > 12.2 mg/l
- LD50 oral rat 1700 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2916 31 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## 822257 Benzoic acid for synthesis

**Specification**

Assay (acidimetric)..... ≥ 99,0 %(m)  
 Melting range (lower value)..... ≥ 122 °C  
 Melting range (upper value)..... ≤ 125 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22257.0100	Plastic bottle	100 g	inquire
8.22257.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.22257.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire



**100136 Benzoic acid** for analysis EMSURE® Reag. Ph Eur

<b>Specification</b>	Fe (Iron)..... ≤ 0.005 %	Water..... ≤ 0.5 %
Assay (acidimetric)..... ≥ 99.9 %	Halogen compounds (as Cl)..... ≤ 0.005 %	Corresponds to Reag. Ph Eur
Identity..... passes test	Sulfur compounds (as S)..... ≤ 0.002 %	
Appearance of solution (5 %; ethanol 96 %)..... passes test	In methanol insoluble matter..... ≤ 0.005 %	
Appearance of solution (colour)..... colourless	Oxidizable matter..... passes test	
Appearance of solution (clearness)..... clear	Substances reducing permanganate..... passes test	
Sulfate (SO <sub>4</sub> )..... ≤ 0.002 %	Readily carbonisable substance..... passes test	
Heavy metals (as Pb)..... ≤ 0.0005 %	Sulfated ash..... ≤ 0.005 %	

Ord.No.	Packaging	Quantity	Price
1.00136.0100	Plastic bottle	100 g	inquire
1.00136.0250	Plastic bottle	250 g	inquire
1.00136.1000	Plastic bottle	1 kg	inquire

**102401 Benzoic acid** volumetric standard, secondary reference material for alkalimetry, traceable to NIST Standard Reference Material (SMR) Certipur®

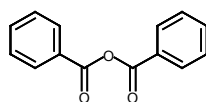
Ord.No.	Packaging	Quantity	Price
1.02401.0060	Glass bottle	60 g	inquire

**100134 Benzoic acid** standard for elemental analysis

<b>Specification</b>	Suitable for determination of C, H, O
C (Carbon)..... 68.8%	
H (Hydrogen)..... 5.0%	
O (Oxygen)..... 26.2%	

Ord.No.	Packaging	Quantity	Price
1.00134.0005	Glass bottle	5 g	inquire

Benzoic acid amide → Benzamide page 435	Benzoic acid isoamyl ester → Isoamyl benzoate page 1041	Benzoic acid silver salt → Silver benzoate page 1421
Benzoic acid butyl ester → Butyl benzoate page 541	Benzoic acid methyl ester → page 305	o-Benzoic acid sulfimide → Saccharin page 1409
Benzoic acid ethyl ester → Ethyl benzoate page 303	Benzoic acid phenyl ester → Phenyl benzoate page 1298	o-Benzoic acid sulfimide sodium salt → Saccharin sodium salt dihydrate page 1409
Benzoic acid hydrazide → page 439	Benzoic acid propyl ester → Propyl benzoate page 1375	

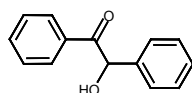
**800131 Benzoic anhydride** for synthesis

C<sub>14</sub>H<sub>10</sub>O<sub>3</sub>  
(C<sub>6</sub>H<sub>5</sub>CO)<sub>2</sub>O  
 ■ CAS-No. 93-97-0 ■ EC-No. 202-291-1  
 ■ Spec. density 1.20 g/cm<sup>3</sup> (20 °C)

- Flash point 113 °C ■ Solub. in H<sub>2</sub>O 0.01 g/l (25 °C) (experimental) ■ M = 226.23 g/mol
  - pH value (H<sub>2</sub>O) not applicable
  - Melting point 40 °C ■ Boiling point 360 °C (1013 hPa)
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2916 39 90 ■ Disposal 11
- Specification**

Assay (morpholine method)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 40 °C  
 Melting range (upper value)..... ≤ 43 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00131.0250	Plastic bottle	250 g	inquire
8.00131.1000	Plastic bottle	1 kg	inquire

**801776 Benzoin** for synthesis

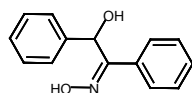
C<sub>14</sub>H<sub>12</sub>O<sub>2</sub>  
 C<sub>6</sub>H<sub>5</sub>CH(OH)COC<sub>6</sub>H<sub>5</sub>  
*α-Hydroxy-α-phenylacetophenone*  
 ■ CAS-No. 119-53-9 ■ EC-No. 204-331-3  
 ■ Vapour pressure 1.3 hPa (136 °C)

- Spec. density 1.31 g/cm<sup>3</sup> (20 °C)
- Flash point 181 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (25 °C) ■ M = 212.24 g/mol
- Melting point 132 - 134 °C
- Bulk density 350 g/m<sup>3</sup> ■ Boiling point 344 °C (1023 hPa)
- WGK 2
- LD50 oral rat 10000 mg/kg
- LD50 dermal rabbit 8870 mg/kg
- LGK 10 - 13

■ HS-No. 2914 40 90 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 130 °C  
 Melting range (upper value)..... ≤ 136 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01776.0250	Plastic bottle	250 g	inquire
8.01776.1000	Plastic bottle	1 kg	inquire

Benzoic carbonate → 4,5-Diphenyl-1,3-dioxol-2-one page 816	Benzoic ethyl ether → O-Ethylbenzoic page 853
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**841378 α-Benzoic oxime** for synthesis

C<sub>14</sub>H<sub>13</sub>NO<sub>2</sub>  
*Cuprone*  
 ■ CAS-No. 441-38-3 ■ EC-No. 207-127-2

- M = 227.26 g/mol ■ Melting point 153 - 154 °C
  - WGK 2
  - LGK 10 - 13
  - HS-No. 2928 00 90 ■ Disposal 3
- Specification**  
 Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 151 °C  
 Melting range (upper value)..... ≤ 153 °C

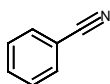
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41378.0025	Plastic bottle	25 g	inquire
8.41378.0100	Plastic bottle	100 g	inquire

Benzol → page 44

# Benzon

## 801800 Benzonitrile for synthesis



C<sub>7</sub>H<sub>5</sub>N  
C<sub>6</sub>H<sub>5</sub>CN  
*Phenyl cyanide*  
■ CAS-No. 100-47-0 ■ EC-No. 202-855-7  
■ Refractive index 1.5289 (20 °C, 589 nm)  
■ Vapour pressure 0.7 hPa (20 °C)  
■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 25.2 (25 °C) ■ El. dipole moment 3.9

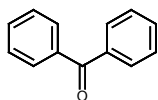
(20 °C) ■ Explosive limit 1.4 - 7.2 % (V)  
■ Flash point 70 °C ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C)  
■ M = 103.12 g/mol ■ Melting point -13 °C  
■ Boiling point 190 °C (1013 hPa)  
■ Ignition temp. 550 °C (experimental)  
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352  
■ LC50 rat 38.6 mg/l  
■ LD50 oral rat 690 mg/kg  
■ EC-Index-No. 608-012-00-3 ■ LGK 10  
■ HS-No. 2926 90 95 ■ Disposal 3

■ ADR-RID UN 2224 Benzonitril, 6.1, II ■ IMDG-Code UN 2224 BENZONITRILE, 6.1, II  
■ IATA-DGR UN 2224 BENZONITRILE, 6.1, II

**Specification**  
Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.004 - 1.005  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.01800.0100	Glass bottle	100 ml	inquire
8.01800.0500	Glass bottle	500 ml	inquire
8.01800.1000	Glass bottle	1 l	inquire

## 801801 Benzophenone for synthesis



C<sub>13</sub>H<sub>10</sub>O  
C<sub>6</sub>H<sub>5</sub>COC<sub>6</sub>H<sub>5</sub>  
*Diphenylketon, Diphenylmethanon, Benzoylbenzol*  
■ CAS-No. 119-61-9 ■ EC-No. 204-337-6  
■ Vapour pressure 0.004 hPa (20 °C)  
■ Spec. density 1.1 g/cm<sup>3</sup> (25 °C)  
■ Flash point 150 °C ■ Solub. in H<sub>2</sub>O 0.14 g/l (25 °C) ■ M = 182.22 g/mol  
■ Melting point 47 - 49 °C ■ Bulk density 700 kg/l

m<sup>3</sup> ■ Boiling point 304 - 306 °C (1013 hPa)  
■ WGK 2  
■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273  
■ LD50 oral rat > 10000 mg/kg  
■ LD50 dermal rabbit 3535 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2914 39 00  
■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(BENZOPHENON), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(BENZOPHENONE), 9, III, Marine Pollutant: P

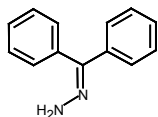
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(BENZOPHENONE), 9, III

**Specification**  
Assay (GC, area%) ..... ≥ 99,0 Area %  
Melting range (lower value) ..... ≥ 47 °C  
Melting range (upper value) ..... ≤ 49 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01801.0005	Glass bottle	5 g	inquire
8.01801.0250	Plastic bottle	250 g	inquire
8.01801.1000	Plastic bottle	1 kg	inquire

Benzophenone-2-carboxylic acid → 2-Benzoylbenzoic acid page 444

## 818027 Benzophenone hydrazone for synthesis



C<sub>13</sub>H<sub>12</sub>N<sub>2</sub>  
(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>C=NNH<sub>2</sub>  
■ CAS-No. 5350-57-2 ■ EC-No. 226-321-8  
■ Flash point 146 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 196.25 g/mol  
■ Melting point 96 - 99 °C  
■ Boiling point 225 - 230 °C (73 hPa)  
■ WGK 3  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
■ LGK 10 - 13  
■ HS-No. 2928 00 90 ■ Disposal 3  
Reagent for the preparation of diphenyldiazomethane/1,2/.

**Specification**  
Assay (HClO<sub>4</sub>) ..... ≥ 98,0 % (m)  
Melting range (lower value) ..... ≥ 96 °C  
Melting range (upper value) ..... ≤ 99 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18027.0050	Glass bottle	50 g	inquire

Benzophenones → Ketones

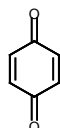
Benzopinacol → Tetraphenyl-1,2-ethanediol page 1546

Benzopinacon → Tetraphenyl-1,2-ethanediol page 1546

Benzopyrazine → Quinoxaline page 1398

5,6-Benzo-2-pyrone → Coumarin page 657

## 802410 p-Benzoquinone for synthesis



C<sub>6</sub>H<sub>4</sub>O<sub>2</sub>  
*p-Quinone, 1,4-Benzoquinone, 1,4-Cyclohexadiene-3,6-dione*  
■ CAS-No. 106-51-4 ■ EC-No. 203-405-2  
■ Vapour pressure 0.12 hPa (20 °C)  
■ Spec. density 1.32 g/cm<sup>3</sup> (20 °C)  
■ Flash point 77 °C ■ Solub. in H<sub>2</sub>O 10 g/l (25 °C)  
■ M = 108.09 g/mol ■ pH value 4 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 110 - 113 °C

■ Bulk density 700 kg/m<sup>3</sup>  
■ Boiling point 180 °C (sublimed)  
■ Ignition temp. 560 °C  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400, P273, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 130 mg/kg  
■ EC-Index-No. 606-013-00-3 ■ LGK 6.1A  
■ HS-No. 2914 69 90  
■ ADR-RID UN 2587 Benzochinon, 6.1, II ■ IMDG-

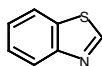
Code UN 2587 BENZOQUINONE, 6.1, II  
■ IATA-DGR UN 2587 BENZOQUINONE, 6.1, II

**Specification**  
Assay (HPLC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 112 °C  
Melting range (upper value) ..... ≤ 115 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02410.0100	Glass bottle	100 g	inquire
8.02410.1000	Glass bottle	1 kg	inquire
	Glass bottle	4 x 1 kg	inquire
8.02410.9050	Plastic drum	50 kg	inquire



## 820141 Benzothiazole for synthesis

C<sub>7</sub>H<sub>5</sub>N<sub>2</sub>S

- CAS-No. 95-16-9 ■ EC-No. 202-396-2
- Refractive index 1.642 (20 °C, 589 nm) ■ Vapour pressure 0.13 hPa (20 °C) ■ Spec. density 1.24 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 8.2 % (V)
- Flash point 107 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 3 g/l (20 °C) ■ M = 135.18 g/mol
- Melting point 1 - 3 °C
- Boiling point 227 - 228 °C (1017 hPa)
- Ignition temp. 565 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 5 mg/l
- LD50 oral rat 479 mg/kg ■ LD50 dermal rat 933 mg/kg
- LGK 10
- HS-No. 2934 20 80 ■ Disposal 3
- ADR-RID UN 1602 Farbstoffzwischenprodukt, flüssig, giftig, n.a.g.(BENZOTHAZOL), 6.1, III
- IMDG-Code UN 1602 DYE INTERMEDIATE,

LIQUID, TOXIC, N.O.S.(BENZOTHAZOLE), 6.1, III  
 ■ IATA-DGR UN 1602 DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.(BENZOTHAZOLE), 6.1, III

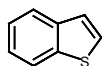
## Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.242 - 1.245  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20141.0250	Glass bottle	250 ml	inquire
8.20141.1000	Glass bottle	1 l	inquire

2-Benzothiazolylamine → 2-Aminobenzothiazole page 380

## 841538 1-Benzothiophene for synthesis

C<sub>8</sub>H<sub>6</sub>S

- CAS-No. 95-15-8 ■ EC-No. 202-395-7
- Vapour pressure 1.33 hPa (20 °C)
- Spec. density 1.15 g/cm<sup>3</sup> ■ Flash point 91 °C
- Solub. in H<sub>2</sub>O 0.13 g/l (25 °C) ■ M = 134.19 g/mol
- Melting point 28 - 32 °C
- Boiling point 222 °C ■ Ignition temp. 510 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 1700 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1-BENZOTHIOPHEN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1-BENZOTHIOPHENE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1-BENZOTHIOPHENE), 9, III

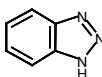
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 29 °C  
 Melting range (upper value) ..... ≤ 32 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41538.0010	Glass bottle	10 g	inquire

1,2,3-Benzotriazole → 1H-Benzotriazole page 443

## 822315 1H-Benzotriazole for synthesis

C<sub>6</sub>H<sub>5</sub>N<sub>3</sub>

- CAS-No. 95-14-7 ■ EC-No. 202-394-1
- Vapour pressure 0.053 hPa (20 °C)
- Spec. density 1.36 g/cm<sup>3</sup> (20 °C)
- Flash point 212 °C ■ Solub. in H<sub>2</sub>O 19 g/l (20 °C)
- M = 119.12 g/mol ■ pH value 6.0 - 7.0 (100 g/l, H<sub>2</sub>O, 20 °C) suspension ■ Melting point 99 °C
- Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 350 °C (1013 hPa) ■ Ignition temp. 400 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Flammable solid, Category 1, H228; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P210, P273, P304 + P340, P305 + P351 + P338, P370 + P378
- LC50 rat 1.4 mg/l
- LD50 oral rat 560 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- LGK 4.1B
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(1 H-BENZOTRIAZOL), 4.1, II
- IMDG-Code UN 1325 FLAMMABLE SOLID,

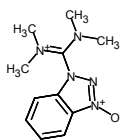
ORGANIC, N.O.S.(1 H-BENZOTRIAZOLE), 4.1, II  
 ■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(1 H-BENZOTRIAZOLE), 4.1, II

## Specification

Assay (HPLC, area%) ..... ≥ 99.0 Area %  
 Melting range (lower value) ..... ≥ 95 °C  
 Melting range (upper value) ..... ≤ 99 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22315.0100	Glass bottle	100 g	inquire
8.22315.0500	Glass bottle	500 g	inquire
8.22315.1000	Glass bottle	1 kg	inquire

## 840048 O-(1H-Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate for synthesis

C<sub>11</sub>H<sub>16</sub>BF<sub>4</sub>N<sub>5</sub>O

- CAS-No. 125700-67-6 ■ EC-No. 423-040-4
- Solub. in H<sub>2</sub>O 3 g/l (20 °C) ■ M = 321.09 g/mol
- Melting point 195 - 199 °C decomposes
- WGK 3
- GHS: Danger, Flammable solid, Category 1, H228; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 4.1A ■ Store at +2°C to +8°C.
- HS-No. 2933 99 80
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(O-(1H-BENZOTRIAZOL-1-YL)-N,N,N',N'-TETRAMETHYLURONIUMTETRAFLUOROBORAT), 4.1, II ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(O-(1H-BENZOTRIAZOL-1-YL)-N,N,N',N'-TETRAMETHYLURONIUM TETRAFLUORBORATE), 4.1, II

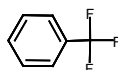
■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(O-(1H-BENZOTRIAZOL-1-YL)-N,N,N',N'-TETRAMETHYLURONIUM TETRAFLUORBORATE), 4.1, II

## Specification

Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)  
 Melting range (lower value) ..... ≥ 195 °C  
 Melting range (upper value) ..... ≤ 199 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40048.0010	Plastic bottle	10 g	inquire

## 841554 Benzotrifluoride for synthesis

C<sub>7</sub>H<sub>5</sub>F<sub>3</sub>

- CAS-No. 98-08-8 ■ EC-No. 202-635-0
- Vapour pressure 53 hPa (25 °C)
- Spec. density 1.197 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 9.3 % (V) ■ Flash point 12 °C ■ Solub. in H<sub>2</sub>O 0.45 g/l (20 °C) Hydrolysis ■ M = 146.11 g/mol
- Melting point -29 °C
- Boiling point 100 - 103 °C (1013 hPa)
- Ignition temp. 650 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Chronic aquatic toxicity, Category 2, H411, P210, P273, P260
- LC50 rat 70.81 mg/l
- LD50 oral rat 15000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- EC-Index-No. 602-056-00-7 ■ LGK 3
- HS-No. 2903 99 90 ■ Disposal 3

■ ADR-RID UN 2338 Benzotrifluorid, 3, II ■ IMDG-Code UN 2338 BENZOTRIFLUORIDE, 3, II  
 ■ IATA-DGR UN 2338 BENZOTRIFLUORIDE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.186 - 1.190  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41554.0100	Glass bottle	100 ml	inquire

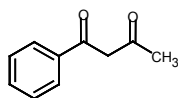
# Benzox

2H-3,1-Benzoxazine-2,4-(1H)-dione → Isatoic anhydride page 1040

Benzoxazol-2-thiole → 2-Mercaptobenzoxazole page 1100

Benzoylacetic acid ethyl ester → Ethyl benzoylacacetate page 853

## 802195 Benzoylaceton for synthesis



C<sub>10</sub>H<sub>10</sub>O<sub>2</sub>  
C<sub>6</sub>H<sub>5</sub>COCH<sub>2</sub>COCH<sub>3</sub>  
1-Phenyl-1,3-butanedione

- CAS-No. 93-91-4 ■ EC-No. 202-286-4
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 162.18 g/mol
- Melting point 57 - 59 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 39 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %

Melting range (lower value) ..... ≥ 55 °C  
Melting range (upper value) ..... ≤ 58 °C  
Identity (IR) ..... conforms

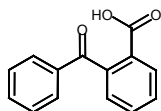
Ord.No.	Packaging	Quantity	Price
8.02195.0025	Glass bottle	25 g	inquire
8.02195.0100	Glass bottle	100 g	inquire

4-Benzoylaniline → 4-Aminobenzophenone page 380

N-Benzoylaniline → Benzanilide page 435

4-Benzoylanisole → 4-Methoxybenzophenone page 1116

## 800137 2-Benzoylbenzoic acid for synthesis



C<sub>14</sub>H<sub>10</sub>O<sub>3</sub>  
2-(C<sub>6</sub>H<sub>5</sub>CO)C<sub>6</sub>H<sub>4</sub>COOH  
Benzophenone-2-carboxylic acid

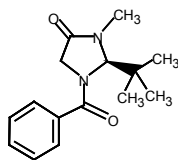
- CAS-No. 85-52-9 ■ EC-No. 201-612-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 226.23 g/mol
- Melting point 127 - 129 °C
- Bulk density 470 kg/m<sup>3</sup> ■ Boiling point 257 °C
- WGK 2
- LD50 oral rat 4600 mg/kg
- LGK 10 - 13
- HS-No. 2918 30 00 ■ Disposal 4

### Specification

Assay (acidimetric) ..... ≥ 98,0 % (m)  
Melting range (lower value) ..... ≥ 126 °C  
Melting range (upper value) ..... ≤ 130 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00137.0050	Plastic bottle	50 g	inquire
8.00137.0250	Plastic bottle	250 g	inquire

## 814167 (2R)-(-)-1-Benzoyl-2-tert-butyl-3-methyl-4-imidazolidinon for synthesis



C<sub>15</sub>H<sub>20</sub>N<sub>2</sub>O<sub>2</sub>

- CAS-No. 101055-57-6
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 260.33 g/mol
- Melting point 144 - 147 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

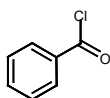
### Specification

Assay (HPLC, area%) ..... ≥ 99,0 Area %  
Melting range (lower value) ..... ≥ 144 °C

Melting range (upper value) ..... ≤ 147 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in CH<sub>2</sub>Cl<sub>2</sub>) ..... -127,0 - -125,0 °  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14167.0001	Glass bottle	1 g	inquire

## 801804 Benzoyl chloride for synthesis



C<sub>7</sub>H<sub>5</sub>ClO  
C<sub>6</sub>H<sub>5</sub>COCl  
Benzoyl chloride  
■ CAS-No. 98-88-4 ■ EC-No. 202-710-8  
■ Refractive index 1.5537 (20 °C, 589 nm)  
■ Vapour pressure 0.5 hPa (20 °C)  
■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.5 - 27 % (V) ■ Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 140.57 g/mol  
■ pH value 2 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -

- 0.6 °C ■ Boiling point 197.2 °C (1013 hPa)
- Ignition temp. 600 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 1.45 mg/l
- LD50 oral rat 2460 mg/kg ■ LD50 dermal rabbit 790 mg/kg
- EC-Index-No. 607-012-00-0 ■ LGK 8A
- HS-No. 2916 32 00 ■ Disposal 11

■ ADR-RID UN 1736 Benzoylchlorid, 8, II ■ IMDG-Code UN 1736 BENZOYL CHLORIDE, 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1736 BENZOYL CHLORIDE, 8, II

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,210 - 1,214  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01804.0100	Glass bottle	100 ml	inquire
8.01804.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.01804.9030	Barrel PE/met	30 kg	inquire

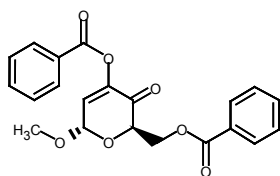
Benzoylformic acid → Phenylglyoxylic acid page 1306

N-Benzoylglycine sodium salt → Hippuric acid sodium salt page 959

Benzoyl formic acid methyl ester → Methylphenyl glyoxylate page 1169

Benzoylmethyltriphenylphosphonium bromide → Phenacyltriphenylphosphonium bromide page 1286

## 818233 (2R,6S)-(+)-4-Benzoyloxy-2-benzoyloxymethyl-6-methoxy-2H-pyran-3(6H)-one for synthesis



C<sub>21</sub>H<sub>18</sub>O<sub>7</sub>

Methyl-3,6-dibenzoyl-2-deoxy-α-D-glycero-hex-2-enopyranosid-4-ulose

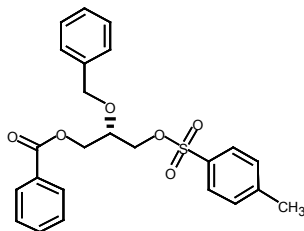
- CAS-No. 25552-06-1
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 382.37 g/mol
- Melting point 124 - 127 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
Melting range (lower value) ..... ≥ 125 °C  
Melting range (upper value) ..... ≤ 127 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in chloroform) ..... 70,0 - 71,0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18233.0001	Glass bottle	1 g	inquire

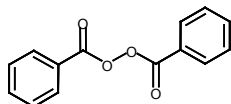
## 814143 (S)-(-)-1-Benzoyloxy-2-benzyloxy-3-tosyloxypropane for synthesis



C<sub>24</sub>H<sub>24</sub>O<sub>6</sub>S  
 (-)-BOBTOP  
 ■ CAS-No. 109371-33-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 440.51 g/mol  
 ■ Melting point 97 - 99 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 31 00 ■ Disposal 3  
**Specification**

Assay (HPLC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 97 °C  
 Melting range (upper value) ..... ≤ 99 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=2 in Chloroform) ... -10,0 - -9,0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14143.0001	Plastic bottle	1 g	inquire

801641 Benzoyl peroxide (with 25% H<sub>2</sub>O) for synthesisC<sub>14</sub>H<sub>10</sub>O<sub>4</sub>

Dibenzoyl peroxide

■ CAS-No. 94-36-0 ■ EC-No. 202-327-6  
 ■ Spec. density 0.53 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 9.10 mg/l (25 °C) ■ M = 242.23 g/mol  
 ■ Melting point 100 - 105 °C (decomposition)  
 ■ Bulk density 500 - 600 kg/m<sup>3</sup>  
 ■ Ignition temp. >380 °C

■ WGK 1  
 ■ GHS: Danger, Organic peroxide, Type C, H242;  
 Eye irritation, Category 2, H319; Skin sensitisation,  
 Category 1, H317, P210, P280, P302 + P352, P305  
 + P351 + P338  
 ■ LC50 rat > 24.3 mg/l  
 ■ LD50 oral rat 7710 mg/kg  
 ■ EC-Index-No. 617-008-00-0 ■ LGK 4.1A  
 ■ HS-No. 2916 32 00 ■ Disposal 10  
 ■ ADR-RID UN 3104 Organisches Peroxid Typ C,  
 fest(DIBENZOYLPEROXID), 5,2, ■ IMDG-Code UN  
 3104 ORGANIC PEROXIDE TYPE C,  
 SOLID(DIBENZOYL PEROXIDE), 5,2,  
 ■ IATA-DGR UN 3104 ORGANIC PEROXIDE TYPE C,

SOLID(DIBENZOYL PEROXIDE), 5,2,

**Specification**

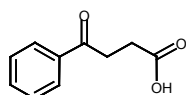
Assay (iodometric) ..... 72,0 - 77,0 % (m)  
 Melting range (after drying) ..... 102 - 105 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01641.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
8.01641.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
8.01641.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

o-Benzoylphenol → 2-Hydroxybenzophenone page  
 978

p-Benzoylphenol → 4-Hydroxybenzophenone page  
 978

## 810442 3-Benzoylpropionic acid for synthesis

C<sub>10</sub>H<sub>10</sub>O<sub>3</sub>C<sub>6</sub>H<sub>5</sub>COCH<sub>2</sub>CH<sub>2</sub>COOH

4-Oxo-4-phenylbutyric acid

■ CAS-No. 2051-95-8 ■ EC-No. 218-135-0

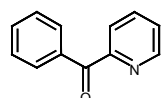
■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 178.18 g/mol ■ Melting point 114 - 117 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity -  
 single exposure, Category 3, H335; Skin irritation,  
 Category 2, H315; Eye irritation, Category 2, H319,  
 P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 30 00 ■ Disposal 4

**Specification**

Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 114 °C  
 Melting range (upper value) ..... ≤ 117 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.10442.0050	Plastic bottle	50 g	inquire

## 801518 2-BENZOYLPIRIDINE FOR SYNTHESIS

C<sub>12</sub>H<sub>9</sub>NO

2-Benzoylpyridine

■ CAS-No. 91-02-1 ■ EC-No. 202-034-3

■ Vapour pressure 10 hPa (170 °C)

■ Flash point 150 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ M = 183.2 g/mol  
 ■ Melting point 42 - 45 °C  
 ■ Boiling point 170 - 172 °C (20 hPa)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

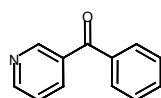
**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 42 °C  
 Melting range (upper value) ..... ≤ 45 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01518.0050	Glass bottle	50 g	inquire
8.01518.0250	Glass bottle	250 g	inquire

## 843851 3-Benzoylpyridine for synthesis

C<sub>12</sub>H<sub>9</sub>NO

■ CAS-No. 5424-19-1 ■ EC-No. 226-561-3

■ M = 183.21 g/mol  
 ■ Melting point 36 - 40 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)

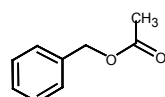
Melting range (lower value) ..... ≥ 36 °C  
 Melting range (upper value) ..... ≤ 40 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43851.0005	Glass bottle	5 g	inquire
8.43851.0025	Glass bottle	25 g	inquire

2-Benzoylpyridine → 2-BENZOYLPIRIDINE page  
 445

Benzopyrazole → Indazole page 1001

## 803181 Benzyl acetate for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>CH<sub>3</sub>COOCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>

Acetic acid benzyl ester

■ CAS-No. 140-11-4 ■ EC-No. 205-399-7

■ Refractive index 1.5006 (20 °C, 589 nm)

■ Vapour pressure 1 hPa (45 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive  
 limit 0.9 - 8.4 % (V) ■ Flash point 95 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) slightly soluble ■ M = 150.17 g/mol  
 ■ Melting point -51 °C  
 ■ Boiling point 205 - 207 °C  
 ■ Ignition temp. 460 °C  
 ■ WGK 1  
 ■ LD50 oral rat 2490 mg/kg  
 ■ LGK 10

■ HS-No. 2915 39 00 ■ Disposal 3

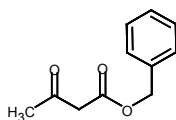
**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,055 - 1,056  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03181.0100	Glass bottle	100 ml	inquire
8.03181.1000	Glass bottle	1 l	inquire

# Benzyl

## 814526 Benzyl acetoacetate for synthesis



C<sub>11</sub>H<sub>12</sub>O<sub>3</sub>  
Benzyl 2-oxobutanoate

- CAS-No. 5396-89-4 ■ EC-No. 226-416-4
- Spec. density 1.11 g/cm<sup>3</sup> (20 °C)
- Flash point 108 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 192.21 g/mol
- Boiling point 276 °C
- WGK 1
- LD50 oral rat 2600 mg/kg
- LGK 10

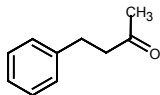
- HS-No. 2918 30 00 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 96,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,115 - 1,117  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14526.0100	Glass bottle	100 ml	inquire

## 801521 Benzylacetone for synthesis



C<sub>10</sub>H<sub>12</sub>O  
C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>COCH<sub>3</sub>  
4-Phenyl-2-butanone  
■ CAS-No. 2550-26-7 ■ EC-No. 219-847-4

- Refractive index 1.5122 (20 °C, 589 nm)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 148.2 g/mol
- Boiling point 235 °C
- WGK 1
- LD50 oral rat 3200 mg/kg
- LGK 10
- HS-No. 2914 39 00 ■ Disposal 3

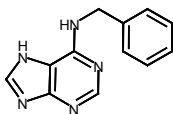
### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,986 - 0,988  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01521.0250	Glass bottle	250 ml	inquire

Benzylacetonitrile → 3-Phenylpropionitrile page 1312

## 101701 N<sup>6</sup>-Benzyladenine for biochemistry



C<sub>12</sub>H<sub>11</sub>N<sub>5</sub>  
■ CAS-No. 1214-39-7 ■ EC-No. 214-927-5

- M = 225.25 g/mol ■ Melting point 230 - 234 °C
  - WGK 1
  - HS-No. 2933 59 95 ■ Disposal 3
- Factor in plant cell division.

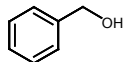
Absorption maximum (buffer pH 2.0) 271 - 278 nm  
Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.0005 %; buffer pH 2.0) ..... 830 - 870

### Specification

Assay (HPLC) ..... ≥ 99 %  
Identity (IR-spectrum) ..... passes test  
Melting point ..... 230 - 234 °C

Ord.No.	Packaging	Quantity	Price
1.01701.0005	Glass bottle	5 g	inquire
1.01701.0025	Glass bottle	25 g	inquire

## Benzyl alcohol



C<sub>7</sub>H<sub>8</sub>O  
C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>OH  
Phenylcarbinol  
■ CAS-No. 100-51-6 ■ EC-No. 202-859-9  
■ Refractive index 1.54 ■ Vapour

- pressure 0.03 hPa (20 °C) ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 13 % (V)
- Flash point 101 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 40 g/l (20 °C) ■ M = 108.14 g/mol
- pH value (H<sub>2</sub>O) no data available
- Melting point -15.3 °C ■ Boiling point 205 °C (1013 hPa) ■ Water absorption 1000 g/kg
- Ignition temp. 435 °C DIN 51794
- WGK 1

- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P304 + P340
- LC50 rat 8.8 mg/l
- LD50 oral rat 1230 mg/kg ■ LD50 dermal rabbit 2000 mg/kg
- EC-Index-No. 603-057-00-5 ■ LGK 10 - 13
- HS-No. 2906 21 00 ■ Disposal 3



## 822259 Benzyl alcohol for synthesis

### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.045 - 1.046  
Water (K. F.) ..... ≤ 0.10 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22259.0100	Glass bottle	100 ml	inquire
8.22259.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.22259.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.22259.9025	Steel barrel	25 l	inquire

## 109626 Benzyl alcohol for analysis EMSURE®

### Specification

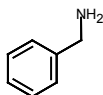
Purity (GC) ..... ≥ 99.5 %  
Identity (IR) ..... conforms  
Colour ..... ≤ 10 Hazen  
Acidity ..... ≤ 0.001 meq/g  
Alkalinity ..... ≤ 0.002 meq/g  
Benzaldehyde (GC) ..... ≤ 0.1 %  
Halogen compounds, halides (as Cl) ..... ≤ 0.001 %  
Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.001 %  
Sulfated ash ..... ≤ 0.005 %  
Water ..... ≤ 0.1 %  
Al (Aluminium) ..... ≤ 0.00005 %

B (Boron) ..... ≤ 0.000002 %  
Ba (Barium) ..... ≤ 0.00001 %  
Ca (Calcium) ..... ≤ 0.00005 %  
Cd (Cadmium) ..... ≤ 0.000005 %  
Co (Cobalt) ..... ≤ 0.000002 %  
Cr (Chromium) ..... ≤ 0.000002 %  
Cu (Copper) ..... ≤ 0.000002 %  
Fe (Iron) ..... ≤ 0.00001 %  
Mg (Magnesium) ..... ≤ 0.00001 %  
Mn (Manganese) ..... ≤ 0.000002 %  
Ni (Nickel) ..... ≤ 0.000002 %

Pb (Lead) ..... ≤ 0.00001 %  
Sn (Tin) ..... ≤ 0.00001 %  
Zn (Zinc) ..... ≤ 0.00001 %

Ord.No.	Packaging	Quantity	Price
1.09626.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09626.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09626.4000	Glass bottle	4 l	inquire
1.09626.6025	Drum stainl. st.	25 l	inquire

## 801812 Benzylamine for synthesis

C<sub>7</sub>H<sub>9</sub>NC<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>NH<sub>2</sub>

Phenylmethylamine

- CAS-No. 100-46-9 ■ EC-No. 202-854-1
- Refractive index 1.5438 (20 °C, 589 nm)
- Vapour pressure 1.2 hPa (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 8.2 % (V) ■ Flash point 72 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 107.15 g/mol
- pH value 11.4 (100 g/l, H<sub>2</sub>O, 20 °C)

- Melting point -42.8 °C ■ Boiling point 185 °C
- Ignition temp. 405 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 552 mg/kg ■ LD50 dermal rat 1350 mg/kg
- EC-Index-No. 612-047-00-X ■ LGK 8A
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(BENZYLAMIN), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE,

N.O.S.(BENZYLAMINE), 8, II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(BENZYLAMINE), 8, II

## Specification

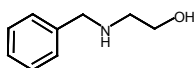
Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,982 - 0,983  
 Water (K. F.) ..... ≤ 0,20 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01812.0100	Glass bottle	100 ml	inquire
8.01812.0500	Glass bottle	500 ml	inquire
8.01812.1000	Glass bottle	1 l	inquire

Benzylamine hydrochloride → Benzylammonium chloride page 447

4-(Benzylaminoazo)phenoxyethyl polystyrene → page 282

## 802198 2-(Benzylamino) ethanol for synthesis

C<sub>9</sub>H<sub>13</sub>NOC<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>NHCH<sub>2</sub>CH<sub>2</sub>OH

N-Benzylethanolamine

- CAS-No. 104-63-2 ■ EC-No. 203-221-2
- Refractive index 1.5435 (20 °C, 589 nm)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C)

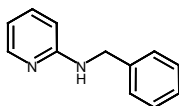
- Flash point 130 °C ■ Solub. in H<sub>2</sub>O 162 g/l (25 °C) (calculated) ■ M = 151.21 g/mol
- Melting point -30 °C ■ Boiling point 240 °C
- Ignition temp. 147 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 19 85 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,054 - 1,055  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02198.0250	Glass bottle	250 ml	inquire

## 814831 2-(Benzylamino) pyridine for synthesis

C<sub>12</sub>H<sub>12</sub>N<sub>2</sub>

■ CAS-No. 6935-27-9 ■ EC-No. 230-060-5

■ Flash point 153 °C ■ Solub. in

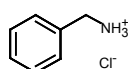
- H<sub>2</sub>O (20 °C) practically insoluble ■ M = 184.24 g/mol
- Melting point 93 - 94 °C
- Boiling point 181 - 182 °C (16 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 92 °C  
 Melting range (upper value) ..... ≤ 95 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14831.0050	Glass bottle	50 g	inquire

## 818228 Benzylammonium chloride for synthesis

C<sub>7</sub>H<sub>10</sub>ClNC<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>NH<sub>2</sub> \* HCl

Benzylamine hydrochloride

- CAS-No. 3287-99-8 ■ EC-No. 221-943-6

- Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 143.61 g/mol ■ Ignition temp. 260 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

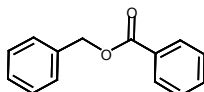
Assay (argentometric) ..... ≥ 98,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18228.0100	Plastic bottle	100 g	inquire

N-Benzylaniline → N-Phenylbenzylamine page 1298

Benzylbenzene → Diphenylmethane page 818

## 818701 Benzyl benzoate for synthesis

C<sub>14</sub>H<sub>12</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>COOCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>

Benzoic acid benzyl ester

- CAS-No. 120-51-4 ■ EC-No. 204-402-9
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- Flash point 158 °C ■ Solub. in H<sub>2</sub>O 0.0153 g/l (20 °C) ■ M = 212.24 g/mol ■ Melting point 21 °C

- Boiling point 324 °C (1013 hPa)
- Ignition temp. 480 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 1904 mg/kg ■ LD50 dermal rabbit 4000 mg/kg
- EC-Index-No. 607-085-00-9 ■ LGK 10 - 13
- HS-No. 2916 31 00 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(BENZYLBEZOAT), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS

SUBSTANCE, LIQUID, N.O.S.(BENZYL BENZOATE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(BENZYL BENZOATE), 9, III

## Specification

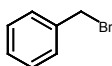
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.117 - 1.119  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18701.0100	Glass bottle	100 ml	inquire
8.18701.1000	Glass bottle	1 l	inquire



# Benzyl

## 801815 Benzyl bromide for synthesis



C<sub>7</sub>H<sub>7</sub>Br  
C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>Br  
*α*-Bromotoluene  
■ CAS-No. 100-39-0 ■ EC-No. 202-847-3  
■ Refractive index 1.5752 (20 °C, 589 nm)  
■ Vapour pressure 0.5 hPa (20 °C)  
■ Spec. density 1.44 g/cm<sup>3</sup> (20 °C)  
■ Flash point 87 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow

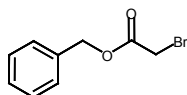
decomposition) ■ M = 171.03 g/mol  
■ Melting point -4 °C ■ Boiling point 198 °C (1013 hPa)  
■ WGK 2  
■ GHS: Warning, Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H335, P305 + P351 + P338, P302 + P352  
■ EC-Index-No. 602-057-00-2 ■ LGK 10  
■ HS-No. 2903 99 90 ■ Disposal 3  
■ ADR-RID UN 1737 Benzylbromid, 6.1 (8), II  
■ IMDG-Code UN 1737 BENZYL BROMIDE, 6.1 (8),

II, Segregation Group: 1 (Acids), 10 (Liquid halogenated hydrocarbons)  
■ IATA-DGR UN 1737 BENZYL BROMIDE, 6.1 (8), II

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,437 - 1,440  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01815.0100	Glass bottle	100 ml	inquire
8.01815.0250	Glass bottle	250 ml	inquire

## 820195 Benzyl bromoacetate for synthesis



C<sub>9</sub>H<sub>9</sub>BrO<sub>2</sub>  
BrCH<sub>2</sub>COOCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>  
*Bromoacetic acid benzyl ester*  
■ CAS-No. 5437-45-6 ■ EC-No. 226-611-4  
■ Refractive index 1.5412 (25 °C, 589 nm)  
■ Spec. density 1.46 g/cm<sup>3</sup> (20 °C)  
■ Flash point 113 °C ■ Solub. in

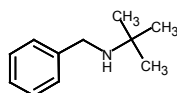
H<sub>2</sub>O (20 °C) insoluble ■ M = 229.07 g/mol  
■ Boiling point 130 - 135 °C (11 hPa)  
■ WGK 3  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 6.1A  
■ HS-No. 2915 90 70 ■ Disposal 3  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(BENZYL-BROMOACETAT), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(BENZYL BROMOACETATE), 6.1, II  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(BENZYL BROMOACETATE), 6.1, II

**Specification**  
Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.450 - 1.460  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20195.0100	Glass bottle	100 ml	inquire

## 818660 N-Benzyl-tert-butylamine for synthesis



C<sub>11</sub>H<sub>17</sub>N  
C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>NHC(CH<sub>3</sub>)<sub>3</sub>  
*N-tert-Butylbenzylamine*  
■ CAS-No. 3378-72-1 ■ EC-No. 222-179-6  
■ Refractive index 1.4968 (20 °C, 589 nm)  
■ Vapour pressure 0.07 hPa (53 °C)  
■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C)  
■ Flash point 90 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C)  
■ M = 163.26 g/mol ■ Melting point -30 - -25 °C

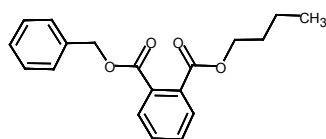
■ Boiling point 218 - 220 °C  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 400 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
■ LGK 8A  
■ HS-No. 2921 49 00 ■ Disposal 3  
■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(N-BENZYL-TERT-BUTYLAMIN), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(N-BENZYL-TERT-BUTYLAMINE), 8, II,

Segregation Group: 18 (Alkalis)  
■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(N-BENZYL-TERT-BUTYLAMINE), 8, II

**Specification**  
Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.895 - 0.897  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18660.0005	Glass bottle	5 ml	inquire
8.18660.0250	Glass bottle	250 ml	inquire

## 821030 Benzyl butyl phthalate for synthesis



C<sub>19</sub>H<sub>20</sub>O<sub>4</sub>  
*BBP, Phthalic acid benzyl butyl ester*  
■ CAS-No. 85-68-7 ■ EC-No. 201-622-7  
■ Refractive index 1.534 (25 °C, 589 nm) ■ Vapour pressure < 0.01 hPa (110 °C)  
■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 % (V) ■ Flash point 215 °C ■ Solub. in H<sub>2</sub>O 3.7 mg/l (25 °C) ■ M = 312.36 g/mol

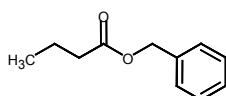
■ pH value < 7 (H<sub>2</sub>O, 20 °C) ■ Melting point - 35 °C ■ Boiling point 235 - 255 °C (13 hPa)  
■ Ignition temp. 425 °C  
■ WGK 3  
■ GHS: Danger, Reproductive toxicity, Category 1B, H360DF; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P308 + P313  
■ LC50 rat > 6.7 mg/l  
■ LD50 oral rat 2330 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg  
■ EC-Index-No. 607-430-00-3 ■ LGK 6.1 C  
■ HS-No. 2917 34 00 ■ Disposal 9  
■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(BENZYL-BUTYLPHTHALAT), 9, III

■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(BENZYL BUTYL PHTHALATE), 9, III, Marine Pollutant: P  
■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(BENZYL BUTYL PHTHALATE), 9, III

**Specification**  
Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.119 - 1.121  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21030.0100	Plastic bottle	100 ml	inquire
8.21030.1000	Plastic bottle	1 l	inquire

## 816125 Benzyl butyrate for synthesis



C<sub>11</sub>H<sub>14</sub>O<sub>2</sub>  
■ CAS-No. 103-37-7 ■ EC-No. 203-105-1  
■ Vapour pressure 11.97 hPa (109 °C)

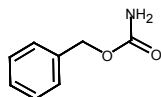
■ Spec. density 1.01 g/cm<sup>3</sup> ■ Flash point 107 °C  
■ Solub. in H<sub>2</sub>O (20 °C) low ■ M = 178.23 g/mol  
■ Boiling point 235 - 242 °C (1013 hPa)  
■ WGK 2  
■ LD50 oral rat 2330 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2915 60 19 ■ Disposal 3

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,005 - 1,010  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16125.0100	Glass bottle	100 ml	inquire
8.16125.0500	Glass bottle	500 ml	inquire



## 841301 Benzyl carbamate for synthesis



C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>  
Carbamic acid benzyl ester

- CAS-No. 621-84-1 ■ EC-No. 210-710-4
- M = 151.16 g/mol ■ Melting point 88 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

**Specification**

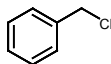
Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)

Melting range (lower value) ..... ≥ 86 °C  
Melting range (upper value) ..... ≤ 89 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41301.0025	Plastic bottle	25 g	inquire

Benzylcarbinol → 2-Phenylethanol page 307

## Benzyl chloride



C<sub>7</sub>H<sub>7</sub>Cl  
C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>Cl  
■ CAS-No. 100-44-7 ■ EC-No. 202-853-6  
■ Refractive index 1.5415 ■ Vapour pressure 1.2 hPa (20 °C) ■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 14 % (V)  
■ Flash point 67 °C ■ Solub. in H<sub>2</sub>O 460 mg/l (30 °C) ■ M = 126.58 g/mol ■ pH value (H<sub>2</sub>O) not

applicable ■ Melting point -41.2 °C  
■ Boiling point 179.3 °C (1013 hPa)  
■ Ignition temp. 585 °C  
■ WGK 3  
■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P201, P309 + P310, P305 + P351 + P338

■ LC50 rat 0.74 mg/l  
■ LD50 oral rat 440 mg/kg  
■ EC-Index-No. 602-037-00-3 ■ LGK 6.1A  
■ HS-No. 2903 99 90 ■ Disposal 9  
■ ADR-RID UN 1738 Benzylchlorid, 6.1 (8), II  
■ IMDG-Code UN 1738 BENZYL CHLORIDE, 6.1 (8), II, Segregation Group: 1 (Acids), 10 (Liquid halogenated hydrocarbons)  
■ IATA-DGR UN 1738 BENZYL CHLORIDE, 6.1 (8), II



## 801809 Benzyl chloride for synthesis

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,099 - 1,100  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01809.0100	Glass bottle	100 ml	inquire
8.01809.1000	Glass bottle	1 l	inquire
8.01809.2500	Glass bottle	2.5 l	inquire

## 845024 Benzyl chloride for pharma synthesis, non-GMP

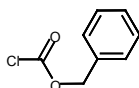
**Specification**

Colour (visual) ..... colourless  
Appearance of substance (visual) ..... clear  
Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,099 - 1,100  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45024.0100	Glass bottle	100 ml	inquire
8.45024.2500	Glass bottle	2.5 l	inquire

Benzyl chlorocarbonate → Benzyl chloroformate page 449

## 814688 Benzyl chloroformate (stabilised) for synthesis



C<sub>8</sub>H<sub>7</sub>ClO<sub>2</sub>  
Benzyl chlorocarbonate, Carbonochloride acid benzylester

- CAS-No. 501-53-1 ■ EC-No. 207-925-0
- Vapour pressure 1 hPa (20 °C)
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C)
- Flash point 92 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)
- M = 170.59 g/mol ■ pH value (H<sub>2</sub>O) acidic
- Melting point -18 °C

■ Boiling point 178 - 180 °C (1013 hPa)  
■ Ignition temp. 590 °C  
■ WGK 3  
■ GHS: Danger, Skin corrosion, Category 1B, H314; Carcinogenicity, Category 1B, H350; Specific target organ toxicity - single exposure, Category 3, H335; Chronic aquatic toxicity, Category 1, H410; Acute aquatic toxicity, Category 1, H400, P201, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 3000 mg/kg  
■ EC-Index-No. 607-064-00-4 ■ LGK 6.1 C  
■ Store at +2°C to +8°C.  
■ HS-No. 2915 90 70 ■ Disposal 11  
■ ADR-RID UN 1739 Benzylchlorformiat, 8, I

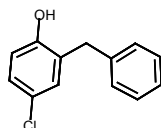
■ IMDG-Code UN 1739 BENZYL CHLOROFORMATE, 8, I, Marine Pollutant: P, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1739 BENZYL CHLOROFORMATE, 8, I

**Specification**

Assay (acidimetric) ..... ≥ 96,0 % (m)  
Density (d 20 °C/ 4 °C) ..... 1,205 - 1,215  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14688.0250	Glass bottle	250 ml	inquire

## 840016 2-Benzyl-4-chlorophenol for synthesis



C<sub>13</sub>H<sub>11</sub>ClO  
Chlorophene  
■ CAS-No. 120-32-1 ■ EC-No. 204-385-8  
■ Vapour pressure 0.1 hPa (100 °C)  
■ Spec. density 1.2 g/cm<sup>3</sup> (20 °C)  
■ Flash point 188 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 218.69 g/mol ■ pH value 5.3 (H<sub>2</sub>O, 22.5 °C) (saturated aqueous solution)

■ Melting point 44 - 47 °C ■ Bulk density 150 kg/m<sup>3</sup> ■ Boiling point 327 °C ■ Ignition temp. 490 °C  
■ WGK 2  
■ GHS: Danger, Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P273, P280, P305 + P351 + P338, P313  
■ LD50 oral rat 5000 mg/kg ■ LD50 dermal rat >= 2500 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2908 19 00 ■ Disposal 3  
■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2-BENZYL-4-CHLORPHENOL), 9, III  
■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-

BENZYL-4-CHLOROPHENOL), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-BENZYL-4-CHLOROPHENOL), 9, III

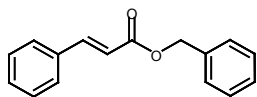
**Specification**

Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
Melting range (lower value) ..... ≥ 44 °C  
Melting range (upper value) ..... ≤ 47 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40016.0026	Glass bottle	25 g	inquire
8.40016.0100	Glass bottle	100 g	inquire

# Benzyl

## 800239 Benzyl cinnamate for synthesis



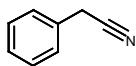
$C_{16}H_{14}O_2$   
**Benzyl trans-3-phenylpropenoate**  
 ■ CAS-No. 103-41-3 ■ EC-No. 203-109-3  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 1.109 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 180 °C ■ Solub. in H<sub>2</sub>O < 10 mg/l (20 °C) ■ M = 238.29 g/mol ■ Melting point 34 °C

■ Boiling point 350 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Chronic aquatic toxicity, Category 2, H411, P273  
 ■ LD50 oral rat 5530 mg/kg ■ LD50 dermal rabbit > 3000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(BENZYL CINNAMAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(BENZYL CINNAMATE),

9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(BENZYL CINNAMATE), 9, III  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 33 °C  
 Melting range (upper value)..... ≤ 36 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00239.0250	Glass bottle	250 g	inquire

## 801811 Benzyl cyanide for synthesis



$C_8H_7N$   
 $C_6H_5CH_2CN$   
**Phenylacetonitrile, α-Tolunitrile**  
 ■ CAS-No. 140-29-4 ■ EC-No. 205-410-5  
 ■ Refractive index 1.523 (20 °C, 589 nm) ■ Vapour pressure 0.2 hPa (20 °C) ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Flash point 102 °C ■ Solub. in H<sub>2</sub>O 1.7 g/l (20 °C) ■ M = 117.15 g/mol  
 ■ Melting point -24 °C ■ Boiling point 234 °C

■ Ignition temp. 590 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LC50 rat 0.215 mg/l  
 ■ LD50 oral rat 270 mg/kg ■ LD50 dermal rabbit 270 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2926 90 95 ■ Disposal 9  
 ■ ADR-RID UN 2470 Phenylacetonitril, flüssig, 6.1,

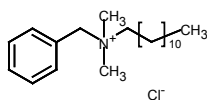
III ■ IMDG-Code UN 2470 PHENYLACETONITRILE, LIQUID, 6.1, III  
 ■ IATA-DGR UN 2470 PHENYLACETONITRILE, LIQUID, 6.1, III  
**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,015 - 1,017  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01811.0100	Glass bottle	100 ml	inquire
8.01811.0500	Glass bottle	500 ml	inquire

Benzyl dimethylalkylammonium chloride → page 363

N-Benzyl dimethylamine → N,N-Dimethylbenzylamine page 784

## 843863 N-Benzyl-N,N-dimethyldodecylammonium chloride for synthesis



$C_{21}H_{38}N^+Cl^-$   
 ■ CAS-No. 139-07-1 ■ EC-No. 205-351-5  
 ■ M = 339.99 g/mol ■ Melting point 60 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute aquatic

toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 400 mg/kg  
 ■ EC-Index-No. 612-140-00-5 ■ LGK 8A  
 ■ HS-No. 2923 90 00 ■ Disposal 3  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(N-BENZYL-N,N-DIMETHYLDODECYLAMMONIUMCHLORID), 8, II  
 ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(N-BENZYL-N,N-DIMETHYLDODECYLAMMONIUM CHLORIDE), 8, II

■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(N-BENZYL-N,N-DIMETHYLDODECYLAMMONIUM CHLORIDE), 8, II  
**Specification**  
 Assay (argentometric)..... ≥ 94,0 %  
 Identity (IR)..... passes test

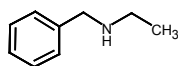
Ord.No.	Packaging	Quantity	Price
8.43863.0025	Glass bottle	25 g	inquire
8.43863.0100	Glass bottle	100 g	inquire

Benzyl dimethylmyristylammonium chloride → Alkyl-N,N-dimethyl-N-benzylammonium chloride page 363

N-Benzylethanolamine → 2-(Benzylamino) ethanol page 447

Benzyl ether → Dibenzyl ether page 300

## 841756 N-Benzylethylamine for synthesis



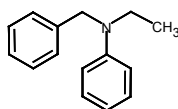
$C_9H_{13}N$   
**N-Ethylbenzylamine**  
 ■ CAS-No. 14321-27-8 ■ EC-No. 238-265-1  
 ■ Spec. density 0.924 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 66 °C ■ M = 135.21 g/mol  
 ■ Boiling point 191 - 194 °C  
 ■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2921 49 00 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(N-BENZYLETHYLAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(N-BENZYLETHYLAMINE), 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(N-BENZYLETHYLAMINE), 8, III  
**Specification**  
 Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,922 - 0,926  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41756.0050	Glass bottle	50 ml	inquire

## 820040 N-Benzyl-N-ethylaniline for synthesis



$C_{15}H_{17}N$   
 $C_6H_5CH_2N(C_2H_5)C_6H_5$   
**N-Ethyl-N-benzylaniline**  
 ■ CAS-No. 92-59-1 ■ EC-No. 202-169-8  
 ■ Refractive index 1.5953 (20 °C, 589 nm)  
 ■ Vapour pressure 0.00013 hPa (20 °C)

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 157 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 211.31 g/mol  
 ■ Boiling point 173 °C (16 hPa)  
 ■ Ignition temp. 310 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352  
 ■ LGK 10  
 ■ HS-No. 2921 49 00 ■ Disposal 3  
 ■ ADR-RID UN 2274 n-Ethyl-n-benzylanilin, 6.1,

III ■ IMDG-Code UN 2274 N-ETHYL-N-BENZYLANILINE, 6.1, III  
 ■ IATA-DGR UN 2274 N-ETHYL-N-BENZYLANILINE, 6.1, III  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.028 - 1.030  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20040.0100	Glass bottle	100 ml	inquire
8.20040.0500	Glass bottle	500 ml	inquire

**824490 (S)-(-)-2-O-Benzylglycinaldehyde for synthesis**C<sub>10</sub>H<sub>12</sub>O<sub>3</sub>

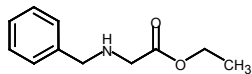
- CAS-No. 129492-58-6
- Spec. density 1.149 g/cm<sup>3</sup> ■ Flash point 117 °C
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 180.20 g/mol
- WGK 3

- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

**Specification**

Assay (ex C, H, O) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24490.0500	Glass bottle	500 mg	inquire

**843848 N-Benzylglycine ethyl ester for synthesis**C<sub>11</sub>H<sub>15</sub>NO<sub>2</sub>

- CAS-No. 6436-90-4 ■ EC-No. 229-218-6
- Spec. density 1.04 g/cm<sup>3</sup> (20 °C)

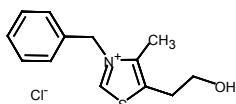
- Flash point 112 °C
- M = 193.25 g/mol
- WGK 3
- LGK 10
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 96.0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 1.045 - 1.053  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43848.0010	Glass bottle	10 ml	inquire
8.43848.0050	Glass bottle	50 ml	inquire

**818142 3-Benzyl-5-(2-hydroxyethyl)-4-methylthiazolium chloride for synthesis**C<sub>13</sub>H<sub>16</sub>ClNOS

- CAS-No. 4568-71-2 ■ EC-No. 224-947-6

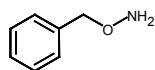
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 269.79 g/mol
- Melting point 140 - 143 °C
- Bulk density 30 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2934 10 00 ■ Disposal 3

**Specification**

Assay (argentometric) ..... ≥ 99.0 % (m)

Melting range (lower value) ..... ≥ 141 °C  
 Melting range (upper value) ..... ≤ 144 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18142.0010	Glass bottle	10 g	inquire

**820617 O-Benzylhydroxylamine for synthesis**C<sub>7</sub>H<sub>9</sub>NO

- CAS-No. 622-33-3
- Vapour pressure 2.09 hPa (58 °C)
- Spec. density 1.064 g/cm<sup>3</sup> (23 °C)
- Flash point 91.5 °C ■ Kin. viscosity 3.34 mm<sup>2</sup>/s (23 °C) ■ Solub. in H<sub>2</sub>O 47 g/l (15 °C)
- M = 123.16 g/mol ■ pH value 8 (47 g/l, H<sub>2</sub>O)
- Boiling point 49 °C (1 hPa)

- Ignition temp. 260 °C DIN 51794
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2928 00 90
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(O-BENZYLHYDROXYLAMIN), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(O-BENZYLHYDROXYLAMINE), 8, II,

Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(O-BENZYLHYDROXYLAMINE), 8, II

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.062 - 1.066  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20617.0010	Glass bottle	10 ml	inquire

**820618 O-Benzylhydroxylamine hydrochloride for synthesis**C<sub>7</sub>H<sub>10</sub>ClNOC<sub>7</sub>H<sub>9</sub>NO\*HCl

- CAS-No. 2687-43-6 ■ EC-No. 220-249-0
- M = 159.61 g/mol
- WGK 1
- GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Skin

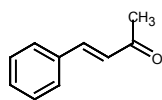
- sensitisation, Category 1, H317, P262, P280, P302 + P352, P305 + P351 + P338, P313
- LGK 10 - 13
- HS-No. 2928 00 90

**Specification**

Assay (argentometric) ..... ≥ 99.0 %

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20618.0010	Glass bottle	10 g	inquire

**801516 Benzylideneacetone for synthesis**C<sub>10</sub>H<sub>10</sub>O

4-Phenyl-3-buten-2-one, Methyl styryl ketone, Benzalacetone

- CAS-No. 122-57-6 ■ EC-No. 204-555-1
- Vapour pressure < 0.1 hPa (20 °C)

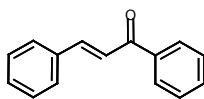
- Spec. density 1.008 g/cm<sup>3</sup> (47 °C)
- Flash point 116 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 1.3 g/l (20 °C) ■ M = 146.19 g/mol
- Melting point 38 - 41 °C ■ Boiling point 261 °C (1013 hPa)
- WGK 1
- GHS: Warning, Skin sensitisation, Category 1, H317, P262, P280, P302 + P352
- LD50 oral rat 2031 mg/kg
- LGK 10 - 13 ■ Store below +15°C.

- HS-No. 2914 39 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Melting range (lower value) ..... ≥ 38 °C  
 Melting range (upper value) ..... ≤ 41 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01516.0250	Glass bottle	250 g	inquire

**801580 Benzylideneacetophenone for synthesis**C<sub>15</sub>H<sub>12</sub>OC<sub>6</sub>H<sub>5</sub>CH=CHCOC<sub>6</sub>H<sub>5</sub>

Benzalacetophenone, Chalcone, Phenyl styryl

ketone

- CAS-No. 94-41-7 ■ EC-No. 202-330-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 208.25 g/mol
- Melting point 53 - 56 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2914 39 00 ■ Disposal 3

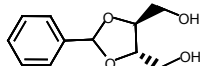
**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 55 °C  
 Melting range (upper value) ..... ≤ 58 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.01580.0100	Plastic bottle	100 g	inquire

# Benzyl

## 814156 (-)-2,3-O-Benzylidene-L-threitol for synthesis



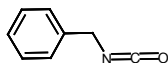
C<sub>11</sub>H<sub>14</sub>O<sub>4</sub>  
*(R)-(-)-2-Phenyl-1,3-dioxolane-4,5-dimethanol*  
 ■ CAS-No. 58383-35-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 210.23 g/l

mol ■ Melting point 65 - 68 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 99 00 ■ Disposal 3  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 97,0 Area %  
 Acute toxicity, Category 2, Inhalation, H330, P210, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310, P342 + P311  
 Melting range (lower value) ..... ≥ 65 °C  
 Melting range (upper value) ..... ≤ 68 °C

Spec. rotation [ $\alpha$ '<sub>D</sub> (c=2 in methanol).....  
 ..... -11,0 - -9,0 °  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14156.0001	Glass bottle	1 g	inquire

## 841372 Benzyl isocyanate for synthesis



C<sub>8</sub>H<sub>7</sub>NO  
*Isocyanic acid benzyl ester*  
 ■ CAS-No. 3173-56-6 ■ EC-No. 221-640-9  
 ■ Spec. density 1.078 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 45 °C ■ M = 133.14 g/mol  
 ■ Boiling point 53 - 54 °C (1.1 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Specific target organ toxicity - single

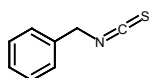
exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334; Acute toxicity, Category 2, Inhalation, H330, P210, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310, P342 + P311  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2929 10 00 ■ Disposal 11  
 ■ ADR-RID UN 3080 Isocyanate, giftig, entzündbar, n.a.g.(BENZYLISOCYANAT), 6.1 (3), II  
 ■ IMDG-Code UN 3080 ISOCYANATES, TOXIC, FLAMMABLE, N.O.S.(BENZYL ISOCYANATE), 6.1 (3), II

■ IATA-DGR UN 3080 ISOCYANATES, TOXIC, FLAMMABLE, N.O.S.(BENZYL ISOCYANATE), 6.1 (3), II

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....1.083 - 1.088  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41372.0005	Glass bottle	5 ml	inquire

## 843250 Benzyl isothiocyanate for synthesis



C<sub>8</sub>H<sub>7</sub>NS  
 ■ CAS-No. 622-78-6 ■ EC-No. 210-753-9  
 ■ Spec. density 1.084 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 106 °C ■ Solub. in H<sub>2</sub>O 0.1 g/l (25 °C) ■ M = 149.22 g/mol ■ Melting point 41 °C  
 ■ Boiling point 255 - 260 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400;

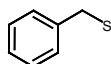
Chronic aquatic toxicity, Category 1, H410; Specific target organ toxicity - single exposure, Category 3, H335; Respiratory sensitisation, Category 1, H334; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Eye irritation, Category 2, H319, P260, P262, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310, P342 + P311  
 ■ LGK 6.1A  
 ■ HS-No. 2930 90 99 ■ Disposal 9  
 ■ ADR-RID UN 2206 Isocyanate, giftig, n.a.g.(BENZYLISOTHIOCYANAT), 6.1, II ■ IMDG-Code UN 2206 ISOCYANATES, TOXIC,

N.O.S.(BENZYL ISOTHIOCYANATE), 6.1, II  
 ■ IATA-DGR UN 2206 ISOCYANATES, TOXIC, N.O.S.(BENZYL ISOTHIOCYANATE), 6.1, II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.43250.0005	Glass bottle	5 ml	inquire
8.43250.0025	Glass bottle	25 ml	inquire

Benzylmalonic acid diethyl ester → Diethyl benzylmalonate page 740

## 802226 Benzyl mercaptan for synthesis



C<sub>7</sub>H<sub>8</sub>S  
 C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>SH  
*Thiobenzyl alcohol,  $\alpha$ -Toluenethiol*  
 ■ CAS-No. 100-53-8 ■ EC-No. 202-862-5  
 ■ Refractive index 1.5751 (20 °C, 589 nm)  
 ■ Vapour pressure 0.5 hPa (20 °C)  
 ■ Spec. density 1.055 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 % (V) ■ Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 124.2 g/l

mol ■ Melting point -29.2 °C  
 ■ Boiling point 193 - 195 °C (1013 hPa)  
 ■ Ignition temp. 270 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P260, P262, P273  
 ■ LD50 oral rat 493 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(BENZYL MERCAPTAN), 9, III ■ IMDG-

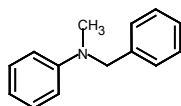
Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(BENZYL MERCAPTAN), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(BENZYL MERCAPTAN), 9, III

**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) .....1,054 - 1,056  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.02226.0250	Glass bottle	250 ml	inquire

N-Benzylmethylamine → N-Methylbenzylamine page 1136

## 840106 N-Benzyl-N-methylaniline for synthesis



C<sub>14</sub>H<sub>15</sub>N  
*Benzylmethylphenyl amine*  
 ■ CAS-No. 614-30-2 ■ EC-No. 210-375-4  
 ■ Spec. density 1.046 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 152 °C ■ Solub. in H<sub>2</sub>O 0.009 g/l

(20 °C) ■ M = 197.28 g/mol ■ Melting point 8 °C  
 ■ Boiling point 311 °C (1013 hPa)  
 ■ Ignition temp. 450 °C DIN 51794  
 ■ WGK 2  
 ■ LD50 oral rat 2130 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2921 49 00 ■ Disposal 3  
 ■ ADR-RID UN 1602 Farbstoffzwischenprodukt, flüssig, giftig, n.a.g.(N-BENZYL-N-METHYLANILIN), 6.1, III ■ IMDG-Code UN 1602 DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.(N-BENZYL-

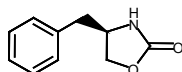
N-METHYLANILINE), 6.1, III  
 ■ IATA-DGR UN 1602 DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.(N-BENZYL-N-METHYLANILINE), 6.1, III

**Specification**  
 Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....1,042 - 1,046  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.40106.0025	Glass bottle	25 ml	inquire

Benzylmethylphenyl amine → N-Benzyl-N-methylaniline page 452

## 814642 (R)-(+)-4-Benzyl-2-oxazolidinone for synthesis

C<sub>10</sub>H<sub>11</sub>NO<sub>2</sub>

- CAS-No. 102029-44-7
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 177.2 g/mol
- Melting point 86 - 88 °C
- WGK 3

- GHS: P260, P262
- LGK 10 - 13 ■ Store at -20°C to 0°C.
- HS-No. 2934 99 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

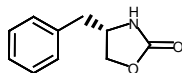
- Assay (GC, area%)..... ≥ 99,0 % (a/a)
- Melting range (lower value)..... ≥ 86 °C
- Melting range (upper value)..... ≤ 88 °C

Spec. rotation [α<sup>20</sup>/D (c=1 in methanol)..... 13,0 - 15,0 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14642.0001	Glass bottle	1 g	inquire
8.14642.0005	Glass bottle	5 g	inquire

## 814643 (S)-(-)-4-Benzyl-2-oxazolidinone for synthesis

C<sub>10</sub>H<sub>11</sub>NO<sub>2</sub>

- CAS-No. 90719-32-7
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 177.2 g/mol

- Melting point 86 - 88 °C
- WGK 3
- GHS: P260, P262
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

**Specification**

- Assay (GC, area%)..... ≥ 99,0 % (a/a)
- Melting range (lower value)..... ≥ 86 °C

Melting range (upper value)..... ≤ 88 °C

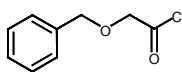
Spec. rotation [α<sup>20</sup>/D (c=1 in methanol)..... -15,0 - -13,0 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14643.0001	Glass bottle	1 g	inquire

Benzyl2-oxobutanoate → Benzyl acetoacetate page 446

## 841323 Benzoyloxyacetyl chloride for synthesis

C<sub>9</sub>H<sub>9</sub>ClO<sub>2</sub>

- CAS-No. 19810-31-2
- Spec. density 1.19 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) decomposes ■ M = 184.62 g/mol
- pH value (H<sub>2</sub>O, 20 °C) acidic
- Boiling point 84 - 87 °C (0.5 hPa)
- WGK 3
- GHS: Danger, Substances and mixtures, which in

contact with water, emit flammable gases, Category 1, H260; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310

- LGK 4.3 ■ Store below +15°C.
- HS-No. 2918 99 90 ■ Disposal 11
- ADR-RID UN 3129 Mit Wasser reagierender flüssiger Stoff, ätzend, n.a.g.(BENZYOXYACETYLCHLORID), 4.3 (8), I
- IMDG-Code UN 3129 WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.(BENZYOXYACETYL CHLORIDE), 4.3 (8), I, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3129 WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.(BENZYOXYACETYL CHLORIDE), 4.3 (8), I

**Specification**

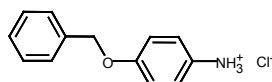
Assay (argentometric)..... ≥ 94,0 %

Density (d 20 °C/ 4 °C)..... 1.184 - 1.192

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41323.0001	Glass bottle	1 ml	inquire

## 841152 4-Benzoylanilinium chloride for synthesis

C<sub>13</sub>H<sub>14</sub>ClNO

- CAS-No. 51388-20-6 ■ EC-No. 257-170-6

- M = 235.71 g/mol
- Melting point 226 °C (decomposition)
- WGK 3
- LGK 10 - 13
- HS-No. 2922 29 00 ■ Disposal 3

**Specification**

Assay (argentometric)..... ≥ 98,0 %

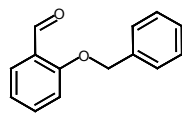
Melting range (lower value)..... ≥ 222 °C

Melting range (upper value)..... ≤ 226 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41152.0025	Plastic bottle	25 g	inquire

## 841289 2-Benzoyloxybenzaldehyde for synthesis

C<sub>14</sub>H<sub>12</sub>O<sub>2</sub>

- CAS-No. 5896-17-3
- M = 212.24 g/mol ■ Melting point 46 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)

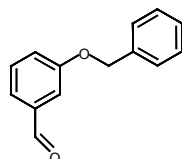
Melting range (lower value)..... ≥ 44 °C

Melting range (upper value)..... ≤ 47 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41289.0005	Glass bottle	5 g	inquire

## 816115 3-Benzoyloxybenzaldehyde for synthesis

C<sub>14</sub>H<sub>12</sub>O<sub>2</sub>

- CAS-No. 1700-37-4 ■ EC-No. 216-932-8
- M = 212.25 g/mol ■ Melting point 49 - 53 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97,0 Area %

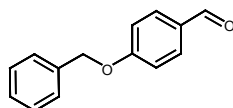
Melting range (lower value)..... ≥ 49 °C

Melting range (upper value)..... ≤ 53 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16115.0026	Glass bottle	25 g	inquire

## 818541 4-Benzoyloxybenzaldehyde for synthesis

C<sub>14</sub>H<sub>12</sub>O<sub>2</sub>4-(C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>O)C<sub>6</sub>H<sub>4</sub>CHO

- CAS-No. 4397-53-9 ■ EC-No. 224-527-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 212.24 g/mol
- Melting point 70 - 72 °C
- Boiling point 197 - 199 °C (15 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)

Melting range (lower value)..... ≥ 70 °C

Melting range (upper value)..... ≤ 73 °C

Identity (IR)..... passes test

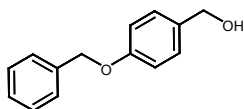
Ord.No.	Packaging	Quantity	Price
8.18541.0025	Plastic bottle	25 g	inquire



# Benzyl

4-Benzyloxybenzaldehyde polystyrene HL → page 267

## 841576 4-Benzyloxybenzyl alcohol for synthesis



- CAS-No. 836-43-1 ■ EC-No. 212-649-9
- M = 214.26 g/mol ■ Melting point 87 - 88 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2909 49 80 ■ Disposal 3

Melting range (lower value)..... ≥ 86 °C  
Melting range (upper value)..... ≤ 89 °C  
Identity (IR)..... passes test

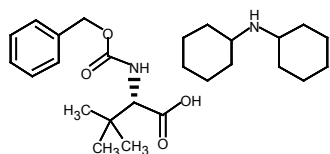
C<sub>14</sub>H<sub>14</sub>O<sub>2</sub>

**Specification**  
Assay (GC, area%)..... ≥ 97.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.41576.0010	Plastic bottle	10 g	inquire

N-(Benzyloxycarbonyl) glycine → page 250

## 824471 (-)-N-Benzyloxycarbonyl-L-tert-leucine dicyclohexyl ammonium salt for synthesis



- C<sub>14</sub>H<sub>19</sub>NO<sub>4</sub> \* C<sub>12</sub>H<sub>23</sub>N
- CAS-No. 62965-37-1
  - Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 446.62 g/mol ■ pH value 6.3 (H<sub>2</sub>O, 20 °C) (saturated solution) ■ Melting point 164 - 167 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2924 29 98 ■ Disposal 3

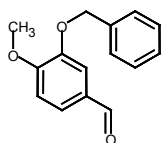
Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
Melting range (lower value)..... ≥ 164 °C  
Melting range (upper value)..... ≤ 167 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in methanol)..... -7.0 - -6.0 °  
Identity (IR)..... passes test

C<sub>26</sub>H<sub>42</sub>N<sub>2</sub>O<sub>4</sub>

**Specification**

Ord.No.	Packaging	Quantity	Price
8.24471.0500	Glass bottle	500 mg	inquire

## 842733 3-Benzyloxy-4-methoxybenzaldehyde for synthesis



- CAS-No. 6346-05-0 ■ EC-No. 228-752-7
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 242.28 g/mol ■ Melting point 61 - 64 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

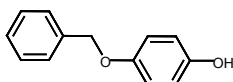
Melting range (lower value)..... ≥ 60 °C  
Melting range (upper value)..... ≤ 63 °C  
Identity (IR)..... passes test

C<sub>15</sub>H<sub>14</sub>O<sub>3</sub>

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.42733.0010	Glass bottle	10 g	inquire

## 841834 4-Benzyloxyphenol for synthesis



- H<sub>2</sub>O (20 °C) insoluble ■ M = 200.23 g/mol
- Melting point 117.9 - 121.5 °C
  - WGK 1
  - GHS: Warning, Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338
  - EC-Index-No. 604-043-00-1 ■ LGK 10 - 13
  - HS-No. 2909 50 00 ■ Disposal 3

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
Melting range (lower value)..... ≥ 118 °C  
Melting range (upper value)..... ≤ 121 °C  
Identity (IR)..... passes test

C<sub>13</sub>H<sub>12</sub>O<sub>2</sub>

Hydroquinone monobenzyl ether

- CAS-No. 103-16-2 ■ EC-No. 203-083-3
- Spec. density 1.26 g/cm<sup>3</sup> (20 °C) ■ Solub. in

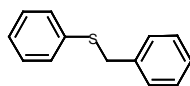
**Specification**

Ord.No.	Packaging	Quantity	Price
8.41834.0025	Plastic bottle	25 g	inquire

Benzyl phenyl ketone → Deoxybenzoin page 688

Benzyl trans-3-phenylpropenoate → Benzyl cinnamate page 450

## 841566 Benzyl phenyl sulfide for synthesis



- WGK 3
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR UN 3335 AVIATION REGULATED SOLID, N.O.S.(BENZYL PHENYL SULFIDE), 9, III

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Melting range (lower value)..... ≥ 39 °C  
Melting range (upper value)..... ≤ 41 °C  
Identity (IR)..... passes test

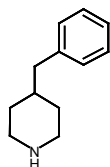
C<sub>13</sub>H<sub>12</sub>S

- CAS-No. 831-91-4 ■ EC-No. 212-612-7
- M = 200.29 g/mol ■ Melting point 40 - 44 °C

**Specification**

Ord.No.	Packaging	Quantity	Price
8.41566.0025	Glass bottle	25 g	inquire

## 818380 4-Benzylpiperidine for synthesis



- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 147 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 175.27 g/mol
- Melting point 6 - 7 °C ■ Boiling point 279 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10
- HS-No. 2933 39 99
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(4-BENZYLPIPERIDIN), 6.1, II ■ IMDG-

Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(4-BENZYLPIPERIDINE), 6.1, II  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(4-BENZYLPIPERIDINE), 6.1, II

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.983 - 0.985  
Identity (IR)..... passes test

C<sub>12</sub>H<sub>17</sub>N

4-(C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>)C<sub>6</sub>H<sub>10</sub>N

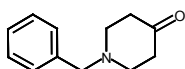
- CAS-No. 31252-42-3 ■ EC-No. 250-535-0
- Refractive index 1.5357 (25 °C, 589 nm)
- Vapour pressure 0.17 hPa (50 °C)

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.983 - 0.985  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18380.0025	Glass bottle	25 ml	inquire



## 801822 1-Benzyl-4-piperidinone for synthesis

C<sub>12</sub>H<sub>15</sub>NO

N-Benzyl-4-piperidone

- CAS-No. 3612-20-2 ■ EC-No. 222-782-4
- Refractive index 1.539 (20 °C, 589 nm)
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)

- Flash point 71 °C ■ Solub. in H<sub>2</sub>O 12 g/l (20 °C)
- M = 189.25 g/mol ■ Boiling point 248 °C (1013 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 2933 39 99 ■ Disposal 3

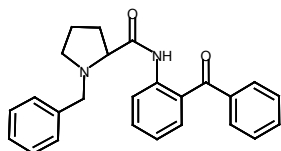
## Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,058 - 1,060  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01822.0050	Glass bottle	50 ml	inquire

N-Benzyl-4-piperidone → 1-Benzyl-4-piperidinone page 455

## 814473 (S)-(-)-2-(N-Benzylprolyl)aminobenzophenone for synthesis

C<sub>25</sub>H<sub>24</sub>N<sub>2</sub>O<sub>2</sub>

BPB

- CAS-No. 96293-17-3
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 384.47 g/mol ■ Melting point 97 - 99 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

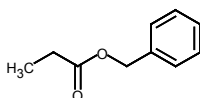
## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 97.0 %

Melting range (lower value) ..... ≥ 97 °C  
 Melting range (upper value) ..... ≤ 100 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in methanol) ..... -136.0 - -134.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14473.0001	Glass bottle	1 g	inquire

## 843784 Benzyl propionate for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>

- CAS-No. 122-63-4 ■ EC-No. 204-559-3
- Spec. density 1.029 - 1.033 g/cm<sup>3</sup> (20 °C)

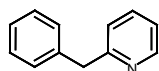
- Flash point 96 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 164.21 g/mol ■ Boiling point 222 °C (1013 hPa)
- WGK 2
- LD50 oral rat 3300 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10
- HS-No. 2915 50 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.029 - 1.033  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43784.0100	Glass bottle	100 ml	inquire
8.43784.0500	Glass bottle	500 ml	inquire

## 801524 2-Benzylpyridine for synthesis

C<sub>12</sub>H<sub>11</sub>N2-(C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>)C<sub>5</sub>H<sub>4</sub>N

2-(Phenylmethyl)-pyridine

- CAS-No. 101-82-6 ■ EC-No. 202-979-1

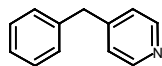
- Refractive index 1.5793 (20 °C, 589 nm)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 169.22 g/mol
- Melting point 8 - 10 °C
- Boiling point 135 - 137 °C (13 hPa)
- WGK 2
- LGK 10 - 13
- HS-No. 2933 39 99

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,053 - 1,055  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01524.0100	Glass bottle	100 ml	inquire

## 801525 4-Benzylpyridine for synthesis

C<sub>12</sub>H<sub>11</sub>N4-(C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>)C<sub>5</sub>H<sub>4</sub>N

4-(Phenylmethyl)-pyridine

- CAS-No. 2116-65-6 ■ EC-No. 218-319-0
- Refractive index 1.5815 (20 °C, 589 nm)
- Vapour pressure 10 hPa (135 °C)

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)
- Flash point 115 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 169.22 g/mol ■ pH value 8 (H<sub>2</sub>O, 20 °C)
- Melting point 9 - 11 °C ■ Boiling point 287 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P302 + P352

- LD50 oral rat 593 mg/kg
- LGK 10 - 13
- HS-No. 2933 39 99

## Specification

Assay (GC, area%) ..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,061 - 1,063  
 Identity (IR) ..... conforms

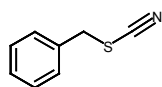
Ord.No.	Packaging	Quantity	Price
8.01525.0100	Glass bottle	100 ml	inquire

Benzyl rhodanide → Benzyl thiocyanate page 455

Benzylsulfonyl chloride → Phenylmethanesulfonyl chloride page 1309

Benzyl sulfoxide → Dibenzyl sulfoxide page 702

## 820148 Benzyl thiocyanate for synthesis

C<sub>8</sub>H<sub>7</sub>NSC<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>SCN

Thiocyanic acid benzyl ester, Benzyl rhodanide

- CAS-No. 3012-37-1 ■ EC-No. 221-144-2
- Spec. density 1.32 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O 0.1 g/l (20 °C) ■ M = 149.21 g/mol

- Melting point 38 - 41 °C ■ Boiling point 230 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352
- LGK 10 - 13 ■ Store below +15 °C.
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(BENZYLTHIOCYANAT), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(BENZYLTHIOCYANATE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(BENZYLTHIOCYANATE), 6.1, III

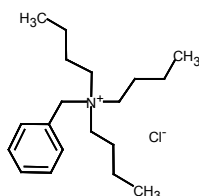
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 38 °C  
 Melting range (upper value) ..... ≤ 41 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20148.0250	Glass bottle	250 g	inquire

# Benzyl

## 814140 Benzyltributylammonium chloride for synthesis



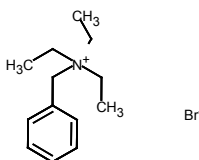
C<sub>19</sub>H<sub>34</sub>ClN  
C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>(C<sub>4</sub>H<sub>9</sub>)<sub>3</sub>NCl

*Tributylbenzylammonium chloride*  
 ■ CAS-No. 23616-79-7 ■ EC-No. 245-787-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 311.94 g/mol  
 ■ Melting point 152 - 159 °C (decomposition)  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 500 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2923 90 00 ■ Disposal 3

**Specification**  
 Assay (argentometric)..... ≥ 98,0 %(m)  
 Melting range (lower value)..... ≥ 153 °C  
 Melting range (upper value)..... ≤ 159 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14140.0100	Plastic bottle	100 g	inquire

## 843254 Benzyltriethylammonium bromide for synthesis



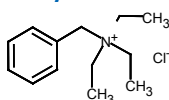
C<sub>13</sub>H<sub>22</sub>N<sup>+</sup>Br

■ CAS-No. 5197-95-5 ■ EC-No. 225-986-1  
 ■ M = 272.23 g/mol  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2923 90 00 ■ Disposal 3

**Specification**  
 Assay (argentometric; calculated on dried substance)..... ≥ 99,0 %  
 Loss on drying (Loss on drying at 105°C).... ≤ 3,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43254.0025	Glass bottle	25 g	inquire

## Benzyltriethylammonium chloride



C<sub>13</sub>H<sub>22</sub>ClN  
C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>(C<sub>2</sub>H<sub>5</sub>)<sub>3</sub>NCl  
*Triethylbenzylammonium chloride, BTEAC, TEBA*  
 ■ CAS-No. 56-37-1 ■ EC-No. 200-270-1

■ Flash point >275 °C ■ Solub. in H<sub>2</sub>O 630 g/l (20 °C) ■ M = 227.78 g/mol ■ pH value 6 - 8 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 190 - 192 °C (decomposition)  
 ■ Bulk density 700 kg/m<sup>3</sup> ■ Ignition temp. 300 °C  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335,

P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 2219 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2923 90 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

## 810298 Benzyltriethylammonium chloride for synthesis

**Specification**  
 Assay (argentometric)..... ≥ 98,0 %(m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.10298.0100	Plastic bottle	100 g	inquire
8.10298.0500	Plastic bottle	500 g	inquire

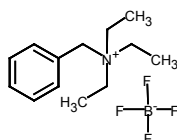
## 845065 Benzyltriethylammonium chloride for pharma synthesis, non-GMP

**Specification**  
 Colour (visual)..... white to pale yellow  
 Appearance of substance (visual)..... powder  
 Assay (argentometric)..... ≥ 98,0 %(m)

Identity (IR)..... passes test  
 Acetone..... lot specific result

Ord.No.	Packaging	Quantity	Price
8.45065.0100	Plastic bottle	100 g	inquire
8.45065.0500	Plastic bottle	500 g	inquire

## 841564 Benzyltriethylammonium tetrafluoroborate for synthesis



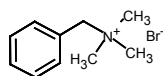
C<sub>13</sub>H<sub>22</sub>BF<sub>4</sub>N  
 ■ CAS-No. 77794-93-5 ■ EC-No. 278-768-3

■ M = 279.12 g/mol ■ Melting point 115 - 116 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2923 90 00 ■ Disposal 3

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 113 °C  
 Melting range (upper value)..... ≤ 116 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41564.0010	Glass bottle	10 g	inquire

## 814231 Benzyltrimethylammonium bromide for synthesis



C<sub>10</sub>H<sub>16</sub>BrN  
*Trimethylbenzylammonium bromide*  
 ■ CAS-No. 5350-41-4 ■ EC-No. 226-320-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 230.15 g/mol  
 ■ Melting point 224 - 229 °C

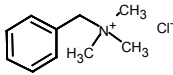
■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2923 90 00 ■ Disposal 3

Melting range (lower value)..... ≥ 224 °C  
 Melting range (upper value)..... ≤ 229 °C  
 Identity (IR)..... conforms

**Specification**  
 Assay (argentometric)..... ≥ 98,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.14231.0100	Glass bottle	100 g	inquire

**821961 Benzyltrimethylammonium chloride for synthesis**



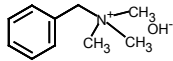
C<sub>10</sub>H<sub>16</sub>ClN  
 C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>(CH<sub>3</sub>)<sub>3</sub>NCl  
**Trimethylbenzylammonium chloride**  
 ■ CAS-No. 56-93-9 ■ EC-No. 200-300-3  
 ■ Vapour pressure < 0.0001 hPa (20 °C)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 800 g/l (20 °C) ■ M = 185.7 g/mol  
 ■ pH value 6 - 8 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 243 °C ■ Boiling point >135 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 500 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2923 90 00 ■ Disposal 3  
**Specification**  
 Assay (argentometric)..... ≥ 98,0 %  
 Water (K. F.)..... ≤ 2,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21961.0005	Glass bottle	5 g	inquire
8.21961.0250	Plastic bottle	250 g	inquire

**801816 Benzyltrimethylammonium hydroxide (40% solution in methanol) for synthesis**



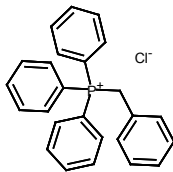
**Trimethylbenzylammonium hydroxide, Triton B**  
 ■ Vapour pressure 127 hPa (20 °C)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.1 - 44 % (V) ■ Flash point 15 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 12 (H<sub>2</sub>O, 20 °C) (undiluted) ■ Melting point -98 °C  
 ■ Boiling point 65 °C (1013 hPa)  
 ■ Ignition temp. 455 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301;

Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 3824 90 97 ■ Disposal 3  
 ■ ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(ENTH. METHANOL UND BENZYLTRIMETHYLAMMONIUMHYDROXID), 3 (6.1, 8), II ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. METHANOL AND BENZYLTRIMETHYLAMMONIUM HYDROXIDE), 3

(6.1, 8), II, Segregation Group: 18 (Alkalil)  
 ■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. METHANOL AND BENZYLTRIMETHYLAMMONIUM HYDROXIDE), 3 (6.1, 8), II  
**Specification**  
 Assay (acidimetric)..... 39,0 - 43,0 % (m)  
 Water (K. F.)..... ≤ 3,0 % (m)  
 Colour number (Apha) ..... ≤ 200  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01816.0100	Glass bottle	100 ml	inquire
8.01816.0250	Glass bottle	250 ml	inquire

**821685 Benzyltriphenylphosphonium chloride for synthesis**



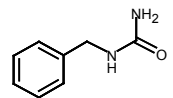
C<sub>25</sub>H<sub>22</sub>ClP  
 C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>PCl  
**Triphenylbenzylphosphonium chloride**  
 ■ CAS-No. 1100-88-5 ■ EC-No. 214-154-3  
 ■ Vapour pressure 0.1 hPa ■ Spec. density 1.18 g/

cm<sup>3</sup> (20 °C) ■ Flash point >298 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 388.87 g/mol  
 ■ Melting point 337 °C ■ Bulk density 300 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300, P260, P262, P309 + P310  
 ■ LD50 oral rat 43 mg/kg  
 ■ LGK 6.1A ■ Store below +15°C.  
 ■ HS-No. 2931 90 90 ■ Disposal 9  
 ■ ADR-RID UN 3464 Organische Phosphorverbindung, fest, giftig, n.a.g.(BENZYLTRIPHENYLPHOSPHONIUMCHLORID), 6.1, II ■ IMDG-Code UN 3464

ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.(BENZYLTRIPHENYLPHOSPHONIUM CHLORIDE), 6.1, II  
 ■ IATA-DGR UN 3464 ORGANOPHOSPHORUS COMPOUND, SOLID, TOXIC, N.O.S.(BENZYLTRIPHENYLPHOSPHONIUM CHLORIDE), 6.1, II  
**Specification**  
 Assay (argentometric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21685.0025	Glass bottle	25 g	inquire

**801795 N-Benzylurea for synthesis**



C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O  
 C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>NHCONH<sub>2</sub>  
 ■ CAS-No. 538-32-9 ■ EC-No. 208-689-1

■ Solub. in H<sub>2</sub>O 17 g/l (45 °C) ■ M = 150.17 g/mol  
 ■ Melting point 143 - 146 °C  
 ■ WGK 3  
 ■ LD50 oral rat 4410 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 21 00 ■ Disposal 3  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 95,0 Area %

Melting range (lower value)..... ≥ 143 °C  
 Melting range (upper value)..... ≤ 146 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01795.0100	Plastic bottle	100 g	inquire

**Beryllium, determination**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
171	110107	Arsenazo III	426	100128	Aurin tricarboxylic acid ammonium salt	1450	106601	Sodium salicylate

BES → N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid page 471

**814633 Betain hydrochloride for synthesis**

C<sub>5</sub>H<sub>12</sub>ClNO<sub>2</sub>  
 C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub> \* HCl  
 ■ CAS-No. 590-46-5 ■ EC-No. 209-683-1  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 647 g/l (25 °C) ■ M = 153.61 g/mol ■ pH value 1 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 242 - 246 °C  
 ■ Ignition temp. 400 °C

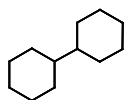
■ WGK 1  
 ■ GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313  
 ■ LGK 10 - 13  
 ■ HS-No. 2923 90 00 ■ Disposal 3

**Specification**  
 Assay (argentometric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14633.0100	Plastic bottle	100 g	inquire
8.14633.1000	Plastic bottle	1 kg	inquire

Beverage industry → Hygiene monitoring	BHT → 2,6-Di-tert-butyl-4-methylphenol page 709	Bicyclo[2.2.1]hepta-2,5-diene → 2,5-Norbornadiene page 1235
BGE → Butyl 2,3-epoxypropyl ether page 546	Bicine → N,N-Bis(2-hydroxyethyl) glycine page 472	Bicyclo[2.2.1]hept-2-ene → Norbornene page 1235
BHA → 2-tert-Butyl-4-methoxyphenol page 549	Bicyclo[5.3.0]decapentaene → Azulene page 429	

## 843959 Bicyclohexyl for synthesis

C<sub>12</sub>H<sub>22</sub>

- CAS-No. 92-51-3 ■ EC-No. 202-161-4
- Spec. density 0.864 g/cm<sup>3</sup> (25 °C)
- Flash point 92 °C ■ M = 166.30 g/mol
- Melting point 3 - 4 °C ■ Ignition temp. 240 °C
- WGK 3
- GHS: Warning, Acute aquatic toxicity, Category

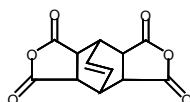
- 1, H400, P273
- LGK 10 - 13
- HS-No. 2902 19 00 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(BICYCLOHEXYL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(BICYCLOHEXYL), 9, III, Marine Pollutant: P
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(BICYCLOHEXYL), 9, III

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.886 - 0.889  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43959.0010	Glass bottle	10 ml	inquire
8.43959.0050	Glass bottle	50 ml	inquire

## 843262 Bicyclo[2.2.2]oct-7-ene-2,3:5,6-tetracarboxylic dianhydride for synthesis

C<sub>12</sub>H<sub>8</sub>O<sub>6</sub>

- CAS-No. 1719-83-1 ■ EC-No. 217-009-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 248.19 g/mol
- Melting point 300 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2917 20 00 ■ Disposal 3

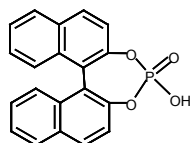
## Specification

Assay (acidimetric) ..... ≥ 98,0 %

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43262.0025	Glass bottle	25 g	inquire
8.43262.0100	Glass bottle	100 g	inquire

## 824499 (R)-(-)-1,1'-Binaphthalene-2,2'-diyl-phosphate for synthesis

C<sub>20</sub>H<sub>13</sub>O<sub>4</sub>P

(R)-4-Hydroxy dinaphtho[2,1-d:1',2'-f][1,3,2]

dioxaphosphepin-4-oxide, BNPA, BPA

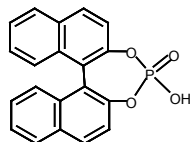
- CAS-No. 39648-67-4
- M = 348.29 g/mol ■ Melting point >300 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352
- LGK 10 - 13
- HS-No. 2919 90 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in methanol) .....  
 ..... -610,0 - -600,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24499.0250	Glass bottle	250 mg	inquire

## 824500 (S)-(+)-1,1'-Binaphthalene-2,2'-diyl-phosphate for synthesis

C<sub>20</sub>H<sub>13</sub>O<sub>4</sub>P

(S)-4-Hydroxy dinaphtho[2,1-d:1',2'-f][1,3,2] dioxaphosphepin-4-oxide, BPA, BNPA

- CAS-No. 35193-64-7
- M = 348.29 g/mol ■ Melting point >300 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352
- LGK 10 - 13
- HS-No. 2919 90 00 ■ Disposal 3

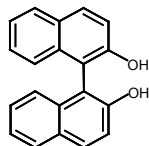
- HS-No. 2919 90 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in methanol) .....  
 ..... 600,0 - 610,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24500.0250	Glass bottle	250 mg	inquire

## 841292 1,1'-Binaphthyl-2,2'-diol for synthesis

C<sub>20</sub>H<sub>14</sub>O<sub>2</sub>

- CAS-No. 602-09-5 ■ EC-No. 210-014-0
- M = 286.32 g/mol ■ Melting point 215 - 218 °C
- WGK 3

- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 113 mg/kg
- LGK 6.1C
- HS-No. 2907 29 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,1'-BINAPHTHYL-2,2'-DIOL), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,1'-BINAPHTHYL-2,2'-DIOL), 6.1, III

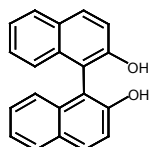
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,1'-BINAPHTHYL-2,2'-DIOL), 6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 215 °C  
 Melting range (upper value) ..... ≤ 219 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41292.0005	Plastic bottle	5 g	inquire

## 814774 (R)-(+)-1,1'-Binaphthyl-2,2'-diol for synthesis

C<sub>20</sub>H<sub>14</sub>O<sub>2</sub>

(R)-(+)-2,2'-Dihydroxy-1,1'-binaphthyl

- CAS-No. 18531-94-7
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 286.33 g/mol
- Melting point 204 - 208 °C
- WGK 3

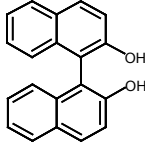
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 113 mg/kg
- LGK 6.1C
- HS-No. 2907 29 00 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,1'-BINAPHTHYL-2,2'-DIOL), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,1'-BINAPHTHYL-2,2'-DIOL), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,1'-BINAPHTHYL-2,2'-DIOL), 6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 205 °C  
 Melting range (upper value) ..... ≤ 208 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in THF) ..... 35,0 - 38,0 °  
 Enantiomeric purity ..... ≥ 99,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14774.0001	Glass bottle	1 g	inquire
8.14774.0010	Glass bottle	10 g	inquire

## 814773 (S)-(-)-1,1'-Binaphthyl-2,2'-diol for synthesis

C<sub>20</sub>H<sub>14</sub>O<sub>2</sub>

(S)-(-)-2,2'-Dihydroxy-1,1'-binaphthyl

■ CAS-No. 18531-99-2

■ Spec. density 1.301 g/cm<sup>3</sup> ■ Solub. inH<sub>2</sub>O (20 °C) insoluble ■ M = 286.33 g/mol

■ Melting point 204 - 209 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 113 mg/kg

■ LGK 6.1C

■ HS-No. 2907 29 00 ■ Disposal 9

■ ADR-RID UN 2811 Giftiger organischer fester

Stoff, n.a.g.(1,1'-BINAPHTHYL-2,2'-DIOL), 6.1, III

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(1,1'-BINAPHTHYL-2,2'-DIOL), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(1,1'-BINAPHTHYL-2,2'-DIOL), 6.1, III

**Specification**

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)

Melting range (lower value) ..... ≥ 203 °C

Melting range (upper value) ..... ≤ 208 °C

Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in THF) ... -38,0 - -35,0 °

Enantiomeric purity ..... ≥ 99,0 % (a/a)

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14773.0001	Glass bottle	1 g	inquire
8.14773.0010	Glass bottle	10 g	inquire

(R)-Binol → (R)-(+)-1,1'-Binaphthyl-2,2'-diol page 458

Biochromatography → page 45

## Biological Buffers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	115226	N-(2-Acetamido)-2-aminoethanesulfonic acid	982	115230	3-[4-(2-Hydroxyethyl)-1-piperazinyl]-propanesulfonic acid	1616	108382	Tris(hydroxymethyl)aminomethane
471	115228	N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid	998	104716	Imidazole	1616	108387	Tris(hydroxymethyl)aminomethane
472	101910	N,N-Bis(2-hydroxyethyl)glycine	1193	106126	2-Morpholinoethanesulfonic acid monohydrate	1616	110695	N-[Tris(hydroxymethyl)methyl]-2-aminoethanesulfonic acid
472	103252	2,2-Bis(hydroxyethyl)-(iminotris)-(hydroxymethyl)-methane	1193	106197	2-Morpholinoethanesulfonic acid sodium salt (MES Na)	1616	108320	N-[Tris(hydroxymethyl)methyl]-3-aminopropanesulfonic acid
674	115229	2-(Cyclohexylamino)ethanesulfonic acid	1193	106129	3-Morpholinopropane sulfonic acid	1616	108602	N-[Tris(hydroxymethyl)methyl]glycine
929	104233	Glycylglycine	1329	110220	Piperazine-1,4-bis(2-ethanesulfonic acid)			
982	115231	2-[4-(2-Hydroxyethyl)-1-piperazinyl]-ethanesulfonic acid sodium salt	1329	106194	Piperazine-1,4-bis(propanesulfonic acid) (PIPPS)			

## 848335 Bio-Methanol (Gas-to-Liquid) for synthesis

CH<sub>4</sub>OCH<sub>3</sub>OH

MeOH, Hydroxymethane, Methyl alcohol, Carbinol

■ CAS-No. 67-56-1 ■ EC-No. 200-659-6

■ Refractive index 1.33 ■ Vapour pressure 128 hPa

(20 °C) ■ Spec. density 0.792 g/cm<sup>3</sup> (20 °C)

■ Explosive limit 5.5 - 44 % (V) ■ Flash point 10 °C

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 32.04 g/mol■ pH value (H<sub>2</sub>O) no data available

■ Melting point -98 °C ■ Boiling point 64.5 °C

(1013 hPa) ■ Evaporation number 6.3

■ Water absorption 1000 g/kg

■ Ignition temp. 455 °C DIN 51794

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 2,

H225; Acute toxicity, Category 3, Oral, H301;

Acute toxicity, Category 3, Inhalation, H331;

Acute toxicity, Category 3, Dermal, H311; Specific

target organ toxicity - single exposure, Category

1, H370, P210, P233, P280, P302 + P352, P304 +

P340, P309 + P310

■ LC50 rat 85.26 mg/l

■ LD50 oral rat 5628 mg/kg ■ LD50 dermal rabbit

17100 mg/kg

■ EC-Index-No. 603-001-00-X ■ LGK 3

■ HS-No. 2905 11 00 ■ Disposal 1

■ ADR-RID UN 1230 Methanol, 3 (6.1), II ■ IMDG-

Code UN 1230 METHANOL, 3 (6.1), II

■ IATA-DGR UN 1230 METHANOL, 3 (6.1), II

**Specification**

Appearance (visual) ..... clear

Assay (GC, area%) ..... ≥ 99,85 Area %

Colour number (Hazen) ..... ≤ 5

Density (d 20 °C / 4 °C) ..... ≥ 0,790

Water (K. F.) ..... ≤ 0,10 % (m)

Non-volatile matter ..... ≤ 0,0008 % (m)

Acidity (Acetic acid) ..... ≤ 0,003 % (m)

Ord.No.	Packaging	Quantity	Price
8.48335.9050	Barrel PE/met	50 l	inquire

## Biopharmaceutical production

## Process chemicals: downstream

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
472	103252	2,2-Bis(hydroxyethyl)-(iminotris)-(hydroxymethyl)-methane	1274	107192	Pepsin			

BIOQUANT® → page 95

## BIOQUANT® reagent kits for food analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
95	110537	Carrez Clarification Kit	81	110306	Protein Kit			
81	110307	Protein Kit	86	112979	Total dietary fiber Kit			

Biotin NovaTag™ resin → page 261

Biotin-ONp → page 260

Biotin-OSu → page 260

Biotin-PEG NovaTag™ resin → page 261

2-Biotinylidimedone → page 261

N-Biotinyl-NH-(PEG)-COOH . DIPEA (20 atoms)

→ page 261

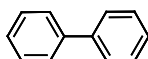
N-Biotinyl-NH(PEG)11-COOH → page 261

o,o'-Biphenol → Biphenyl-2,2'-diol page 461



# Biphen

## 803090 Biphenyl for synthesis



C<sub>12</sub>H<sub>10</sub>  
C<sub>6</sub>H<sub>5</sub>C<sub>6</sub>H<sub>5</sub>  
 ■ CAS-No. 92-52-4 ■ EC-No. 202-163-5  
 ■ Vapour pressure 0.07 hPa (20 °C) ■ Explosive limit 0.7 - 3.4 % (V) ■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 154.21 g/mol  
 ■ Melting point 68 - 70 °C ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 255 °C (1013 hPa)  
 ■ Ignition temp. 570 °C  
 ■ WGK 2

■ GHS: Warning, Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 2140 mg/kg  
 ■ EC-Index-No. 601-042-00-8 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(BIPHENYL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(BIPHENYL), 9, III, Marine Pollutant: P

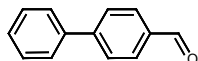
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(BIPHENYL), 9, III

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 68 °C  
 Melting range (upper value) ..... ≤ 70 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03090.0100	Plastic bottle	100 g	inquire
8.03090.1000	Plastic bottle	1 kg	inquire

## 841238 Biphenyl-4-carbaldehyde for synthesis



C<sub>13</sub>H<sub>10</sub>O  
4-Phenylbenzaldehyde  
 ■ CAS-No. 3218-36-8 ■ EC-No. 221-742-3  
 ■ M = 182.22 g/mol ■ Melting point 58 - 60 °C  
 ■ Boiling point 184 °C (14.7 hPa)

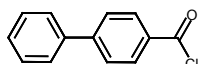
■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13 ■ Store at -20°C to 0°C.  
 ■ HS-No. 2912 29 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 56 °C  
 Melting range (upper value) ..... ≤ 59 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41238.0010	Glass bottle	10 g	inquire

## 841047 Biphenyl-4-carbonyl chloride for synthesis



C<sub>13</sub>H<sub>9</sub>ClO  
4-Phenylbenzoyl chloride  
 ■ CAS-No. 14002-51-8 ■ EC-No. 237-804-8  
 ■ M = 216.66 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) acidic  
 ■ Melting point 110 - 113 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(BIPHENYL-4-CARBONYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-BIPHENYLCARBONYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

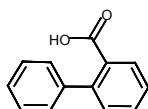
ORGANIC, N.O.S.(4-BIPHENYLCARBONYL CHLORIDE), 8, II

### Specification

Assay (morpholine method) ..... ≥ 97.0 %  
 Melting range (lower value) ..... ≥ 110 °C  
 Melting range (upper value) ..... ≤ 113 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41047.0010	Glass bottle	10 g	inquire

## 841529 Biphenyl-2-carboxylic acid for synthesis



C<sub>13</sub>H<sub>10</sub>O<sub>2</sub>  
 ■ CAS-No. 947-84-2 ■ EC-No. 213-432-1  
 ■ Spec. density 1.21 g/cm<sup>3</sup> ■ M = 198.22 g/mol

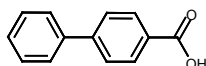
■ Melting point 109 - 112 °C  
 ■ Boiling point 343 - 344 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 3

### Specification

Assay (acidimetric) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 109 °C  
 Melting range (upper value) ..... ≤ 112 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41529.0005	Glass bottle	5 g	inquire

## 841816 Biphenyl-4-carboxylic acid for synthesis



C<sub>13</sub>H<sub>10</sub>O<sub>2</sub>  
 ■ CAS-No. 92-92-2 ■ EC-No. 202-203-1  
 ■ Solub. in H<sub>2</sub>O 0.03 g/l (25 °C) ■ M = 198.22 g/mol  
 ■ Melting point 223 - 228 °C

■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 3

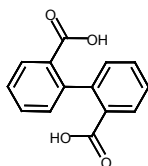
### Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 223 °C

Melting range (upper value) ..... ≤ 228 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41816.0025	Glass bottle	25 g	inquire
8.41816.0100	Glass bottle	100 g	inquire

## 802256 2,2'-Biphenyldicarboxylic acid for synthesis



C<sub>14</sub>H<sub>10</sub>O<sub>4</sub>

2-(HOOC)C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>4</sub>-2-(COOH)  
 Diphenic acid, Diphenyl-2,2-dicarboxylic acid  
 ■ CAS-No. 482-05-3 ■ EC-No. 207-576-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 242.23 g/mol  
 ■ pH value 4 - 5 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point 225 - 228 °C  
 ■ Bulk density 470 kg/m<sup>3</sup> ■ Ignition temp. 390 °C  
 ■ WGK 3  
 ■ LGK 10 - 13

■ HS-No. 2917 39 95 ■ Disposal 3

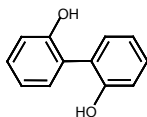
### Specification

Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 225 °C  
 Melting range (upper value) ..... ≤ 228 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02256.0050	Plastic bottle	50 g	inquire



## 820154 Biphenyl-2,2'-diol for synthesis

C<sub>12</sub>H<sub>10</sub>O<sub>2</sub>2-(HO)C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>4</sub>-2-(OH)*o,o'*-Biphenol, 2,2'-Dihydroxydiphenyl

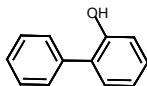
- CAS-No. 1806-29-7 ■ EC-No. 217-303-0
- Flash point 154 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 186.2 g/mol
- Melting point 106 - 109 °C
- Boiling point 314 - 316 °C
- Ignition temp. 324 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 96.0 % (a/a)  
 Melting range (lower value)..... ≥ 106 °C  
 Melting range (upper value)..... ≤ 109 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20154.0050	Plastic bottle	50 g	inquire

## 821007 Biphenyl-2-ol for synthesis

C<sub>12</sub>H<sub>10</sub>OC<sub>6</sub>H<sub>5</sub>C<sub>6</sub>H<sub>4</sub>-2-(OH)

2-Diphenylol, 2-Phenylphenol, 2-Hydroxydiphenyl

■ CAS-No. 90-43-7 ■ EC-No. 201-993-5

■ Vapour pressure 0.4 hPa (20 °C)

■ Spec. density 1.26 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 9.5 % (V) ■ Flash point 138 °C ■ Solub. in H<sub>2</sub>O 0.7 g/l (20 °C) ■ M = 170.21 g/mol■ pH value 7 (0.1 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 56 - 58 °C ■ Bulk density 600 kg/l

m<sup>3</sup> ■ Boiling point 286 °C (1013 hPa)

■ Ignition temp. &gt;520 °C

■ WGK 2

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P273, P305 + P351 + P338, P302 + P352

■ LD50 oral rat &gt; 2000 mg/kg

■ LD50 dermal rabbit &gt; 5000 mg/kg

■ EC-Index-No. 604-020-00-6 ■ LGK 10 - 13

■ HS-No. 2907 19 90 ■ Disposal 3

■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(BIPHENYL-2-OL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS

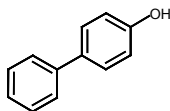
Substance, Solid, N.O.S.(BIPHENYL-2-OL), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(BIPHENYL-2-OL), 9, III

## Specification

Assay (GC, area%)..... ≥ 99.0 Area %  
 Melting range (lower value)..... ≥ 56 °C  
 Melting range (upper value)..... ≤ 58 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21007.0100	Plastic bottle	100 g	inquire
8.21007.1000	Plastic bottle	1 kg	inquire

## 801959 Biphenyl-4-ol for synthesis

C<sub>12</sub>H<sub>10</sub>OC<sub>6</sub>H<sub>5</sub>C<sub>6</sub>H<sub>4</sub>-4-(OH)

■ CAS-No. 92-69-3 ■ EC-No. 202-179-2

■ Flash point 160 °C ■ Solub. in H<sub>2</sub>O 0.7 g/l (20 °C) ■ M = 170.21 g/mol ■ pH value 7 (0.7 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 162 - 165 °C

■ Bulk density 550 kg/m<sup>3</sup>

■ Boiling point 305 - 308 °C (1013 hPa)

■ Ignition temp. &gt;250 °C

■ WGK 2

■ GHS: Warning, Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352

■ LD50 oral rat &gt; 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2907 19 90

■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(BIPHENYL-4-OL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(BIPHENYL-4-OL), 9, III,

Marine Pollutant: P

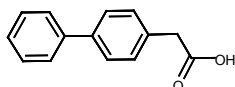
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(BIPHENYL-4-OL), 9, III

## Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
 Melting range (lower value)..... ≥ 162 °C  
 Melting range (upper value)..... ≤ 165 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01959.0100	Plastic bottle	100 g	inquire

## 814482 4-Biphenylacetic acid for synthesis

C<sub>14</sub>H<sub>12</sub>O<sub>2</sub>

■ CAS-No. 5728-52-9 ■ EC-No. 227-233-2

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

■ M = 212.24 g/mol ■ Melting point 160 - 163 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P262, P309 + P310

■ LD50 oral rat 164 mg/kg

■ LGK 6.1C

■ HS-No. 2916 39 90 ■ Disposal 9

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-BIPHENYLESSIGSAEURE), 6.1, III

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-BIPHENYLACETIC ACID), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

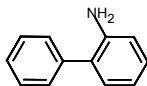
N.O.S.(4-BIPHENYLACETIC ACID), 6.1, III

## Specification

Assay (acidimetric)..... ≥ 97.0 % (m)  
 Melting range (lower value)..... ≥ 160 °C  
 Melting range (upper value)..... ≤ 163 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14482.0025	Glass bottle	25 g	inquire

## 820155 2-Biphenylamine for synthesis

C<sub>12</sub>H<sub>11</sub>NC<sub>6</sub>H<sub>5</sub>C<sub>6</sub>H<sub>4</sub>-2-(NH<sub>2</sub>)

2-Aminodiphenyl, 2-Phenylaniline

■ CAS-No. 90-41-5 ■ EC-No. 201-990-9

■ Flash point 153 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 169.23 g/mol

■ Melting point 46 - 48 °C

■ Boiling point 298 - 300 °C

■ Ignition temp. 461 °C

■ WGK 2

■ GHS: Warning, Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P273, P280, P308 + P313

■ LD50 oral rat 2340 mg/kg

■ EC-Index-No. 612-142-00-6 ■ LGK 10 - 13

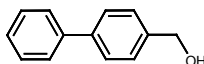
■ HS-No. 2921 49 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 46 °C  
 Melting range (upper value)..... ≤ 50 °C  
 p-Isomeres (GC, area%)..... ≤ 0.10 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20155.0010	Glass bottle	10 g	inquire
8.20155.0050	Glass bottle	50 g	inquire

## 841146 4-Biphenyl-methanol for synthesis

C<sub>13</sub>H<sub>12</sub>O*p*-Phenylbenzyl alcohol, 4-Hydroxymethylbiphenyl

■ CAS-No. 3597-91-9 ■ EC-No. 222-745-2

■ M = 184.23 g/mol ■ Melting point 104 - 105 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2906 29 00 ■ Disposal 3

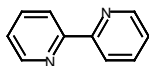
## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 99 °C

Melting range (upper value)..... ≤ 104 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41146.0010	Plastic bottle	10 g	inquire

## 103098 2,2'-Bipyridine GR for analysis (reagent for iron(II) and molybdenum) ACS

C<sub>10</sub>H<sub>8</sub>N<sub>2</sub>Reagents for Iron(II) and molybdenum,  $\alpha,\alpha'$ -Dipyridyl

- CAS-No. 366-18-7 ■ EC-No. 206-674-4
- Flash point 121 °C ■ Solub. in H<sub>2</sub>O 5.5 g/l (22 °C) ■ M = 156.18 g/mol ■ pH value 7.5 (5 g/l, H<sub>2</sub>O, 25 °C) ■ Melting point 70 - 72 °C
- Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 272 °C (1013 hPa)
- WGK 3

- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P260, P280, P302 + P352, P309 + P310
  - LD50 oral rat 100 mg/kg ■ LD50 dermal rat 625 - 1250 mg/kg
  - LGK 6.1C
  - HS-No. 2933 39 99 ■ Disposal 9
  - ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,2-BIPYRIDIN), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,2-BIPYRIDINE), 6.1, III
  - IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,2-BIPYRIDINE), 6.1, III
- Ligand in the iridium catalyzed borylation of

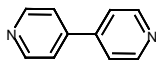
arenes.

**Specification**

Assay (perchloric acid titration)..... ≥ 99.5 %  
 Identity (IR-spectrum)..... passes test  
 Melting point ..... 70 - 72 °C  
 Absorbance of solution (50% w/v; methanol).....  
 ..... conforms  
 Sensitivity (to ferrous ion)..... passes test

Ord.No.	Packaging	Quantity	Price
1.03098.0005	Glass bottle	5 g	inquire
1.03098.0025	Glass bottle	25 g	inquire

## 820158 4,4'-Bipyridine for synthesis

C<sub>10</sub>H<sub>8</sub>N<sub>2</sub>4-(C<sub>5</sub>H<sub>4</sub>N)-4-(C<sub>5</sub>H<sub>4</sub>N) $\gamma,\gamma'$ -Dipyridyl

- CAS-No. 553-26-4 ■ EC-No. 209-036-3
- Solub. in H<sub>2</sub>O 4.5 g/l (25 °C) ■ M = 156.18 g/mol
- Melting point 109 - 113 °C
- Boiling point 305 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P260, P262, P309 + P310
- LD50 oral rat 172 mg/kg
- LGK 6.1C
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4,4-BIPYRIDIN), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4,4-BIPYRIDINE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

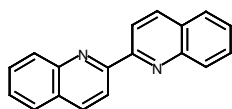
N.O.S.(4,4-BIPYRIDINE), 6.1, III

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 109 °C  
 Melting range (upper value)..... ≤ 113 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20158.0010	Glass bottle	10 g	inquire

## 102955 2,2'-Biquinoline GR for analysis

C<sub>18</sub>H<sub>12</sub>N<sub>2</sub>

Cuproine, 2,2'-Diquinolyll

- CAS-No. 119-91-5 ■ EC-No. 204-357-5

- Solub. in H<sub>2</sub>O 1.02 mg/l (25 °C) ■ M = 256.3 g/mol
  - Melting point 192 - 195 °C
  - Bulk density 290 kg/m<sup>3</sup>
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2933 49 90 ■ Disposal 3
- Reagent for copper.

**Specification**

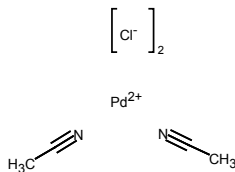
Assay (perchloric acid titration)..... ≥ 99%

Identity (IR-spectrum)..... passes test  
 Melting point ..... 193 - 196 °C  
 Cu (Copper)..... ≤ 0.0002 %  
 Sulfated ash..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.02955.0005	Glass bottle	5 g	inquire

BIS → page 1148

## 824436 Bis(acetonitrile)-palladium(II) chloride (41% Pd) for synthesis

C<sub>4</sub>H<sub>6</sub>Cl<sub>2</sub>N<sub>2</sub>Pd(CH<sub>3</sub>CN)<sub>2</sub>PdCl<sub>2</sub>

- CAS-No. 14592-56-4 ■ EC-No. 238-637-3
- M = 259.43 g/mol ■ Melting point 300 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A
- HS-No. 2843 90 90 ■ Disposal 27
- ADR-RID UN 3467 Metallorganische Verbindung, fest, giftig, n.a.g.(BIS(ACETONITRIL)-PALLADIUM(II)CHLORID), 6.1, II ■ IMDG-Code UN 3467 ORGANOMETALLIC COMPOUND, TOXIC,

SOLID, N.O.S.(BIS(ACETONITRILE)-PALLADIUM(II)-CHLORIDE), 6.1, II

- IATA-DGR UN 3467 ORGANOMETALLIC COMPOUND, SOLID, TOXIC, N.O.S.(BIS(ACETONITRILE)-PALLADIUM(II)-CHLORIDE), 6.1, II

**Specification**

Assay Pd..... 40,0 - 42,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.24436.0500	Glass bottle	500 mg	inquire

Bis(acetylacetonato)cobalt(II) → Cobalt(II) acetylacetonate page 648

Bis(acetylacetonato)copper(II) → Copper(II) acetylacetonate page 652

Bis(acetylacetonato)manganese(II) → Manganese(II) acetylacetonate page 1095

Bis(acetylacetonato)nickel(II) → Nickel(II) acetylacetonate page 1205

Bis(acetylacetonato)palladium(II) → Palladium(II) acetylacetonate page 1258

Bis(acetylacetonato)platinum → Platinum(II) acetylacetonate (50% Pt) page 1334

Bis(acetylacetonato)titanium(IV) oxide → Titanium acetylacetonate page 1560

Bis(acetylacetonato)vanadium(IV) oxide → Vanadium(IV) oxide acetylacetonate page 1628

Bis(acetylacetonato)zinc(II) → Zinc(II) acetylacetonate page 1640

Bisacrylamide solution → page 1148

Bis-(4-amino-2-chloro-3,5-diethylphenyl)-methane → 4,4'-Methylenebis(3-chloro-2,6-diethylaniline) page 1148

Bis-(2-aminoethyl)-ether trityl resin → page 273

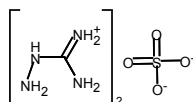
O-Bis-(aminoethyl)ethylene glycol trityl resin → page 273

Bis(aminoethyl)glycoether-N,N,N,N'-tetraacetic acid → Titriplex® VI page 173

Bis(2-aminoethyl)amine → Diethylenetriamine page 744

N,N'-Bis(2-aminoethyl)-1,2-ethanediamine → Triethylenetetramine page 1587

## 820073 Bis(1-aminoguanidinium) sulfate for synthesis



C<sub>2</sub>H<sub>4</sub>N<sub>8</sub>O<sub>4</sub>S  
2 CH<sub>6</sub>N<sub>4</sub> \* H<sub>2</sub>SO<sub>4</sub>  
1-Aminoguanidinium sulfate

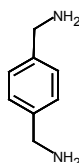
- CAS-No. 996-19-0 ■ EC-No. 213-628-7
- Spec. density 1.36 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 170 g/l (20 °C) ■ M = 246.24 g/mol
- pH value 4 - 6 (25 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 208 - 210 °C
- Bulk density 750 kg/m<sup>3</sup>
- WGK 2
- LD50 oral rat > 2000 mg/kg

- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

**Specification**  
Assay (iodometric) ..... ≥ 98.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20073.0250	Plastic bottle	250 g	inquire

## 841656 1,4-Bis(aminomethyl)-benzene for synthesis



C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>  
■ CAS-No. 539-48-0 ■ EC-No. 208-719-3  
■ M = 136.19 g/mol ■ Melting point 60 - 64 °C

- Boiling point 230 °C (13.33 hPa)
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2921 59 90 ■ Disposal 3
- ADR-RID UN 3259 Amine, fest, ätzend, n.a.g.(1,4-BIS(AMINOMETHYL)-BENZOL), 8, II
- IMDG-Code UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.(1,4-BIS(AMINOMETHYL)-

BENZENE), 8, II, Segregation Group: 18 (Alkalis)  
■ IATA-DGR UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.(1,4-BIS(AMINOMETHYL)-BENZENE), 8, II

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %  
Identity (IR)..... conforms

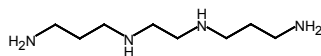
Ord.No.	Packaging	Quantity	Price
8.41656.0010	Glass bottle	10 g	inquire

1,3-Bis-(aminomethyl)-benzene trityl resin → page 273

1,4-Bis-(aminomethyl)-benzene trityl resin → page 273

Bis-(3-aminophenyl)-sulfone → 3,3'-Diaminodiphenyl sulfone page 695

## 843570 N,N'-Bis(3-aminopropyl)ethylenediamine for synthesis



C<sub>8</sub>H<sub>22</sub>N<sub>4</sub>  
■ CAS-No. 10563-26-5 ■ EC-No. 234-147-9  
■ Vapour pressure < 1 hPa (20 °C)  
■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C)  
■ Flash point 164 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 174.29 g/mol  
■ pH value >12 (10 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point -1.5 °C  
■ Boiling point 169 - 175 °C (15 hPa)  
■ Ignition temp. 280 °C  
■ WGK 2

- GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1140 mg/kg ■ LD50 dermal rabbit 190 mg/kg
- LGK 6.1A
- HS-No. 2921 29 00
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(N,N'-BIS(3-AMINOPROPYL)ETHYLENDIAMIN), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(N,N'-BIS(3-AMINOPROPYL)ETHYLENDIAMINE), 8 (6.1), II

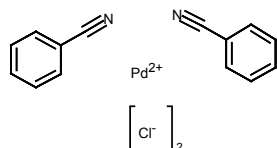
■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(N,N'-BIS(3-AMINOPROPYL)ETHYLENDIAMINE), 8 (6.1), II

**Specification**  
Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
Density (d 20 °C / 4 °C) ..... 0.951 - 0.953  
Water (K. F.) ..... ≤ 0.50 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43570.0010	Glass bottle	10 ml	inquire

2,7-Bis(2-arsonophenylazo)-1,8-dihydroxynaphthalene-3,6-disulfonic acid → Arsenazo III page 171

## 818181 Bis(benzonitrile)-palladium(II) chloride (27.7% Pd) for synthesis



C<sub>14</sub>H<sub>10</sub>Cl<sub>2</sub>N<sub>2</sub>Pd

- (C<sub>6</sub>H<sub>5</sub>CN)<sub>2</sub>PdCl<sub>2</sub>  
*Dichlorobis(benzonitrile)palladium(II)*  
■ CAS-No. 14220-64-5 ■ EC-No. 238-085-3  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 383.57 g/mol ■ Melting point 131 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2843 90 90 ■ Disposal 27

**Specification**  
Assay (argentometric) ..... ≥ 98.0 %  
Melting range (lower value) ..... ≥ 125 °C  
Melting range (upper value) ..... ≤ 128 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18181.0001	Glass bottle	1 g	inquire

Bis-(2-benzothiazolyl)-disulfide → 2,2'-Dithiobisbenzothiazole page 824

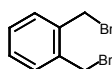
2,7-Bis[bis(carboxymethyl)aminomethyl]fluorescein → Calcein indicator page 172

Bis-Boc-thiourea → page 281

3,3"-Bis[bis(carboxymethyl)aminoethyl] cresol sulfone phtrane sodium salt → Xylenol orange tetrasodium salt page 173

Bis-Boc-amino-oxyacetic acid → page 262

## 820419 1,2-Bis(bromomethyl)-benzene for synthesis



C<sub>8</sub>H<sub>8</sub>Br<sub>2</sub>  
C<sub>6</sub>H<sub>4</sub>-1,2-(CH<sub>2</sub>Br)<sub>2</sub>  
*o-Xylylene dibromide, α,α'-Dibromo-o-xylylene*  
■ CAS-No. 91-13-4 ■ EC-No. 202-042-7  
■ Spec. density 1.96 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 263.95 g/mol  
■ Melting point 89 - 93 °C  
■ WGK 2

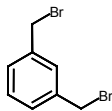
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 1100 mg/kg
- LGK 6.1A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,2-BIS(BROMMETHYL)-BENZOL), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(1,2-BIS(BROMOMETHYL)BENZENE), 6.1, II  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,2-BIS(BROMOMETHYL)BENZENE), 6.1, II

**Specification**  
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Melting range (lower value) ..... ≥ 89 °C  
Melting range (upper value) ..... ≤ 93 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20419.0050	Glass bottle	50 g	inquire

## 841356 1,3-Bis(bromomethyl)-benzene for synthesis

C<sub>8</sub>H<sub>8</sub>Br<sub>2</sub>

- CAS-No. 626-15-3 ■ EC-No. 210-931-6
- M = 263.95 g/mol ■ Melting point 76 - 78 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity -

Bis(3-tert-butyl-2-hydroxy-5-methylphenyl)-methan → 2,2'-Methylenebis(4-methyl-6-tert-butylphenol) page 1149

Bis(3-tert-butyl-2-hydroxy-5-methylphenyl)-methan → 2,2'-Methylenebis(4-methyl-6-tert-butylphenol) page 1149

single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(1,3-BIS(BROMMETHYL)-BENZOL), 8, III
- IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(M-XYLYLENE DIBROMIDE), 8, III
- IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(M-XYLYLENE DIBROMIDE), 8, III

Bis(3-tert-butyl-4-hydroxy-6-methylphenyl)sulfide → 4,4'-Thiobis(2-tert-butyl-5-methylphenol) page 1550

Bis(2-carboxyethyl)sulfide → 3,3'-Thiodipropionic acid page 1550

## Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)

Melting range (lower value)..... ≥ 74 °C

Melting range (upper value)..... ≤ 77 °C

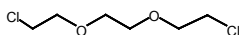
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41356.0005	Plastic bottle	5 g	inquire
8.41356.0025	Plastic bottle	25 g	inquire

3-Bis(carboxymethyl)aminomethyl-1,2-dihydroxyanthraquinone → Alizarin-3-methylamine-N,N-diacetic acid dihydrate page 362

Bis(carboxymethyl)sulfide → 2,2'-Thiodiacetic acid page 1550

## 814554 1,2-Bis-(2-chloroethoxy) ethane for synthesis

C<sub>6</sub>H<sub>12</sub>Cl<sub>2</sub>O<sub>2</sub>ClCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>Cl

Triethyleneglycol dichloride, 1,2-Bis-(2-chloroethoxy)-ethane, 2,2'-Dichloro-(ethylenedioxy)-diethane

- CAS-No. 112-26-5 ■ EC-No. 203-952-7
- Spec. density 1.20 g/cm<sup>3</sup> (20 °C)
- Flash point 121 °C ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C)
- M = 187.06 g/mol ■ Melting point -31.5 °C
- Boiling point 235 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 250 mg/kg ■ LD50 dermal rabbit 1692 mg/kg
- LGK 6.1 C
- HS-No. 2909 19 90
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1,8-DICHLOR-3,6-DIOXAOKTAN), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,8-DICHLOR-3,6-

DIOXAOKTAN), 6.1, III

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,8-DICHLOR-3,6-DIOXAOKTAN), 6.1, III

## Specification

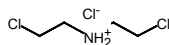
Assay (GC, area%)..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C)..... 1,194 - 1,196

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14554.0100	Glass bottle	100 ml	inquire
8.14554.0500	Glass bottle	500 ml	inquire

## 820159 Bis(2-chloroethyl)ammonium chloride for synthesis

C<sub>4</sub>H<sub>10</sub>Cl<sub>3</sub>N(ClCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>NH<sub>2</sub>Cl

Bis(2-chloroethyl)amine hydrochloride

- CAS-No. 821-48-7 ■ EC-No. 212-479-5
- Solub. in H<sub>2</sub>O >100 g/l (20 °C) ■ M = 178.48 g/mol ■ pH value 4.5 - 5 (H<sub>2</sub>O)
- Melting point 212 - 215 °C (decomposition)
- WGK 3

- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1150 mg/kg
- LGK 8 B
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(BIS(2-CHLOROETHYL)-AMMONIUMCHLORID), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(BIS(2-CHLOROETHYL)AMMONIUM

CHLORIDE), 8, II

■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(BIS(2-CHLOROETHYL)AMMONIUM CHLORIDE), 8, II

## Specification

Assay (argentometric)..... ≥ 98.0 %

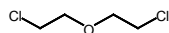
Melting range (lower value)..... ≥ 212 °C

Melting range (upper value)..... ≤ 215 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20159.0100	Glass bottle	100 g	inquire

## 801678 Bis(2-chloroethyl) ether for synthesis

C<sub>4</sub>H<sub>8</sub>Cl<sub>2</sub>O(ClCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>O

2,2'-Dichlorodiethyl ether, B,B'-Dichloroethyl ether

- CAS-No. 111-44-4 ■ EC-No. 203-870-1
- Refractive index 1.457 (20 °C, 589 nm) ■ Vapour pressure 1.07 hPa (20 °C) ■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 % (V)
- Flash point 55 °C ■ Solub. in H<sub>2</sub>O 0.01 g/l (20 °C) ■ M = 143.01 g/mol ■ Melting point -51.9 °C ■ Boiling point 177 - 178 °C
- Ignition temp. 365 °C

- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 1, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Carcinogenicity, Category 2, H351, P280, P304 + P340, P302 + P350, P309 + P310
- LC50 rat 330 mg/m<sup>3</sup>
- LD50 oral rat 75 mg/kg ■ LD50 dermal rabbit 90 mg/kg
- EC-Index-No. 603-029-00-2 ■ LGK 3 ■ Store below +15°C.
- HS-No. 2909 19 90 ■ Disposal 9
- ADR-RID UN 1916 2,2'-Dichlorodiethylether, 6.1

(3), II ■ IMDG-Code UN 1916 2,2'-DICHLORODIETHYL ETHER, 6.1 (3), II

■ IATA-DGR UN 1916 2,2'-DICHLORODIETHYL ETHER, 6.1 (3), II

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %

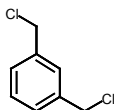
Density (d 20 °C/ 4 °C)..... 1,218 - 1,219

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01678.0250	Glass bottle	250 ml	inquire
8.01678.1000	Glass bottle	1 l	inquire



## 818467 1,3-Bis(chloromethyl)-benzene for synthesis

C<sub>8</sub>H<sub>8</sub>Cl<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,3-(CH<sub>2</sub>Cl)<sub>2</sub>*m*-Xylylene dichloride,  $\alpha,\alpha'$ -Dichloro-*m*-xylene

■ CAS-No. 626-16-4 ■ EC-No. 210-932-1

■ Vapour pressure 0.029 hPa (25 °C) (calculated)

■ Spec. density 1.302 g/cm<sup>3</sup> (20 °C)■ Flash point 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition) ■ M = 175.05 g/mol

- Melting point 33 - 35 °C
- Boiling point 250 - 255 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 1600 mg/kg
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester

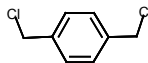
Stoff, n.a.g.(1,3-BIS(CHLORMETHYL)BENZOL), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,3-BIS(CHLOROMETHYL) - BENZOL), 6.1, II ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,3-BIS(CHLOROMETHYL) - BENZOL), 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 28 °C  
 Melting range (upper value)..... ≤ 32 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18467.0025	Plastic bottle	25 g	inquire

## 841796 1,4-Bis(chloromethyl)-benzene for synthesis

C<sub>8</sub>H<sub>8</sub>Cl<sub>2</sub>

■ CAS-No. 623-25-6 ■ EC-No. 210-782-7

■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition)

■ M = 175.05 g/mol ■ Melting point 100 °C

■ Boiling point 254 °C

■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 1, H410; Specific target organ toxicity - single exposure,

Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P273, P302 + P352, P304 + P340, P305 + P351 + P338

■ LD50 oral rat 1280 mg/kg

■ LGK 10 - 13

■ HS-No. 2903 99 90 ■ Disposal 3

■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1,4-BIS(CHLORMETHYL)-BENZOL), 9, III

■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,4-BIS(CHLOROMETHYL)-BENZENE), 9, III, Marine

Pollutant: P

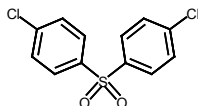
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,4-BIS(CHLOROMETHYL)-BENZENE), 9, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 99 °C  
 Melting range (upper value)..... ≤ 101 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41796.0025	Glass bottle	25 g	inquire
8.41796.0100	Glass bottle	100 g	inquire

## 821964 Bis(4-chlorophenyl) sulfone for synthesis

C<sub>12</sub>H<sub>8</sub>Cl<sub>2</sub>O<sub>2</sub>S(4-ClC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>SO<sub>2</sub>

4,4'-Dichlorodiphenyl sulfone

■ CAS-No. 80-07-9 ■ EC-No. 201-247-9

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 287.16 g/mol ■ Melting point 144 - 148 °C

■ Boiling point 250 °C (13 hPa)

■ WGK 2

■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 3

**Specification**

Assay (ex Cl)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 144 °C  
 Melting range (upper value)..... ≤ 148 °C  
 Identity (IR)..... passes test

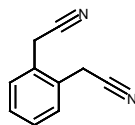
Ord.No.	Packaging	Quantity	Price
8.21964.0250	Plastic bottle	250 g	inquire

1,2-Bis-(2-chloroethoxy)-ethane → 1,2-Bis-(2-chloroethoxy) ethane page 464

Bis(2-chloroethyl)amine hydrochloride → Bis(2-chloroethyl)ammonium chloride page 464

Bis-(4-chlorophenyl)methanone → 4,4'-Dichlorobenzophenone page 716

## 818460 1,2-Bis(cyanomethyl)-benzene for synthesis

C<sub>10</sub>H<sub>8</sub>N<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,2-(CH<sub>2</sub>CN)<sub>2</sub>*o*-Xylylene dicyanide, 1,2-Phenylenediacetonitrile

■ CAS-No. 613-73-0 ■ EC-No. 210-351-3

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 156.18 g/mol ■ Melting point 57 - 59 °C

- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A ■ Store below +15°C.
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(1,2-BIS(CYANMETHYL)-BENZOL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(1,2-BIS(CYANMETHYL)-BENZENE), 6.1, III

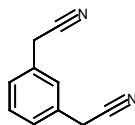
■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(1,2-BIS(CYANMETHYL)-BENZENE), 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 57 °C  
 Melting range (upper value)..... ≤ 59 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18460.0010	Plastic bottle	10 g	inquire

## 818463 1,3-Bis(cyanomethyl)-benzene for synthesis

C<sub>10</sub>H<sub>8</sub>N<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,3-(CH<sub>2</sub>CN)<sub>2</sub>*m*-Xylylene dicyanide, 1,3-Phenylenediacetonitrile

■ CAS-No. 626-22-2 ■ EC-No. 210-936-3

■ Flash point &gt;110 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 156.18 g/mol

- Melting point 31 - 34 °C
- Boiling point 230 - 240 °C (27 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A ■ Store below +15°C.
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(1,3-BIS(CYANMETHYL)-BENZOL), 6.1, III ■ IMDG-

Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(1,3-BIS(CYANMETHYL)-BENZENE), 6.1, III

■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(1,3-BIS(CYANMETHYL)-BENZENE), 6.1, III

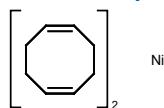
**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 31 °C  
 Melting range (upper value)..... ≤ 34 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18463.0010	Plastic bottle	10 g	inquire

Biscyclohexanone oxalylidihydrazone → Oxalic acid bis(cyclohexylidene hydrazide) page 1253

## 843806 Bis(1,5-cyclooctadiene)nickel(0) for synthesis



$C_{16}H_{24}Ni$   
 $(C_8H_{12})_2Ni$   
 ■ CAS-No. 1295-35-8 ■ EC-No. 215-072-0  
 ■ Solub. in  $H_2O$  (20 °C) insoluble ■  $M = 275.08$  g/mol  
 ■ Melting point 60 °C (decomposition)

■ WGK 3  
 ■ GHS: Danger, Flammable solid, Category 1, H228; Skin sensitisation, Category 1, H317, P210, P262, P280, P302 + P352  
 ■ LGK 4.1B  
 ■ HS-No. 2931 90 90 ■ Disposal 15  
 ■ ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(BIS(1,5-CYCLOOCTADIEN)NICKEL), 4.1, II ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(BIS(1,5-CYCLOOCTADIENE)NICKEL), 4.1, II

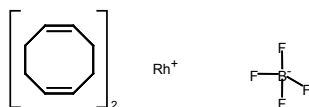
■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(BIS(1,5-CYCLOOCTADIENE)NICKEL), 4.1, II

## Specification

Assay (of Ni) .....  $\geq 96.0$  %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43806.0001	Glass bottle	1 g	inquire
8.43806.0005	Glass bottle	5 g	inquire

## 824425 Bis(cycloocta-1,5-dien)rhodium(I)-tetrafluoroborat for synthesis



$C_{16}H_{24}BF_4Rh$   
 ■ CAS-No. 35138-22-8  
 ■ Spec. density 0.42 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  (20 °C) soluble ■  $M = 406.08$  g/mol  
 ■ pH value 7 (5 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 190 °C (decomposition)  
 ■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 8A  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(BIS(CYCLOOCTA-1,5-DIEN)RHODIUM(I)-TETRAFLUOROBORAT), 8, III ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(BIS(CYCLOOCTA-

1,5-DIEN)RHODIUM(I)-TETRAFLUOROBORAT), 8, III  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(BIS(CYCLOOCTA-1,5-DIEN)RHODIUM(I)-TETRAFLUOROBORAT), 8, III

## Specification

Assay (on Rh) ..... 24.0 - 26.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24425.0250	Glass bottle	250 mg	inquire
8.24425.1000	Glass bottle	1 g	inquire

## 843808 Bis(cyclopentadienyl)chromium(II) for synthesis



$C_{10}H_{10}Cr$   
 $(C_5H_5)_2Cr$   
 ■ CAS-No. 1271-24-5 ■ EC-No. 215-036-4  
 ■  $M = 182.19$  g/mol ■ Melting point 172 - 173 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350i; Skin sensitisation, Category 1, H317; Acute

aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P308 + P313  
 ■ EC-Index-No. 024-017-00-8 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(BIS(CYCLOPENTADIENYL)CHROM(II)), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(BIS(CYCLOPENTADIENYL)CHROMIUM(II)), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

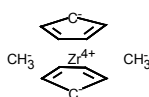
N.O.S.(BIS(CYCLOPENTADIENYL)CHROMIUM(II)), 9, III

## Specification

Assay (ex Cr) .....  $\geq 96.0$  %  
 Melting range (lower value) .....  $\geq 170$  °C  
 Melting range (upper value) .....  $\leq 174$  °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43808.0001	Glass bottle	1 g	inquire
8.43808.0005	Glass bottle	5 g	inquire

## 843807 Bis(cyclopentadienyl)dimethylzirconium(IV) for synthesis



$C_{12}H_{16}Zr$   
 $[(CH_3)_2(C_5H_5)_2]Zr$

■ CAS-No. 12636-72-5  
 ■  $M = 251.48$  g/mol  
 ■ Melting point 170 °C (decomposition)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13

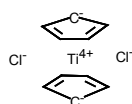
■ HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (ex Cr) .....  $\geq 95.0$  %

Ord.No.	Packaging	Quantity	Price
8.43807.0001	Glass bottle	1 g	inquire
8.43807.0005	Glass bottle	5 g	inquire

## 803036 Bis(cyclopentadienyl)titanium dichloride for synthesis



$C_{10}H_{10}Cl_2Ti$   
 $(C_5H_5)_2TiCl_2$   
 Dichlorodicyclopentadienyltitanium, Titanocene dichloride

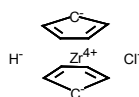
■ CAS-No. 1271-19-8 ■ EC-No. 215-035-9  
 ■ Solub. in  $H_2O$  (20 °C) (decomposition)  
 ■  $M = 248.96$  g/mol ■ Melting point 289 - 291 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (ex Cl) .....  $\geq 98.0$  % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03036.0005	Glass bottle	5 g	inquire
8.03036.0025	Glass bottle	25 g	inquire

## 843857 Bis(cyclopentadienyl)zirconium chloride hydride for synthesis



$C_{10}H_{11}ClZr$   
 ■ CAS-No. 37342-97-5 ■ EC-No. 253-479-5  
 ■  $M = 257.87$  g/mol ■ Melting point  $>300$  °C  
 ■ WGK 3  
 ■ GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases,

Category 2, H261; Skin corrosion, Category 1B, H314, P280, P301 + P330, P305 + P351 + P338, P309 + P310  
 ■ LGK 4.3  
 ■ HS-No. 2931 90 90 ■ Disposal 26  
 ■ ADR-RID UN 3131 Mit Wasser reagierender fester Stoff, ätzend, n.a.g.(BIS(CYCLOPENTADIENYL)ZIRKONIUMCHLORHYDRID), 4.3 (8), II ■ IMDG-Code UN 3131 WATER-REACTIVE SOLID, CORROSIVE, N.O.S.(BIS(CYCLOPENTADIENYL)ZIRKONIUM CHLORIDE HYDRIDE), 4.3 (8), II,

Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3131 WATER-REACTIVE SOLID, CORROSIVE, N.O.S.(BIS(CYCLOPENTADIENYL)ZIRKONIUM CHLORIDE HYDRIDE), 4.3 (8), II

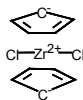
## Specification

Assay (argentometric) .....  $\geq 97.5$  % (m)

Ord.No.	Packaging	Quantity	Price
8.43857.0001	Glass bottle	1 g	inquire
8.43857.0005	Glass bottle	5 g	inquire



## 803027 Bis(cyclopentadienyl)zirconium dichloride for synthesis



$C_{10}H_{10}Cl_2Zr$   
 $(C_5H_5)_2ZrCl_2$   
 Zirconocene

dichloride, Dichlorodicyclopentadienylzirconium  
 ■ CAS-No. 1291-32-3 ■ EC-No. 215-066-8  
 ■ M = 292.32 g/mol ■ Melting point 242 - 245 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13

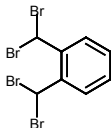
■ HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 97,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03027.0005	Glass bottle	5 g	inquire
8.03027.0025	Glass bottle	25 g	inquire

## 821890 1,2-Bis(dibromomethyl)-benzene for synthesis



$C_8H_6Br_4$   
 $C_6H_4-1,2-(CHBr_2)_2$   
 $\alpha,\alpha,\alpha',\alpha'$ -Tetrabromo-*o*-xylene  
 ■ CAS-No. 13209-15-9 ■ EC-No. 236-176-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 421.75 g/mol

mol ■ Melting point 117 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338  
 ■ LGK 6.1A  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 3143 Farbstoffzwischenprodukt, fest, giftig, n.a.g.(1,2-BIS(DIBROMMETHYL)-BENZOL), 6.1, II ■ IMDG-Code UN 3143 DYE

INTERMEDIATE, SOLID, TOXIC, N.O.S.(1,2-BIS(DIBROMMETHYL)BENZENE), 6.1, II  
 ■ IATA-DGR UN 3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.(1,2-BIS(DIBROMMETHYL)BENZENE), 6.1, II

## Specification

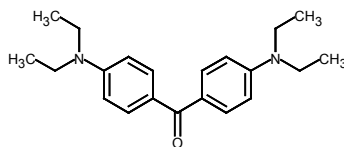
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21890.0100	Glass bottle	100 g	inquire

Bis(dibutylacetoxytin) oxide → 1,3-Diacetoxy-1,1,3,3-tetrabutylstannoxane page 691

1,4-Bis(dicyanomethylene)-2,5-cyclohexadiene → 7,7,8,8-Tetracyanoquinonedimethane page 1528

## 820161 4,4'-Bis(diethylamino)-benzophenone for synthesis



$C_{21}H_{28}N_2O$   
 $4-[C_2H_5]_2N[C_6H_4CO]C_6H_4-4-[N(C_2H_5)_2]$   
*N,N,N',N'*-Tetraethyl-4,4'-diaminobenzophenone, Michler ethylketone  
 ■ CAS-No. 90-93-7 ■ EC-No. 202-025-4  
 ■ Flash point 151 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 324.46 g/mol

■ pH value 4 - 6 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 90 - 95 °C ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Warning, Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P305 + P351 + P338  
 ■ LD50 oral rat 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 39 00 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(4,4-BIS(DIETHYLAMINO)-BENZOPHENON), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,

SOLID, N.O.S.(4,4-BIS(DIETHYLAMINO)-BENZOPHENONE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4,4-BIS(DIETHYLAMINO)-BENZOPHENONE), 9, III

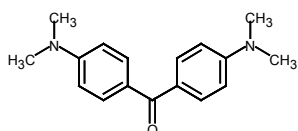
## Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 90 °C  
 Melting range (upper value)..... ≤ 95 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20161.0050	Glass bottle	50 g	inquire
8.20161.0250	Glass bottle	250 g	inquire

1,4-Bis(dimethylamino)benzene → *N,N,N',N'*-Tetramethyl-1,4-phenylenediamine page 1542

## 808125 4,4'-Bis(dimethylamino)-benzophenone for synthesis



$C_{17}H_{20}N_2O$   
 $[(CH_3)_2N]C_6H_4COC_6H_4-4-[N(CH_3)_2]$   
*N,N,N',N'*-Tetramethyl-4,4'-diaminobenzophenone, Michler ketone  
 ■ CAS-No. 90-94-8 ■ EC-No. 202-027-5

■ Flash point 220 °C ■ Solub. in H<sub>2</sub>O 0.4 g/l (20 °C) ■ M = 268.35 g/mol ■ pH value 7 (H<sub>2</sub>O) neutral ■ Melting point 172 - 175 °C  
 ■ Bulk density 400 kg/m<sup>3</sup> ■ Boiling point >360 °C (1013 hPa) ■ Ignition temp. 480 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Serious eye damage, Category 1, H318, P201, P280, P305 + P351 + P338, P313  
 ■ LD50 oral rat > 6400 mg/kg  
 ■ EC-Index-No. 606-073-00-0 ■ LGK 6.1A

■ HS-No. 2922 39 00 ■ Disposal 9

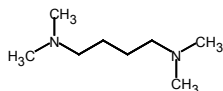
## Specification

Assay (HClO<sub>4</sub>)..... ≥ 97,0 % (m)  
 Melting range (lower value)..... ≥ 171 °C  
 Melting range (upper value)..... ≤ 175 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08125.0250	Plastic bottle	250 g	inquire
8.08125.1000	Plastic bottle	1 kg	inquire

4,4'-Bis-(dimethylamino)-benzophenonimide hydrochloride → page 191

## 841843 1,4-Bis(dimethylamino)-butane for synthesis



$C_8H_{20}N_2$   
 ■ CAS-No. 111-51-3 ■ EC-No. 203-878-5  
 ■ Spec. density 0.792 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 46 °C ■ M = 144.26 g/mol  
 ■ Boiling point 166 - 167 °C (1013 hPa)  
 ■ WGK 3

■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 2921 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(1,4-BIS(DIMETHYLAMINO)-BUTAN), 8 (3), II ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(1,4-BIS(DIMETHYLAMINO)-BUTANE), 8 (3), II,

Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(1,4-BIS(DIMETHYLAMINO)-BUTANE), 8 (3), II

## Specification

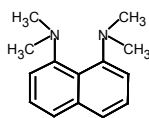
Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 0,790 - 0,794  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41843.0005	Glass bottle	5 ml	inquire

1,2-Bis(dimethylamino)ethane → page 1541

*N,N*-Bis(2-dimethylaminoethyl)methylamine → *N,N,N',N''*-Pentamethyldiethylenetriamine page 1267

## 818085 1,8-Bis(dimethylamino)-naphthalene for synthesis



$C_{14}H_{18}N_2$   
*N,N,N',N'*-Bis(dimethylamino) naphthalene  
 ■ CAS-No. 20734-58-1 ■ EC-No. 244-001-6  
 ■ Flash point 113 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 214.3 g/mol  
 ■ Melting point 44 - 47 °C  
 ■ Boiling point 144 - 145 °C (5 hPa)

■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 8A  
 ■ HS-No. 2921 59 90 ■ Disposal 3  
 ■ ADR-RID UN 3259 Polyamine, fest, ätzend, n.a.g.(1,8-BIS(DIMETHYLAMINO)-NAPHTHALIN), 8, III ■ IMDG-Code UN 3259 POLYAMINES, SOLID, CORROSIVE, N.O.S.(1,8-BIS(DIMETHYLAMINO)-NAPHTHALIN), 8, III, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 3259 POLYAMINES, SOLID, CORROSIVE, N.O.S.(1,8-BIS(DIMETHYLAMINO)-NAPHTHALIN), 8, III

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 96.0 %  
 Melting range (lower value)..... ≥ 45 °C  
 Melting range (upper value)..... ≤ 50 °C  
 Identity (IR)..... passes test

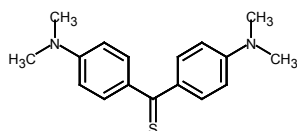
Ord.No.	Packaging	Quantity	Price
8.18085.0010	Glass bottle	10 g	inquire

*N,N,N',N'*-Bis(dimethylamino) naphthalene → 1,8-Bis(dimethylamino)-naphthalene page 468

3,7-Bis(dimethylamino)phenazathionium chloride → page 190

3,7-Bis(dimethylamino)phenothiazinium chloride → page 1149

## 820162 4,4'-Bis(dimethylamino)thiobenzophenone for synthesis



$C_{17}H_{20}N_2S$

$[(CH_3)_2NC_6H_4CSC_6H_4-N(CH_3)_2]$   
*N,N,N',N'*-Tetramethyl-4,4'-diaminothiobenzophenone, Michler thioketone  
 ■ CAS-No. 1226-46-6 ■ EC-No. 214-962-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 284.42 g/mol  
 ■ Melting point 198 - 206 °C  
 ■ WGK 3  
 ■ LGK 10 - 13

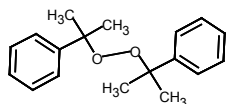
■ HS-No. 2930 90 99 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 96.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20162.0010	Glass bottle	10 g	inquire

## 820163 Bis(α,α-dimethylbenzyl) peroxide for synthesis



$C_{18}H_{22}O_2$   
 $C_6H_5C(CH_3)_2OOC(CH_3)_2C_6H_5$   
*Dicumyl peroxide*  
 ■ CAS-No. 80-43-3 ■ EC-No. 201-279-3  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 270.37 g/mol  
 ■ Melting point 37 - 40 °C ■ Bulk density 520 kg/l

m<sup>3</sup> ■ Boiling point 70 °C decomposes  
 ■ WGK 2  
 ■ GHS: Warning, Organic peroxide, Type F, H242; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 4100 mg/kg  
 ■ EC-Index-No. 617-006-00-X ■ LGK 5.2  
 ■ HS-No. 2909 60 00 ■ Disposal 10  
 ■ ADR-RID UN 3110 Organisches Peroxid Typ F, fest(DICUMYLPEROXID), 5.2, ■ IMDG-Code UN 3110 ORGANIC PEROXIDE TYPE F, SOLID(DICUMYL

PEROXIDE), 5.2,  
 ■ IATA-DGR UN 3110 ORGANIC PEROXIDE TYPE F, SOLID(DICUMYL PEROXIDE), 5.2,

**Specification**

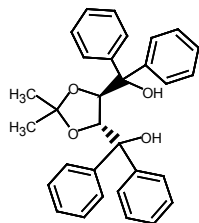
Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 38 °C  
 Melting range (upper value)..... ≤ 41 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20163.0005	Glass bottle	5 g	inquire
8.20163.0250	Plastic bottle	250 g	inquire

Bis(dimethylthiocarbamyl) disulphide → Tetramethylthiuram disulfide page 1545

3,5-Bis(1,1-dimethylethyl)-1,2-benzenediol → 3,5-Di-tert-butylcatechol page 707

## 818470 (2R,3R)-(-)-4,5-Bis(diphenylhydroxymethyl)-2,2-dimethyl-1,3-dioxolane for synthesis



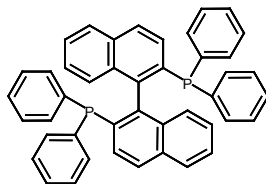
$C_{31}H_{30}O_4$   
*(2R,3R)-(-)-1,1,4,4-Tetraphenyl-2,3-(2-propylidenedioxy)butane-1,4-diol, Seebach reagent*  
 ■ CAS-No. 93379-48-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 466.57 g/mol  
 ■ Melting point 190 - 193 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (DSC) ..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 192 °C  
 Melting range (upper value)..... ≤ 196 °C  
 Spec. rotation  $[\alpha]_D^{20}$  (c=1 in Aceton)..... -72.0 - -68.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18470.0001	Glass bottle	1 g	inquire

## 824409 (S)-(-)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl for synthesis

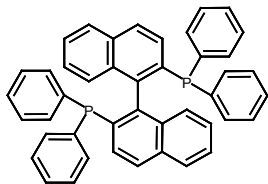


$C_{44}H_{32}P_2$   
 ■ CAS-No. 76189-56-5  
 ■ M = 622.69 g/mol ■ Melting point 240 - 242 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
**Specification**

Assay (HPLC, area%) ..... ≥ 96.0 % (a/a)  
 Spec. rotation  $[\alpha]_D^{20}$  (c= 0,3 in toluene) ... -240,0 - -230,0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.24409.0250	Glass bottle	250 mg	inquire
8.24409.1000	Glass bottle	1 g	inquire

## 824410 (R)-(+)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl for synthesis



C<sub>44</sub>H<sub>32</sub>P<sub>2</sub>  
 ■ CAS-No. 76189-55-4  
 ■ M = 622.69 g/mol ■ Melting point 238 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 94,0 % (a/a)  
 Melting range (lower value)..... ≥ 234 °C

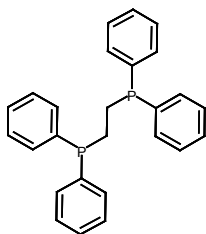
Melting range (upper value) ..... ≤ 242 °C  
 Spec. rotation [α<sup>20</sup>/D (c= 0,3 in toluene) .....  
 Melting range (upper value) ..... ≤ 230,0 - 240,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24410.0250	Glass bottle	250 mg	inquire
8.24410.1000	Glass bottle	1 g	inquire

(+)-1,4-Bis(diphenylphosphino)-1,4-dideoxy-2,3-O-isopropylidene-D-threitol → (4S,5S)-(+)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane page 469

(-)-1,4-Bis(diphenylphosphino)-1,4-dideoxy-2,3-O-isopropylidene-L-threitol → (4R,5R)-(-)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane page 469

## 841081 1,2-Bis(diphenylphosphino)-ethane for synthesis



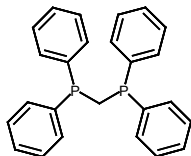
C<sub>26</sub>H<sub>24</sub>P<sub>2</sub>  
*Ethylenebis(diphenylphosphine), Diphos, Dppe*  
 ■ CAS-No. 1663-45-2 ■ EC-No. 216-769-2  
 ■ M = 398.42 g/mol ■ Melting point 138 - 142 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 138 °C  
 Melting range (upper value) ..... ≤ 142 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41081.0010	Glass bottle	10 g	inquire

## 841115 Bis(diphenylphosphino)-methane for synthesis



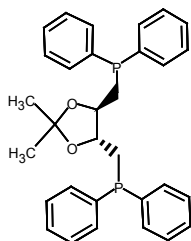
C<sub>25</sub>H<sub>22</sub>P<sub>2</sub>  
*Methylenebis(diphenylphosphine)*  
 ■ CAS-No. 2071-20-7 ■ EC-No. 218-194-2  
 ■ M = 384.39 g/mol ■ Melting point 118 - 119 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Melting range (lower value)..... ≥ 118 °C  
 Melting range (upper value) ..... ≤ 121 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41115.0005	Plastic bottle	5 g	inquire

## 824430 (4R,5R)-(-)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane for synthesis



(-)-DIOP, (-)-2,3-O-Isopropylidene-2,3-dihydroxy-1,4-bis(diphenylphosphino)-butane, (-)-1,4-Bis(diphenylphosphino)-1,4-dideoxy-2,3-O-isopropylidene-L-threitol  
 ■ CAS-No. 32305-98-9 ■ EC-No. 250-984-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 498.54 g/mol ■ Melting point 86 - 89 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13

■ HS-No. 2932 99 00 ■ Disposal 3

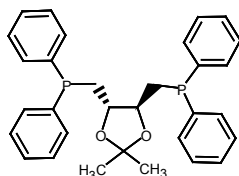
**Specification**

Assay (HPLC, area%) ..... ≥ 96,0 % (a/a)  
 Melting range (lower value)..... ≥ 86 °C  
 Melting range (upper value) ..... ≤ 89 °C  
 Spec. rotation [α<sup>20</sup>/D (c=2.3 in chloroform) .....  
 Melting range (upper value) ..... ≤ -27,0 - -25,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24430.0500	Glass bottle	500 mg	inquire

C<sub>31</sub>H<sub>32</sub>O<sub>2</sub>P<sub>2</sub>

## 824429 (4S,5S)-(+)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane for synthesis



isopropylidene-D-threitol  
 ■ CAS-No. 37002-48-5 ■ EC-No. 253-307-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 498.54 g/mol ■ Melting point 86 - 89 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 99 00 ■ Disposal 3

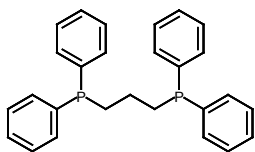
Assay (HPLC, area%) ..... ≥ 95,0 % (a/a)  
 Melting range (lower value)..... ≥ 87 °C  
 Melting range (upper value) ..... ≤ 91 °C  
 Spec. rotation [α<sup>20</sup>/D (c=2 in benzene) .....  
 Melting range (upper value) ..... ≤ 11,5 - 12,5 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24429.0500	Glass bottle	500 mg	inquire

C<sub>31</sub>H<sub>32</sub>O<sub>2</sub>P<sub>2</sub>

(+)-DIOP, (+)-2,3-O-Isopropylidene-2,3-dihydroxy-1,4-bis(diphenylphosphino)-butane, (+)-1,4-Bis(diphenylphosphino)-1,4-dideoxy-2,3-O-

## 841492 1,3-Bis(diphenylphosphino)-propane for synthesis



C<sub>27</sub>H<sub>26</sub>P<sub>2</sub>  
 ■ CAS-No. 6737-42-4 ■ EC-No. 229-791-2

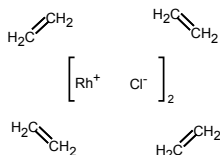
- M = 412.44 g/mol ■ Melting point 60 - 63 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 59 °C  
 Melting range (upper value) ..... ≤ 63 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41492.0001	Glass bottle	1 g	inquire
8.41492.0005	Glass bottle	5 g	inquire

## 824437 Bis(ethylene)rhodium(I) chloride dimer (53% Rh) for synthesis



C<sub>8</sub>H<sub>16</sub>Cl<sub>2</sub>Rh<sub>2</sub>  
 (CH<sub>2</sub>=CH<sub>2</sub>)<sub>4</sub>Rh<sub>2</sub>Cl<sub>2</sub>

**Tetrakis(ethylene)dirhodium(I) dichloride**

- CAS-No. 12081-16-2 ■ EC-No. 235-145-0
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 388.94 g/mol
- WGK 3
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13 ■ Store at +2 °C to +8 °C.
- HS-No. 2843 90 90 ■ Disposal 27
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

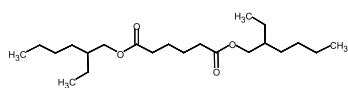
- IATA-DGR No Dangerous Good

**Specification**

Assay (ex Cl) ..... ≥ 95.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24437.0100	Glass bottle	100 mg	inquire

## 801453 Bis(2-ethylhexyl) adipate for synthesis



C<sub>22</sub>H<sub>42</sub>O<sub>4</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH(C<sub>2</sub>H<sub>5</sub>)CH<sub>2</sub>OOC(CH<sub>2</sub>)<sub>4</sub>COOCH<sub>2</sub>CH(C<sub>2</sub>H<sub>5</sub>)(CH<sub>2</sub>)<sub>3</sub>  
*Bis(2-ethylhexyl) hexanedioate, Di-(2-ethylhexyl) adipate, Diisooctyl adipate, Hexanedioic bis(2-ethylhexyl ester)*  
 ■ CAS-No. 103-23-1 ■ EC-No. 203-090-1  
 ■ Refractive index 1.447 (20 °C, 589 nm) ■ Vapour

- pressure < 0.001 hPa (20 °C)
- Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.24 % (V) ■ Flash point 195 °C ■ Solub. in H<sub>2</sub>O < 0.0001 g/l (20 °C) ■ M = 370.57 g/mol
- pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point -68 - -66 °C ■ Boiling point 247 - 252 °C (27 hPa)
- Ignition temp. 350 °C DIN 51794
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331, P304 + P340, P309 + P310
- LC50 rat > 5.7 mg/l
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit 8410 mg/kg

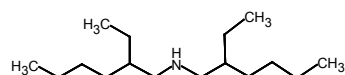
- LGK 10 - 13
- HS-No. 2917 12 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,924 - 0,926  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01453.0100	Plastic bottle	100 ml	inquire
8.01453.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

## 818191 Bis(2-ethylhexyl) amine for synthesis



C<sub>16</sub>H<sub>35</sub>N  
 [CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH(C<sub>2</sub>H<sub>5</sub>)CH<sub>2</sub>]<sub>2</sub>NH  
*Diisooctylamine, Di-(2-ethylhexyl)-amin*  
 ■ CAS-No. 106-20-7 ■ EC-No. 203-372-4  
 ■ Vapour pressure 0.01 hPa (20 °C)  
 ■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.6 - 3.7 % (V) ■ Flash point 121 °C ■ Solub. in H<sub>2</sub>O 0.045 g/l (20 °C) ■ M = 241.45 g/mol  
 ■ pH value > 7 (H<sub>2</sub>O) ■ Melting point < -60 °C  
 ■ Boiling point 122 - 124 °C (7 hPa)

- Ignition temp. 230 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 0.92 mg/l
- LD50 oral rat 1008 mg/kg ■ LD50 dermal rabbit 958 mg/kg
- LGK 6.1A
- HS-No. 2921 19 99 ■ Disposal 3

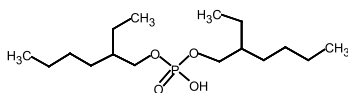
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(BIS(2-ETHYLHEXYL)-AMIN), 8 (6.1), II
- IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(BIS(2-ETHYLHEXYL)-AMINE), 8 (6.1), II
- IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(BIS(2-ETHYLHEXYL)-AMINE), 8 (6.1), II

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 0.803 - 0.805  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18191.0250	Glass bottle	250 ml	inquire

## 814181 Bis(2-ethylhexyl) phosphate for synthesis



C<sub>16</sub>H<sub>35</sub>O<sub>4</sub>P  
 (CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH(C<sub>2</sub>H<sub>5</sub>)CH<sub>2</sub>O)<sub>2</sub>POOH  
*HDEHP, Phosphoric acid bis(2-ethylhexyl) ester, Bis(2-ethylhexyl) phosphoric acid*  
 ■ CAS-No. 298-07-7 ■ EC-No. 206-056-4  
 ■ Refractive index 1.443 (20 °C, 589 nm) ■ Vapour pressure < 0.1 hPa (20 °C) ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Flash point 150 °C ■ Solub. in

- H<sub>2</sub>O < 1 g/l (20 °C) ■ M = 322.42 g/mol
- pH value 3 (< 1 g/l, H<sub>2</sub>O) ■ Melting point -50 °C
- Boiling point 48 °C (16 hPa)
- Ignition temp. > 300 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 4940 mg/kg ■ LD50 dermal rabbit 1250 mg/kg
- LGK 8A
- HS-No. 2919 90 00 ■ Disposal 3

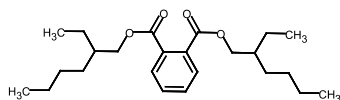
- ADR-RID UN 1902 Diisooctylphosphat, 8, III
- IMDG-Code UN 1902 DIISOCTYL ACID PHOSPHATE, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 1902 DIISOCTYL ACID PHOSPHATE, 8, III

**Specification**

Assay (acidimetric) ..... ≥ 95.0 % (m)  
 Density (d 20 °C / 4 °C) ..... 0,968 - 0,975  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14181.0250	Glass bottle	250 ml	inquire
8.14181.1000	Glass bottle	1 l	inquire

## 821874 Bis(2-ethylhexyl) phthalate for synthesis

C<sub>24</sub>H<sub>38</sub>O<sub>4</sub>

C<sub>6</sub>H<sub>4</sub>-1,2-[COOCH<sub>2</sub>CH(C<sub>2</sub>H<sub>5</sub>)CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>]<sub>2</sub>  
*Diisooctyl phthalate, Phthalic acid bis(2-ethylhexyl) ester, Di(2-ethylhexyl) phthalate, DOP*  
 ■ CAS-No. 117-81-7 ■ EC-No. 204-211-0  
 ■ Refractive index 1.4862 (20 °C, 589 nm)  
 ■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive

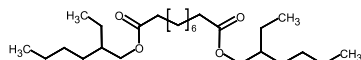
limit 0.1 - 0.2 % (V) ■ Flash point 195 °C ■ Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C) ■ M = 390.56 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point - 50 °C ■ Boiling point 385 °C (1013 hPa)  
 ■ Ignition temp. 400 °C  
 ■ WGK 1  
 ■ GHS: Danger, Reproductive toxicity, Category 1B, H360FD, P201, P308 + P313  
 ■ LC50 rat > 10.6 mg/l  
 ■ LD50 oral rat 30600 mg/kg  
 ■ LD50 dermal rabbit 25000 mg/kg  
 ■ EC-Index-No. 607-317-00-9 ■ LGK 6.1A  
 ■ HS-No. 2917 32 00 ■ Disposal 9

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.983 - 0.985  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21874.0100	Plastic bottle	100 ml	inquire
8.21874.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.21874.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

## 814576 Bis(2-ethylhexyl) sebacate for synthesis

C<sub>26</sub>H<sub>50</sub>O<sub>4</sub>*Dioctyl sebacate*

■ CAS-No. 122-62-3 ■ EC-No. 204-558-8  
 ■ Vapour pressure < 0.01 hPa (20 °C)

■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >200 °C ■ Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C) ■ M = 426.68 g/mol ■ Melting point - 55 °C ■ Boiling point >250 °C (1013 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 13 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.913 - 0.916  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14576.1000	Glass bottle	1 l	inquire

Bis(2-ethoxyethyl) ether → Diethylene glycol diethyl ether page 301

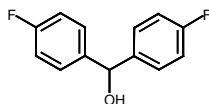
Bis(2-ethylhexyl) hexanedioate → Bis(2-ethylhexyl) adipate page 470

Bis(2-ethylhexyl) phosphoric acid → Bis(2-ethylhexyl) phosphate page 470

Bis-(4-fluorophenyl)-ketone → 4,4'-Difluorobenzophenone page 753

Bis(4-fluorophenyl)methane → 4,4'-Difluorodiphenylmethane page 754

## 840054 Bis(4-fluorophenyl)-methanol for synthesis

C<sub>13</sub>H<sub>10</sub>F<sub>2</sub>O*4,4'-Difluorobenzhydryl*

■ CAS-No. 365-24-2 ■ EC-No. 206-671-8

■ Spec. density 1 g/cm<sup>3</sup> ■ Flash point >110 °C  
 ■ M = 220.22 g/mol ■ Melting point 46 - 49 °C  
 ■ Boiling point 143 °C (4 hPa)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3

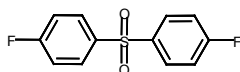
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 46 °C  
 Melting range (upper value) ..... ≤ 49 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40054.0010	Glass bottle	10 g	inquire

## 841368 Bis(4-fluorophenyl) sulfone for synthesis

C<sub>12</sub>H<sub>8</sub>F<sub>2</sub>O<sub>2</sub>S

■ CAS-No. 383-29-9 ■ EC-No. 206-847-4

■ M = 254.25 g/mol ■ Melting point 98 - 99 °C

■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3

## Specification

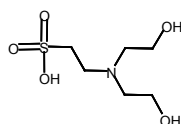
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 97 °C  
 Melting range (upper value) ..... ≤ 99 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41368.0005	Plastic bottle	5 g	inquire

Bis-(β-hydroxyethyl)-amine → page 316

## 115228 N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid buffer substance BES

C<sub>6</sub>H<sub>15</sub>NO<sub>5</sub>S*BES*

■ CAS-No. 10191-18-1 ■ EC-No. 233-465-5

■ M = 213.24 g/mol ■ Melting point 152 - 156 °C

■ WGK 3

■ LGK 10 - 13  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 Properties: pK<sub>a</sub> (20 °C) = 7.15.

## Specification

Assay (alkalimetric) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... passes test  
 UV-Absorption (250 nm, 50 g/l, 1 cm, water) ..... ≤ 0.05  
 Chloride (Cl) ..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %

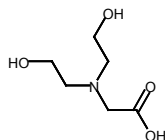
Na (Sodium) ..... ≤ 0.01 %  
 Loss on drying (105 °C) ..... ≤ 0.5 %  
 Biological buffer, pK<sub>a</sub> at 20 °C ..... 7.15

Ord.No.	Packaging	Quantity	Price
1.15228.0025	Plastic bottle	25 g	inquire
1.15228.0250	Plastic bottle	250 g	inquire
1.15228.9010	Plastic drum	10 kg	inquire

Bis(hydroxyethyl)-aminopropyl-N-hydroxyethyl-octadecyl-aminodihydrofluoride → N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid page 471



## 101910 N,N-Bis(2-hydroxyethyl) glycine (BICINE) buffer substance

C<sub>6</sub>H<sub>13</sub>NO<sub>4</sub>

- CAS-No. 150-25-4 ■ EC-No. 205-755-1
- Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ M = 163.17 g/mol
- pH value 4 - 5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 185 - 192 °C

- Bulk density 364 kg/m<sup>3</sup>
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2922 50 00 ■ Disposal 3
- Properties: pK = 8.35. Soluble in water; hardly soluble in ethanol, ether, chloroform and benzene.

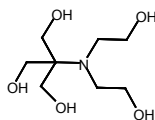
**Specification**

- Assay (perchloric acid titration)..... ≥ 99 %
- Identity (IR-spectrum)..... passes test
- UV-Absorption (250 nm, 50 g/l, 1 cm, water)..... ≤ 0.05
- Chloride (Cl)..... ≤ 0.005 %

- Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %
- Heavy metals (as Pb)..... ≤ 0.0005 %
- Na (Sodium)..... ≤ 0.005 %
- Loss on drying (105 °C)..... ≤ 0.2 %
- Biological buffer, pKa at 20 °C..... 8.35

Ord.No.	Packaging	Quantity	Price
1.01910.0025	Plastic bottle	25 g	inquire
1.01910.0250	Plastic bottle	250 g	inquire
1.01910.9010	Plastic drum	10 kg	inquire

## 103252 2,2-Bis(hydroxyethyl)-(iminotris)-(hydroxymethyl)-methane BIS-TRIS

C<sub>8</sub>H<sub>19</sub>NO<sub>5</sub>

- CAS-No. 6976-37-0 ■ EC-No. 230-237-7
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 209.24 g/mol
- pH value 9.4 - 9.8 (20 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 103 - 105 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2922 19 85 ■ Disposal 3
- Biological buffer pKa (25 °C) = 6.5.

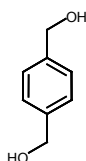
**Specification**

- Assay (perchloric acid titration)..... ≥ 99.0 %
- Identity (IR-spectrum)..... conforms
- Absorbance A (280 nm; 10 %; 1 cm; water) ≤ 0.1
- pH-value (2 %; water)..... 9.4 - 9.8

- Chloride (Cl)..... ≤ 0.005 %
- Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %
- Fe (Iron)..... ≤ 0.001 %
- Pb (Lead)..... ≤ 0.001 %
- Sulfated ash..... ≤ 0.05 %
- Loss on drying (60 °C; vacuum)..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.03252.0025	Glass bottle	25 g	inquire
1.03252.0250	Glass bottle	250 g	inquire

## 841683 1,4-Bis(hydroxymethyl)-benzene for synthesis

C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>

- CAS-No. 589-29-7 ■ EC-No. 209-641-2
- M = 138.16 g/mol ■ Melting point 116 - 117 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

**Specification**

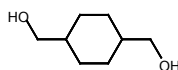
- Assay (HPLC, area%)..... ≥ 97,0 Area %

- Melting range (lower value)..... ≥ 115 °C
- Melting range (upper value)..... ≤ 119 °C
- Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41683.0010	Glass bottle	10 g	inquire

1,2-Bishydroxymethylbenzene → 1,2-Benzenedimethanol page 436

## 801610 1,4-Bis(hydroxymethyl)-cyclohexane (mixture of cis- and trans-isomers) for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>

- 1,4-Cyclohexylenedimethanol, 1,4-Dimethylcyclohexane, 1,4-Cyclohexanedimethanol
- CAS-No. 105-08-8 ■ EC-No. 203-268-9
- Vapour pressure < 0.24 hPa (20 °C)

- Spec. density 1.04 g/cm<sup>3</sup> (20 °C)
- Flash point 160 °C DIN 51758 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 144.22 g/mol
- pH value 4.2 (250 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 34.6 °C ■ Boiling point 286 °C (1013 hPa) ■ Ignition temp. 330 °C DIN 51794
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg

- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 3

**Specification**

- Assay (GC, area%)..... ≥ 98,0 Area %
- Identity (IR)..... conforms

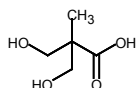
Ord.No.	Packaging	Quantity	Price
8.01610.0250	Plastic bottle	250 g	inquire

1,4-Bis-(hydroxymethyl)-cyclohexane-mono-vinylether → Cyclohexane-1,4-dimethanolmono-vinylether page 671

(4R,5R)-(-)-4,5-Bis(hydroxymethyl)-2,2-dimethyl-1,3-dioxolane → (-)-2,3-O-isopropylidene-D-threitol page 1054

2,2-Bis(hydroxymethyl)-1,3-propanediol → Pentaerythritol page 1264

## 814996 2,2-Bis(hydroxymethyl)propionic acid for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>4</sub>

- CAS-No. 4767-03-7 ■ EC-No. 225-306-3
- Spec. density 0.84 g/cm<sup>3</sup> ■ Flash point > 150 °C
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 134.13 g/mol

- mol ■ pH value 2.6 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 188 - 191 °C
- Ignition temp. > 300 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P260, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2918 19 40 ■ Disposal 3

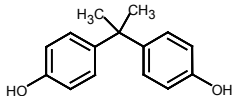
**Specification**

- Assay (acidimetric)..... ≥ 98,0 % (m)
- Melting range (lower value)..... ≥ 182 °C
- Melting range (upper value)..... ≤ 186 °C
- Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14996.0250	Glass bottle	250 g	inquire
8.14996.1000	Plastic bottle	1 kg	inquire



## 803546 2,2-Bis(4-hydroxyphenyl) propane for synthesis



$C_{15}H_{16}O_2$   
 [4-(HO)C<sub>6</sub>H<sub>4</sub>]<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>  
 2,2'-(4,4'-Dihydroxydiphenyl)propane, 2,2-Bis(4-hydroxyphenyl)propane, 4,4'-Isopropylidenediphenol, Bisphenol  
 ■ CAS-No. 80-05-7 ■ EC-No. 201-245-8  
 ■ Vapour pressure 0.86 hPa (190 °C)  
 ■ Spec. density 1.19 g/cm<sup>3</sup> (25 °C)

■ Flash point 227 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 228.29 g/mol  
 ■ pH value 6.4 (H<sub>2</sub>O) ■ Melting point 155 °C  
 ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 220 °C (5 hPa) ■ Ignition temp. 510 °C  
 ■ WGK 2  
 ■ GHS: Danger, Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - single exposure, Category 3, H335; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317, P281, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LD50 oral rat 3250 mg/kg ■ LD50 dermal rabbit

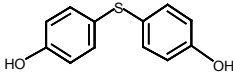
3000 mg/kg  
 ■ EC-Index-No. 604-030-00-0 ■ LGK 10 - 13  
 ■ HS-No. 2907 23 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 154 °C  
 Melting range (upper value) ..... ≤ 157 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03546.0100	Plastic bottle	100 g	inquire
8.03546.1000	Plastic bottle	1 kg	inquire

## 814209 Bis(4-hydroxyphenyl)sulfide for synthesis



$C_{12}H_{10}O_2S$   
 4,4'-Thiodiphenol, 4,4'-Dihydroxyphenyl sulfide  
 ■ CAS-No. 2664-63-3 ■ EC-No. 220-197-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 218.26 g/mol

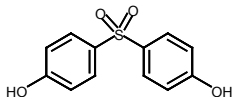
mol ■ Melting point 149 - 152 °C  
 ■ WGK 2  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 3362 mg/kg ■ LD50 dermal rabbit > 10250 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 149 °C  
 Melting range (upper value) ..... ≤ 153 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14209.0100	Plastic bottle	100 g	inquire

## 803258 Bis(4-hydroxyphenyl) sulfone for synthesis



$C_{12}H_{10}O_4S$   
 [4-(HO)C<sub>6</sub>H<sub>4</sub>]<sub>2</sub>SO<sub>2</sub>  
 4,4'-Sulfonyldiphenol, 4,4'-Dihydroxydiphenyl sulfone  
 ■ CAS-No. 80-09-1 ■ EC-No. 201-250-5

■ Vapour pressure < 0.0001 Pa (20 °C)  
 ■ Spec. density 0.5 - 0.6 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1.1 g/l (20 °C) ■ M = 250.26 g/mol  
 ■ pH value 6.6 - 7.0 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 242 - 247 °C  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ Ignition temp. >=400 °C  
 ■ WGK 2  
 ■ LD50 oral rat 2830 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 242 °C  
 Melting range (upper value) ..... ≤ 247 °C  
 Identity (IR) ..... conforms

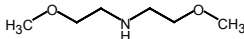
Ord.No.	Packaging	Quantity	Price
8.03258.0100	Glass bottle	100 g	inquire
8.03258.0500	Glass bottle	500 g	inquire

2,6-Bis(isopropyl)-benzenamine → 2,6-Diisopropylaniline page 766

Bis(lactimether) → (2R)-(-)-2,5-Dihydro-3,6-dimethoxy-2-isopropylpyrazine page 757

Bis(2-mercaptoethyl) ether → 2,2'-Oxydiethanethiol page 1257

## 841887 Bis(2-methoxyethyl)-amine for synthesis



$C_6H_{15}NO_2$   
 CH<sub>3</sub>-O-(CH<sub>2</sub>)<sub>2</sub>-NH-(CH<sub>2</sub>)<sub>2</sub>-O-CH<sub>3</sub>  
 ■ CAS-No. 111-95-5 ■ EC-No. 203-923-9  
 ■ Vapour pressure 1.3 hPa (20 °C)  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 8.5 % (V) ■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 133.19 g/mol  
 ■ pH value 12.4 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point < -60 °C  
 ■ Boiling point 170 - 172 °C  
 ■ Ignition temp. 235 °C DIN 51794

■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat > 58.2 mg/l  
 ■ LD50 oral rat 2000 - 2100 mg/kg  
 ■ LD50 dermal rat 1490 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(DI-(2-METHOXYETHYL)-AMIN), 8 (3), I ■ IMDG-Code UN 2734 AMINES, LIQUID,

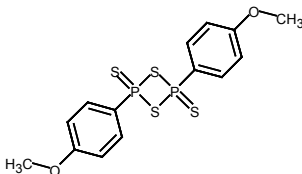
CORROSIVE, FLAMMABLE, N.O.S.(DI-(2-METHOXYETHYL)-AMINE), 8 (3), I, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(DI-(2-METHOXYETHYL)-AMINE), 8 (3), I

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99,0 %  
 Density (d 20 °C / 4 °C) ..... 0,911 - 0,913  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41887.0250	Glass bottle	250 ml	inquire

## 818179 2,4-Bis(4-methoxyphenyl)-2,4-dithioxo-1,3,2,4-dithiadiphosphetane for synthesis



$C_{14}H_{14}O_2P_2S_4$   
 4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>-P<sub>2</sub>S<sub>4</sub>-C<sub>6</sub>H<sub>4</sub>-4-(OCH<sub>3</sub>)  
 2,4-Bis(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane 2,4-disulfide, Lawesson's Reagent, p-Methoxyphenylthiophosphine sulfide (dimer)

■ CAS-No. 19172-47-5 ■ EC-No. 242-855-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 404.47 g/mol ■ Melting point 223 - 228 °C  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Substances, which in contact with water, emit flammable gases, Category 2, H261  
 ■ LGK 4.3  
 ■ HS-No. 2931 90 90 ■ Disposal 25  
 ■ ADR-RID UN 3134 Mit Wasser reagierender fester Stoff, giftig, n.a.g.(2,4-BIS(4-METHOXYPHENYL)-2,4-DITHIOXOL-1,3,2,4-DITHIADIPHOSPHETAN), 4.3 (6.1), II ■ IMDG-Code UN 3134 WATER-REACTIVE SOLID, TOXIC, N.O.S.(2,4-BIS(4-METHOXYPHENYL)-2,4-DITHIOXOL-1,3,2,4-DITHIA DIPHOSPHETANE), 4.3

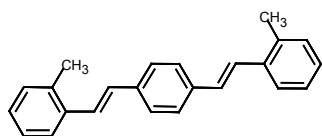
(6.1), II  
 ■ IATA-DGR UN 3134 WATER-REACTIVE SOLID, TOXIC, N.O.S.(2,4-BIS(4-METHOXYPHENYL)-2,4-DITHIOXOL-1,3,2,4-DITHIA DIPHOSPHETANE), 4.3 (6.1), II

## Specification

Assay (acidimetric) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 220 °C  
 Melting range (upper value) ..... ≤ 226 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18179.0050	Glass bottle	50 g	inquire
8.18179.0250	Glass bottle	250 g	inquire

## 841875 1,4-Bis(2-methylstyryl)-benzene for synthesis



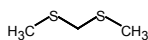
C<sub>24</sub>H<sub>22</sub>  
 Bis-MSB  
 ■ CAS-No. 13280-61-0 ■ EC-No. 236-285-5  
 ■ M = 310.43 g/mol ■ Melting point 179 - 181 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41875.0001	Plastic bottle	1 g	inquire

## 841684 Bis(methylthio)methane for synthesis



C<sub>3</sub>H<sub>8</sub>S<sub>2</sub>  
 CH<sub>3</sub>SCH<sub>2</sub>SCH<sub>3</sub>  
 ■ CAS-No. 1618-26-4 ■ EC-No. 216-577-9  
 ■ Spec. density 1.061 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 44 °C ■ M = 108.21 g/mol  
 ■ Boiling point 147 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3,

H226; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3 ■ Store below +15°C.  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(BIS(METHYLTHIO)-METHAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(BIS(METHYLTHIO)-METHANE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

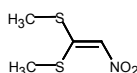
N.O.S.(BIS(METHYLTHIO)-METHANE), 3, III

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) .....1,059 - 1,063  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.41684.0010	Glass bottle	10 ml	inquire
8.41684.0025	Glass bottle	25 ml	inquire

## 814541 1,1-Bis(methylthio)-2-nitroethylene for synthesis



C<sub>4</sub>H<sub>7</sub>NO<sub>2</sub>S<sub>2</sub>  
 (CH<sub>3</sub>S)<sub>2</sub>CCHNO<sub>2</sub>  
 ■ CAS-No. 13623-94-4 ■ EC-No. 237-108-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 165.22 g/mol  
 ■ Melting point 122 - 125 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity -

single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,1-BIS(METHYLTHIO)-2-NITROETHYLEN), 6,1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(BIS(METHYLTHIO)-2-NITROETHYLENE), 6,1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(BIS(METHYLTHIO)-2-NITROETHYLENE), 6,1, II

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 122 °C  
 Melting range (upper value) ..... ≤ 125 °C  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14541.0025	Glass bottle	25 g	inquire

Bis[2-(2-methoxyethoxy)ethyl]ether →  
 Tetraethylene glycol dimethyl ether page 308  
 Bis(2-methoxyethyl) ether → Diethylene glycol dimethyl ether page 301

Bis(4-methoxyphenyl)carbinol → 4,4'-Dimethoxybenzhydrol page 770  
 2,4-Bis(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane 2,4-disulfide → 2,4-Bis(4-methoxyphenyl)-2,4-dithio-1,3,2,4-dithiadiphosphetane page 473

Bis(2-methylpropionic acid) anhydride → Isobutyric anhydride page 1046

Bis-MSB → 1,4-Bis(2-methylstyryl)-benzene page 474

## 112400 Bismuth (powder) 99+

Bi  
 ■ CAS-No. 7440-69-9 ■ EC-No. 231-177-4  
 ■ Vapour pressure 1 hPa (840 °C)  
 ■ Spec. density 9.78 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 208.98 g/mol  
 ■ Melting point 271 °C ■ Bulk density 6000 kg/m<sup>3</sup>  
 ■ Boiling point 1564 °C (1013 hPa)

■ WGK nwg  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 8106 00 10 ■ Disposal 14

## Specification

Assay (complexometric) ..... ≥ 99,0 %

Identity (elemental analysis).....passes test

Ord.No.	Packaging	Quantity	Price
1.12400.0100	Plastic bottle	100 g	inquire

## 112403 Bismuth(III) chloride 98+

BiCl<sub>3</sub>  
 Bismuth trichloride  
 ■ CAS-No. 7787-60-2 ■ EC-No. 232-123-2  
 ■ Spec. density 4.75 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble,Hydrolysis ■ M = 315.33 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid,Hydrolysis  
 ■ Melting point 230 - 232 °C  
 ■ Boiling point 447 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 3334 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 14

## Specification

Assay (complexometric) ..... ≥ 98,0 % (m)  
 Identity (elemental analysis).....conforms

Ord.No.	Packaging	Quantity	Price
1.12403.0100	Glass bottle	100 g	inquire

## Bismuth, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
663	105227	Cupferron	172	103092	Dithizone	1432	106689	Sodium diethyldithiocarbamate trihydrate
791	103062	Dimethylglyoxime	995	107098	8-Hydroxyquinoline	1554	107979	Thiourea
791	103061	Dimethylglyoxime disodium salt octahydrate	1392	100612	Pyrogallol	173	108677	Xylenol orange tetrasodium salt

Bismuthiol I → 2,5-Dimercapto-1,3,4-thiadiazole page 769

## 101878 Bismuth(III) nitrate alkaline for analysis EMSURE® Reag. Ph Eur

Bi<sub>5</sub>H<sub>9</sub>N<sub>4</sub>O<sub>22</sub>Bi<sub>5</sub>O(OH)<sub>9</sub>(NO<sub>3</sub>)<sub>4</sub>

■ CAS-No. 1304-85-4 ■ EC-No. 215-136-8

■ Spec. density 4.93 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 1461.99 g/mol ■ pH value 3.2 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)■ Bulk density 600 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Danger, Oxidising solid, Category 2, H272

■ LGK 5.1B

■ HS-No. 2834 29 80 ■ Disposal 14

■ ADR-RID UN 1477 Nitrate, anorganische, n.a.g.,

5.1, II ■ IMDG-Code UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II

■ IATA-DGR UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II

**Specification**

Assay (complexometric, Bi) ..... ≥ 71.0 %

Chloride (Cl) ..... ≤ 0.005 %

Ag (Silver) ..... ≤ 0.001 %

As (Arsenic) ..... ≤ 0.0005 %

Ca (Calcium) ..... ≤ 0.005 %

Cu (Copper) ..... ≤ 0.002 %

Fe (Iron) ..... ≤ 0.002 %

NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %

Pb (Lead) ..... ≤ 0.005 %

Zn (Zinc) ..... ≤ 0.001 %

Substances not precipitated by hydrogen sulfide (as sulphate) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.01878.0100	Plastic bottle	100 g	inquire

## 101862 Bismuth(III) oxide extra pure

Bi<sub>2</sub>O<sub>3</sub>

■ CAS-No. 1304-76-3 ■ EC-No. 215-134-7

■ Spec. density 8.93 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.006 g/l (21.3 °C) practically insoluble

■ M = 465.95 g/mol ■ Melting point 820 °C

■ Bulk density 1000 kg/m<sup>3</sup> ■ Boiling point 1890 °C

■ WGK 2

■ LC50 rat &gt; 5.07 mg/l

■ LD50 oral rat 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2825 90 85 ■ Disposal 14

**Specification**

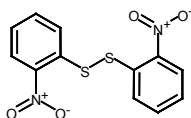
Particle size (D 50) ..... 5.0 ± 3.0 μm

Ord.No.	Packaging	Quantity	Price
1.01862.9025	Fibre carton	25 kg	inquire

Bismuth standard for aqueous matrices ready for use → page 1467

Bismuth-sulfite agar acc. to WILSON-BLAIR → page 99

## 843264 Bis(2-nitrophenyl) disulfide for synthesis



■ M = 308.34 g/mol ■ Melting point 192 - 193 °C

■ WGK 3

■ LGK 4.1A

■ HS-No. 2930 90 99 ■ Disposal 3

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**

Assay (HPLC, area%) ..... ≥ 95.0 % (a/a)

Melting range (lower value) ..... ≥ 190 °C

Melting range (upper value) ..... ≤ 196 °C

Identity (IR) ..... passes test

C<sub>12</sub>H<sub>8</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>

■ CAS-No. 1155-00-6 ■ EC-No. 214-581-5

Ord.No.	Packaging	Quantity	Price
8.43264.0025	Glass bottle	25 g	inquire
8.43264.0100	Glass bottle	100 g	inquire

Bis(p-aminophenyl) ether → 4,4'-Diaminodiphenyl ether page 695

Bis(p-aminophenyl) sulfone → 4,4'-Diaminodiphenyl sulfone page 695

Bis(pentabromophenyl) ether → Decabromodiphenyl ether page 683

Bis(2,4-pentanedionato) cobalt(II) → Cobalt(II) acetylacetonate page 648

Bis(2,4-pentanedionato) copper(II) → Copper(II) acetylacetonate page 652

Bis(2,4-pentanedionato) manganese(II) → Manganese(II) acetylacetonate page 1095

Bis(2,4-pentanedionato) nickel(II) → Nickel(II) acetylacetonate page 1205

Bis(2,4-pentanedionato) palladium(II) → Palladium(II) acetylacetonate page 1258

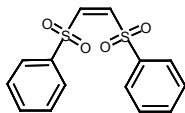
Bis(2,4-pentanedionato) titanium(IV) oxide → Titanil acetylacetonate page 1560

Bis(2,4-pentanedionato) vanadium(IV) oxide → Vanadium(IV) oxide acetylacetonate page 1628

Bis(2,4-pentanedionato) zinc(II) → Zinc(II) acetylacetonate page 1640

Bisphenol → 2,2-Bis(4-hydroxyphenyl) propane page 473

## 818343 cis-1,2-Bis(phenylsulfonyl)ethylene for synthesis

C<sub>14</sub>H<sub>12</sub>O<sub>4</sub>S<sub>2</sub>C<sub>6</sub>H<sub>5</sub>SO<sub>2</sub>CH=CHSO<sub>2</sub>C<sub>6</sub>H<sub>5</sub>

■ CAS-No. 963-15-5

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 308.36 g/mol ■ Melting point 96 - 99 °C

■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)

Melting range (lower value) ..... ≥ 96 °C

Melting range (upper value) ..... ≤ 99 °C

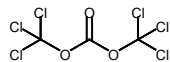
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18343.0001	Glass bottle	1 g	inquire

Bis(p-methoxyphenyl) ketone → 4,4'-Dimethoxybenzophenone page 771

1,13-Bis(8-quinolyl)-1,4,7,10,13-pentaaxtridecane → Kryptofix® 5 page 1068

## 814283 Bis(trichloromethyl) carbonate for synthesis

C<sub>3</sub>Cl<sub>6</sub>O<sub>3</sub>(Cl<sub>3</sub>CO)<sub>2</sub>CO

Triphosgene, Carbonic acid bistrichlor methyl ester

■ CAS-No. 32315-10-9 ■ EC-No. 250-986-3

■ Vapour pressure 16 hPa (90 °C)

■ Spec. density 1.6 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 296.75 g/mol

■ Melting point 77 - 81 °C ■ Boiling point 105 °C (30 hPa)

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330, P304 + P340, P309 + P310

■ LGK 6.1A

■ HS-No. 2920 90 10 ■ Disposal 9

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(BIS(TRICHLORMETHYL)-CARBONAT), 6.1, I

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(BIS(TRICHLOROMETHYL)-CARBONATE), 6.1, I

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(BIS(TRICHLOROMETHYL)-CARBONATE), 6.1, I

**Specification**

Assay (ex Cl) ..... ≥ 96.0 % (m)

Melting range (lower value) ..... ≥ 76 °C

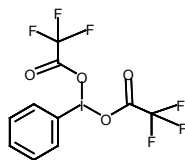
Melting range (upper value) ..... ≤ 81 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14283.0005	Glass bottle	5 g	inquire
8.14283.0025	Glass bottle	25 g	inquire
8.14283.0100	Glass bottle	100 g	inquire

Bis(trifluoroacetic) anhydride → page 44

## 816107 Bis(trifluoroacetoxy)iodobenzene for synthesis



C<sub>10</sub>H<sub>5</sub>FeI<sub>2</sub>O<sub>4</sub>  
Iodosobenzene bis(trifluoroacetate)

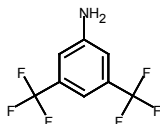
- CAS-No. 2712-78-9 ■ EC-No. 220-308-0
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 430.04 g/mol
- Melting point 121 - 124 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (iodometric) ..... ≥ 98,0 % (m)  
Melting range (lower value) ..... ≥ 122 °C  
Melting range (upper value) ..... ≤ 126 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16107.0010	Glass bottle	10 g	inquire

## 841144 3,5-Bis(trifluoromethyl)-aniline for synthesis



C<sub>8</sub>H<sub>5</sub>FeN  
α,α,α,α',α'-Hexafluoro-3,5-xylylidine  
■ CAS-No. 328-74-5 ■ EC-No. 206-335-0  
■ Spec. density 1.48 g/cm<sup>3</sup> (20 °C)  
■ Flash point 83 °C ■ M = 229.12 g/mol

- Melting point 3 °C ■ Boiling point 75 - 78 °C (13 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(3,5-BIS(TRIFLUORMETHYL)-ANILIN), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID,

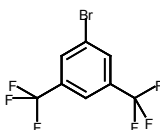
ORGANIC, N.O.S.(3,5-BIS(TRIFLUORMETHYL)ANILINE), 6.1, II  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3,5-BIS(TRIFLUORMETHYL)ANILINE), 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.478 - 1.483  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41144.0010	Glass bottle	10 ml	inquire

## 841241 3,5-Bis(trifluoromethyl)-1-bromobenzene for synthesis



C<sub>8</sub>H<sub>5</sub>BrF<sub>6</sub>  
■ CAS-No. 328-70-1 ■ EC-No. 206-334-5  
■ Spec. density 1.698 g/cm<sup>3</sup> (20 °C)

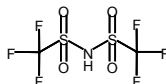
- Flash point >110 °C ■ M = 293 g/mol
- Melting point -17 - -16 °C
- Boiling point 152 - 155 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.722 - 1.726  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41241.0005	Glass bottle	5 ml	inquire

## 843822 Bis(trifluoromethylsulfonyl)imide for synthesis



C<sub>2</sub>H<sub>2</sub>NO<sub>4</sub>S<sub>2</sub>  
■ CAS-No. 82113-65-3 ■ EC-No. 435-300-4  
■ Spec. density 1.36 g/cm<sup>3</sup> (20 °C)  
■ M = 281.15 g/mol ■ pH value 1 (500 g/l, H<sub>2</sub>O, 20 °C) Risk of violent reaction.  
■ Melting point 46 - 53 °C  
■ Boiling point 90 - 92 °C (1013 hPa)

- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 3, H412, P273, P280, P309 + P310, P305 + P351 + P338
- LD50 oral rat > 50 - 200 mg/kg
- LGK 6.1C
- HS-No. 2935 00 90 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(BIS(TRIFLUORMETHYLSULFONYL)IMID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(BIS

TRIFLUOROMETHANESULFOIMIDE), 6.1, III  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(BIS TRIFLUOROMETHANESULFOIMIDE), 6.1, III

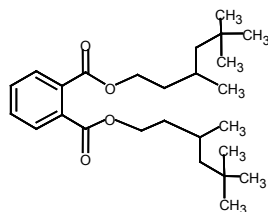
## Specification

Assay (NMR) ..... ≥ 95.0 %

Ord.No.	Packaging	Quantity	Price
8.43822.0005	Glass bottle	5 g	inquire

Bis(trimethylacetic) anhydride → Pivalic anhydride page 1333

## 818375 Bis(3,5,5-trimethylhexyl) phthalate for synthesis



C<sub>26</sub>H<sub>42</sub>O<sub>4</sub>

- Phthalic acid bis(3,5,5-trimethylhexyl) ester*
- CAS-No. 14103-61-8 ■ EC-No. 237-954-4
  - Refractive index 1.4819 (25 °C, 589 nm)
  - Vapour pressure < 0.001 hPa (20 °C)
  - Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.4 - 2.9 % (V) ■ Flash point 226 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 418.61 g/mol
  - pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point -49 °C
  - Boiling point 235 - 238 °C
  - Ignition temp. 305 °C
  - WGK 1
  - LGK 10 - 13

- HS-No. 2917 34 00 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 99.0 %  
Density (d 20 °C/ 4 °C) ..... 0.974 - 0.976  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18375.0100	Glass bottle	100 ml	inquire
8.18375.1000	Glass bottle	1 l	inquire

## N,O-Bis(trimethylsilyl)acetamide

C<sub>8</sub>H<sub>21</sub>NOSi<sub>2</sub>

CH<sub>3</sub>C[NSi(CH<sub>3</sub>)<sub>3</sub>]OSi(CH<sub>3</sub>)<sub>3</sub>

BSA

■ CAS-No. 10416-59-8 ■ EC-No. 233-892-7

■ Vapour pressure 10 hPa (50 °C)

■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C)

■ Flash point 40 °C ■ Solub. in

H<sub>2</sub>O (20 °C) decomposes ■ M = 203.43 g/mol

■ Boiling point 43 °C (11 hPa)

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 1580 mg/kg

■ LGK 3

■ HS-No. 2931 90 90 ■ Disposal 3

■ ADR-RID UN 2920 Ätzender flüssiger Stoff,

entzündbar, n.a.g.(N,O-BIS(TRIMETHYLSILYL)-ACETAMID), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(N,O-BIS-(TRIMETHYLSILYL)-ACETAMID), 8 (3), II ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(N,O-BIS-(TRIMETHYLSILYL)-ACETAMID), 8 (3), II

### 818727 N,O-Bis(trimethylsilyl)acetamide for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 95,0 Area %

Density (d 20 °C/ 4 °C) ..... 0,830 - 0,835

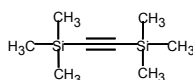
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18727.0025	Glass bottle	25 ml	inquire
8.18727.0100	Glass bottle	100 ml	inquire

### 109649 N,O-Bis(trimethylsilyl)acetamide for gas chromatography

Ord.No.	Packaging	Quantity	Price
1.09649.0010	Glass bottle	10 ml	inquire
1.09649.0025	Glass bottle	25 ml	inquire

### 818850 Bis(trimethylsilyl)acetylene for synthesis



C<sub>8</sub>H<sub>18</sub>Si<sub>2</sub>

BTMSA

■ CAS-No. 14630-40-1 ■ EC-No. 238-671-9

■ Refractive index 1.426 (20 °C, 589 nm)

■ Spec. density 0.76 g/cm<sup>3</sup> (20 °C)

■ Flash point 23 °C ■ Solub. in

H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 170.4 g/mol

■ Melting point 22 - 25 °C

■ Boiling point 135 - 137 °C (1013 hPa)

■ WGK 3

■ GHS: Warning, Flammable liquid, Category 3, H226, P210

■ LGK 3

■ HS-No. 2931 90 90 ■ Disposal 3

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(BIS-TRIMETHSIL-ACETYLEN), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(BIS(TRIMETHYLSILYL)-ACETYLENE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(BIS(TRIMETHYLSILYL)-ACETYLENE), 3, III

#### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 22 °C

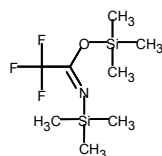
Melting range (upper value) ..... ≤ 25 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18850.0010	Glass bottle	10 ml	inquire
8.18850.0050	Glass bottle	50 ml	inquire

Bis(trimethylsilyl)amine → page 44

### 110255 Bis(trimethylsilyl)trifluoroacetamide for gas chromatography



C<sub>8</sub>H<sub>18</sub>F<sub>3</sub>NOSi<sub>2</sub>

2,2,2-Trifluoro-N,O-bis(trimethylsilyl)acetamide

■ CAS-No. 25561-30-2 ■ EC-No. 247-103-9

■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C)

■ Flash point 34 °C ■ Solub. in

H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 257.40 g/mol

■ Boiling point 145 °C (1013 hPa)

■ WGK 2

■ GHS: Warning, Flammable liquid, Category 3,

H226; Skin irritation, Category 2, H315; Eye

irritation, Category 2, H319, P210, P302 + P352,

P305 + P351 + P338

■ LGK 3

■ HS-No. 2931 90 90 ■ Disposal 3

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(BIS(TRIMETHYLSILYL)-TRIFLUORACETAMID),

3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(BIS(TRIMETHYLSILYL)-

TRIFLUOROACETAMIDE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(BIS(TRIMETHYLSILYL)-

TRIFLUOROACETAMIDE), 3, III

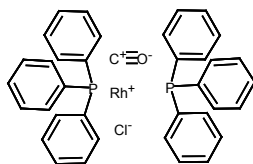
#### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.10255.0005	Glass bottle	5 ml	inquire
1.10255.0025	Glass bottle	25 ml	inquire

### 814069 Bis(triphenylphosphine)carbonylrhodium(I) chloride for synthesis



C<sub>37</sub>H<sub>30</sub>ClOP<sub>2</sub>Rh

[(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P]<sub>2</sub>Rh(CO)Cl

Rhodium bis(triphenylphosphine)carbonyl chloride

■ CAS-No. 13938-94-8 ■ EC-No. 237-712-8

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 690.95 g/

mol ■ Melting point 224 - 227 °C decomposes

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2843 90 90 ■ Disposal 27

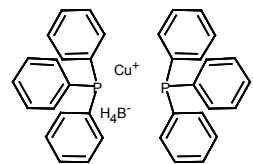
#### Specification

Assay (ex Rh) ..... ≥ 95,0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14069.0001	Glass bottle	1 g	inquire

### 818504 Bis(triphenylphosphine)copper(I) borohydride for synthesis



C<sub>36</sub>H<sub>34</sub>BCuP<sub>2</sub>

[(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P]<sub>2</sub>CuBH<sub>4</sub>

■ CAS-No. 16903-61-0 ■ EC-No. 240-951-0

■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)

■ M = 602.97 g/mol

■ Melting point 160 - 165 °C decomposes

■ WGK 3

■ GHS: Warning, Specific target organ toxicity -

single exposure, Category 3, H335; Skin irritation,

Category 2, H315; Eye irritation, Category 2, H319,

P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2931 90 90 ■ Disposal 26

#### Specification

Assay (ex Cu) ..... ≥ 99,0 %

Melting range (lower value) ..... ≥ 158 °C

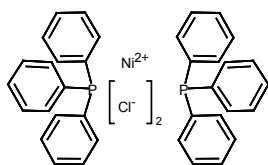
Melting range (upper value) ..... ≤ 163 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18504.0005	Glass bottle	5 g	inquire



## 818158 Bis(triphenylphosphine)nickel(II) chloride for synthesis



$[(C_6H_5)_3P]_2NiCl_2$   
 Dichlorobis(triphenylphosphine)nickel(II), Nickel bis(triphenylphosphine)dichloride  
 ■ CAS-No. 14264-16-5 ■ EC-No. 238-154-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 654.18 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 15

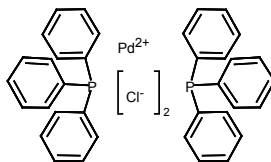
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18158.0010	Glass bottle	10 g	inquire

C<sub>36</sub>H<sub>30</sub>Cl<sub>2</sub>NiP<sub>2</sub>

## 804174 Bis(triphenylphosphine)palladium(II) chloride (15.2% Pd) for synthesis



■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338  
 ■ LGK 8A  
 ■ HS-No. 2843 90 90  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(BIS(TRIPHENYLPHOSPHIN)-PALLADIUM(II) CHLORIDE), 8, III ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(BIS(TRIPHENYLPHOSPHINE)-PALLADIUM(II)

CHLORIDE), 8, III  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(BIS(TRIPHENYLPHOSPHINE)-PALLADIUM(II) CHLORIDE), 8, III

**Specification**  
 Assay (to Pd) ..... ≥ 99,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.04174.0001	Glass bottle	1 g	inquire
8.04174.0005	Glass bottle	5 g	inquire
8.04174.8500	Glass bottle	500 mg	inquire

C<sub>36</sub>H<sub>30</sub>Cl<sub>2</sub>P<sub>2</sub>Pd[(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P]<sub>2</sub>PdCl<sub>2</sub>

■ CAS-No. 13965-03-2 ■ EC-No. 237-744-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 701.91 g/mol

Bisulfite → Sodium disulfite page 1434

1,2-Bis(2-hydroxyethylmercapto) ethane → 1,8-

Dihydroxy-3,6-dithiooctane page 762

1,7-Bis(4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione → Curcumin page 663

1,2-Bis(2-hydroxyphenylimino)ethane →

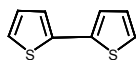
Glyoxalbis(2-hydroxyanil) page 930

2,2-Bis(4-hydroxyphenyl)propane → 2,2-Bis(4-hydroxyphenyl) propane page 473

Bis(2-hydroxypropyl)amine → 1,1-Iminodi-2-propanol page 1000

Bis(β-hydroxyethyl)amine → page 301

## 841871 2,2'-Bithiophene for synthesis



■ WGK 3  
 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 30 °C  
 Melting range (upper value) ..... ≤ 33 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41871.0001	Glass bottle	1 g	inquire

C<sub>8</sub>H<sub>6</sub>S<sub>2</sub>

■ CAS-No. 492-97-7 ■ EC-No. 207-767-2  
 ■ Flash point > 110 °C ■ M = 166.27 g/mol  
 ■ Melting point 31 - 33 °C

Bitter almond oil → Benzaldehyde page 434

Biuret reagent, BIOQUANT® → page 81

Black acid 1 → page 190

Blanc fixe → Barium sulfate page 433

Blanking plug for capillary connections with 3.2 mm I.D., for HPLC bottle adapter S40 → page 327

Blank Strips → page 90

Bleaching powder → Calcium hypochlorite page 563

Bleaching solution → page 723

Blood agar → page 99

Blue acid 74 → Indigo carmine (C.I. 73015) page 1002

BNPA → (R)-(-)-1,1'-Binaphthalene-2,2'-diyl-phosphate page 458

(R)-(-)-BNPA → (R)-(-)-1,1'-Binaphthalene-2,2'-diyl-phosphate page 458

(S)-(+)-BNPA → (S)-(+)-1,1'-Binaphthalene-2,2'-diyl-phosphate page 458

BOC → (2S,4S)-(-)-N-BOC-4-Diphenylphosphino-2-diphenyl phosphino methyl-pyrrolidine page 479

Boc-γ-Abu-OH → page 240

Boc-Abu-OH → page 240

Boc-ε-Ahx-OH → page 240

Boc-Aib-OH → page 241

Boc-β-Ala-OH → page 240

Boc-D-Ala-OH → page 240

Boc-Ala-OH → page 240

Boc-amino-oxyacetic acid → page 262

Boc-Arg(Mtr)-OH → page 241

Boc-D-Arg(Tos)-OH → page 241

Boc-Arg(Tos)-OH → page 241

Boc-Arg(di-Z)-OH → page 241

Boc-D-Asn-OH → page 241

Boc-Asn-OH → page 241

Boc-Asn(Trt)-OH → page 241

Boc-Asn(Xan)-OH → page 241

Boc-Asp-OBzl → page 241

Boc-D-Asp(OBzl)-OH → page 241

Boc-Asp(OBzl)-OH → page 241

Boc-Asp(OcHx)-OH → page 241

Boc-Asp-OH → page 241

Boc-Asp-OtBu → page 241

Boc-Asp(OtBu)-OH . DCHA → page 241

Boc-L-α-t-butylglycine → page 241

Boc-D-Cha-OH . DCHA → page 242

Boc-Cha-OH . DCHA → page 242

Boc-D-Cys(Acm)-OH → page 242

Boc-Cys(Acm)-OH → page 242

Boc-Cys(Bzl)-OH → page 242

Boc-Cys(4-MeBzl)-OH → page 242

Boc-Cys(4-MeOBzl)-OH → page 242

Boc-Cys-OH (cryst) → page 242

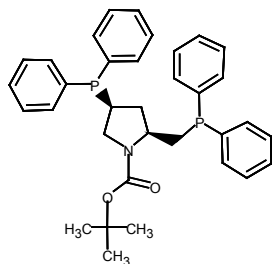
Boc-D-Cys(Trt)-OH → page 242

Boc-Cys(Trt)-OH → page 242

Boc-3,4-dehydro-Pro-OH → page 245



## 824428 (2S,4S)-(-)-N-BOC-4-Diphenylphosphino-2-diphenyl phosphino methylpyrrolidine for synthesis



$C_{34}H_{37}NO_2P_2$   
**BPPM**  
 ■ CAS-No. 61478-28-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 553.63 g/mol  
 ■ Melting point 99 - 102 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3

### Specification

Assay (DSC) ..... ≥ 96 %  
 Melting range ..... 99 - 102 °C  
 Spec. rotation  $[\alpha]_{20/D}$  (1 %; Dichlormethan) .....  
 ..... -38.0 - -36.5 °  
 Identity (IR-spectrum) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24428.0250	Glass bottle	250 mg	inquire

Boc-D-Gln-OH → page 243

Boc-Gln-OH → page 243

Boc-Gln(Trt)-OH → page 243

Boc-Gln(Xan)-OH → page 243

Boc-D-Glu-OBzl → page 242

Boc-Glu-OBzl (cryst) → page 242

Boc-Glu(OBzl)-OH → page 242

Boc-D-Glu(OBzl)-OH → page 242

Boc-Glu(OcHx)-OH → page 242

Boc-Glu-OH → page 242

Boc-Glu-OtBu → page 242

Boc-D-Glu(OtBu)-OH → page 242

Boc-Glu(OtBu)-OH → page 242

Boc-Gly-OH → page 243

Boc-His(Boc)-OH . DCHA → page 243

Boc-His(Dnp)-OH isopropanol → page 243

Boc-D-His-OH → page 243

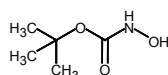
Boc-His-OH → page 243

Boc-His(Tos)-OH → page 243

Boc-His(Trt)-OH → page 243

BOC-hydrazide → tert-Butyl carbamate page 543

## 841145 N-tert-BOC-Hydroxylamine for synthesis



$C_5H_{11}NO_3$   
**tert-Butyl N-hydroxycarbamate**  
 ■ CAS-No. 36016-38-3 ■ EC-No. 252-836-2

■ M = 133.15 g/mol ■ Melting point 55 °C  
 ■ WGK 1  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 2928 00 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 55 °C

Melting range (upper value) ..... ≤ 57 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41145.0005	Glass bottle	5 g	inquire
8.41145.0025	Glass bottle	25 g	inquire

Boc-Hyp-OH (cryst) → page 243

Boc-Ile-OH . 0.5 H<sub>2</sub>O → page 243

Boc-D-Leu-OH . H<sub>2</sub>O → page 243

Boc-Leu-OH . H<sub>2</sub>O → page 243

Boc-Lys(Ac)-OH → page 244

Boc-Lys(Boc)-OH . DCHA → page 244

Boc-Lys(2-Cl-Z)-OH → page 244

Boc-D-Lys(2-Cl-Z)-OH → page 244

Boc-Lys(Fmoc)-OH → page 244

Boc-Lys(Me)<sub>2</sub>-OH → page 244

Boc-Lys-OH → page 244

Boc-Lys(Z)-OH → page 244

Boc-MeAla-OH → page 240

Boc-MeLeu-OH → page 243

Boc-MePhe-OH . DCHA → page 245

Boc-D-Met-OH → page 244

Boc-Met-OH → page 244

Boc-Met(O)-OH → page 244

Boc-MeVal-OH → page 247

Boc-NH-(PEG)<sub>3</sub>-COOH (16 atoms) → page 259

Boc-NH-(PEG)<sub>5</sub>-COOH (22 atoms) → page 259

Boc-NH-(PEG)<sub>6</sub>-COOH (30 atoms) → page 259

Boc-NH-(PEG)<sub>27</sub>-COOH (88 atoms) → page 259

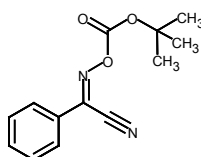
Boc-NH-(PEG)-COOH . DCHA (9 atoms) → page 259

Boc-Nle-OH . DCHA → page 244

Boc-Nva-OH → page 244

Boc-Orn(Z)-OH → page 244

## 841266 2-(tert-BOC-Oximino)-2-phenylacetonitrile for synthesis



$C_{13}H_{14}N_2O_3$   
 ■ CAS-No. 58632-95-4 ■ EC-No. 261-370-9  
 ■ M = 246.26 g/mol ■ Melting point 88 - 90 °C  
 ■ WGK 3  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 2928 00 90 ■ Disposal 3

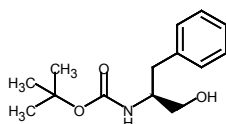
### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 86 °C  
 Melting range (upper value) ..... ≤ 89 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41266.0005	Plastic bottle	5 g	inquire

## 814644 (S)-(-)-BOC-Phenylalaninol for synthesis



$C_{14}H_{21}NO_3$   
**N-tert-Butoxycarbonyl-L-phenylalaninol**  
 ■ CAS-No. 66605-57-0

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 251.32 g/mol  
 ■ Melting point 95 - 97 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 29 98 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 95 °C

Melting range (upper value) ..... ≤ 98 °C  
 Spec. rotation  $[\alpha]_{20/D}$  (c=1 in methanol) ..... -28,0 - -26,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14644.0001	Glass bottle	1 g	inquire

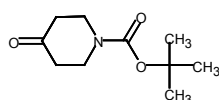
Boc-D-Phe-OH → page 244

Boc-Phe-OH → page 244

Boc-D-Phg-OH → page 245

Boc-Phg-OH → page 245

## 841512 N-tert-BOC-4-Piperidinone for synthesis



$C_{10}H_{17}NO_3$   
 ■ CAS-No. 79099-07-3

■ M = 199.24 g/mol ■ Melting point 74 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 73 °C

Melting range (upper value) ..... ≤ 75 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41512.0005	Glass bottle	5 g	inquire

# Bocpro

Boc-D-Pro-OH → page 245	Boc-D-Ser-OH → page 245	Boc-D-Trp(For)-OH → page 246
Boc-Pro-OH → page 245	Boc-Ser-OH → page 245	Boc-Trp(For)-OH → page 246
Boc-Sar-OH → page 245	Boc-Ser(tBu)-OH . DCHA → page 245	Boc-D-Trp-OH → page 246
Boc-D-Ser(Bzl)-OH → page 245	Boc-D-Thr(Bzl)-OH → page 246	Boc-Trp-OH → page 246
Boc-Ser(Bzl)-OH → page 245	Boc-Thr(Bzl)-OH → page 246	Boc-Tyr(2-Br-Z)-OH → page 246
Boc-Ser(Fmoc-Ala)-OH → page 257	Boc-Thr(Fmoc-Ala)-OH → page 257	Boc-D-Tyr(2-Br-Z)-OH → page 246
Boc-Ser(Fmoc-Arg(Pbf))-OH → page 257	Boc-Thr(Fmoc-Arg(Pbf))-OH → page 258	Boc-D-Tyr(Bzl)-OH → page 246
Boc-Ser(Fmoc-Asn(Trt))-OH → page 257	Boc-Thr(Fmoc-Asp(OtBu))-OH → page 258	Boc-Tyr(Bzl)-OH → page 246
Boc-Ser(Fmoc-Asp(OtBu))-OH → page 258	Boc-Thr(Fmoc-Glu(OtBu))-OH → page 258	Boc-Tyr(2,6-di-Cl-Bzl)-OH → page 246
Boc-Ser(Fmoc-Gln(Trt))-OH → page 257	Boc-Thr(Fmoc-Gly)-OH → page 257	Boc-D-Tyr(Me)-OH → page 246
Boc-Ser(Fmoc-Glu(OtBu))-OH → page 258	Boc-Thr(Fmoc-Ile)-OH → page 257	Boc-Tyr(Me)-OH → page 246
Boc-Ser(Fmoc-Gly)-OH → page 257	Boc-Thr(Fmoc-Leu)-OH → page 258	Boc-D-Tyr-OH → page 246
Boc-Ser(Fmoc-Ile)-OH → page 257	Boc-Thr(Fmoc-Met)-OH → page 257	Boc-Tyr-OH → page 246
Boc-Ser(Fmoc-Leu)-OH → page 258	Boc-Thr(Fmoc-Thr(tBu))-OH → page 257	Boc-Tyr(tBu)-OH → page 246
Boc-Ser(Fmoc-Met)-OH → page 258	Boc-Thr(Fmoc-Val)-OH → page 257	Boc-D-Val-OH → page 247
Boc-Ser(Fmoc-Phe)-OH → page 257	Boc-D-Thr-OH → page 246	Boc-Val-OH → page 247
Boc-Ser(Fmoc-Ser(tBu))-OH → page 257	Boc-Thr-OH → page 246	BOD Cell Test → page 52
Boc-Ser(Fmoc-Thr(tBu))-OH → page 257	Boc-Thr(tBu)-OH → page 246	BOD Nutrient-Salt Mixture → page 52
Boc-Ser(Fmoc-Val)-OH → page 257	Boc-Tic-OH → page 245	BOD Standard → page 52
Boc-Ser(Me)-OH → page 245	Boc-Trp(Boc)-OH → page 246	

## 107912 Boiling chips granules ~ 1-2 mm

■ HS-No. 2818 20 00 Sieve analysis (1-2 mm)..... ≥ 96 %  
 Auxiliary for the prevention of delayed boiling.

### Specification

Ord.No.	Packaging	Quantity	Price
1.07912.0250	Plastic bottle	250 g	inquire

## 107913 Boiling chips granules ~ 2-8 mm

■ HS-No. 2513 10 00 Substances soluble in water ..... ≤ 1%  
 Auxiliary for the prevention of delayed boiling.

### Specification

Ord.No.	Packaging	Quantity	Price
1.07913.0100	Plastic bottle	100 g	inquire
1.07913.0500	Plastic bottle	500 g	inquire

BOP → page 279

Borane-dimethylamine-complex → Boron hydride  
 dimethylamine page 482

## Borates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1074	101189	Lead borate	1449	106560	Sodium perborate tetrahydrate	177	101964	di-Sodium tetraborate decahydrate
167	105699	di-Lithium tetraborate	166	106309	di-Sodium tetraborate			
1084	814347	Lithium tetrafluoroborate	167	106306	di-Sodium tetraborate	167	106308	di-Sodium tetraborate decahydrate
1423	818881	Silver tetrafluoroborate	167	106310	di-Sodium tetraborate	1454	843877	Sodium tetrafluoroborate
						1454	106669	Sodium tetraphenyl borate

Borax → page 177

## Boric acid

BH <sub>3</sub> O <sub>3</sub>	H <sub>2</sub> O 46.5 g/l (20 °C) ■ M = 61.83 g/mol	1B, H360FD, P201, P308 + P313
H <sub>3</sub> BO <sub>3</sub>	■ pH value 3.8 - 4.8 (33 g/l, H <sub>2</sub> O, 20 °C)	■ LC50 rat > 2.03 mg/l
<i>Orthoboric acid, Trihydroxidoboron</i>	■ Melting point 171 °C (decomposition)	■ LD50 oral rat 2660 mg/kg ■ LD50 dermal rat > 2000 mg/kg
■ CAS-No. 10043-35-3 ■ EC-No. 233-139-2	■ Bulk density 400 - 600 kg/m <sup>3</sup>	■ EC-Index-No. 005-007-00-2 ■ LGK 6.1 D
■ Vapour pressure 2.7 hPa (20 °C)	■ WGK 1	■ HS-No. 2810 00 90 ■ Disposal 28
■ Spec. density 1.44 g/cm <sup>3</sup> (20 °C) ■ Solub. in	■ GHS: Danger, Reproductive toxicity, Category	

## 100165 Boric acid for analysis EMSURE® ACS,ISO,Reag. Ph Eur

### Specification

Assay (alkalimetric).....	99,5 - 100,5 %	Heavy metals (as Pb).....	≤ 0,0005 %
Identity.....	passes test	Ca (Calcium).....	≤ 0,002 %
Appearance of solution.....	passes test	Fe (Iron).....	≤ 0,0001 %
pH-value (3.3 %, water).....	3,8 - 4,8	Pb (Lead).....	≤ 0,001 %
Chloride (Cl).....	≤ 0,0003 %	Organic impurities.....	passes test
Phosphate (PO <sub>4</sub> ).....	≤ 0,0005 %	Nonvolatile with methanol.....	≤ 0,05 %
Sulphate (SO <sub>4</sub> ).....	≤ 0,0005 %	1) These parameters will be analysed statistically	
Solubility in ethanol.....	passes test	Corresponds to ACS,ISO,Reag. Ph Eur	
In methanol insoluble matter.....	≤ 0,005 %		

Ord.No.	Packaging	Quantity	Price
1.00165.0100	Plastic bottle	100 g	inquire
1.00165.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.00165.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.00165.5000	Plastic bottle	5 kg	inquire
1.00165.9025	Fibre carton	25 kg	inquire

100765 Boric acid 99.9999 Suprapur®

Specification

Purity (metallic).....	≥ 99.9999 %
Assay (acidimetric).....	≥ 99.0 %
Chloride (Cl).....	≤ 3 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 0.5 ppm
Silicate (as SiO <sub>2</sub> ).....	≤ 0.5 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 5 ppm
Ag (Silver).....	≤ 0.010 ppm
Al (Aluminium).....	≤ 0.050 ppm
As (Arsenic).....	≤ 0.050 ppm
Au (Gold).....	≤ 0.020 ppm
Ba (Barium).....	≤ 0.050 ppm
Be (Beryllium).....	≤ 0.010 ppm

Ca (Calcium).....	≤ 0.050 ppm
Cd (Cadmium).....	≤ 0.010 ppm
Co (Cobalt).....	≤ 0.010 ppm
Cr (Chromium).....	≤ 0.010 ppm
Cu (Copper).....	≤ 0.010 ppm
Fe (Iron).....	≤ 0.050 ppm
Ga (Gallium).....	≤ 0.050 ppm
In (Indium).....	≤ 0.020 ppm
K (Potassium).....	≤ 0.10 ppm
Li (Lithium).....	≤ 0.010 ppm
Mg (Magnesium).....	≤ 0.10 ppm
Mn (Manganese).....	≤ 0.010 ppm

Mo (Molybdenum).....	≤ 0.010 ppm
Na (Sodium).....	≤ 0.050 ppm
Ni (Nickel).....	≤ 0.010 ppm
Pb (Lead).....	≤ 0.020 ppm
Sr (Strontium).....	≤ 0.010 ppm
Tl (Thallium).....	≤ 0.020 ppm
V (Vanadium).....	≤ 0.010 ppm
Zn (Zinc).....	≤ 0.010 ppm

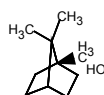
Ord.No.	Packaging	Quantity	Price
1.00765.0050	Plastic bottle	50 g	inquire
1.00765.0500	Plastic bottle	500 g	inquire

Boric acid anhydride → page 165  
 Boric acid buffer substance → page 480  
 Boric acid triisopropyl ester → Triisopropyl borate page 1598  
 Boric acid trimethyl ester → Trimethyl borate page 1603

Boric anhydride → page 167  
 Boric compounds → Organoelement compounds  
 Boric(III)-oxide → page 165  
 (1R)-2,3-Bornanedione → (1R)-(-)-Camphorquinone page 567

(1S)-2,3-Bornanedione → (1S)-(+)-Camphorquinone page 567  
 2,3-Bornanedione → DL-Camphorquinone page 567

814472 (1S)-(-)-Borneol for synthesis



C<sub>10</sub>H<sub>18</sub>O  
 L-Borneol  
 ■ CAS-No. 464-45-9 ■ EC-No. 207-353-1  
 ■ Flash point 66 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 154.25 g/mol  
 ■ Melting point 205 - 208 °C

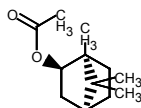
- Boiling point 210 °C (1036 hPa)
  - WGK 2
  - GHS: Warning, Flammable solid, Category 2, H228, P370 + P378
  - LD50 oral rat 5800 mg/kg
  - LGK 4.1B
  - HS-No. 2906 19 00 ■ Disposal 3
  - ADR-RID UN 1312 BORNEOL, 4.1, III ■ IMDG-Code UN 1312 BORNEOL, 4.1, III
  - IATA-DGR UN 1312 BORNEOL, 4.1, III
- Specification**

Assay (GC, area%)..... ≥ 96.0 % (a/a)  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=5 in ethanol)]..... -37.0 - -34.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14472.0025	Plastic bottle	25 g	inquire
8.14472.0100	Plastic bottle	100 g	inquire
8.14472.0250	Plastic bottle	250 g	inquire

L-Borneol → (1S)-(-)-Borneol page 481

814997 L-Bornyl acetate for synthesis



C<sub>12</sub>H<sub>20</sub>O<sub>2</sub>  
 Acetic acid bornyl ester, endo-(1S)-1,7,7-Trimethylbicyclo[2.2.1]hept-2-ylacetate  
 ■ CAS-No. 5655-61-8 ■ EC-No. 227-101-4

- Vapour pressure 0.079 hPa (25 °C)
  - Spec. density 0.980 - 0.987 g/cm<sup>3</sup>
  - Flash point 85 - 90 °C ■ Solub. in H<sub>2</sub>O (20 °C) low ■ M = 196.29 g/mol
  - Boiling point >200 °C (1013 hPa)
  - WGK 1
  - LD50 oral rat > 5000 mg/kg
  - LGK 10 - 13
  - HS-No. 2915 39 00 ■ Disposal 3
- Specification**

Assay (GC, area%)..... ≥ 97,0 Area %  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)]..... -44,0 - -37,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14997.0100	Glass bottle	100 ml	inquire
8.14997.0500	Glass bottle	500 ml	inquire

112070 Boron powder

B  
 ■ CAS-No. 7440-42-8 ■ EC-No. 231-151-2  
 ■ Spec. density 1.73 g/cm<sup>3</sup> (15 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 10.81 g/mol  
 ■ Melting point 2075 °C  
 ■ Bulk density 200 - 300 kg/m<sup>3</sup>  
 ■ Boiling point 4000 °C ■ Ignition temp. 700 °C

- WGK nwg
  - LC50 rat > 5.08 mg/l
  - LD50 oral rat > 2000 mg/kg
  - LGK 10 - 13
  - HS-No. 2804 50 10 ■ Disposal 14
- Specification**

Particle size (d50)..... about 2 µm

Ord.No.	Packaging	Quantity	Price
1.12070.0010	Plastic bottle	10 g	inquire
1.12070.0025	Plastic bottle	25 g	inquire

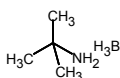
Boron Cell Test → page 52

Boron, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
429	111962	Azomethine H	172	102498	Chromotropic acid disodium salt dihydrate			
191	100211	Carminic acid (C.I. 75470)	1097	105983	D(-)-Mannitol			

# Boronh

## 841736 Boron hydride-tert-butylamine for synthesis



$C_4H_{14}BN$   
 ■ CAS-No. 7337-45-3 ■ EC-No. 230-851-5  
 ■ Solub. in  $H_2O$  27 g/l (20 °C) ■  $M = 86.97$  g/mol  
 ■ Melting point 96 - 98 °C ■ Ignition temp. 177 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301;  
 Specific target organ toxicity - single exposure,

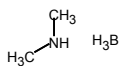
Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 96 mg/kg ■ LD50 dermal rabbit 820 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2942 00 00 ■ Disposal 26  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TERT-BUTYLAMINBORAN), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TERT-BUTYLAMINBORANE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TERT-BUTYLAMINBORANE), 6.1, III

**Specification**  
 Assay (iodometric) .....  $\geq 96,0$  % (m)  
 Melting range (lower value) .....  $\geq 96$  °C  
 Melting range (upper value) .....  $\leq 98$  °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41736.0025	Glass bottle	25 g	inquire

## 820496 Boron hydride dimethylamine for synthesis



$C_2H_{10}BN$   
 $(CH_3)_2NHBH_3$   
 Dimethylaminoborane, Borane-dimethylamine-complex  
 ■ CAS-No. 74-94-2 ■ EC-No. 200-823-7  
 ■ Vapour pressure < 5 hPa (20 °C)  
 ■ Spec. density 0.73 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 65 °C ■ Solub. in  $H_2O$  128 g/l (20 °C)  
 ■  $M = 58.92$  g/mol ■ pH value 8 - 9 (10 g/l,  $H_2O$ , 20 °C) ■ Melting point 33 - 36 °C  
 ■ Bulk density 300 - 350 kg/m<sup>3</sup>  
 ■ Ignition temp. 175 °C

■ WGK 2  
 ■ GHS: Danger, Flammable solid, Category 1, H228; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P210, P280, P302 + P352, P304 + P340, P309 + P310, P370 + P378  
 ■ LD50 oral rat 59 mg/kg ■ LD50 dermal rabbit 210 mg/kg  
 ■ LGK 4.1B  
 ■ HS-No. 2942 00 00 ■ Disposal 26  
 ■ ADR-RID UN 2926 Entzündbarer organischer fester Stoff, giftig, n.a.g.(BORWASSERSTOFF-DIMETHYLAMIN), 4.1 (6.1), II ■ IMDG-Code UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC,

N.O.S.(DIMETHYLAMINEBORANE), 4.1 (6.1), II  
 ■ IATA-DGR UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.(DIMETHYLAMINEBORANE), 4.1 (6.1), II

**Specification**  
 Assay (iodometric) .....  $\geq 97,0$  %  
 Melting range (lower value) .....  $\geq 33$  °C  
 Melting range (upper value) .....  $\leq 36$  °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20496.0010	Glass bottle	10 g	inquire
	Glass bottle	6 x 10 g	inquire
8.20496.0050	Glass bottle	50 g	inquire

## 841077 Boron hydride-tetrahydrofuran complex (stabilised) (1 molar solution in tetrahydrofuran) for synthesis

synthesis



■ Spec. density 0.876 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 1.58 - 12.42 % (V) ■ Flash point -21.7 °C  
 ■ Boiling point 66 °C (1013 hPa) (THF)  
 ■ Ignition temp. 103 °C  
 ■ WGK 1  
 ■ GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases, Category 1, H260; Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302;

Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P210, P240, P280, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat > 500 - 2000 mg/kg  
 ■ LGK 4.3 ■ Store below +15°C.  
 ■ HS-No. 3824 90 97 ■ Disposal 26  
 ■ ADR-RID UN 3148 Mit Wasser reagierender flüssiger Stoff, n.a.g.(BORWASSERSTOFF-TETRAHYDROFURAN-KOM), 4.3, I ■ IMDG-Code UN 3148 WATER-REACTIVE LIQUID,

N.O.S.(BORANE TETRAHYDROFURAN COMPLEX), 4.3, I  
 ■ IATA-DGR UN 3148 WATER-REACTIVE LIQUID, N.O.S.(BORANE TETRAHYDROFURAN COMPLEX), 4.3, I

**Specification**  
 Assay ..... 0.8 - 1.2 mol/l

Ord.No.	Packaging	Quantity	Price
8.41077.0100	Glass bottle	100 ml	inquire

## 112073 Boron nitride

BN  
 ■ CAS-No. 10043-11-5 ■ EC-No. 233-136-6  
 ■ Spec. density 2.34 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  (20 °C) slightly soluble ■  $M = 24.82$  g/mol  
 ■ pH value 5 - 8 (100 g/l,  $H_2O$ , 20 °C) (slurry)  
 ■ Melting point 2700 - 3000 °C

■ Bulk density 120 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2850 00 20 ■ Disposal 28

**Specification**

Identity ..... conforms

Ord.No.	Packaging	Quantity	Price
1.12073.0050	Plastic bottle	50 g	inquire

Boron Test → page 52

## 801630 Boron tribromide for synthesis

$BBr_3$   
 ■ CAS-No. 10294-33-4 ■ EC-No. 233-657-9  
 ■ Vapour pressure 72 hPa (20 °C)  
 ■ Spec. density 2.64 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  (20 °C) Risk of violent reaction.  
 ■  $M = 250.52$  g/mol ■ Melting point -46 °C  
 ■ Boiling point 91 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2,

Inhalation, H330; Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1A, H314, P280, P304 + P340, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ EC-Index-No. 005-003-00-0 ■ LGK 6.1B  
 ■ HS-No. 2812 90 00 ■ Disposal 24  
 ■ ADR-RID UN 2692 Bortribromid, 8, I ■ IMDG-Code UN 2692 BORON TRIBROMIDE, 8, I, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2692 BORON TRIBROMIDE, 8, I

**Specification**  
 Assay (argentometric) .....  $\geq 99,0$  % (m)  
 Density (d 20 °C / 4 °C) ..... 2,640 - 2,645

Ord.No.	Packaging	Quantity	Price
8.01630.0025	Glass bottle	25 ml	inquire
8.01630.0100	Glass bottle	100 ml	inquire

## 814775 Boron trifluoride-acetic acid-complex for synthesis

$C_4H_6O_4 \cdot BF_3$   
 ■ CAS-No. 373-61-5 ■ EC-No. 206-768-5  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 1.353 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 83 °C ■  $M = 187.91$  g/mol  
 ■ Melting point -47 °C  
 ■ Boiling point 143 - 148 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Skin corrosion, Category 1B,

H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2942 00 00 ■ Disposal 23  
 ■ ADR-RID UN 1742 Bortrifluorid-Essigsäure-Komplex, flüssig, 8, II ■ IMDG-Code UN 1742 BORON TRIFLUORIDE ACETIC ACID COMPLEX, LIQUID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1742 BORON TRIFLUORIDE ACETIC ACID COMPLEX, LIQUID, 8, II

**Specification**  
 Assay (acidimetric) ..... 33,0 - 37,0 %  
 Density (d 20 °C / 4 °C) ..... 1,340 - 1,350

Ord.No.	Packaging	Quantity	Price
8.14775.0250	Glass bottle	250 ml	inquire
8.14775.1000	Glass bottle	1 l	inquire

### 814784 Borontrifluoride-acetonitrile complex for synthesis



- Vapour pressure 85 Pa (20 °C)
- Spec. density 0.875 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3 - 16 % (V) Information refers to the main component. ■ Flash point 10 °C
- pH value (H<sub>2</sub>O) strongly acid
- Saturation conc. (20 °C) Air, no data available
- Boiling point 82 °C
- Ignition temp. 525 °C Information refers to the main component.
- WGK 2
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4,

Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

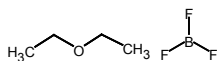
- LGK 3 ■ Store below +15°C.
- HS-No. 2942 00 00 ■ Disposal 23
- ADR-RID UN 3384 Beim Einatmen giftiger flüssiger Stoff, entzündbar, n.a.g.(BORTRIFLUORID-ACETONITRIL-KOMPLEX), 6.1 (3), I ■ IMDG-Code UN 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.(BORONTRIFLUORIDE-ACETONITRILE), 6.1 (3), I

■ IATA-DGR UN 3384 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.(BORONTRIFLUORIDE-ACETONITRILE), 6.1 (3),

**Specification**  
 Assay BF<sub>3</sub> (acidimetric) ..... 15,0 - 19,0 %  
 Density (d 20 °C/ 4 °C) ..... 0,870 - 0,880

Ord.No.	Packaging	Quantity	Price
8.14784.0100	Glass bottle	100 ml	inquire

### 801647 Boron trifluoride-diethyl ether complex for synthesis



- C<sub>4</sub>H<sub>10</sub>BF<sub>3</sub>O  
 C<sub>4</sub>H<sub>10</sub>O \* BF<sub>3</sub>  
 Boron trifluoride-ethyl etherate
- CAS-No. 109-63-7 ■ EC-No. 203-689-8
  - Refractive index 1.3439 (20 °C, 589 nm)
  - Vapour pressure 2.7 hPa (20 °C)
  - Spec. density 1.13 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 5.1 - 18.2 % (V) ■ Flash point 60 - 70 °C DIN 51758 ■ Kin. viscosity 1.69 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 141.93 g/mol
  - pH value (H<sub>2</sub>O) strongly acid ■ Melting point -

58 °C ■ Boiling point 125 - 135 °C (1013 hPa)

- Ignition temp. 185 °C DIN 51794
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 1.2 mg/l
- LGK 3
- HS-No. 2942 00 00 ■ Disposal 23
- ADR-RID UN 2604 Bortrifluoriddiethyletherat, 8

(3), I ■ IMDG-Code UN 2604 BORON TRIFLUORIDE DIETHYL ETHERATE, 8 (3), I, Segregation Group: 1 (Acids)

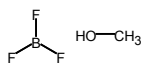
■ IATA-DGR UN 2604 BORON TRIFLUORIDE DIETHYL ETHERATE, 8 (3), I

**Specification**  
 Assay BF<sub>3</sub> (acidimetric) ..... 48,0 - 52,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,120 - 1,130

Ord.No.	Packaging	Quantity	Price
8.01647.0250	Glass bottle	250 ml	inquire
8.01647.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

Boron trifluoride-ethyl etherate → Boron trifluoride-diethyl ether complex page 483

### 801663 Boron trifluoride-methanol complex (20% solution in methanol) for synthesis



- Vapour pressure 4 hPa (20 °C)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 % (V) Methanol ■ Flash point 16 °C
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- Ignition temp. 420 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin

corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

- LGK 3
- HS-No. 3824 90 97 ■ Disposal 23
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(BORTRIFLUORID-METHANOL-KOMPLEX UND ENTH. METHANOL), 3 (8), II
- IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(BORON TRIFLUORIDE-METHANOL COMPLEX AND CONT. METHANOL), 3 (8), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(BORON TRIFLUORIDE-METHANOL COMPLEX AND CONT. METHANOL), 3 (8), II

**Specification**  
 Assay BF<sub>3</sub> (acidimetric) ..... 14,0 - 16,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,880 - 0,895

Ord.No.	Packaging	Quantity	Price
8.01663.0100	Glass bottle	100 ml	inquire
	Glass bottle	6 x 100 ml	inquire
8.01663.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire

### 843832 Borontrifluoride-tetrahydrofuran complex for synthesis



- C<sub>4</sub>H<sub>8</sub>BF<sub>3</sub>O  
 BF<sub>3</sub>\*C<sub>4</sub>H<sub>8</sub>O
- CAS-No. 462-34-0 ■ EC-No. 207-325-9
  - Vapour pressure 7 hPa (20 °C)
  - Spec. density 1.27 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.3 - 17.7 % (V) ■ Flash point 92 °C
  - Kin. viscosity 4.00 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 139.91 g/mol
  - pH value < 1 (50 g/l, H<sub>2</sub>O) ■ Melting point 12 °C
  - Ignition temp. 250 °C DIN 51794

- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat > 200 - 2000 mg/kg
- LGK 6.1A
- HS-No. 2942 00 00 ■ Disposal 23
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(BORTRIFLUORID-TETRAHYDROFURAN-KOMPLEX), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC,

N.O.S.(BORONTRIFLUORIDE-TETRAHYDROFURAN COMPLEX), 8 (6.1), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(BORONTRIFLUORIDE-TETRAHYDROFURAN COMPLEX), 8 (6.1), II

**Specification**  
 Assay BF<sub>3</sub> (acidimetric) ..... 45 - 55 %  
 Density (d 20 °C/ 4 °C) ..... 1.265 - 1.275

Ord.No.	Packaging	Quantity	Price
8.43832.0100	Glass bottle	100 ml	inquire
8.43832.0500	Glass bottle	500 ml	inquire



# Boront

## di-Boron trioxide

B<sub>2</sub>O<sub>3</sub>  
**Boric anhydride**  
 ■ CAS-No. 1303-86-2 ■ EC-No. 215-125-8  
 ■ Spec. density 2.46 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 36 g/l (25 °C) ■ M = 69.61 g/mol  
 ■ pH value 4 (10 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 450 °C  
 ■ Bulk density 900 - 1100 kg/m<sup>3</sup>  
 ■ Boiling point 1860 °C  
 ■ WGK 1  
 ■ GHS: Danger, Reproductive toxicity, Category

1B, H360FD, P201, P308 + P313  
 ■ LD50 oral rat 3150 mg/kg  
 ■ EC-Index-No. 005-008-00-8 ■ LGK 6.1B  
 ■ HS-No. 2810 00 10 ■ Disposal 14  
 Reagent for the dissolution of silicates and fluorides such as CaF<sub>2</sub>, AlF<sub>3</sub>, Na<sub>3</sub>AlF<sub>6</sub>.

### 100169 di-Boron trioxide 99.9995 Suprapur®

**Specification**  
 Purity (metallic) ..... ≥ 99.9995 %  
 Assay (acidimetric) ..... ≥ 99.2 %  
 Chloride (Cl) ..... ≤ 5 ppm  
 Phosphate (PO<sub>4</sub>) ..... ≤ 5 ppm  
 Silicate (as SiO<sub>2</sub>) ..... ≤ 1 ppm  
 Sulphate (SO<sub>4</sub>) ..... ≤ 5 ppm  
 Ag (Silver) ..... ≤ 0.020 ppm  
 Al (Aluminium) ..... ≤ 0.050 ppm  
 As (Arsenic) ..... ≤ 0.010 ppm  
 Au (Gold) ..... ≤ 0.010 ppm  
 Ba (Barium) ..... ≤ 0.020 ppm  
 Be (Beryllium) ..... ≤ 0.010 ppm

Ca (Calcium) ..... ≤ 0.100 ppm  
 Cd (Cadmium) ..... ≤ 0.010 ppm  
 Co (Cobalt) ..... ≤ 0.010 ppm  
 Cr (Chromium) ..... ≤ 0.020 ppm  
 Cu (Copper) ..... ≤ 0.020 ppm  
 Fe (Iron) ..... ≤ 0.050 ppm  
 In (Indium) ..... ≤ 0.010 ppm  
 K (Potassium) ..... ≤ 0.20 ppm  
 Li (Lithium) ..... ≤ 0.010 ppm  
 Mg (Magnesium) ..... ≤ 0.050 ppm  
 Mn (Manganese) ..... ≤ 0.010 ppm  
 Mo (Molybdenum) ..... ≤ 0.020 ppm

Na (Sodium) ..... ≤ 0.20 ppm  
 Ni (Nickel) ..... ≤ 0.020 ppm  
 Pb (Lead) ..... ≤ 0.020 ppm  
 Sr (Strontium) ..... ≤ 0.020 ppm  
 Tl (Thallium) ..... ≤ 0.010 ppm  
 V (Vanadium) ..... ≤ 0.020 ppm  
 Zn (Zinc) ..... ≤ 0.050 ppm

Ord.No.	Packaging	Quantity	Price
1.00169.0250	Plastic bottle	250 g	inquire

### 100163 di-Boron trioxide for silicate analysis

**Specification**  
 Chloride (Cl) ..... ≤ 0.002 %  
 Heavy metals (as Pb) ..... ≤ 0.002 %  
 Ca (Calcium) ..... ≤ 0.002 %  
 Fe (Iron) ..... ≤ 0.0005 %

K (Potassium) ..... ≤ 0.003 %  
 Mg (Magnesium) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.003 %  
 Subst. not made volatile by methanolic

hydrochloric acid (as SO<sub>4</sub>) ..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.00163.1000	Plastic bottle	1 kg	inquire

Botran → 2,6-Dichloro-4-nitroaniline page 726  
 Bottle key → page 328  
 Bottles → Laboratory equipment, auxiliaries  
 Bovine serum albumin → Albumin fraction V page 357  
 BPA → (R)-(-)-1,1'-Binaphthalene-2,2'-diyl-phosphate page 458  
 (R)-(-)-BPA → (R)-(-)-1,1'-Binaphthalene-2,2'-diyl-phosphate page 458

(S)-(+)-BPA → (S)-(+)-1,1'-Binaphthalene-2,2'-diyl-phosphate page 458  
 BPLS agar → page 99  
 BPPM → (2S,4S)-(-)-N-BOC-4-Diphenylphosphino-2-diphenyl phosphino methyl-pyrrolidine page 479  
 BPR → Bromophenol red page 511  
 Bradford reagent → page 81  
 Brain heart broth → page 99

Brain-heart-infusion agar → page 99  
 Brassylic acid → Tridecanedioic acid page 1582  
 BREWER anaerobic agar → page 99  
 Brewery → Hygiene monitoring

### 801962 Brij® 35 for synthesis

(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>C<sub>12</sub>H<sub>26</sub>O  
*Polyoxyethylene lauryl ether, Polyethyleneglycol lauryl ether*  
 ■ CAS-No. 9002-92-0 ■ EC-No. 500-002-6  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 149 °C ■ Solub. in H<sub>2</sub>O (25 °C) soluble ■ pH value 5.5 - 7.0 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 36 - 42 °C

■ Bulk density 1050 kg/m<sup>3</sup> ■ Boiling point 100 °C (1013 hPa)  
 ■ WGK 2  
 ■ LD50 oral rat > 78000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 3402 13 00 ■ Disposal 3  
**Specification**  
 Hydroxyl value ..... 45 - 50

Water (K. F.) ..... ≤ 3,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01962.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
8.01962.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

### 101894 Brij® 35 solution (30% w/w in water) for biochemistry

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5 - 7 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 3402 13 00 ■ Disposal 28  
 Non-ionic detergent used in amino acid analysis

and in molecular biology, e.g. isolation of plasmid DNA. Ready-to-use solution.  
**Specification**  
 Identity (IR-spectrum) ..... conforms  
 Turbidity ..... ≤ 2.0 NTU

(equivalent to turbidityclass I according to DAB)

Ord.No.	Packaging	Quantity	Price
1.01894.0100	Glass bottle	100 ml	inquire
1.01894.1000	Glass bottle	1 l	inquire

### 814727 Brij® 58 (stabilised with 2-tert-butyl-4-methoxyphenol and citric acid) for synthesis

HO-(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>-(CH<sub>2</sub>)<sub>15</sub>-CH<sub>3</sub>  
*Polyoxyethylene (20) cetylolether, Polyethyleneglycol (20) cetylolether*  
 ■ CAS-No. 9004-95-9 ■ EC-No. 500-014-1  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Flash point > 149 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ Melting point 38 - 42 °C

■ WGK 2  
 ■ LD50 oral rat 2500 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 3402 13 00 ■ Disposal 3  
**Specification**  
 Hydroxyl value ..... 45 - 60

Water (K. F.) ..... ≤ 3,0 %

Ord.No.	Packaging	Quantity	Price
8.14727.0250	Glass bottle	250 g	inquire
8.14727.1000	Glass bottle	1 kg	inquire

BRILA broth → page 99  
 Brilliant-green bile lactose broth → page 99  
 Brilliant-green phenol-red lactose sucrose agar → page 99  
 Brilliant cresyl blue solution → page 200

Brilliant cresyl blue zinc chloride double salt → page 189  
 Brilliant-green bile lactose broth → page 99  
 Brilliant green (C.I. 42040) → page 189  
 Brilliant green (hydrogen sulfate) (C.I. 42040) → page 189

Brilliant-green phenol-red lactose sucrose agar → page 99  
 Brilliant pink B → page 191  
 Brolacin agar → page 99  
 p-Bromanile → Tetrabromo-p-benzoquinone page 1522



## Bromates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
168	109905	Bromide bromate solution	169	109925	Potassium bromate solution	1428	814368	Sodium bromate
1344	104912	Potassium bromate	1428	845066	Sodium bromate			

## 101651 Bromelain (from pineapples) 2 mAnson U/mg for biochemistry EC 3.4.22.32



## Bromelin

■ CAS-No. 9001-00-7 ■ EC-No. 232-572-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 234 - 235 °C  
 ■ Bulk density 250 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334, P305 + P351 + P338, P304 + P340, P302 + P352,

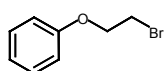
P342 + P311  
 ■ LD50 oral rat > 10000 mg/kg  
 ■ EC-Index-No. 647-005-00-X ■ LGK 10 - 13  
 ■ Store below +15°C.  
 ■ HS-No. 3507 90 90 ■ Disposal 3  
 Catalysed reaction: Non-specific hydrolysis of proteins, peptides, amides and esters of amino acids. Hydrolysis of proteins and peptides.  
**Specification**  
 Appearance (colour) ..... brownish

Appearance (description) ..... fine powder  
 Activity (hemoglobine, pH 6.0, 35.5 °C) .....  
 ..... ≥ 2.0 mAnsonU/mg  
 Microbiological test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.01651.0025	Glass bottle	25 g	inquire
1.01651.1000	Glass bottle	1 kg	inquire

Bromelin → Bromelain page 485

## 840009 (2-Bromethoxy)benzene for synthesis

C<sub>8</sub>H<sub>9</sub>BrO

*β*-Bromophenetole, 2-Bromoethyl phenyl ether  
 ■ CAS-No. 589-10-6 ■ EC-No. 209-634-4  
 ■ Spec. density 1.35 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 65 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 201.06 g/mol  
 ■ Melting point 28 - 32 °C ■ Boiling point 144 °C (53.3 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 30 38 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 28 °C  
 Melting range (upper value) ..... ≤ 34 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40009.0025	Glass bottle	25 g	inquire

1-Brom-1-hydroxybenzene → 4-Bromophenol page 510

## Bromide

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
368	801068	Aluminium bromide	653	814658	Copper(II) bromide	1344	104905	Potassium bromide
408	101125	Ammonium bromide	165	105668	Lithium bromide hydrate	293	104907	POTASSIUM BROMIDE UVASOL
482	801630	Boron tribromide	1103	104421	Mercury(II) bromide	165	106363	Sodium bromide
589	102342	N-Cetyl-N,N,N-trimethylammonium bromide	165	104904	Potassium bromide	1640	818631	Zinc bromide

109905 Bromide bromate solution for 1000 ml, c(Br<sub>2</sub>) = 0,05 mol/l (0.1 N) Titrisol®

■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 12.8 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350, P201, P308 + P313  
 ■ LGK 6.1 D  
 ■ HS-No. 3822 00 00 ■ Disposal 22

## Specification

Concentration after dilution to 1 liter: c(Br<sub>2</sub>) = 0.05 mol/l

Amount-of-substance concentration 0.05000 mol/l  
 The concentration of this solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 136f

(NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09905.0001	Glass ampoule	1 amp	inquire

Bromide standard for aqueous matrices ready for use → page 40

## Bromine



Br<sub>2</sub>  
 ■ CAS-No. 7726-95-6 ■ EC-No. 231-778-1  
 ■ Vapour pressure 220 hPa (20 °C)  
 ■ Spec. density 3.12 g/cm<sup>3</sup> (20 °C) liquid  
 ■ Kin. viscosity 0.314 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 42.0 g/l (20 °C) ■ M = 159.81 g/mol  
 ■ Melting point -7.2 °C ■ Boiling point 58.8 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Skin corrosion, Category 1A, H314; Acute aquatic toxicity, Category 1, H400, P210, P273, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1700 mg/kg

■ EC-Index-No. 035-001-00-5 ■ LGK 6.1B  
 ■ HS-No. 2801 30 90 ■ Disposal 22  
 ■ ADR-RID UN 1744 Brom, 8 (6.1), I ■ IMDG-Code UN 1744 BROMINE, 8 (6.1), I, Marine Pollutant: P, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1744 BROMINE, 8 (6.1), Bromine water is a reagent and oxidizing agent.

## 820171 Bromine for synthesis

## Specification

Assay (iodometric) ..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
8.20171.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.20171.1000	Glass btl. pl.coat.	1 l	inquire

## 101945 Bromine extra pure

## Specification

Assay (iodometric) ..... ≥ 99 %  
 Identity ..... passes test  
 Iodine (I) ..... ≤ 0.002 %

Organic bromine compounds ..... passes test  
 Non volatile matter ..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.01945.0250	Glass bottle	250 ml	inquire
1.01945.1000	Glass btl. pl.coat.	1 l	inquire

# Bromin

## 101948 Bromine for analysis EMSURE® ACS,ISO,Reag. Ph Eur

### Specification

Assay	≥ 99.5 %
Chlorine (Cl)	≤ 500 ppm
Iodine (I)	≤ 10 ppm
Heavy metals (as Pb)	≤ 2 ppm
Sulfur compounds (as SO <sub>4</sub> )	≤ 5 ppm
Al (Aluminium)	≤ 0.050 ppm
Ba (Barium)	≤ 0.100 ppm
Be (Beryllium)	≤ 0.020 ppm
Bi (Bismuth)	≤ 0.100 ppm
Ca (Calcium)	≤ 0.200 ppm
Cd (Cadmium)	≤ 0.050 ppm
Co (Cobalt)	≤ 0.020 ppm
Cr (Chromium)	≤ 0.050 ppm

Cu (Copper)	≤ 0.100 ppm
Fe (Iron)	≤ 0.500 ppm
Ge (Germanium)	≤ 0.050 ppm
K (Potassium)	≤ 0.100 ppm
Li (Lithium)	≤ 0.020 ppm
Mg (Magnesium)	≤ 0.500 ppm
Mn (Manganese)	≤ 0.020 ppm
Mo (Molybdenum)	≤ 0.020 ppm
Na (Sodium)	≤ 0.500 ppm
Ni (Nickel)	≤ 0.020 ppm
Sr (Strontium)	≤ 0.020 ppm
Ti (Titanium)	≤ 0.100 ppm
Tl (Thallium)	≤ 0.050 ppm

V (Vanadium)	≤ 0.050 ppm
Zn (Zinc)	≤ 0.100 ppm
Zr (Zirconium)	≤ 0.100 ppm
Organic bromine compounds	passes test
Non volatile matter	≤ 50 ppm
Density (d 20/20): about 3.1 g/cm <sup>3</sup>	

Ord.No.	Packaging	Quantity	Price
1.01948.0050	Glass btl. pl.coat.	50 ml	inquire
1.01948.0250	Glass bottle	250 ml	inquire
1.01948.1000	Glass btl. pl.coat.	1 l	inquire

## 101947 Bromine 99.999 Suprapur®

### Specification

Purity (metallic)	≥ 99.9999 %
Assay (iodometric)	≥ 99.8 %
Chlorine (Cl)	≤ 500 ppm
I (Iodine)	≤ 10 ppm
Sulphate (SO <sub>4</sub> )	≤ 5 ppm
Ag (Silver)	≤ 0.001 ppm
Al (Aluminium)	≤ 0.005 ppm
Au (Gold)	≤ 0.005 ppm
Ba (Barium)	≤ 0.005 ppm
Be (Beryllium)	≤ 0.001 ppm
Bi (Bismuth)	≤ 0.005 ppm
Ca (Calcium)	≤ 0.03 ppm
Cd (Cadmium)	≤ 0.001 ppm

Co (Cobalt)	≤ 0.001 ppm
Cr (Chromium)	≤ 0.001 ppm
Cu (Copper)	≤ 0.001 ppm
Fe (Iron)	≤ 0.01 ppm
Ga (Gallium)	≤ 0.005 ppm
In (Indium)	≤ 0.002 ppm
K (Potassium)	≤ 0.02 ppm
Li (Lithium)	≤ 0.001 ppm
Mg (Magnesium)	≤ 0.005 ppm
Mn (Manganese)	≤ 0.001 ppm
Mo (Molybdenum)	≤ 0.001 ppm
Na (Sodium)	≤ 0.05 ppm
Ni (Nickel)	≤ 0.002 ppm

Pb (Lead)	≤ 0.002 ppm
Sn (Tin)	≤ 0.005 ppm
Sr (Strontium)	≤ 0.001 ppm
Ti (Titanium)	≤ 0.001 ppm
Tl (Thallium)	≤ 0.002 ppm
V (Vanadium)	≤ 0.001 ppm
Zn (Zinc)	≤ 0.005 ppm
Zr (Zirconium)	≤ 0.001 ppm
Non volatile matter	≤ 10 ppm

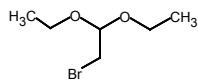
Ord.No.	Packaging	Quantity	Price
1.01947.0250	Glass btl. pl.coat.	250 ml	inquire

Bromine iodide → Iodine monobromide page 1006

Bromine Test → page 52

Bromoacetal → Bromoacetaldehyde diethyl acetal page 486

## 801657 Bromoacetaldehyde diethyl acetal for synthesis



C<sub>6</sub>H<sub>13</sub>BrO<sub>2</sub>  
BrCH<sub>2</sub>CH(OC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>  
2-Bromo-1,1-diethoxyethane, 1,1-Diethoxy-2-bromoethane, Bromoacetal  
■ CAS-No. 2032-35-1 ■ EC-No. 217-989-1  
■ Refractive index 1.4385 (20 °C, 589 nm)  
■ Spec. density 1.27 g/cm<sup>3</sup> (20 °C)  
■ Flash point 67 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 197.07 g/mol  
■ Boiling point 67 °C (24 hPa)

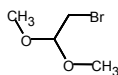
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LC50 rat 0.61 mg/l  
■ LD50 oral rat 233 mg/kg  
■ LGK 6.1A  
■ HS-No. 2911 00 00 ■ Disposal 9  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(BROMOACETALDEHYDDIETHYLACETAL), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(BROMOACETALDEHYDE

DIETHYLACETAL), 6.1, III  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(BROMOACETALDEHYDE DIETHYLACETAL), 6.1, III

**Specification**  
Assay (GC, area%) ≥ 97.0 Area %  
Density (d 20 °C / 4 °C) 1,270 - 1,275  
Identity (IR) conforms

Ord.No.	Packaging	Quantity	Price
8.01657.0100	Glass bottle	100 ml	inquire
8.01657.0250	Glass bottle	250 ml	inquire

## 841497 Bromoacetaldehyde dimethyl acetal (stabilized) for synthesis



C<sub>4</sub>H<sub>9</sub>BrO<sub>2</sub>  
■ CAS-No. 7252-83-7 ■ EC-No. 230-669-6  
■ Spec. density 1.435 g/cm<sup>3</sup> (20 °C)  
■ Flash point 53 °C ■ M = 169.02 g/mol  
■ Boiling point 60 - 62 °C (13.3 hPa)  
■ WGK 3  
■ GHS: Warning, Flammable liquid, Category 3,

H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P260, P302 + P352, P305 + P351 + P338  
■ LGK 3 ■ Store below +15 °C  
■ HS-No. 2911 00 00 ■ Disposal 3  
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(BROMOACETALDEHYDDIMETHYLACETAL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(BROMOACETALDEHYDE DIMETHYLACETAL), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(BROMOACETALDEHYDE DIMETHYLACETAL), 3, III

**Specification**  
Assay (GC, area%) ≥ 97.0 % (a/a)  
Density (d 20 °C / 4 °C) 1.432 - 1.437  
Identity (IR) passes test

Ord.No.	Packaging	Quantity	Price
8.41497.0025	Glass bottle	25 ml	inquire

## 841868 2-Bromoacetamide for synthesis



C<sub>2</sub>H<sub>4</sub>BrNO  
BrCH<sub>2</sub>CONH<sub>2</sub>  
■ CAS-No. 683-57-8  
■ Solub. in H<sub>2</sub>O 160 g/l (20 °C) ■ M = 137.96 g/mol  
■ Melting point 87 - 90 °C  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Oral,

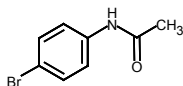
H301; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 100 mg/kg ■ LD50 dermal rat 3160 mg/kg  
■ LGK 6.1A  
■ HS-No. 2924 19 00 ■ Disposal 9  
■ ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(2-BROMOACETAMID), 8 (6.1), II ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(2-BROMOACETAMIDE), 8 (6.1), II

■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(2-BROMOACETAMIDE), 8 (6.1), II

**Specification**  
Assay (GC, area%) ≥ 97.0 % (a/a)  
Melting range (lower value) ≥ 87 °C  
Melting range (upper value) ≤ 90 °C  
Identity (IR) passes test

Ord.No.	Packaging	Quantity	Price
8.41868.0005	Plastic bottle	5 g	inquire

## 821967 4'-Bromoacetanilide for synthesis

C<sub>8</sub>H<sub>8</sub>BrNO4-(Br)C<sub>6</sub>H<sub>4</sub>NHCOCH<sub>3</sub>*N*-Acetyl-*p*-bromoaniline

- CAS-No. 103-88-8 ■ EC-No. 203-154-9
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 214.06 g/mol
- Melting point 164 - 167 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

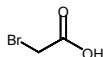
**Specification**

Assay (ex Br) ..... ≥ 98,0 %

Melting range (lower value) ..... ≥ 164 °C  
 Melting range (upper value) ..... ≤ 167 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21967.0100	Glass bottle	100 g	inquire

## 802260 Bromoacetic acid for synthesis

C<sub>2</sub>H<sub>3</sub>BrO<sub>2</sub>BrCH<sub>2</sub>COOH

- CAS-No. 79-08-3 ■ EC-No. 201-175-8
- Vapour pressure 0.158 hPa (25 °C)
- Spec. density 1.93 g/cm<sup>3</sup> (20 °C)
- Flash point >112 °C ■ Solub. in H<sub>2</sub>O 93.8 g/l (25 °C) ■ M = 138.94 g/mol
- Melting point 46 - 49 °C ■ Boiling point 208 °C (1013 hPa)
- WGK 2

- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1A, H314; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 50 mg/kg ■ LD50 dermal rabbit 59.9 mg/kg
- EC-Index-No. 607-065-00-X ■ LGK 6.1A
- HS-No. 2915 90 70 ■ Disposal 9
- ADR-RID UN 3425 Bromessigsäure, fest, 8, II
- IMDG-Code UN 3425 BROMOACETIC ACID,

SOLID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3425 BROMOACETIC ACID, SOLID, 8, II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.02260.0005	Glass bottle	5 g	inquire
8.02260.0250	Glass bottle	250 g	inquire
8.02260.1000	Glass bottle	1 kg	inquire

Bromoacetic acid benzyl ester → Benzyl bromoacetate page 448

Bromoacetic acid 2-chlorotrityl resin → page 272

Bromoacetic acid ethyl ester → Ethyl bromoacetate page 853

Bromoacetic acid methyl ester → METHYL BROMOACETATE page 1137

Bromoacetic acid tert-butyl ester → tert-Butyl bromoacetate page 542

Bromoacetic acid trimethylsilyl ester → Trimethylsilyl bromoacetate page 1607

## 843270 Bromoacetonitrile for synthesis

C<sub>2</sub>H<sub>2</sub>BrN

- CAS-No. 590-17-0 ■ EC-No. 209-672-1
- Spec. density 1.722 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O 50 - 100 g/l (22 °C) ■ M = 119.95 g/mol ■ Boiling point 150 °C (1013 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3,

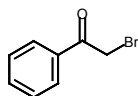
- Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Dermal, H311, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(BROMACETONITRIL), 6.1, II ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(BROMOACETONITRILE), 6.1, II
- IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(BROMOACETONITRILE), 6.1, II

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.802 - 1.806  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43270.0025	Glass bottle	25 ml	inquire
8.43270.0100	Glass bottle	100 ml	inquire

## 801658 2-Bromoacetophenone for synthesis

C<sub>8</sub>H<sub>7</sub>BrOC<sub>6</sub>H<sub>5</sub>COCH<sub>2</sub>Br*Phenacyl bromide, ω*-Bromoacetophenone

- CAS-No. 70-11-1 ■ EC-No. 200-724-9
- Spec. density 1.65 g/cm<sup>3</sup> (20 °C)
- Flash point >112 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 199.04 g/mol

- Melting point 48 - 51 °C
- Boiling point 140 °C (15 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3
- ADR-RID UN 2645 Phenacylbromid, 6.1, II
- IMDG-Code UN 2645 PHENACYL BROMIDE, 6.1, II

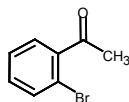
■ IATA-DGR UN 2645 PHENACYL BROMIDE, 6.1, II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 47 °C  
 Melting range (upper value) ..... ≤ 50 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01658.0025	Glass bottle	25 g	inquire
8.01658.0100	Glass bottle	100 g	inquire

## 841103 2'-Bromoacetophenone for synthesis

C<sub>8</sub>H<sub>7</sub>BrO

■ CAS-No. 2142-69-0 ■ EC-No. 218-398-1

■ Spec. density 1.476 g/cm<sup>3</sup> (20 °C)

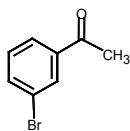
- Flash point >110 °C ■ M = 199.05 g/mol
- Boiling point 116 - 117 °C (15.99 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.487 - 1.495  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41103.0010	Glass bottle	10 ml	inquire

## 818514 3'-Bromoacetophenone for synthesis



$C_8H_7BrO$   
3-(Br)- $C_6H_4$ - $COCH_3$   
1-(3-Bromophenyl)ethanone  
■ CAS-No. 2142-63-4 ■ EC-No. 218-396-0

- Refractive index 1.5755 (20 °C, 589 nm)
- Spec. density 1.50 g/cm<sup>3</sup> (20 °C)
- Flash point >112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 199.04 g/mol
- Melting point 7 - 8 °C ■ Boiling point 133 °C (25 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

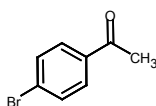
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 2

**Specification**

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.500 - 1.503  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18514.0025	Glass bottle	25 ml	inquire

## 821968 4'-Bromoacetophenone for synthesis



$C_8H_7BrO$   
4-(Br) $C_6H_4$  $COCH_3$   
1-(4-Bromophenyl)ethanone  
■ CAS-No. 99-90-1 ■ EC-No. 202-799-3  
■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 199.04 g/mol ■ Melting point 49 - 52 °C

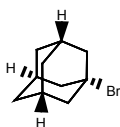
- Boiling point 255 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR UN 3335 AVIATION REGULATED SOLID, N.O.S.(4-BROMOACETOPHENONE), 9, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 49 °C  
Melting range (upper value) ..... ≤ 52 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21968.0025	Glass bottle	25 g	inquire
8.21968.0100	Glass bottle	100 g	inquire

## 801628 1-Bromoadamantane for synthesis



$C_{10}H_{15}Br$   
1-Adamantylbromide

- CAS-No. 768-90-1 ■ EC-No. 212-200-7
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 215.14 g/mol ■ Melting point 115 - 118 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2903 89 90 ■ Disposal 3

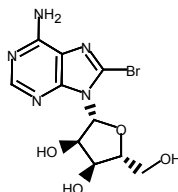
**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 115 °C  
Melting range (upper value) ..... ≤ 118 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01628.0025	Glass bottle	25 g	inquire

## 841729 8-Bromoadenosine for synthesis



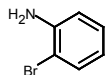
- $C_{10}H_{12}BrN_5O_4$
- CAS-No. 2946-39-6 ■ EC-No. 220-959-0
  - M = 346.13 g/mol
  - Melting point 211 °C (decomposition)
  - WGK 1
  - LGK 10 - 13 ■ Store below +15°C.
  - HS-No. 2934 99 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%)..... ≥ 98,0 Area %  
Spec. rotation [ $\alpha$ ]<sub>D</sub><sup>20</sup> (C=1.07 in 1N HCL).... -35,0 - -30,0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41729.0001	Glass bottle	1 g	inquire

## 841412 2-Bromoaniline for synthesis



$C_6H_6BrN$   
o-Bromoaniline  
■ CAS-No. 615-36-1 ■ EC-No. 210-421-3  
■ Vapour pressure 0.22 hPa (25 °C)  
■ Spec. density 1.578 g/cm<sup>3</sup> ■ Flash point >110 °C  
■ Solub. in H<sub>2</sub>O 0.949 g/l (25 °C) ■ M = 172.02 g/mol ■ Melting point 27 - 31 °C  
■ Boiling point 228 - 230 °C  
■ WGK 3

- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410; Acute toxicity, Category 4, Dermal, H312; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute toxicity, Category 4, Oral, H302, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-BROMANILIN), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-

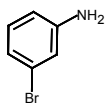
BROMOANILINE), 6.1, II  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-BROMOANILINE), 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 27 °C  
Melting range (upper value) ..... ≤ 31 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41412.0025	Glass bottle	25 g	inquire
8.41412.0100	Glass bottle	100 g	inquire

## 821694 3-Bromoaniline for synthesis



$C_6H_6BrN$   
3-(Br) $C_6H_4$  $NH_2$   
1-Amino-3-bromobenzene  
■ CAS-No. 591-19-5 ■ EC-No. 209-704-4  
■ Refractive index 1.626 (20 °C, 589 nm) ■ Vapour pressure 21 hPa (16 °C) ■ Spec. density 1.59 g/cm<sup>3</sup> (20 °C) ■ Flash point >230 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 172.02 g/mol

- Melting point 16 °C ■ Boiling point 251 °C (1013 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P260, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9

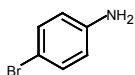
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(3-BROMANILIN), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-BROMO ANILINE), 6.1, II  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-BROMO ANILINE), 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.582 - 1.586  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21694.0025	Glass bottle	25 ml	inquire

## 4-Bromoaniline

C<sub>6</sub>H<sub>6</sub>BrNBrC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>*p*-Bromoaniline, *p*-Bromophenylamine

- CAS-No. 106-40-1 ■ EC-No. 203-393-9
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 172.02 g/mol ■ Melting point 60 - 64 °C
- Bulk density 810 kg/m<sup>3</sup>

- Boiling point 230 - 250 °C (1013 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Inhalation, H331; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P260, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 456 mg/kg ■ LD50 dermal rat 536

mg/kg

- LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(4-BROMANILIN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-BROMOANILINE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-BROMOANILINE), 9, III

## 801600 4-Bromoaniline for synthesis

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 60 °C  
 Melting range (upper value) ..... ≤ 64 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01600.0100	Glass bottle	100 g	inquire

## 101599 4-Bromoaniline GR for analysis

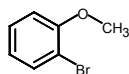
## Specification

Purity (GC) ..... ≥ 99 % (a/a)  
 Identity (IR-spectrum) ..... passes test  
 Melting point ..... 62 - 64 °C  
 Fe (Iron) ..... ≤ 0.001 %

Sulfated ash ..... ≤ 0.1 %  
 Water (according to Karl Fischer) ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.01599.0025	Glass bottle	25 g	inquire
1.01599.0100	Glass bottle	100 g	inquire

## 801592 2-Bromoanisole for synthesis

C<sub>7</sub>H<sub>7</sub>BrO2-(Br)C<sub>6</sub>H<sub>4</sub>OCH<sub>3</sub>*1*-Bromo-2-methoxybenzene

- CAS-No. 578-57-4 ■ EC-No. 209-425-8

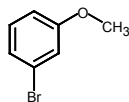
- Refractive index 1.5737 (20 °C, 589 nm)
- Spec. density 1.52 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 187.03 g/mol
- Melting point 1 - 3 °C
- Boiling point 222 - 224 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2909 30 38 ■ Disposal 2

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,514 - 1,516  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01592.0025	Glass bottle	25 ml	inquire
8.01592.0100	Glass bottle	100 ml	inquire

## 820182 3-Bromoanisole for synthesis

C<sub>7</sub>H<sub>7</sub>BrO3-(Br)C<sub>6</sub>H<sub>4</sub>OCH<sub>3</sub>*1*-Bromo-3-methoxybenzene

- CAS-No. 2398-37-0 ■ EC-No. 219-264-5
- Refractive index 1.5737 (20 °C, 589 nm)

- Spec. density 1.49 g/cm<sup>3</sup> (20 °C)
- Flash point 95 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 187.03 g/mol ■ pH value 5.5 (H<sub>2</sub>O, 20 °C)
- Melting point 2 °C ■ Boiling point 211 - 213 °C (1013 hPa)
- WGK 1
- GHS: Chronic aquatic toxicity, Category 3, H412, P273
- LD50 oral rat > 2000 mg/kg

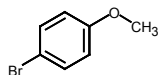
- LGK 10 - 13
- HS-No. 2909 30 38 ■ Disposal 2

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,489 - 1,493  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20182.0025	Glass bottle	25 ml	inquire
8.20182.0100	Glass bottle	100 ml	inquire

## 801601 4-Bromoanisole for synthesis

C<sub>7</sub>H<sub>7</sub>BrO4-(Br)C<sub>6</sub>H<sub>4</sub>OCH<sub>3</sub>*1*-Bromo-4-methoxybenzene

- CAS-No. 104-92-7 ■ EC-No. 203-252-1
- Refractive index 1.563 (20 °C, 589 nm)
- Spec. density 1.5 g/cm<sup>3</sup> (20 °C)

- Flash point 94 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 187.03 g/mol
- Melting point 12 - 14 °C ■ Boiling point 223 °C (1013 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P302 + P352
- LD50 oral rat 1907 mg/kg
- LGK 10

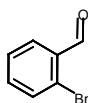
- HS-No. 2909 30 38 ■ Disposal 2

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,494 - 1,497  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01601.0100	Glass bottle	100 ml	inquire
8.01601.0250	Glass bottle	250 ml	inquire

## 821695 2-Bromobenzaldehyde for synthesis

C<sub>7</sub>H<sub>5</sub>BrO2-(Br)C<sub>6</sub>H<sub>4</sub>CHO

- CAS-No. 6630-33-7 ■ EC-No. 229-622-2
- Refractive index 1.596 (20 °C, 589 nm)
- Spec. density 1.60 g/cm<sup>3</sup> (20 °C)

- Flash point 95 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 185.01 g/mol
- Melting point 21 °C ■ Boiling point 228 - 230 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2913 00 00 ■ Disposal 2

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.590 - 1.600  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21695.0010	Glass bottle	10 ml	inquire

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

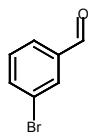
X

Y

Z



## 821696 3-Bromobenzaldehyde for synthesis



C<sub>7</sub>H<sub>5</sub>BrO  
3-(Br)C<sub>6</sub>H<sub>4</sub>CHO  
■ CAS-No. 3132-99-8 ■ EC-No. 221-526-9  
■ Refractive index 1.592 (25 °C, 589 nm)

■ Spec. density 1.58 g/cm<sup>3</sup> (20 °C)  
■ Flash point 96 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 185.01 g/mol  
■ Melting point 18 - 21 °C  
■ Boiling point 233 - 236 °C  
■ WGK 2  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LD50 dermal rabbit > 5000 mg/kg

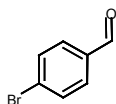
■ LGK 10 - 13  
■ HS-No. 2913 00 00 ■ Disposal 2

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.575 - 1.580  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21696.0025	Glass bottle	25 ml	inquire

## 804146 4-Bromobenzaldehyde for synthesis



C<sub>7</sub>H<sub>5</sub>BrO  
4-(Br)C<sub>6</sub>H<sub>4</sub>CHO  
■ CAS-No. 1122-91-4 ■ EC-No. 214-365-0  
■ Spec. density 1.85 g/cm<sup>3</sup> ■ Flash point 108 °C  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 185.02 g/mol

mol ■ Melting point 55 - 58 °C  
■ Bulk density 670 kg/m<sup>3</sup>  
■ Boiling point 123 - 125 °C (31 hPa)  
■ WGK 2  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2913 00 00

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
Melting range (lower value) ..... ≥ 56 °C  
Melting range (upper value) ..... ≤ 59 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04146.0010	Glass bottle	10 g	inquire
8.04146.0100	Glass bottle	100 g	inquire

## 801786 Bromobenzene for synthesis



C<sub>6</sub>H<sub>5</sub>Br  
*Phenyl bromide*  
■ CAS-No. 108-86-1 ■ EC-No. 203-623-8  
■ Refractive index 1.5602 (20 °C, 589 nm)  
■ Vapour pressure 4 hPa (20 °C)  
■ Spec. density 1.49 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 5.4 (20 °C) ■ El. dipole moment 1.5 (20 °C) ■ Explosive limit 0.5 - 2.5 % (V)  
■ Flash point 51 °C ■ Solub. in H<sub>2</sub>O 4 g/l (20 °C)  
■ M = 157 g/mol ■ Saturation conc. 26 g/m<sup>3</sup>

(20 °C) Air ■ Melting point -31 °C  
■ Boiling point 156 °C (1013 hPa)  
■ Ignition temp. 565 °C  
■ WGK 2  
■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P273, P210, P302 + P352  
■ LC50 rat 20.4 mg/l  
■ LD50 oral rat 2383 mg/kg  
■ EC-Index-No. 602-060-00-9 ■ LGK 3  
■ HS-No. 2903 99 90 ■ Disposal 3  
■ ADR-RID UN 2514 Brombenzen, 3, III ■ IMDG-Code UN 2514 BROMOBENZENE, 3, III, Marine

Pollutant: P

■ IATA-DGR UN 2514 BROMOBENZENE, 3, III

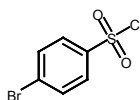
## Specification

Assay (GC, area%) ..... ≥ 99 %  
Density (d 20 °C/ 4 °C) ..... 1.494 - 1.496  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.01786.0005	Glass bottle	5 ml	inquire
8.01786.0250	Glass bottle	250 ml	inquire
8.01786.1000	Glass bottle	1 l	inquire
8.01786.9026	Steel barrel	25 l	inquire

2-Bromo-1,4-benzenedicarboxylic acid → 2-Bromoterephthalic acid page 515

## 820184 4-Bromobenzenesulfonyl chloride for synthesis



C<sub>6</sub>H<sub>4</sub>BrClO<sub>2</sub>S  
4-(Br)C<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>Cl  
■ CAS-No. 98-58-8 ■ EC-No. 202-683-2  
■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
■ M = 255.51 g/mol ■ Melting point 72 - 75 °C  
■ Boiling point 152 - 154 °C (20 hPa)  
■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8B  
■ HS-No. 2904 90 95 ■ Disposal 11  
■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(4-BROMBENZOLSULFONYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-BROMBENZENE SULFONYLCHLORIDE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-BROMBENZENE SULFONYLCHLORIDE), 8, II

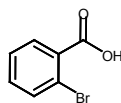
## Specification

Assay (morpholine method) ..... ≥ 98.0 %  
Melting range (lower value) ..... ≥ 70 °C  
Melting range (upper value) ..... ≤ 75 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20184.0025	Glass bottle	25 g	inquire

4-Bromobenzenethiol → 4-Bromothiophenol page 516

## 820183 2-Bromobenzoic acid for synthesis



C<sub>7</sub>H<sub>5</sub>BrO<sub>2</sub>  
2-(Br)C<sub>6</sub>H<sub>4</sub>COOH  
■ CAS-No. 88-65-3 ■ EC-No. 201-848-6

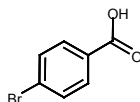
■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 1.82 g/l (25 °C) ■ M = 201.01 g/mol  
■ Melting point 144 - 147 °C  
■ WGK 3  
■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2916 39 90 ■ Disposal 4

## Specification

Assay (acidimetric) ..... ≥ 98.0 %  
Melting range (lower value) ..... ≥ 144 °C  
Melting range (upper value) ..... ≤ 147 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20183.0025	Plastic bottle	25 g	inquire

## 800507 4-Bromobenzoic acid for synthesis



C<sub>7</sub>H<sub>5</sub>BrO<sub>2</sub>  
4-(Br)C<sub>6</sub>H<sub>4</sub>COOH  
■ CAS-No. 586-76-5 ■ EC-No. 209-581-7

■ Solub. in H<sub>2</sub>O 0.06 g/l (25 °C) ■ M = 201.01 g/mol  
■ Melting point 252 - 255 °C  
■ WGK 3  
■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2916 39 90 ■ Disposal 4

Assay (acidimetric) ..... ≥ 98.0 % (m)  
Melting range (lower value) ..... ≥ 252 °C  
Melting range (upper value) ..... ≤ 257 °C  
Identity (IR) ..... conforms

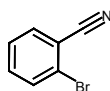
Ord.No.	Packaging	Quantity	Price
8.00507.0050	Plastic bottle	50 g	inquire



2-Bromobenzoic acid ethyl ester → Ethyl 2-bromobenzoate page 853

3-Bromobenzoic acid methyl ester → Methyl 3-bromobenzoate page 1137

## 821698 2-Bromobenzonitrile for synthesis

C<sub>7</sub>H<sub>4</sub>BrN

- CAS-No. 2042-37-7 ■ EC-No. 218-045-1
- Spec. density 1.496 g/cm<sup>3</sup> ■ Flash point 110 °C
- Solub. in H<sub>2</sub>O 10.5 g/l (23 °C) ■ M = 182.01 g/mol
- pH value 6.6 (10.5 g/l, H<sub>2</sub>O, 23 °C)
- Melting point 54.0 - 54.7 °C
- Bulk density 480 - 640 kg/m<sup>3</sup>

- Boiling point 250 °C (1013 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 200 - 2000 mg/kg
- LGK 6.1C
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(2-BROMBENZONITRIL), 6.1, III ■ IMDG-Code UN

3439 NITRILES, TOXIC, SOLID, N.O.S.(2-BROMOBENZONITRILE), 6.1, III

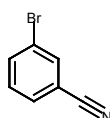
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(2-BROMOBENZONITRILE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 52 °C  
 Melting range (upper value) ..... ≤ 54 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21698.0010	Glass bottle	10 g	inquire

## 821699 3-Bromobenzonitrile for synthesis

C<sub>7</sub>H<sub>4</sub>BrN3-(Br)C<sub>6</sub>H<sub>4</sub>CN

- CAS-No. 6952-59-6 ■ EC-No. 230-127-9
- Spec. density 1.562 g/cm<sup>3</sup> (20 °C)
- Flash point 113 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (24 °C) ■ M = 182.01 g/mol

- Melting point 37 - 40 °C ■ Boiling point 225 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(3-BROMBENZONITRIL), 6.1, III ■ IMDG-Code UN

3439 NITRILES, TOXIC, SOLID, N.O.S.(3-BROMOBENZONITRILE), 6.1, III

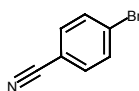
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(3-BROMOBENZONITRILE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 37 °C  
 Melting range (upper value) ..... ≤ 40 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21699.0010	Glass bottle	10 g	inquire

## 804149 4-Bromobenzonitrile for synthesis

C<sub>7</sub>H<sub>4</sub>BrN3-(Br)C<sub>6</sub>H<sub>4</sub>CN

- CAS-No. 623-00-7 ■ EC-No. 210-764-9
- Spec. density 1.562 g/cm<sup>3</sup> (20 °C)
- Flash point 130 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (24 °C) ■ M = 182.02 g/mol
- pH value (0.2 g/l, H<sub>2</sub>O, 24 °C) neutral ■ Melting point 111 - 114 °C
- Bulk density 775 kg/m<sup>3</sup> ■ Boiling point 242 °C

- (1013 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 200 - 2000 mg/kg
- LGK 6.1C
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(4-BROMBENZONITRIL), 6.1, III ■ IMDG-Code UN

3439 NITRILES, TOXIC, SOLID, N.O.S.(4-BROMOBENZONITRILE), 6.1, III

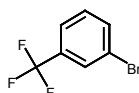
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(4-BROMOBENZONITRILE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Melting range (lower value) ..... ≥ 111 °C  
 Melting range (upper value) ..... ≤ 114 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04149.0010	Glass bottle	10 g	inquire

## 820225 3-Bromobenzotrifluoride for synthesis

C<sub>7</sub>H<sub>4</sub>BrF<sub>3</sub>3-(Br)C<sub>6</sub>H<sub>4</sub>CF<sub>3</sub>

- m*-Bromo- $\alpha,\alpha,\alpha$ -trifluorotoluene, 1-Bromo-3-(trifluoromethyl)benzene
- CAS-No. 401-78-5 ■ EC-No. 206-932-6
- Refractive index 1.4705 (25 °C, 589 nm)

- Spec. density 1.63 g/cm<sup>3</sup> (20 °C)
- Flash point 43 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 225 g/mol
- Boiling point 151 - 152 °C (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-BROMBENZOTRIFLUORID), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-BROMOBENZOTRIFLUORIDE), 3, III

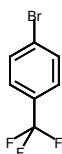
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-BROMOBENZOTRIFLUORIDE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.630 - 1.632  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20225.0100	Glass bottle	100 ml	inquire

## 841207 4-Bromobenzotrifluoride for synthesis

C<sub>7</sub>H<sub>4</sub>BrF<sub>3</sub>*p*-Bromo- $\alpha,\alpha,\alpha$ -trifluorotoluene, 1-Bromo-4-(trifluoromethyl)benzene

- CAS-No. 402-43-7 ■ EC-No. 206-943-6

- Spec. density 1.63 g/cm<sup>3</sup> (20 °C)
- Flash point 48 °C ■ M = 225 g/mol
- Boiling point 154 - 155 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338
- LGK 3
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4-BROMBENZOTRIFLUORID), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4-BROMOBENZOTRIFLUORIDE), 3, III

- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(4-BROMOBENZOTRIFLUORIDE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.628 - 1.632  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41207.0005	Glass bottle	5 ml	inquire



A

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N

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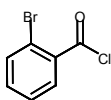
W

X

Y

Z

## 818516 2-Bromobenzoyl chloride for synthesis



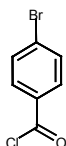
$C_7H_5BrClO$   
 ■ CAS-No. 7154-66-7 ■ EC-No. 230-507-4  
 ■ Refractive index 1.5965 (20 °C, 589 nm)  
 ■ Spec. density 1.671 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >112 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 219.46 g/mol ■ Melting point 11 °C

■ Boiling point 245 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Specific target organ toxicity – single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2-BROMBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-

BROMBENZOYLCHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-BROMBENZOYLCHLORIDE), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.660 - 1.680  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18516.0025	Glass bottle	25 ml	inquire

## 820185 4-Bromobenzoyl chloride for synthesis



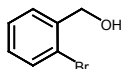
$C_7H_5BrClO$   
 4-(Br)C<sub>6</sub>H<sub>4</sub>COCl  
 ■ CAS-No. 586-75-4 ■ EC-No. 209-580-1  
 ■ Flash point >110 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) (decomposition) ■ M = 219.46 g/mol  
 ■ Melting point 36 - 39 °C ■ Boiling point 246 °C

(1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Specific target organ toxicity – single exposure, Category 3, H335, P301 + P330 + P331, P305 + P351 + P338, P309 + P310, P304 + P340  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 11  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(4-BROMBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-BROMO-BENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-BROMO-BENZOYL CHLORIDE), 8, II  
**Specification**  
 Assay (morpholine method) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 36 °C  
 Melting range (upper value) ..... ≤ 39 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20185.0010	Glass bottle	10 g	inquire
8.20185.0025	Glass bottle	25 g	inquire

## 841126 2-Bromobenzyl alcohol for synthesis



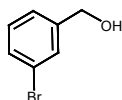
$C_7H_7BrO$   
 ■ CAS-No. 18982-54-2 ■ EC-No. 242-719-4  
 ■ M = 187.04 g/mol ■ Melting point 80 - 82 °C

■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 78 °C  
 Melting range (upper value) ..... ≤ 81 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41126.0010	Plastic bottle	10 g	inquire

## 841140 3-Bromobenzyl alcohol for synthesis



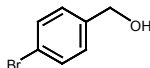
$C_7H_7BrO$   
 ■ CAS-No. 15852-73-0 ■ EC-No. 239-975-4  
 ■ Spec. density 1.56 g/cm<sup>3</sup> (20 °C)

■ Flash point >110 °C ■ M = 187.03 g/mol  
 ■ Boiling point 165 °C (21.3 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2906 29 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.550 - 1.558

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41140.0005	Glass bottle	5 ml	inquire
8.41140.0025	Glass bottle	25 ml	inquire

## 841647 4-Bromobenzyl alcohol for synthesis



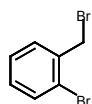
$C_7H_7BrO$   
 ■ CAS-No. 873-75-6 ■ EC-No. 212-851-7  
 ■ M = 187.03 g/mol ■ Melting point 77 - 78 °C

■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 75 °C  
 Melting range (upper value) ..... ≤ 79 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41647.0010	Glass bottle	10 g	inquire
8.41647.0050	Glass bottle	50 g	inquire

## 841669 2-Bromobenzyl bromide for synthesis



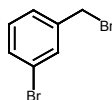
$C_7H_6Br_2$   
 ■ CAS-No. 3433-80-5 ■ EC-No. 222-334-8  
 ■ Flash point 113 °C ■ M = 249.93 g/mol  
 ■ Melting point 34 °C ■ Boiling point 127 - 129 °C (25.3 hPa)  
 ■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(2-BROMBENZYL BROMID), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(2-BROMOBENZYL BROMIDE), 8, II  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(2-BROMOBENZYL BROMIDE), 8, II

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 29 °C  
 Melting range (upper value) ..... ≤ 33 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41669.0010	Glass bottle	10 g	inquire
8.41669.0050	Glass bottle	50 g	inquire

## 841516 3-Bromobenzyl bromide for synthesis

C<sub>7</sub>H<sub>6</sub>Br<sub>2</sub>

- CAS-No. 823-78-9 ■ EC-No. 212-519-1
- Flash point >110 °C ■ M = 249.93 g/mol
- Melting point 40 - 43 °C
- Boiling point 128 - 130 °C (16 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

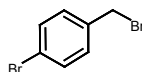
- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(3-BROMBENZYL BROMID), 8, II
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-BROMOBENZYL BROMIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-BROMOBENZYL BROMIDE), 8, II

## Specification

Assay (GC, area%)..... ≥ 95.0 % (a/a)  
 Melting range (lower value)..... ≥ 40 °C  
 Melting range (upper value)..... ≤ 43 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41516.0005	Glass bottle	5 g	inquire
8.41516.0025	Glass bottle	25 g	inquire

## 804148 4-Bromobenzyl bromide for synthesis

C<sub>7</sub>H<sub>6</sub>Br<sub>2</sub>4-(Br)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>Br

- CAS-No. 589-15-1 ■ EC-No. 209-636-5
- Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 249.93 g/mol
- Melting point 59 - 62 °C
- Boiling point 115 - 124 °C (16 hPa)
- WGK 3
- GHS: Danger, Specific target organ toxicity -

single exposure, Category 3, H335; Skin corrosion, Category 1B, H314; Eye irritation, Category 2, H319, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310

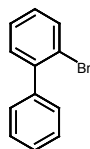
- LGK 6.1A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-BROMBENZYL BROMID), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-BROMOBENZYL BROMIDE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-BROMOBENZYL BROMIDE), 6.1, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 60 °C  
 Melting range (upper value)..... ≤ 63 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04148.0025	Glass bottle	25 g	inquire
8.04148.0100	Glass bottle	100 g	inquire

## 814918 2-Bromobiphenyl for synthesis

C<sub>12</sub>H<sub>9</sub>Br

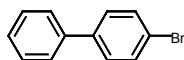
- CAS-No. 2052-07-5 ■ EC-No. 218-141-3
- Spec. density 1.40 g/cm<sup>3</sup> (20 °C)
- M = 233.11 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1,395 - 1,400  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14918.0005	Glass bottle	5 ml	inquire

## 840155 4-Bromobiphenyl for synthesis

C<sub>12</sub>H<sub>9</sub>Br

- CAS-No. 92-66-0 ■ EC-No. 202-176-6
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 233.1 g/mol
- pH value (H<sub>2</sub>O) not applicable
- Melting point 90 - 91 °C ■ Bulk density 720 kg/

m<sup>3</sup> ■ Boiling point 110 - 115 °C (0.13 - 0.26 hPa)

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 99 90

## Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 89 °C  
 Melting range (upper value)..... ≤ 92 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40155.0025	Glass bottle	25 g	inquire

## 801602 1-Bromobutane for synthesis

C<sub>4</sub>H<sub>9</sub>Br

Butyl bromide

- CAS-No. 109-65-9 ■ EC-No. 203-691-9
- Refractive index 1.4394 (20 °C, 589 nm)
- Vapour pressure 52 hPa (20 °C)
- Spec. density 1.27 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.6 - 6.6 % (V) ■ Flash point 18.3 °C ■ Solub. in H<sub>2</sub>O 0.6 g/l (30 °C) ■ M = 137.02 g/mol
- Melting point -112 °C
- Boiling point 100 - 104 °C
- Ignition temp. 265 °C

- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P233, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 2761 mg/kg
- LGK 3
- HS-No. 2903 39 19 ■ Disposal 3
- ADR-RID UN 1126 1-Brombutan, 3, II ■ IMDG-Code UN 1126 1-BROMOBUTANE, 3, II,

Segregation Group: 10 (Liquid halogenated hydrocarbons)

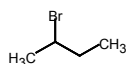
- IATA-DGR UN 1126 1-BROMOBUTANE, 3, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,271 - 1,276  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01602.0100	Glass bottle	100 ml	inquire
8.01602.0500	Glass bottle	500 ml	inquire

## 801548 2-Bromobutane for synthesis

C<sub>4</sub>H<sub>9</sub>BrCH<sub>3</sub>CH<sub>2</sub>CHBrCH<sub>3</sub>

sec-Butyl bromide

- CAS-No. 78-76-2 ■ EC-No. 201-140-7
- Refractive index 1.4369 (20 °C, 589 nm)
- Vapour pressure 70 hPa (20 °C)
- Spec. density 1.26 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.6 - 6.6 % (V) ■ Flash point 21 °C ■ Solub. in

H<sub>2</sub>O < 1 g/l (20 °C) ■ M = 137.01 g/mol

- Melting point -112 °C ■ Boiling point 90 - 92 °C (1013 hPa) ■ Ignition temp. 265 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Chronic aquatic toxicity, Category 3, H412, P210, P233, P240, P273
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2903 39 19 ■ Disposal 2
- ADR-RID UN 2339 2-Brombutan, 3, II ■ IMDG-Code UN 2339 2-BROMOBUTANE, 3, II, Segregation Group: 10 (Liquid halogenated

hydrocarbons)

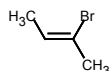
- IATA-DGR UN 2339 2-BROMOBUTANE, 3, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,257 - 1,260  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01548.0250	Glass bottle	250 ml	inquire
8.01548.1000	Glass bottle	1 l	inquire

## 841455 2-Bromo-2-butene (mixture of cis and trans isomers) for synthesis



C<sub>4</sub>H<sub>7</sub>Br  
 ■ CAS-No. 13294-71-8 ■ EC-No. 236-316-2  
 ■ Spec. density 1.328 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 1 °C ■ M = 135 g/mol  
 ■ Boiling point 82 - 90 °C (1013 hPa)  
 ■ WGK 3

■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
 ■ LGK 3  
 ■ HS-No. 2903 39 19 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-BROM-2-BUTEN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-BROMO-2-BUTENE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-BROMO-2-BUTENE), 3, II

## Specification

Assay isomers (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.323 - 1.327  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41455.0025	Glass bottle	25 ml	inquire

## 841642 4-Bromo-1-butene for synthesis



C<sub>4</sub>H<sub>7</sub>Br  
 ■ CAS-No. 5162-44-7 ■ EC-No. 225-937-4  
 ■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 1 °C ■ Solub. in H<sub>2</sub>O 0.76 g/l (25 °C)  
 ■ M = 135 g/mol ■ Boiling point 98 - 100 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin sensitisation, Category 1, H317; Respiratory sensitisation, Category 1, H334;

Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P210, P223, P260, P262, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P342 + P311  
 ■ LGK 3  
 ■ HS-No. 2903 39 19 ■ Disposal 3  
 ■ ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(4-BROM-1-BUTEN), 3 (6.1), II  
 ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(4-BROMO-1-BUTENE), 3 (6.1), II  
 ■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC,

N.O.S.(4-BROMO-1-BUTENE), 3 (6.1), II

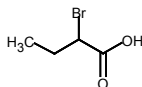
## Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,330 - 1,340  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41642.0005	Glass bottle	5 ml	inquire

4-Bromo-butyl cyanide → 5-Bromovaleronitrile page 518

## 800469 2-Bromobutyric acid for synthesis



C<sub>4</sub>H<sub>7</sub>BrO<sub>2</sub>  
 CH<sub>3</sub>CH<sub>2</sub>CH(Br)COOH  
 ■ CAS-No. 80-58-0 ■ EC-No. 201-294-5  
 ■ Refractive index 1.472 (20 °C, 589 nm) ■ Vapour pressure 0.106 hPa (25 °C) ■ Spec. density 1.56 g/cm<sup>3</sup> (20 °C) ■ Flash point >112 °C ■ Solub. in H<sub>2</sub>O 66 g/l (20 °C) ■ M = 167 g/mol

■ Melting point -4 °C ■ Boiling point 214 - 217 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2915 90 70 ■ Disposal 4  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2-BROMBUTTERSÄURE), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-BROMBUTYRIC ACID),

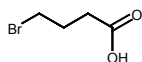
8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-BROMBUTYRIC ACID), 8, II

## Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,564 - 1,566  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00469.0250	Glass bottle	250 ml	inquire

## 841654 4-Bromobutyric acid for synthesis



C<sub>4</sub>H<sub>7</sub>BrO<sub>2</sub>  
 4-Bromo-butyric acid  
 ■ CAS-No. 2623-87-2 ■ EC-No. 220-083-9  
 ■ Flash point 115 °C ■ M = 167 g/mol  
 ■ Melting point 29 °C ■ Boiling point 129 - 131 °C (14.7 hPa)

■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2915 90 70 ■ Disposal 3  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(4-BROMBUTTERSÄURE), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(4-BROMOBUTYRIC ACID), 8, II

■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(4-BROMOBUTYRIC ACID), 8, II

## Specification

Assay (acidimetric)..... ≥ 97.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41654.0025	Glass bottle	25 g	inquire

4-Bromo-butyric acid → 4-Bromobutyric acid page 494

2-Bromobutyric acid ethyl ester → Ethyl 2-bromobutyrate page 853

4-Bromobutyric acid ethyl ester → Ethyl 4-bromobutyrate page 854

## 841432 2-Bromo-γ-butyrolactone for synthesis



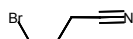
C<sub>4</sub>H<sub>5</sub>BrO<sub>2</sub>  
 ■ CAS-No. 5061-21-2 ■ EC-No. 225-764-4

■ Spec. density 1.994 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ M = 164.98 g/mol  
 ■ Boiling point 137 - 139 °C (8 hPa)  
 ■ WGK 3  
 ■ LGK 10 ■ Store below +15°C.  
 ■ HS-No. 2932 20 90 ■ Disposal 3

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.774 - 1.780  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41432.0010	Glass bottle	10 ml	inquire

## 841720 4-Bromobutyronitrile for synthesis



C<sub>4</sub>H<sub>5</sub>BrN  
 ■ CAS-No. 5332-06-9 ■ EC-No. 226-236-6  
 ■ Spec. density 1.491 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 103 °C ■ M = 148 g/mol  
 ■ Boiling point 204 - 206 °C

■ WGK 3  
 ■ LGK 10 ■ Store below +15°C.  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(4-BROMBUTYRONITRIL), 6.1, III ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(4-BROMOBUTYRONITRILE), 6.1, III  
 ■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC,

N.O.S.(4-BROMOBUTYRONITRILE), 6.1, III

## Specification

Assay (GC, area%)..... ≥ 97.0 Area %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41720.0005	Glass bottle	5 ml	inquire

6-Bromocaproic acid → 6-Bromohexanoic acid page 502

6-Bromocaproyl chloride → 6-Bromohexanoyl chloride page 503



**820191 1-Bromo-2-chlorobenzene for synthesis** C<sub>6</sub>H<sub>4</sub>BrCl1-(Br)-2-(Cl)C<sub>6</sub>H<sub>4</sub>

- CAS-No. 694-80-4 ■ EC-No. 211-775-1
- Refractive index 1.5809 (20 °C, 589 nm)
- Spec. density 1.65 g/cm<sup>3</sup> (20 °C)

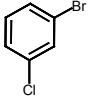
- Flash point 70 °C ■ Solub. in H<sub>2</sub>O 0.045 g/l (25 °C) ■ M = 191.45 g/mol ■ Melting point -12.3 °C ■ Boiling point 203 - 205 °C

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.651 - 1.653  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20191.0050	Glass bottle	50 ml	inquire

**801674 1-Bromo-3-chlorobenzene for synthesis** C<sub>6</sub>H<sub>4</sub>BrCl1-(Br)-3-(Cl)C<sub>6</sub>H<sub>4</sub>

- CAS-No. 108-37-2 ■ EC-No. 203-575-8
- Refractive index 1.5771 (20 °C, 589 nm)

- Spec. density 1.63 g/cm<sup>3</sup> (20 °C)
- Flash point 80 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 191.45 g/mol ■ Boiling point 195 - 197 °C

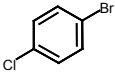
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 2903 99 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,629 - 1,631  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01674.0100	Glass bottle	100 ml	inquire

**821969 1-Bromo-4-chlorobenzene for synthesis**C<sub>6</sub>H<sub>4</sub>BrCl1-(Br)-4-(Cl)C<sub>6</sub>H<sub>4</sub>

- CAS-No. 106-39-8 ■ EC-No. 203-392-3
- Spec. density (20 °C) not applicable
- Flash point < 100 °C ■ Solub. in H<sub>2</sub>O 0.045 g/l

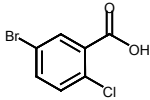
- (25 °C) ■ M = 191.45 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) not applicable
- Saturation conc. (20 °C) Air, not applicable
- Melting point 64 - 67 °C ■ Bulk density 900 kg/m<sup>3</sup> ■ Boiling point 196 °C (1013 hPa)

- WGK 3
- LGK 10 - 13
- HS-No. 2903 99 90

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 64 °C  
 Melting range (upper value) ..... ≤ 67 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21969.0005	Glass bottle	5 g	inquire
8.21969.0250	Plastic bottle	250 g	inquire

**814989 5-Bromo-2-chlorobenzoic acid for synthesis** C<sub>7</sub>H<sub>4</sub>BrClO<sub>2</sub>

- CAS-No. 21739-92-4 ■ EC-No. 244-558-5
- Solub. in H<sub>2</sub>O 2.63 g/l (20 °C) ■ M = 235.47 g/mol ■ Melting point 157 - 160 °C

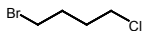
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 157 °C  
 Melting range (upper value) ..... ≤ 160 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14989.0101	Glass bottle	100 g	inquire

**841586 1-Bromo-4-chlorobutane for synthesis** C<sub>4</sub>H<sub>8</sub>BrCl*Tetramethylene chlorobromide*

- CAS-No. 6940-78-9 ■ EC-No. 230-089-3
- Spec. density 1.489 g/cm<sup>3</sup> (20 °C)
- Flash point 60 °C ■ M = 171.46 g/mol
- Boiling point 175 - 176 °C (1013 hPa)
- WGK 3

- GHS: Warning, Flammable liquid, Category 3, H226, P210, P260, P262
- LGK 3

- HS-No. 2903 79 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-BROM-4-CHLORBUTAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-4-CHLOROBUTANE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-4-CHLOROBUTANE), 3, III

**Specification**

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,487 - 1,494  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41586.0010	Glass bottle	10 ml	inquire

**818870 1-Bromo-2-chloroethane for synthesis** C<sub>2</sub>H<sub>4</sub>BrClBrCH<sub>2</sub>CH<sub>2</sub>Cl*Ethylene chlorobromide*

- CAS-No. 107-04-0 ■ EC-No. 203-456-0
- Refractive index 1.492 (20 °C, 589 nm) ■ Vapour pressure 4 hPa (20 °C) ■ Spec. density 1.73 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 7 g/l (30 °C)
- M = 143.41 g/mol ■ Melting point -17 °C
- Boiling point 107 °C
- WGK 3

- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 64 mg/kg

- LGK 6.1B
- HS-No. 2903 79 90 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1-BROM-2-CHLORETHAN), 6.1, III
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(BROMO-1-CHLOROETHANE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,  
 N.O.S.(BROMO-1-CHLOROETHANE), 6.1, III

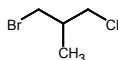
**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,730 - 1,734  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18870.0100	Glass bottle	100 ml	inquire

# Bromoc

## 802622 1-Bromo-3-chloro-2-methylpropane for synthesis



$C_4H_8BrCl$   
 $ClCH_2CH(CH_3)CH_2Br$   
 1-Chloro-3-bromo-2-methylpropane, 1-chloro-2-methyl-3-bromopropane  
 ■ CAS-No. 6974-77-2 ■ EC-No. 230-224-6

- Refractive index 1.4845 (20 °C, 589 nm)
- Spec. density 1.48 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 171.46 g/mol
- Boiling point 157 - 159 °C (1013 hPa)
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P262, P305 + P351 + P338
- LGK 10 - 13

■ HS-No. 2903 79 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,481 - 1,484  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02622.0250	Glass bottle	250 ml	inquire

## 841478 1-Bromo-5-chloropentane for synthesis



$C_5H_{10}BrCl$   
 ■ CAS-No. 54512-75-3 ■ EC-No. 259-193-7  
 ■ Vapour pressure 39.5 hPa (102 °C)  
 ■ Spec. density 1.408 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 95 °C ■ M = 185.49 g/mol

- Boiling point 210 - 212 °C
- WGK 3
- LGK 10
- HS-No. 2903 79 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.405 - 1.411

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41478.0005	Glass bottle	5 ml	inquire
8.41478.0025	Glass bottle	25 ml	inquire

## 845147 1-Bromo-3-chloropropane for pharma synthesis, non-GMP



$C_3H_6BrCl$   
 $ClCH_2CH_2CH_2Br$   
 1-Chloro-3-bromopropane  
 ■ CAS-No. 109-70-6 ■ EC-No. 203-697-1  
 ■ Refractive index 1.495 (20 °C, 589 nm) ■ Vapour pressure 7.5 hPa (20 °C) ■ Spec. density 1.60 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.2 - 8.6 % (V)  
 ■ Flash point >140 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 157.44 g/mol  
 ■ Melting point -59 °C ■ Boiling point 143.4 °C (1012 hPa)

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P273, P304 + P340, P309 + P310
- LC50 rat 6.5 mg/l
- LD50 oral rat 1100 - 1200 mg/kg
- LD50 dermal rat > 2000 mg/kg
- LGK 6.1C
- HS-No. 2903 19 80 ■ Disposal 3
- ADR-RID UN 2688 1-Brom-3-chloropropan, 6.1, III ■ IMDG-Code UN 2688 1-BROMO-3-CHLOROPROPANE, 6.1, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)
- IATA-DGR UN 2688 1-BROMO-3-

CHLOROPROPANE, 6.1, III

### Specification

Appearance (visual) ..... clear  
 Colour number ..... ≤ 50  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,595 - 1,597  
 Water (K. F.) ..... ≤ 0,10 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45147.0250	Glass bottle	250 ml	inquire
8.45147.1000	Glass bottle	1 l	inquire

## 801627 1-Bromo-3-chloropropane for synthesis



$C_3H_6BrCl$   
 $ClCH_2CH_2CH_2Br$   
 1-Chloro-3-bromopropane  
 ■ CAS-No. 109-70-6 ■ EC-No. 203-697-1  
 ■ Refractive index 1.495 (20 °C, 589 nm) ■ Vapour pressure 7.5 hPa (20 °C) ■ Spec. density 1.60 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.2 - 8.6 % (V)  
 ■ Flash point >140 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 157.44 g/mol  
 ■ Melting point -59 °C ■ Boiling point 143.4 °C (1012 hPa)

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P273, P304 + P340, P309 + P310
- LC50 rat 6.5 mg/l
- LD50 oral rat 1100 - 1200 mg/kg
- LD50 dermal rat > 2000 mg/kg
- LGK 6.1C
- HS-No. 2903 79 90 ■ Disposal 3
- ADR-RID UN 2688 1-Brom-3-chloropropan, 6.1, III ■ IMDG-Code UN 2688 1-BROMO-3-CHLOROPROPANE, 6.1, III, Segregation Group: 10

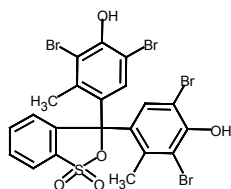
(Liquid halogenated hydrocarbons)  
 ■ IATA-DGR UN 2688 1-BROMO-3-CHLOROPROPANE, 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,595 - 1,597  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01627.0250	Glass bottle	250 ml	inquire
8.01627.1000	Glass bottle	1 l	inquire

## 108121 Bromocresol green indicator ACS, Reag. Ph Eur



$C_{21}H_{14}Br_4O_5S$   
 3,3',5,5'-Tetrabromo-m-cresolsulfonphthalein, BCG

- CAS-No. 76-60-8 ■ EC-No. 200-972-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 698.02 g/mol ■ Melting point 217 - 218 °C
- Bulk density 350 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

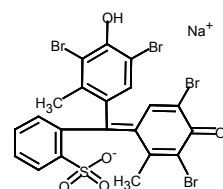
### Specification

Transition range ..... pH 3.8 - pH 5.4  
 yellowish green - blue  
 Appearance of solution ..... passes test

Loss on drying (110 °C) ..... ≤ 3%  
 Transition range (according to ACS) ..... passes test  
 Sensitivity test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.08121.0001	Glass bottle	1 g	inquire
1.08121.0005	Glass bottle	5 g	inquire
1.08121.0025	Glass bottle	25 g	inquire

## 101541 Bromocresol green sodium salt indicator water-soluble ACS



$C_{21}H_{13}Br_4NaO_5S$   
 ■ CAS-No. 62625-32-5 ■ EC-No. 263-657-4  
 ■ M = 719.99 g/mol

- WGK 2
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3
- Use as pH indicator

### Specification

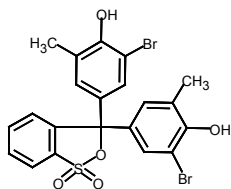
Transition range ..... pH 3.8 - pH 5.4

yellow green - blue  
 Appearance of solution ..... conforms  
 Loss on drying (110 °C) ..... ≤ 5.0 %  
 Transition range (according to ACS) ..... conforms  
 ACS conforms

Ord.No.	Packaging	Quantity	Price
1.01541.0010	Glass bottle	10 g	inquire



## 103025 Bromocresol purple indicator ACS, Reag. Ph Eur

C<sub>21</sub>H<sub>16</sub>Br<sub>2</sub>O<sub>5</sub>S

5',5''-Dibromo-o-cresolsulfonphthalein

Bromocyan → page 665

- CAS-No. 115-40-2 ■ EC-No. 204-087-8
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 540.22 g/mol ■ Melting point 242 °C
- Bulk density 515 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

Use as pH indicator: 0.1 g in 100 ml ethanol (20%)

**Specification**

Transition range..... pH 5.2 - pH 6.8

greenish yellow - blue violet

Appearance of solution ..... passes test

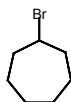
Loss on drying (110 °C) ..... ≤ 1%

Transition range (according to ACS)..... passes test

Sensitivity test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.03025.0005	Glass bottle	5 g	inquire
1.03025.0025	Glass bottle	25 g	inquire

## 818462 Bromocycloheptane for synthesis

C<sub>7</sub>H<sub>13</sub>Br

Cycloheptyl bromide

■ CAS-No. 2404-35-5 ■ EC-No. 219-294-9

- Refractive index 1.5052 (20 °C, 589 nm)
- Spec. density 1.31 g/cm<sup>3</sup> (20 °C)
- Flash point 68 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 177.08 g/mol
- Boiling point 100 - 102 °C (40 hPa)
- WGK 3
- LGK 10
- HS-No. 2903 89 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.306 - 1.308

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18462.0025	Glass bottle	25 ml	inquire

## 802296 Bromocyclohexane for synthesis

C<sub>6</sub>H<sub>11</sub>Br

Cyclohexyl bromide

■ CAS-No. 108-85-0 ■ EC-No. 203-622-2

■ Refractive index 1.4956 (15 °C, 589 nm)

■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C)

- Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 163.05 g/mol
- Boiling point 163 - 165 °C
- WGK 1
- LD50 oral rat 2800 mg/kg
- LGK 10
- HS-No. 2903 89 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C)..... 1,333 - 1,336

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02296.0250	Glass bottle	250 ml	inquire
8.02296.1000	Glass bottle	1 l	inquire

## 802774 Bromocyclopentane for synthesis

C<sub>5</sub>H<sub>9</sub>Br

Cyclopentyl bromide

■ CAS-No. 137-43-9 ■ EC-No. 205-294-6

■ Refractive index 1.4882 (20 °C, 589 nm)

■ Spec. density 1.39 g/cm<sup>3</sup> (20 °C)■ Flash point 35 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 149.03 g/mol

- Boiling point 137 - 139 °C (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P260, P262
- LGK 3
- HS-No. 2903 89 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(BROMOCYCLOPENTAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(BROMOCYCLOPENTANE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(BROMOCYCLOPENTANE), 3, III

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %

Density (d 20 °C/ 4 °C)..... 1,390 - 1,393

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02774.0100	Glass bottle	100 ml	inquire

## 802775 Bromocyclopropane for synthesis

C<sub>3</sub>H<sub>5</sub>Br

Cyclopropyl bromide

■ CAS-No. 4333-56-6 ■ EC-No. 224-375-7

■ Refractive index 1.4605 (20 °C, 589 nm)

■ Spec. density 1.51 g/cm<sup>3</sup> (20 °C) ■ Flash point -6 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble

■ M = 120.97 g/mol ■ Boiling point 67 - 69 °C

■ WGK 3

- GHS: Danger, Flammable liquid, Category 2, H225, P210
- LGK 3 ■ Store below +15°C.
- HS-No. 2903 89 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(BROMOCYCLOPROPAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(CYCLOPROPYL BROMIDE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CYCLOPROPYL BROMIDE), 3, II

Assay (GC, area%)..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C)..... 1,510 - 1,520

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02775.0001	Glass bottle	1 ml	inquire
8.02775.0005	Glass bottle	5 ml	inquire
8.02775.0050	Glass bottle	50 ml	inquire

## 801676 1-Bromodecane for synthesis

C<sub>10</sub>H<sub>21</sub>BrCH<sub>3</sub>(CH<sub>2</sub>)<sub>9</sub>Br

Decyl bromide

■ CAS-No. 112-29-8 ■ EC-No. 203-955-3

■ Refractive index 1.456 (20 °C, 589 nm)

■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)■ Flash point 94 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 221.17 g/mol

■ Melting point -30 °C ■ Boiling point 238 °C

(1013 mbar)

- WGK 3
- GHS: Warning, Acute aquatic toxicity, Category 1, H410, P262, P273
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2903 39 19 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1-BROMDECAN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-BROMODECANE), 9,

III, Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-BROMODECANE), 9, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %

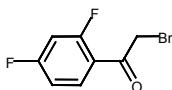
Density (d 20 °C/ 4 °C)..... 1,069 - 1,072

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01676.0250	Glass bottle	250 ml	inquire

2-Bromo-1,1-diethoxyethane → Bromoacetaldehyde diethyl acetal page 486

## 843856 2-Bromo-2,4-difluoroacetophenone for synthesis



$C_8H_5BrF_2O$   
 ■ CAS-No. 102429-07-2  
 ■ Flash point 51 °C ■ M = 235.03 g/mol  
 ■ Melting point 31 - 35 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable solid, Category 1,

H228; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 4.1B  
 ■ HS-No. 2914 70 00 ■ Disposal 3  
 ■ ADR-RID UN 2925 Entzündbarer organischer fester Stoff, ätzend, n.a.g.(2-BROM-2,4-DIFLUORACETOPHENON), 4.1 (8), II ■ IMDG-Code UN 2925 FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.(2-BROMO-2,4-DIFLUORACETOPHENONE), 4.1 (8), II

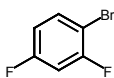
■ IATA-DGR UN 2925 FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.(2-BROMO-2,4-DIFLUORACETOPHENONE), 4.1 (8), II

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43856.0005	Glass bottle	5 g	inquire

## 814922 1-Bromo-2,4-difluorobenzene for synthesis



$C_6H_3BrF_2$   
 ■ CAS-No. 348-57-2 ■ EC-No. 206-479-4  
 ■ Refractive index 1.5050 - 1.5059 (20 °C, 589 nm) ■ Spec. density 1.704 - 1.708 g/cm<sup>3</sup>  
 ■ Flash point 51 °C ■ M = 192.99 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) not applicable  
 ■ Saturation conc. (20 °C) Air, no data available  
 ■ Melting point -4 °C ■ Boiling point 145 - 147 °C  
 ■ WGK 2

■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2903 99 90  
 ■ ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(1-BROM-2,4-DIFLUORBENZOL), 3 (8), III ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(BROMODIFLUOROBENZENE), 3 (8), III  
 ■ IATA-DGR UN 2924 FLAMMABLE LIQUID,

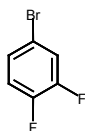
CORROSIVE, N.O.S.(BROMODIFLUOROBENZENE), 3 (8), III

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,704 - 1,708  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14922.0011	Glass bottle	10 ml	inquire
8.14922.0051	Glass bottle	50 ml	inquire

## 814813 1-Bromo-3,4-difluorobenzene for synthesis



$C_6H_3BrF_2$   
 ■ CAS-No. 348-61-8 ■ EC-No. 206-481-5  
 ■ Spec. density 1.707 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 33 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 192.99 g/mol ■ pH value (H<sub>2</sub>O) neutral

■ Boiling point 150 - 151 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P302 + P352  
 ■ LGK 3  
 ■ HS-No. 2903 99 90  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-BROM-3,4-DIFLUORBENZOL), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

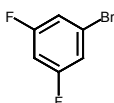
N.O.S.(1-BROMO-3,4-DIFLUOROBENZENE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-3,4-DIFLUOROBENZENE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,700 - 1,704  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14813.0005	Glass bottle	5 ml	inquire
8.14813.0025	Glass bottle	25 ml	inquire

## 840154 1-Bromo-3,5-difluorobenzene for synthesis



$C_6H_3BrF_2$   
 ■ CAS-No. 461-96-1 ■ EC-No. 416-710-2  
 ■ Vapour pressure 10.36 hPa (25 °C)  
 ■ Spec. density 1.676 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 45 °C ■ Solub. in H<sub>2</sub>O 0.463 g/l (20 °C) ■ M = 192.99 g/mol ■ pH value 6.6 (0.238 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -27 °C  
 ■ Bulk density 1676 kg/m<sup>3</sup>  
 ■ Boiling point 137 - 142 °C (1008 hPa)

■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273, P280, P302 + P352, P314  
 ■ LC50 rat 5.3 mg/l  
 ■ LD50 oral rat 808 mg/kg  
 ■ EC-Index-No. 601-073-00-7 ■ LGK 3  
 ■ HS-No. 2903 99 90  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

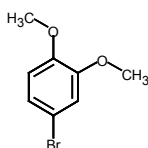
n.a.g.(1-BROM-3,5-DIFLUORBENZOL), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-3,5-DIFLUOROBENZENE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-3,5-DIFLUOROBENZENE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,680 - 1,685  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40154.0010	Glass bottle	10 ml	inquire

## 841230 4-Bromo-1,2-dimethoxybenzene for synthesis



$C_8H_8BrO_2$

## 4-Bromoveratrole

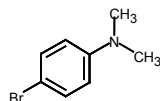
■ CAS-No. 2859-78-1 ■ EC-No. 220-677-8  
 ■ Spec. density 1.51 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 109 °C ■ M = 217.06 g/mol  
 ■ Boiling point 124 - 126 °C (12 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2909 30 38 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.500 - 1.510  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41230.0025	Glass bottle	25 ml	inquire

## 841675 4-Bromo-N,N-dimethylaniline for synthesis

C<sub>8</sub>H<sub>10</sub>BrN

- CAS-No. 586-77-6 ■ EC-No. 209-582-2
- Flash point 113 °C ■ M = 200.07 g/mol
- Melting point 53 - 55 °C ■ Boiling point 264 °C

- (1013 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2921 42 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-BROMO-N,N-DIMETHYLANILIN), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-BROMO-N,N-DIMETHYLANILINE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(4-BROMO-N,N-DIMETHYLANILINE), 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %

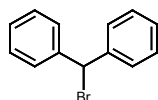
Melting range (lower value)..... ≥ 53 °C

Melting range (upper value)..... ≤ 55 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41675.0025	Glass bottle	25 g	inquire

## 801535 Bromodiphenylmethane for synthesis

C<sub>13</sub>H<sub>11</sub>BrBrCH(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>

*Benzhydryl bromide, Diphenylbromomethane, Diphenylmethyl bromide*

- CAS-No. 776-74-9 ■ EC-No. 212-279-8
- Flash point 112 °C ■ Solub. in H<sub>2</sub>O 0.45 g/l (20 °C) ■ M = 247.13 g/mol ■ pH value 2 (H<sub>2</sub>O),

- 20 °C) (saturated aqueous solution)
- Melting point 35 - 40 °C ■ Boiling point 184 °C (25 hPa)
- WGK 3
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1770 Diphenylbrommethan, 8, II
- IMDG-Code UN 1770 DIPHENYLMETHYL

BROMIDE, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1770 DIPHENYLMETHYL BROMIDE, 8, II

**Specification**

Assay (GC, area%)..... ≥ 95,0 Area %

Melting range (lower value)..... ≥ 36 °C

Melting range (upper value)..... ≤ 39 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01535.0100	Glass bottle	100 g	inquire

## 803268 1-Bromododecane for synthesis

C<sub>12</sub>H<sub>25</sub>BrCH<sub>3</sub>(CH<sub>2</sub>)<sub>11</sub>Br*Dodecyl bromide*

- CAS-No. 143-15-7 ■ EC-No. 205-587-9
- Refractive index 1.4581 (20 °C, 589 nm)
- Spec. density 1.04 g/cm<sup>3</sup> (20 °C)

- Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 249.23 g/mol
- Melting point -10 °C ■ Boiling point 139 °C (13 hPa)
- WGK 3
- LGK 10
- HS-No. 2903 39 19 ■ Disposal 3
- Specification**
- Assay (GC, area%)..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C)..... 1,038 - 1,041

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03268.0005	Glass bottle	5 ml	inquire
8.03268.0250	Glass bottle	250 ml	inquire

## 800871 Bromoethane for synthesis

C<sub>2</sub>H<sub>5</sub>Br*Ethyl bromide*

- CAS-No. 74-96-4 ■ EC-No. 200-825-8
- Refractive index 1.4236 (20 °C, 589 nm)
- Vapour pressure 510 hPa (20 °C)
- Spec. density 1.46 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 6.7 - 11.3 % (V) ■ Flash point -20 °C ■ Solub. in H<sub>2</sub>O 9 g/l (20 °C) ■ M = 108.96 g/mol
- Melting point -118 °C ■ Boiling point 37 - 39 °C (1013 hPa) ■ Ignition temp. 510 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P210, P233, P240, P281, P308 + P313
- LD50 oral rat 1350 mg/kg
- EC-Index-No. 602-055-00-1 ■ LGK 3
- HS-No. 2903 39 19 ■ Disposal 3
- ADR-RID UN 1891 Ethylbromid, 6.1, II ■ IMDG-Code UN 1891 ETHYL BROMIDE, 6.1, II, Segregation Group: 10 (Liquid halogenated

hydrocarbons)

■ IATA-DGR UN 1891 ETHYL BROMIDE, 6.1, II

**Specification**

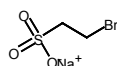
Assay (GC, area%)..... ≥ 99,0 Area %

Density (d 20 °C/ 4 °C)..... 1,458 - 1,462

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00871.0250	Glass bottle	250 ml	inquire
8.00871.1000	Glass bottle	1 l	inquire

## 818868 2-Bromoethanesulfonic acid sodium salt for synthesis

C<sub>2</sub>H<sub>4</sub>BrNaO<sub>3</sub>SBrCH<sub>2</sub>CH<sub>2</sub>SO<sub>3</sub>Na*Sodium 2-bromoethanesulfonate*

- CAS-No. 4263-52-9 ■ EC-No. 224-244-4
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 211.01 g/mol
- WGK 2
- LGK 10 - 13
- HS-No. 2904 90 95 ■ Disposal 3
- Specification**

Assay (acidimetric after ion exchange).....

..... ≥ 98,0 % (m)

Water (K. F.)..... ≤ 2,0 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18868.0025	Glass bottle	25 g	inquire

## 820175 2-Bromoethanol for synthesis

C<sub>2</sub>H<sub>5</sub>BrO*Ethylene bromohydrin*

- CAS-No. 540-51-2 ■ EC-No. 208-748-1
- Refractive index 1.492 (20 °C, 589 nm) ■ Vapour pressure 3.2 hPa (20 °C) ■ Spec. density 1.76 g/cm<sup>3</sup> (20 °C) ■ Flash point 40 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 124.97 g/mol
- Melting point -80 °C ■ Boiling point 56 - 57 °C (27 hPa)
- WGK 3

- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338
- LGK 3
- HS-No. 2905 59 98 ■ Disposal 9
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(2-BROMETHANOL), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(2-BROMOETHANOL), 6.1 (3), II

■ IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(2-BROMOETHANOL), 6.1 (3), II

**Specification**

Assay (GC, area%)..... ≥ 97,0 % (a/a)

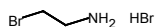
Density (d 20 °C/ 4 °C)..... 1.760 - 1.765

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20175.0100	Glass bottle	100 ml	inquire
8.20175.0250	Glass bottle	250 ml	inquire

2-Bromoethylamine hydrobromide → 2-Bromoethylammonium bromide page 500

## 820176 2-Bromoethylammonium bromide for synthesis



$C_2H_7Br_2N$   
 $BrCH_2CH_2NH_3Br$   
 2-Bromoethylamine hydrobromide  
 ■ CAS-No. 2576-47-8 ■ EC-No. 219-924-2  
 ■ Solub. in  $H_2O >500$  g/l (20 °C) ■  $M = 204.89$  g/mol  
 ■ pH value 2.9 (10 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 171 - 176 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317;

Chronic aquatic toxicity, Category 3, H412, P273, P280, P302 + P352  
 ■ LD50 oral rat > 200 - 2000 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2921 19 99 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-BROMETHYLAMMONIUMBROMID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-BROMOETHYLAMMONIUMBROMIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-BROMOETHYLAMMONIUMBROMIDE),

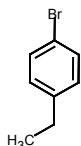
6.1, III

## Specification

Assay (argentometric).....  $\geq 99.0$  % (m)  
 Melting range (lower value).....  $\geq 171$  °C  
 Melting range (upper value).....  $\leq 176$  °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20176.0100	Plastic bottle	100 g	inquire
8.20176.0500	Glass bottle	500 g	inquire
	Glass bottle	6 x 500 g	inquire

## 841057 1-Bromo-4-ethylbenzene for synthesis



$C_8H_9Br$   
 ■ CAS-No. 1585-07-5 ■ EC-No. 216-439-8  
 ■ Vapour pressure 0.9 hPa (25 °C)

■ Spec. density 1.34 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 63 °C ■ Solub. in  $H_2O$  (20 °C) no data available ■  $M = 185.06$  g/mol  
 ■ pH value ( $H_2O$ , 20 °C) no data available  
 ■ Melting point -44 °C  
 ■ Boiling point 203 - 204 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313

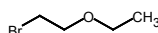
■ LGK 10 - 13  
 ■ HS-No. 2903 99 90 ■ Disposal 3

## Specification

Assay (GC, area%).....  $\geq 98.0$  % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.342 - 1.344  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41057.0010	Glass bottle	10 ml	inquire

## 814667 (2-Bromoethyl) ethyl ether for synthesis



$C_4H_9BrO$   
 $Br-CH_2CH_2-O-CH_2CH_3$   
 ■ CAS-No. 592-55-2 ■ EC-No. 209-763-6  
 ■ Spec. density 1.35 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 21 °C ■  $M = 153.01$  g/mol  
 ■ Boiling point 125 - 127 °C (1013 hPa)  
 ■ WGK 3

■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P210, P260, P302 + P352, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2909 19 90  
 ■ ADR-RID UN 2340 2-Bromethylethylether, 3, II  
 ■ IMDG-Code UN 2340 2-BROMOETHYL ETHYL ETHER, 3, II  
 ■ IATA-DGR UN 2340 2-BROMOETHYL ETHYL

ETHER, 3, II

## Specification

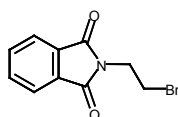
Assay (GC, area%).....  $\geq 95.0$  % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.345 - 1.355  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14667.0025	Glass bottle	25 ml	inquire
8.14667.0100	Glass bottle	100 ml	inquire

1-Bromo-2-ethylhexane → 3-(Bromomethyl)heptane page 506

2-Bromoethyl phenyl ether → (2-Bromethoxy)benzene page 485

## 820178 N-(2-Bromoethyl)phthalimide for synthesis

 $C_{10}H_8BrNO_2$ 

■ CAS-No. 574-98-1 ■ EC-No. 209-379-9  
 ■ Solub. in  $H_2O$  (20 °C) insoluble ■  $M = 254.08$  g/mol  
 ■ Melting point 79 - 82 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2925 19 95 ■ Disposal 3

## Specification

Assay (HPLC, area%).....  $\geq 95.0$  % (a/a)  
 Melting range (lower value).....  $\geq 79$  °C  
 Melting range (upper value).....  $\leq 82$  °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20178.0025	Glass bottle	25 g	inquire

(2-Bromoethyl)benzene → 2-Phenylethyl bromide page 1304

## 821703 1-Bromo-2-fluorobenzene for synthesis



$C_6H_4BrF$   
 $1-(Br)-2-(F)C_6H_4$   
 ■ CAS-No. 1072-85-1 ■ EC-No. 214-018-3  
 ■ Refractive index 1.5317 (21 °C, 589 nm)  
 ■ Spec. density 1.61 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 48 °C ■ Solub. in  $H_2O$  0.35 g/l

(25 °C) ■  $M = 175$  g/mol ■ Melting point -8 °C  
 ■ Boiling point 156 - 157 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210, P260, P262  
 ■ LGK 3  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-BROM-2-FLUORBENZOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-

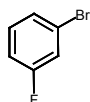
BROMO-2-FLUORBENZENE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-2-FLUORBENZENE), 3, III

## Specification

Assay (GC, area%).....  $\geq 98.0$  % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.610 - 1.613  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21703.0010	Glass bottle	10 ml	inquire

## 820197 1-Bromo-3-fluorobenzene for synthesis



$C_6H_4BrF$   
 $1-(Br)-3-(F)C_6H_4$   
 ■ CAS-No. 1073-06-9 ■ EC-No. 214-023-0  
 ■ Spec. density 1.59 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 38 °C ■ Solub. in  $H_2O$  0.4 g/l (20 °C)  
 ■  $M = 175$  g/mol ■ Melting point -8 °C  
 ■ Boiling point 148 - 150 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P302 + P352, P304 + P340  
 ■ LD50 oral rat 670 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2903 99 90  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(1-BROM-3-FLUORBENZOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-3-FLUORBENZENE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-3-FLUORBENZENE), 3, III

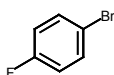
## Specification

Assay (GC, area%).....  $\geq 98.0$  % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.591 - 1.595  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20197.0010	Glass bottle	10 ml	inquire



## 820198 1-Bromo-4-fluorobenzene for synthesis

C<sub>6</sub>H<sub>4</sub>BrF

- CAS-No. 460-00-4 ■ EC-No. 207-300-2
- Refractive index 1.5269 (20 °C, 589 nm)
- Vapour pressure 25 hPa (50 °C)
- Spec. density 1.60 g/cm<sup>3</sup> (20 °C)
- Flash point 53 °C ■ Solub. in H<sub>2</sub>O 0.136 g/l (25 °C) ■ M = 175 g/mol ■ Melting point -16 °C
- Boiling point 151 - 163 °C (1013 hPa)

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332, P210
- LC50 rat 18 mg/l
- LD50 oral rat 2700 mg/kg
- LGK 3
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-BROM-4-FLUORBENZOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-4-FLUOROBENZENE), 3, III

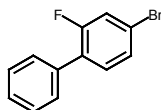
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-4-FLUOROBENZENE), 3, III

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.598 - 1.602  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20198.0100	Glass bottle	100 ml	inquire

## 814963 4-Bromo-2-fluorobiphenyl for synthesis

C<sub>12</sub>H<sub>8</sub>BrF

- CAS-No. 41604-19-7 ■ EC-No. 255-453-9
- Vapour pressure 0.04 hPa (20 °C)
- Spec. density 1.4 g/cm<sup>3</sup> (20 °C)
- Flash point 113 °C ■ M = 251.1 g/mol
- Melting point 38.5 °C

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat > 1000 mg/kg
- LGK 10 - 13
- HS-No. 2903 99 90
- ADR-RID UN 3152 Polyhalogenierte Biphenyle, fest, 9, II ■ IMDG-Code UN 3152 POLYHALOGENATED BIPHENYLS, SOLID, 9, II, Marine Pollutant: P
- IATA-DGR UN 3152 POLYHALOGENATED BIPHENYLS, SOLID, 9, II

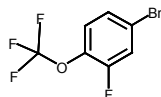
## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 38 °C  
Melting range (upper value)..... ≤ 41 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14963.0010	Glass bottle	10 g	inquire
8.14963.0050	Glass bottle	50 g	inquire

α-Bromo-3-fluorotoluene → 3-Fluorobenzyl bromide page 900

## 843874 1-Bromo-3-fluoro-4-(trifluoromethoxy)benzene for synthesis

C<sub>7</sub>H<sub>3</sub>BrF<sub>4</sub>O

- CAS-No. 105529-58-6 ■ EC-No. 430-850-1
- Vapour pressure 4 hPa (25 °C)
- Spec. density 1.63 g/cm<sup>3</sup> (20 °C)
- Flash point 69 °C ■ Solub. in H<sub>2</sub>O 0.0288 g/l (20 °C) ■ M = 259 g/mol ■ pH value (H<sub>2</sub>O) neutral
- Boiling point 171 °C (994.5 hPa)
- Ignition temp. 630 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4,

- Inhalation, H332; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352
- LC50 rat 17.36 mg/l
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2909 30 38
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1-BROM-3-FLUOR-4-TRIFLUORMETHOXYBENZOL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-BROMO-3-FLUORO-4-TRIFLUORMETHOXYBENZENE), 9, III, Marine Pollutant: P

- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-BROMO-3-FLUORO-4-TRIFLUORMETHOXYBENZENE), 9, III

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.708 - 1.712  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43874.0010	Glass bottle	10 ml	inquire
8.43874.0050	Glass bottle	50 ml	inquire

## Bromoform

CHBr<sub>3</sub>

*Tribromomethane, Methane tribromide, Methyl tribromide*

- CAS-No. 75-25-2 ■ EC-No. 200-854-6
- Vapour pressure 7.5 hPa (25 °C)
- Spec. density 2.89 g/cm<sup>3</sup> (20 °C) ■ Solub. in

- H<sub>2</sub>O 1 g/l (20 °C) ■ M = 252.73 g/mol
- Melting point 9.2 °C ■ Boiling point 149.5 °C (1013 mbar)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P273, P304 + P340, P305 + P351 + P338, P302 + P352, P309 + P310

- LC50 rat 31.7 mg/l
- LD50 oral rat 933 mg/kg
- EC-Index-No. 602-007-00-X ■ LGK 6.1 D
- HS-No. 2903 39 19 ■ Disposal 9
- ADR-RID UN 2515 Bromoform, 6.1, III ■ IMDG-Code UN 2515 BROMOFORM, 6.1, III, Marine Pollutant: P, Segregation Group: 10 (Liquid halogenated hydrocarbons)
- IATA-DGR UN 2515 BROMOFORM, 6.1, III

## 818702 Bromoform (stabilised with 2-methyl-2-butene) for synthesis

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18702.0250	Glass bottle	250 ml	inquire
8.18702.1000	Glass bottle	1 l	inquire

## 101944 Bromoform for separation of minerals mixtures

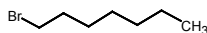
## Specification

Identity (IR-spectrum)..... passes test  
Refractive index (n 20/D)..... 1.597 - 1.599  
Density (d 20 °C/ 4 °C)..... 2.88 - 2.90

Evaporation residue..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.01944.0250	Glass bottle	250 ml	inquire
1.01944.1000	Glass bottle	1 l	inquire

## 804554 1-Bromoheptane for synthesis



$C_7H_{15}Br$   
 $CH_3(CH_2)_6Br$   
*Heptyl bromide*  
 ■ CAS-No. 629-04-9 ■ EC-No. 211-068-8  
 ■ Refractive index 1.4499 (20 °C, 589 nm)  
 ■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 60 °C ■ Solub. in H<sub>2</sub>O 0.0066 g/l (25 °C) ■ M = 179.09 g/mol ■ Melting point -

58 °C ■ Boiling point 180 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P223  
 ■ LGK 3  
 ■ HS-No. 2903 39 19 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-BROMHEPTAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMOHEPTANE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

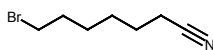
N.O.S.(1-BROMOHEPTANE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,137 - 1,140  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04554.0250	Glass bottle	250 ml	inquire

## 814668 7-Bromoheptanonitrile for synthesis



$C_7H_{12}BrN$   
 $Br(CH_2)_6CN$   
 ■ CAS-No. 20965-27-9 ■ EC-No. 244-128-7  
 ■ Spec. density 1.27 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ M = 190.08 g/mol  
 ■ Boiling point 140 - 141 °C (19 hPa)

■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 95,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 1,265 - 1,270  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14668.0001	Glass bottle	1 ml	inquire
8.14668.0005	Glass bottle	5 ml	inquire

## 804306 1-Bromohexadecane for synthesis



$C_{16}H_{33}Br$   
 $CH_3(CH_2)_{15}Br$   
*Cetyl bromide, n-Hexadecyl bromide*  
 ■ CAS-No. 112-82-3 ■ EC-No. 204-008-7  
 ■ Refractive index 1.4609 (20 °C, 589 nm)  
 ■ Spec. density 0.998 g/cm<sup>3</sup> (20 °C)

■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 305.34 g/mol  
 ■ Melting point 17 - 18 °C  
 ■ Boiling point 185 - 187 °C (13 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2903 39 19 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 96,0 Area %

Density (d 20 °C/ 4 °C) ..... 0,996 - 0,999  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04306.0100	Glass bottle	100 ml	inquire
8.04306.0500	Glass bottle	500 ml	inquire

## 801603 1-Bromohexane for synthesis



$C_6H_{13}Br$   
 $CH_3(CH_2)_5Br$   
*Hexyl bromide*  
 ■ CAS-No. 111-25-1 ■ EC-No. 203-850-2  
 ■ Refractive index 1.4478 (20 °C, 589 nm)  
 ■ Vapour pressure 4 hPa (20 °C)  
 ■ Spec. density 1.18 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 47 °C ■ Solub. in H<sub>2</sub>O < 1 g/l (20 °C)  
 ■ M = 165.07 g/mol ■ Melting point -85 °C  
 ■ Boiling point 154 - 158 °C

■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P210, P262, P273, P302 + P352  
 ■ LC50 rat 70 mg/l  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2903 39 19 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-BROMHEXAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-

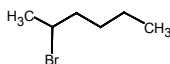
BROMOHEXANE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMOHEXANE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,174 - 1,176  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01603.0100	Glass bottle	100 ml	inquire
8.01603.0500	Glass bottle	500 ml	inquire

## 821707 Bromohexane (mixtures of isomers) for synthesis



$C_6H_{13}Br$   
 $CH_3(CH_2)_3CHBrCH_3$   
*Hexyl bromide*  
 ■ CAS-No. 3377-86-4 ■ EC-No. 222-173-3  
 ■ Refractive index 1.4432 (25 °C, 589 nm)  
 ■ Vapour pressure 9.7 hPa (25 °C)  
 ■ Spec. density 1.166 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 34 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 165.08 g/mol  
 ■ Boiling point 142 - 144 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LGK 3  
 ■ HS-No. 2903 39 19 ■ Disposal 2  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ENTH. 2-BROMHEXAN UND 3-BROMHEXAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(CONT. 2-BROMOHEXANE AND 3-BROMOHEXANE), 3, III

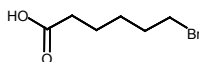
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CONT. 2-BROMOHEXANE AND 3-BROMOHEXANE), 3, III

**Specification**

Assay isomers (GC, area%) ..... ≥ 99,0 % (a/a)  
 3-isomer (GC, area%) ..... 22,0 - 28,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.162 - 1.167  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21707.0025	Glass bottle	25 ml	inquire

## 841242 6-Bromohexanoic acid for synthesis



$C_6H_{11}BrO_2$   
*6-Bromocaproic acid*  
 ■ CAS-No. 4224-70-8 ■ EC-No. 224-176-5  
 ■ Flash point 67 °C ■ M = 195.05 g/mol  
 ■ Melting point 31 - 35 °C  
 ■ Boiling point 165 - 170 °C (26.7 hPa)  
 ■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2915 90 70 ■ Disposal 3  
 ■ ADR-RID UN 1993 Ätzender saurer organischer fester Stoff, n.a.g.(6-BROMHEXANSÄURE), 8, II  
 ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(6-BROMOHEXANIC ACID), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

ORGANIC, N.O.S.(6-BROMOHEXANIC ACID), 8, II

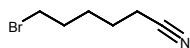
**Specification**

Assay (acidimetric) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 31 °C  
 Melting range (upper value) ..... ≤ 35 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41242.0025	Glass bottle	25 g	inquire



## 814669 6-Bromohexanonitrile for synthesis

C<sub>6</sub>H<sub>10</sub>BrNBr(CH<sub>2</sub>)<sub>5</sub>CN

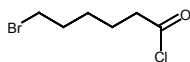
- CAS-No. 6621-59-6 ■ EC-No. 229-570-0
- Spec. density 1.32 g/cm<sup>3</sup> (20 °C)
- Flash point 113 °C ■ M = 176.06 g/mol
- Boiling point 134 °C (13 hPa)

- WGK 3
  - GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
  - LGK 10 - 13
  - HS-No. 2926 90 95 ■ Disposal 3
- Specification**  
Assay (GC, area%)..... ≥ 97,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1,323 - 1,328  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14669.0001	Glass bottle	1 ml	inquire

## 841092 6-Bromohexanoyl chloride for synthesis

C<sub>6</sub>H<sub>10</sub>BrClO

6-Bromocaproyl chloride

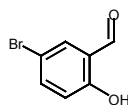
- CAS-No. 22809-37-6 ■ EC-No. 245-236-7
- Spec. density 1.397 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 213.5 g/mol
- pH value (H<sub>2</sub>O, 20 °C) acidic
- Boiling point 119 - 120 °C (12 hPa)

- WGK 3
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(6-BROMHEXANOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(6-BROMHEXANOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(6-BROMHEXANOYL CHLORIDE), 8, II
- Specification**  
Assay (argentometric)..... ≥ 97,0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41092.0010	Glass bottle	10 ml	inquire

## 820223 5-Bromo-2-hydroxybenzaldehyde for synthesis

C<sub>7</sub>H<sub>5</sub>BrO<sub>2</sub>5-(Br)-2-(OH)C<sub>6</sub>H<sub>3</sub>CHO

5-Bromosalicylaldehyde

- CAS-No. 1761-61-1 ■ EC-No. 217-167-2

- Flash point >110 °C ■ Solub. in H<sub>2</sub>O 0.1 g/l (15 °C) (experimental) ■ M = 201.01 g/mol
- Melting point 101 - 104 °C
- Bulk density 750 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2913 00 00 ■ Disposal 3

**Specification**  
Assay (HPLC, area%)..... ≥ 98,0 % (a/a)

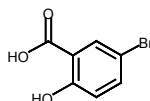
Melting range (lower value)..... ≥ 103 °C  
Melting range (upper value)..... ≤ 107 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20223.0050	Glass bottle	50 g	inquire
8.20223.0250	Glass bottle	250 g	inquire

2-Bromo-1-hydroxybenzene → 2-Bromophenol  
page 510

3-Bromo-1-hydroxybenzene → 3-Bromophenol  
page 510

## 801975 5-Bromo-2-hydroxybenzoic acid for synthesis

C<sub>7</sub>H<sub>5</sub>BrO<sub>3</sub>

5-Bromosalicylic acid

- CAS-No. 89-55-4 ■ EC-No. 201-917-0

- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 217.02 g/mol ■ Melting point 166 - 168 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 4

**Specification**  
Assay (acidimetric)..... ≥ 98,0 % (m)  
Melting range (upper value)..... ≥ 163 °C

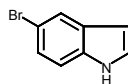
Melting range (lower value)..... ≥ 167 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01975.0025	Glass bottle	25 g	inquire
8.01975.0100	Glass bottle	100 g	inquire

1-Bromo-2-hydroxynaphthalene → 1-Bromo-2-naphthol page 508

1-Bromo-2-hydroxypropane → 1-Bromo-2-propanol page 512

## 841001 5-Bromoindole for synthesis

C<sub>8</sub>H<sub>6</sub>BrNC<sub>8</sub>H<sub>6</sub>NBr

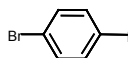
- CAS-No. 10075-50-0 ■ EC-No. 233-208-7
- Solub. in H<sub>2</sub>O 126 mg/l (25 °C) (calculated)
- M = 196.04 g/mol ■ Melting point 90 - 92 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 89 °C  
Melting range (upper value)..... ≤ 92 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41001.0005	Glass bottle	5 g	inquire

## 841347 4-Bromo-1-iodobenzene for synthesis

C<sub>6</sub>H<sub>4</sub>I

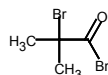
- CAS-No. 589-87-7 ■ EC-No. 209-662-7
- Solub. in H<sub>2</sub>O 0.008 g/l (25 °C) ■ M = 282.9 g/mol ■ Melting point 89 - 91 °C

- Boiling point 251 °C (1005 hPa)
  - WGK 3
  - GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
  - LGK 10 - 13
  - HS-No. 2903 99 90 ■ Disposal 3
- Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Melting range (lower value)..... ≥ 89 °C  
Melting range (upper value)..... ≤ 91 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41347.0010	Glass bottle	10 g	inquire

## 841116 2-Bromoisobutyryl bromide for synthesis



C<sub>4</sub>H<sub>6</sub>Br<sub>2</sub>O  
2-Bromo-2-methylpropionyl bromide  
■ CAS-No. 20769-85-1 ■ EC-No. 244-017-3  
■ Spec. density 1.86 g/cm<sup>3</sup> (20 °C)  
■ Flash point >110 °C ■ M = 229.89 g/mol  
■ Boiling point 160 - 162 °C  
■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8A  
■ HS-No. 2915 90 70 ■ Disposal 11  
■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2-BROMISOBUTYRYLBROMID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-BROMISOBUTYRYL BROMIDE), 8, II, Segregation Group: 1 (Acids)

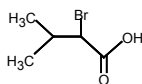
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-BROMISOBUTYRYL BROMIDE), 8, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C / 4 °C) ..... 1.858 - 1.865  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41116.0050	Glass bottle	50 ml	inquire

## 841671 2-Bromoisovaleric acid for synthesis



C<sub>5</sub>H<sub>9</sub>BrO<sub>2</sub>  
(CH<sub>3</sub>)<sub>2</sub>CHCHBrCOOH  
2-Bromo-3-methylbutyric acid  
■ CAS-No. 565-74-2 ■ EC-No. 209-291-0  
■ Spec. density 1.46 g/cm<sup>3</sup> (20 °C)  
■ Flash point 107 °C ■ Solub. in H<sub>2</sub>O 14.3 g/l (25 °C) ■ M = 181.02 g/mol  
■ Melting point 40 - 42 °C

■ Boiling point 124 - 126 °C (27 hPa)  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 769 mg/kg ■ LD50 dermal rat 1410 mg/kg  
■ LGK 8A  
■ HS-No. 2915 90 70 ■ Disposal 3  
■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2-BROMISOVALERIANSAEURE),

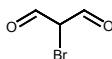
8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-BROMISOVALERIC ACID), 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-BROMISOVALERIC ACID), 8, II

## Specification

Assay (acidimetric) ..... ≥ 99.0 % (m)  
Melting range (lower value) ..... ≥ 38 °C  
Melting range (upper value) ..... ≤ 41 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41671.0005	Glass bottle	5 g	inquire

## 843850 2-Bromomalondialdehyd for synthesis



C<sub>3</sub>H<sub>3</sub>BrO<sub>2</sub>  
■ CAS-No. 2065-75-0 ■ EC-No. 430-470-6  
■ M = 150.96 g/mol ■ Melting point 132 - 136 °C

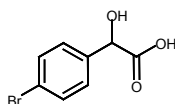
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313  
■ EC-Index-No. 605-036-00-6 ■ LGK 10 - 13  
■ HS-No. 2913 00 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 94.0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43850.0005	Glass bottle	5 g	inquire
8.43850.0025	Glass bottle	25 g	inquire

## 820201 4-Bromo-DL-mandelic acid for synthesis



C<sub>8</sub>H<sub>7</sub>BrO<sub>3</sub>  
4-(Br)C<sub>6</sub>H<sub>4</sub>CH(OH)COOH

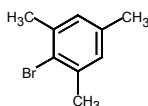
■ CAS-No. 6940-50-7 ■ EC-No. 230-085-1  
■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
■ M = 231.05 g/mol ■ Melting point 115 - 118 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2918 19 98 ■ Disposal 4

## Specification

Assay (acidimetric) ..... ≥ 98.0 %  
Melting range (lower value) ..... ≥ 115 °C  
Melting range (upper value) ..... ≤ 118 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20201.0010	Plastic bottle	10 g	inquire

## 801675 2-Bromomesitylene for synthesis



C<sub>9</sub>H<sub>11</sub>Br  
2-(Br)C<sub>6</sub>H<sub>2</sub>-1,3,5-(CH<sub>3</sub>)<sub>3</sub>  
2-Bromo-1,3,5-trimethylbenzene  
■ CAS-No. 576-83-0 ■ EC-No. 209-405-9

■ Refractive index 1.5511 (20 °C, 589 nm)  
■ Spec. density 1.32 g/cm<sup>3</sup> (20 °C)  
■ Flash point 96 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 199.08 g/mol  
■ Melting point 2 °C ■ Boiling point 225 °C (1033 hPa)  
■ WGK 3  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335, P262, P304 + P340

■ LGK 10 - 13  
■ HS-No. 2903 99 90 ■ Disposal 2

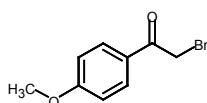
## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
Density (d 20 °C / 4 °C) ..... 1,322 - 1,325  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01675.0025	Glass bottle	25 ml	inquire

α-Bromomesitylene → 3,5-Dimethylbenzyl bromide page 784

## 820203 2-Bromo-4'-methoxyacetophenone for synthesis



C<sub>9</sub>H<sub>9</sub>BrO<sub>2</sub>  
4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>COCH<sub>2</sub>Br  
4-Methoxyphenacyl bromide  
■ CAS-No. 2632-13-5 ■ EC-No. 220-118-8

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 229.07 g/mol ■ Melting point 67 - 70 °C  
■ WGK 3  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2914 70 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Melting range (lower value) ..... ≥ 67 °C  
Melting range (upper value) ..... ≤ 70 °C  
Identity (IR) ..... passes test

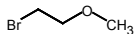
Ord.No.	Packaging	Quantity	Price
8.20203.0010	Glass bottle	10 g	inquire

1-Bromo-2-methoxybenzene → 2-Bromoanisole page 489

1-Bromo-3-methoxybenzene → 3-Bromoanisole page 489

1-Bromo-4-methoxybenzene → 4-Bromoanisole page 489

## 842447 1-Bromo-2-methoxyethane (stabilised) for synthesis

C<sub>3</sub>H<sub>7</sub>BrO

- CAS-No. 6482-24-2 ■ EC-No. 229-339-4
- Spec. density 1.46 g/cm<sup>3</sup> ■ Flash point 28 °C
- Solub. in H<sub>2</sub>O 14.4 g/l (25 °C) (calculated)
- M = 138.99 g/mol ■ Boiling point 107 - 110 °C (1013 hPa) ■ Ignition temp. 200 °C DIN 51794
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301;

Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

- LD50 oral rat > 200 - 400 mg/kg
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2909 19 90 ■ Disposal 3
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(1-BROM-2-METHOXYETHAN), 3 (6.1), III ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(1-BROMO-2-METHOXYETHANE), 3

(6.1), III

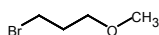
- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(1-BROMO-2-METHOXYETHANE), 3 (6.1), III

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.456 - 1.466  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42447.0025	Glass bottle	25 ml	inquire

## 843834 1-Bromo-3-methoxypropane for synthesis

C<sub>4</sub>H<sub>9</sub>BrO

- CAS-No. 36865-41-5
- Vapour pressure 6.6 hPa (20 °C)
- Spec. density 1.35 g/cm<sup>3</sup> ■ Flash point 43 °C
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 153.02 g/mol ■ pH value 6 - 7 (H<sub>2</sub>O)
- Boiling point 121 °C (1013 hPa)
- WGK 2

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Oral, H302, P210, P304 + P340, P309 + P310
- LC50 rat 6.5 mg/l
- LD50 oral rat 930 mg/kg
- LGK 3
- HS-No. 2909 19 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-BROM-3-METHOXYPROPAN), 3, III
- IMDG-Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(1-BROMO-3-METHOXYPROPANE), 3, III

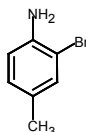
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-3-METHOXYPROPANE), 3, III

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.355 - 1.360  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43834.0025	Glass bottle	25 ml	inquire

## 841277 2-Bromo-4-methylaniline for synthesis

C<sub>7</sub>H<sub>8</sub>BrNBr(C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>)CH<sub>3</sub>

- 4-Amino-3-bromotoluene, 2-Bromo-p-toluidine
- CAS-No. 583-68-6 ■ EC-No. 209-515-7
- Spec. density 1.494 g/cm<sup>3</sup> (20 °C)

- Flash point > 110 °C ■ M = 186.05 g/mol
- Melting point 14 - 16 °C
- Boiling point 240 - 242 °C (1013 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10
- HS-No. 2921 43 00 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-BROM-4-METHYLANILIN), 6.1, III
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(2-BROMO-4-METHYLANILINE), 6.1, III

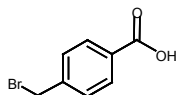
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-BROMO-4-METHYLANILINE), 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.478 - 1.483  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41277.0010	Glass bottle	10 ml	inquire

## 821978 4-(Bromomethyl)benzoic acid for synthesis

C<sub>8</sub>H<sub>7</sub>BrO<sub>2</sub>4-(BrCH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COOH

α-Bromo-p-toluylic acid

- CAS-No. 6232-88-8 ■ EC-No. 228-343-3
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 215.04 g/mol ■ Melting point 223 - 226 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 4

**Specification**

Assay (acidimetric)..... ≥ 97.0 %

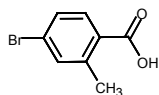
Melting range (lower value)..... ≥ 223 °C

Melting range (upper value)..... ≤ 226 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21978.0010	Glass bottle	10 g	inquire

## 841486 4-Bromo-2-methylbenzoic acid for synthesis

C<sub>8</sub>H<sub>7</sub>BrO<sub>2</sub>

■ CAS-No. 68837-59-2 ■ EC-No. 272-437-7

■ M = 215.04 g/mol ■ Melting point 186 °C

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98.0 %

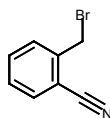
Melting range (lower value)..... ≥ 182 °C

Melting range (upper value)..... ≤ 186 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41486.0005	Plastic bottle	5 g	inquire

## 841069 2-(Bromomethyl)-benzonitrile for synthesis

C<sub>8</sub>H<sub>6</sub>BrN

α-Bromo-o-tolunitrile, 2-Cyanobenzyl bromide

■ CAS-No. 22115-41-9

■ M = 196.04 g/mol ■ Melting point 70 - 73 °C

■ WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8A

■ HS-No. 2926 90 95 ■ Disposal 3

■ ADR-RID UN 2923 Ätzender fester Stoff, giftig,

n.a.g.(2-BROMMETHYL-BENZONITRIL), 8 (6.1), II

■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC,

N.O.S.(2-BROMOMETHYL-BENZONITRILE), 8 (6.1), II

■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC,

N.O.S.(2-BROMOMETHYL-BENZONITRILE), 8 (6.1), II

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)

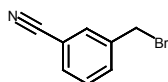
Melting range (lower value)..... ≥ 70 °C

Melting range (upper value)..... ≤ 73 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41069.0010	Glass bottle	10 g	inquire

## 841224 3-(Bromomethyl)-benzonitrile for synthesis

C<sub>8</sub>H<sub>6</sub>BrN*α*-Bromo-*m*-tolunitrile, 3-Cyanobenzyl bromide

- CAS-No. 28188-41-2 ■ EC-No. 248-890-1
- M = 196.04 g/mol ■ Melting point 91 - 94 °C
- Boiling point 130 °C (5 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8A
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(3-(BROMMETHYL)-BENZONITRIL), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-(BROMOMETHYL)-BENZONITRILE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-(BROMOMETHYL)-

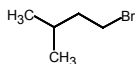
BENZONITRILE), 8, II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 91 °C  
 Melting range (upper value) ..... ≤ 94 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41224.0010	Glass bottle	10 g	inquire

## 800427 1-Bromo-3-methylbutane for synthesis

C<sub>5</sub>H<sub>11</sub>Br(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>CH<sub>2</sub>Br*iso*-Pentyl bromide, *iso*-Amyl bromide

- CAS-No. 107-82-4 ■ EC-No. 203-522-9
- Refractive index 1.4409 (20 °C, 589 nm)
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C)
- Flash point 22 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (16 °C)
- M = 151.04 g/mol ■ Melting point -112 °C
- Boiling point 121 °C (1013 hPa)

- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P210, P262, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 3
- HS-No. 2903 39 19 ■ Disposal 3
- ADR-RID UN 2341 1-Brom-3-methylbutan, 3, III

■ IMDG-Code UN 2341 1-BROMO-3-METHYLBUTANE, 3, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)

■ IATA-DGR UN 2341 1-BROMO-3-METHYLBUTANE, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,207 - 1,211  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00427.0250	Glass bottle	250 ml	inquire

2-Bromo-3-methylbutyric acid → 2-Bromoisovaleric acid page 504

## 841483 Bromomethylcyclopropane for synthesis

C<sub>4</sub>H<sub>7</sub>Br*Cyclopropylmethyl bromide*

- CAS-No. 7051-34-5 ■ EC-No. 230-331-8
- Spec. density 1.41 g/cm<sup>3</sup> (20 °C)
- Flash point 41 °C ■ M = 135 g/mol
- Boiling point 109 - 111 °C (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3,

H226; Acute toxicity, Category 4, Oral, H302, P210, P262

- LD50 oral rat > 500 - 2000 mg/kg
- LD50 dermal rat > 2000 mg/kg
- LGK 3 ■ Store below +15°C.
- HS-No. 2903 89 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(BROMMETHYL-CYCLOPROPAN), 3, III
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(CYCLOPROPYLMETHYL BROMIDE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

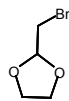
N.O.S.(CYCLOPROPYLMETHYL BROMIDE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.412 - 1.418  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41483.0001	Glass bottle	1 ml	inquire
8.41483.0005	Glass bottle	5 ml	inquire

## 843823 2-Bromomethyl-1,3-dioxolane for synthesis

C<sub>4</sub>H<sub>7</sub>BrO<sub>2</sub>

- CAS-No. 4360-63-8 ■ EC-No. 224-443-6
- Spec. density 1.628 g/cm<sup>3</sup> (20 °C)

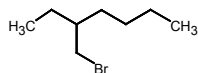
- Flash point 62 °C ■ M = 167 g/mol
- Boiling point 80 - 82 °C (36 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.618 - 1.622  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43823.0025	Glass bottle	25 ml	inquire

## 821709 3-(Bromomethyl)heptane for synthesis

C<sub>8</sub>H<sub>17</sub>BrCH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH(CH<sub>2</sub>Br)CH<sub>2</sub>CH<sub>3</sub>*2-Ethylhexyl bromide, Isooctyl bromide, 1-Bromo-2-ethylhexane*

- CAS-No. 18908-66-2 ■ EC-No. 242-659-9
- Refractive index 1.4465 (25 °C, 589 nm)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 193.12 g/mol
- Boiling point 75 - 77 °C (21 hPa)
- WGK 2
- LGK 10

■ HS-No. 2903 39 19 ■ Disposal 2

**Specification**

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.118 - 1.125  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21709.0100	Glass bottle	100 ml	inquire

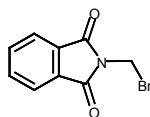
1-Bromomethyl-3-iodobenzene → 3-Iodobenzyl bromide page 1009

Bromomethylpentafluorobenzene → 2,3,4,5,6-Pentafluorobenzylbromide page 1266

2-(4-Bromomethylphenoxy)ethyl polystyrene HL → page 267

(4-Bromomethylphenoxy)methyl polystyrene → page 267

## 814373 N-Bromomethylphthalimide for synthesis

C<sub>9</sub>H<sub>6</sub>BrNO<sub>2</sub>

- CAS-No. 5332-26-3 ■ EC-No. 226-239-2
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 240.05 g/mol ■ Melting point 147 - 151 °C
- WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2925 19 95 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(N-BROMMETHYLPHTHALIMID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(N-BROMOMETHYLPHTHALIMIDE), 8, II, Segregation Group: 1 (Acids)

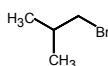
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(N-BROMOMETHYLPHTHALIMIDE), 8, II

## Specification

Assay (argentometric)..... ≥ 95,0 %  
 Melting range (lower value)..... ≥ 145 °C  
 Melting range (upper value)..... ≤ 151 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14373.0005	Glass bottle	5 g	inquire

## 801549 1-Bromo-2-methylpropane for synthesis

C<sub>4</sub>H<sub>9</sub>Br(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>Br*iso-Butyl bromide*

- CAS-No. 78-77-3 ■ EC-No. 201-141-2
- Refractive index 1.435 (20 °C, 589 nm) ■ Vapour pressure 41 hPa (20 °C) ■ Spec. density 1.26 g/cm<sup>3</sup> (20 °C) ■ Flash point 19 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 137.01 g/mol

- Melting point -118 °C ■ Boiling point 92 °C (1013 hPa)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P262
- LD50 oral rat > 2000 mg/kg
- LGK 3
- HS-No. 2903 39 19 ■ Disposal 3
- ADR-RID UN 2342 Brommethylpropane, 3, II
- IMDG-Code UN 2342 BROMOMETHYLPROPANES, 3, II, Segregation Group: 10 (Liquid halogenated hydrocarbons)

- IATA-DGR UN 2342 BROMOMETHYLPROPANES, 3, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,262 - 1,264  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01549.0250	Glass bottle	250 ml	inquire
8.01549.1000	Glass bottle	1 l	inquire

## 801966 2-Bromo-2-methylpropane (stabilised with potassium carbonate) for synthesis

C<sub>4</sub>H<sub>9</sub>Br(CH<sub>3</sub>)<sub>3</sub>CBr*tert-Butyl bromide*

- CAS-No. 507-19-7 ■ EC-No. 208-065-9
- Refractive index 1.4279 (20 °C, 589 nm)
- Vapour pressure 179.9 hPa (25 °C)
- Spec. density 1.22 g/cm<sup>3</sup> (25 °C)
- Flash point 16 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 137.01 g/mol
- Melting point -20 °C ■ Boiling point 72 - 74 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P240, P262
- LGK 3
- HS-No. 2903 39 19 ■ Disposal 2
- ADR-RID UN 2342 Brommethylpropane, 3, II
- IMDG-Code UN 2342 BROMOMETHYLPROPANES, 3, II, Segregation Group: 10 (Liquid halogenated hydrocarbons)
- IATA-DGR UN 2342 BROMOMETHYLPROPANES,

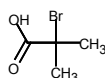
3, II

## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,215 - 1,225  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01966.0250	Glass bottle	250 ml	inquire
8.01966.1000	Glass bottle	1 l	inquire

## 804162 2-Bromo-2-methylpropionic acid for synthesis

C<sub>4</sub>H<sub>7</sub>BrO<sub>2</sub>*α-Bromoisobutyric acid, 2-Bromoisobutyric acid*

- CAS-No. 2052-01-9 ■ EC-No. 218-139-2
- Spec. density 1.43 g/cm<sup>3</sup> ■ Flash point 113 °C
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 167 g/mol ■ Melting point 41 - 44 °C
- Boiling point 198 - 200 °C (1013 hPa)
- WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 4
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2-BROM-2-METHYLPROPIONSÄURE), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-BROMO-2-METHYLPROPIONIC ACID), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

- ORGANIC, N.O.S.(2-BROMO-2-METHYLPROPIONIC ACID), 8, II

## Specification

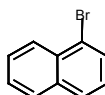
Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 44 °C  
 Melting range (upper value)..... ≤ 47 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04162.0101	Glass bottle	100 g	inquire

2-Bromo-2-methylpropionic acid ethyl ester →  
 Ethyl 2-bromo-2-methylpropionate page 854

2-Bromo-2-methylpropionyl bromide → 2-  
 Bromoisobutyryl bromide page 504

## 806210 1-Bromonaphthalene for synthesis

C<sub>10</sub>H<sub>7</sub>Br*α-Naphthyl bromide*

- CAS-No. 90-11-9 ■ EC-No. 201-965-2
- Refractive index 1.6576 (20 °C, 589 nm)
- Vapour pressure 0.013 hPa (20 °C)
- Spec. density 1.48 g/cm<sup>3</sup> (20 °C)
- Flash point 67 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) practically insoluble ■ M = 207.07 g/mol ■ Boiling point 281 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P262, P305 + P351 + P338
- LD50 oral rat 810 mg/kg
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

## Specification

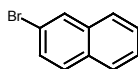
Assay (GC, area%)..... ≥ 95 %  
 - (2-Bromonaphthalene)..... ≤ 5 %

Density (d 20 °C/ 4 °C)..... 1.478 - 1.487  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.06210.0100	Glass bottle	100 ml	inquire
	Glass bottle	6 x 100 ml	inquire
8.06210.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.06210.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire



## 818830 2-Bromonaphthalene for synthesis



$C_{10}H_7Br$   
*β*-Naphthyl bromide  
 ■ CAS-No. 580-13-2 ■ EC-No. 209-452-5  
 ■ Flash point 113 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 207.06 g/mol

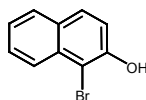
■ Melting point 52 - 55 °C  
 ■ Boiling point 281 - 283 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,  
 H302; Eye irritation, Category 2, H319, P262, P305  
 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 99 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97,0 Area %  
 Melting range (lower value)..... ≥ 52 °C  
 Melting range (upper value)..... ≤ 55 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18830.0005	Glass bottle	5 g	inquire

## 821974 1-Bromo-2-naphthol for synthesis



$C_{10}H_7BrO$   
 1-Bromo-2-hydroxynaphthalene  
 ■ CAS-No. 573-97-7 ■ EC-No. 209-363-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 223.07 g/  
 mol ■ Melting point 77 - 80 °C

■ Boiling point 130 °C (1013 hPa) (decomposition)  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity -  
 single exposure, Category 3, H335; Skin irritation,  
 Category 2, H315; Eye irritation, Category 2, H319,  
 P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2908 19 00 ■ Disposal 3

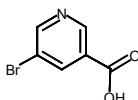
**Specification**

Assay (GC, area%)..... ≥ 97,0 % (a/a)

Melting range (lower value)..... ≥ 77 °C  
 Melting range (upper value)..... ≤ 80 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21974.0025	Glass bottle	25 g	inquire

## 841121 5-Bromonicotinic acid for synthesis



$C_6H_4BrNO_2$   
 5-Bromopyridine-3-carboxylic acid

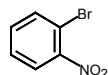
■ CAS-No. 20826-04-4 ■ EC-No. 244-065-5  
 ■ M = 202 g/mol  
 ■ Melting point 181 - 184 °C (sublimed)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 181 °C  
 Melting range (upper value)..... ≤ 184 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41121.0010	Plastic bottle	10 g	inquire

## 801985 1-Bromo-2-nitrobenzene for synthesis



$C_6H_4BrNO_2$   
 1-(Br)-2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>  
 ■ CAS-No. 577-19-5 ■ EC-No. 209-409-0  
 ■ Spec. density 1.7 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 112 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 202 g/mol  
 ■ Melting point 39 - 42 °C ■ Boiling point 261 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2904 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3459 Nitrobrombenzene, fest, 6.1,  
 III ■ IMDG-Code UN 3459  
 NITROBROMOBENZENES, SOLID, 6.1, III  
 ■ IATA-DGR UN 3459 NITROBROMOBENZENES,

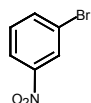
SOLID, 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 39 °C  
 Melting range (upper value)..... ≤ 42 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01985.0050	Glass bottle	50 g	inquire

## 820210 1-Bromo-3-nitrobenzene for synthesis



$C_6H_4BrNO_2$   
 1-(Br)-3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>  
 ■ CAS-No. 585-79-5 ■ EC-No. 209-563-9  
 ■ Vapour pressure 0.09 hPa (25 °C)

■ Spec. density 1.70 g/cm<sup>3</sup> ■ Flash point 110 °C  
 ■ Solub. in H<sub>2</sub>O 10 g/l (25 °C) ■ M = 202 g/mol  
 ■ Melting point 51 - 54 °C ■ Boiling point 256 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2904 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3459 Nitrobrombenzene, fest, 6.1,  
 III ■ IMDG-Code UN 3459  
 NITROBROMOBENZENES, SOLID, 6.1, III  
 ■ IATA-DGR UN 3459 NITROBROMOBENZENES,

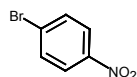
SOLID, 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 51 °C  
 Melting range (upper value)..... ≤ 54 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20210.0025	Glass bottle	25 g	inquire
8.20210.0100	Glass bottle	100 g	inquire

## 820211 1-Bromo-4-nitrobenzene for synthesis



$C_6H_4BrNO_2$   
 1-(Br)-4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>  
 ■ CAS-No. 586-78-7 ■ EC-No. 209-583-8  
 ■ Flash point >110 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) practically insoluble ■ M = 202 g/mol  
 ■ Melting point 123 - 126 °C

■ Boiling point 255 - 256 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2904 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3459 Nitrobrombenzene, fest, 6.1,  
 III ■ IMDG-Code UN 3459  
 NITROBROMOBENZENES, SOLID, 6.1, III  
 ■ IATA-DGR UN 3459 NITROBROMOBENZENES,  
 SOLID, 6.1, III

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 123 °C  
 Melting range (upper value)..... ≤ 126 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20211.0025	Glass bottle	25 g	inquire
8.20211.0100	Glass bottle	100 g	inquire

α-Bromo-2-nitrotoluene → 2-Nitrobenzyl bromide  
 page 1221

α-Bromo-p-nitrotoluene → 4-Nitrobenzyl bromide  
 page 1221



## 821710 1-Bromononane for synthesis



C<sub>9</sub>H<sub>19</sub>Br  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>8</sub>Br  
*Nonyl bromide*  
 ■ CAS-No. 693-58-3 ■ EC-No. 211-755-2  
 ■ Refractive index 1.454 (20 °C, 589 nm)

■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 90 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 207.15 g/mol  
 ■ Boiling point 201 °C  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2903 39 19 ■ Disposal 3  
**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.086 - 1.088  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21710.0100	Glass bottle	100 ml	inquire

## 814432 1-Bromooctadecane for synthesis



C<sub>18</sub>H<sub>37</sub>Br  
 CH<sub>3</sub>-(CH<sub>2</sub>)<sub>16</sub>-CH<sub>2</sub>-Br  
*n-Octadecyl bromide*  
 ■ CAS-No. 112-89-0 ■ EC-No. 204-013-4  
 ■ Refractive index 1.46 (30 °C, 589 nm)  
 ■ Spec. density 0.976 g/cm<sup>3</sup> ■ Flash point >112 °C

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 333.39 g/mol  
 ■ Melting point 24 - 27 °C  
 ■ Boiling point 214 °C (20 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 39 19 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 Area %  
 Melting range (lower value) ..... ≥ 24 °C

Melting range (upper value) ..... ≤ 27 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14432.0100	Glass bottle	100 ml	inquire
8.14432.0500	Glass bottle	500 ml	inquire

## 801969 1-Bromooctane for synthesis



C<sub>8</sub>H<sub>17</sub>Br  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>Br  
*Octyl bromide*  
 ■ CAS-No. 111-83-1 ■ EC-No. 203-912-9  
 ■ Refractive index 1.4503 (25 °C, 589 nm)  
 ■ Vapour pressure 0.47 hPa (25 °C)  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 80 °C ■ Solub. in H<sub>2</sub>O 0.002 g/l  
 (20 °C) ■ M = 193.12 g/mol ■ Melting point -  
 55 °C ■ Boiling point 201 - 202 °C (1013 mbar)

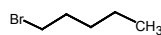
■ WGK 2  
 ■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273  
 ■ LD50 oral rat 4984 mg/kg ■ LD50 dermal rabbit 8880 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2903 39 19 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1-BROMOCTAN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-BROMOCTANE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-BROMOCTANE), 9, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,112 - 1,114  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01969.0250	Glass bottle	250 ml	inquire

## 801604 1-Bromopentane for synthesis



C<sub>5</sub>H<sub>11</sub>Br  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>Br  
*Amyl bromide, Pentyl bromide*  
 ■ CAS-No. 110-53-2 ■ EC-No. 203-776-0  
 ■ Refractive index 1.4436 (20 °C, 589 nm)  
 ■ Vapour pressure 12 hPa ■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C) ■ Flash point 30 °C ■ Solub. in H<sub>2</sub>O 0.051 g/l (25 °C) ■ M = 151.04 g/mol  
 ■ pH value 6 - 8 (H<sub>2</sub>O, 20 °C) ■ Melting point -  
 95 °C ■ Boiling point 130 °C

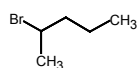
■ Ignition temp. 206 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P210, P262, P273, P302 + P352  
 ■ LGK 3  
 ■ HS-No. 2903 39 19 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-BROMOPENTAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMOPENTANE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMOPENTANE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,215 - 1,218  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01604.0250	Glass bottle	250 ml	inquire

## 814783 2-Bromopentane for synthesis



C<sub>5</sub>H<sub>11</sub>Br  
 ■ CAS-No. 107-81-3 ■ EC-No. 203-521-3  
 ■ Vapour pressure 190 hPa (65 °C)  
 ■ Spec. density 1.2 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 20 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 151.04 g/mol  
 ■ Melting point -95.5 °C

■ Boiling point 117.4 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P260, P302 + P352, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2903 39 19  
 ■ ADR-RID UN 2343 2-Bromopentan, 3, II ■ IMDG-Code UN 2343 2-BROMOPENTANE, 3, II, Segregation Group: 10 (Liquid halogenated

hydrocarbons)  
 ■ IATA-DGR UN 2343 2-BROMOPENTANE, 3, II

**Specification**  
 Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14783.0005	Glass bottle	5 ml	inquire
8.14783.0100	Glass bottle	100 ml	inquire

5-Bromopentanoic acid → 5-Bromovaleric acid  
 page 518

5-Bromopentanoic acid methyl ester → Methyl 5-bromovalerate page 1138

## 841884 5-Bromo-1-pentene for synthesis



C<sub>5</sub>H<sub>9</sub>Br  
 ■ CAS-No. 1119-51-3 ■ EC-No. 214-281-4  
 ■ Spec. density 1.259 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 30 °C ■ M = 149.03 g/mol  
 ■ Boiling point 126 - 127 °C (1020 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3,

H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2903 39 19 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(5-BROM-1-PENTEN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(5-BROMO-1-PENTENE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(5-BROMO-1-PENTENE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,260 - 1,265  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41884.0005	Glass bottle	5 ml	inquire

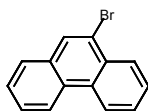
# Bromop

1-(3-Bromophenyl)ethanone → 3'-  
Bromoacetophenone page 488

1-(4-Bromophenyl)ethanone → 4'-  
Bromoacetophenone page 488

p-Bromophenacyl bromide → 2,4'-  
Dibromoacetophenone page 702

## 818223 9-Bromophenanthrene for synthesis



C<sub>14</sub>H<sub>9</sub>Br

- CAS-No. 573-17-1 ■ EC-No. 209-351-6
  - M = 257.12 g/mol ■ Melting point 59 - 64 °C
  - Boiling point 190 °C (2 hPa)
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2903 99 90 ■ Disposal 3
- Specification**

Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)  
Melting range (lower value) ..... ≥ 62 °C  
Melting range (upper value) ..... ≤ 66 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18223.0025	Glass bottle	25 g	inquire

β-Bromophenetole → (2-Bromethoxy)benzene page 485

## 804166 2-Bromophenol for synthesis



C<sub>6</sub>H<sub>5</sub>BrO

- 2-Bromo-1-hydroxybenzene
- CAS-No. 95-56-7 ■ EC-No. 202-432-7
  - Refractive index 1.5893 (20 °C, 589 nm)
  - Spec. density 1.63 g/cm<sup>3</sup> (20 °C)
  - Flash point 108 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 173.01 g/mol

- mol ■ Melting point 5 °C ■ Boiling point 195 °C
- WGK 2
- GHS: Warning, Acute aquatic toxicity, Category 1, H400, P262, P273
- LGK 10 - 13
- HS-No. 2908 19 00 ■ Disposal 2
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(2-BROMOPHENOL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2-BROMOPHENOL), 9, III, Marine Pollutant: P
- IATA-DGR UN 3082 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2-BROMOPHENOL), 9, III

**Specification**  
Assay (GC, area%) ..... ≥ 98.0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,638 - 1,645  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04166.0025	Glass bottle	25 ml	inquire
8.04166.0100	Glass bottle	100 ml	inquire

## 818603 3-Bromophenol for synthesis



C<sub>6</sub>H<sub>5</sub>BrO

- 3-(Br)C<sub>6</sub>H<sub>4</sub>OH
- 3-Bromo-1-hydroxybenzene
- CAS-No. 591-20-8 ■ EC-No. 209-706-5
  - Vapour pressure 0.024 hPa (25 °C)
  - Spec. density 1.63 g/cm<sup>3</sup> ■ Flash point >112 °C

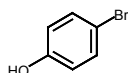
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 173 g/mol
- Melting point 27 - 30 °C
- Boiling point 235 - 236 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352
- LGK 10 - 13
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(3-BROMOPHENOL), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3-

BROMOPHENOL), 6.1, III  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3-BROMOPHENOL), 6.1, III

**Specification**  
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Melting range (lower value) ..... ≥ 25 °C  
Melting range (upper value) ..... ≤ 30 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18603.0010	Glass bottle	10 g	inquire

## 821714 4-Bromophenol for synthesis



C<sub>6</sub>H<sub>5</sub>BrO

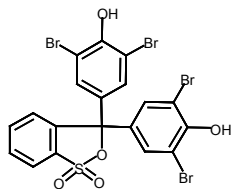
- 1-Brom-1-hydroxybenzene
- CAS-No. 106-41-2 ■ EC-No. 203-394-4
  - Flash point >110 °C ■ Solub. in H<sub>2</sub>O 14 g/l (25 °C) ■ M = 173 g/mol

- Melting point 64 - 66 °C ■ Boiling point 238 °C (1013 hPa)
  - WGK 3
  - GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P302 + P352
  - LGK 10 - 13
  - HS-No. 2908 19 00 ■ Disposal 3
- Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Melting range (lower value) ..... ≥ 63 °C  
Melting range (upper value) ..... ≤ 66 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21714.0100	Glass bottle	100 g	inquire
8.21714.0500	Glass bottle	500 g	inquire

## 108122 Bromophenol blue indicator ACS,Reag. Ph Eur



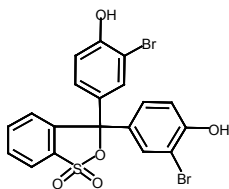
C<sub>19</sub>H<sub>10</sub>Br<sub>4</sub>O<sub>5</sub>S

- 3,3',5,5'-Tetrabromophenolsulfonphthalein, BPB
- CAS-No. 115-39-9 ■ EC-No. 204-086-2
  - Solub. in H<sub>2</sub>O (20 °C) practically insoluble
  - M = 669.96 g/mol
  - Melting point 273 °C (decomposition)
  - Bulk density 730 kg/m<sup>3</sup>
  - WGK 2
  - LGK 10 - 13
  - HS-No. 2934 99 90 ■ Disposal 3
- Specification**

Transition range ..... pH 3.0 - pH 4.6  
greenish yellow - blue violet  
Appearance of solution ..... passes test  
Loss on drying (110 °C) ..... ≤ 1%  
Transition range (according to ACS) ..... passes test  
Sensitivity test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.08122.0005	Glass bottle	5 g	inquire
1.08122.0025	Glass bottle	25 g	inquire

## 103023 Bromophenol red indicator

C<sub>19</sub>H<sub>12</sub>Br<sub>2</sub>O<sub>5</sub>S

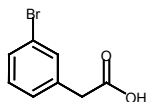
- 3',3''-Dibromophenolsulfonphthalein, BPR  
 ■ CAS-No. 2800-80-8 ■ EC-No. 220-538-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

- M = 512.18 g/mol
  - Melting point 230 °C (decomposition)
  - Bulk density 770 kg/m<sup>3</sup>
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2934 99 90 ■ Disposal 3
- Use as pH indicator: 0.1 g in 100 ml ethanol (20%)
- Specification**  
 Identity (UV/VIS-Spectrum)..... passes test  
 Transition range....pH 4.7 - pH 6.3 yellow to purple  
 Absorption maximum λ 1 (buffer pH 4.7).....  
 ..... 435 - 440 nm

Absorption maximum λ 2 (buffer pH 6.3).....  
 ..... 574 - 577 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>1max</sub>; 0.01 g/l;  
 buffer pH 4.7; calculated on anhydrous  
 substance)..... ≥ 380  
 Spec. Absorptivity A 1%/1cm (λ<sub>2max</sub>; 0.01 g/l;  
 Puffer pH 6.3; calculated on anhydrous  
 substance)..... ≥ 760  
 Water (according to Karl Fischer)..... ≤ 5 %

Ord.No.	Packaging	Quantity	Price
1.03023.0005	Glass bottle	5 g	inquire

## 841130 3-Bromophenylacetic acid for synthesis

C<sub>8</sub>H<sub>7</sub>BrO<sub>2</sub>

- CAS-No. 1878-67-7 ■ EC-No. 217-522-1

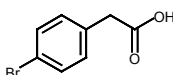
- M = 215.04 g/mol ■ Melting point 102 - 103 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 100 °C

Melting range (upper value)..... ≤ 103 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41130.0001	Plastic bottle	1 g	inquire

## 841138 4-Bromophenylacetic acid for synthesis

C<sub>8</sub>H<sub>7</sub>BrO<sub>2</sub>

- CAS-No. 1878-68-8 ■ EC-No. 217-523-7  
 ■ M = 215.04 g/mol ■ Melting point 115 - 118 °C

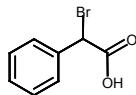
- WGK 2
- GHS: P260
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 115 °C

Melting range (upper value)..... ≤ 118 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41138.0025	Glass bottle	25 g	inquire

## 820216 DL-α-Bromophenylacetic acid for synthesis

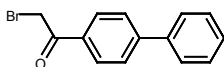
C<sub>8</sub>H<sub>7</sub>BrO<sub>2</sub>C<sub>6</sub>H<sub>5</sub>CHBrCOOH

- CAS-No. 4870-65-9 ■ EC-No. 225-477-4
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 215.04 g/mol
- Melting point 78 - 82 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 4

**Specification**  
 Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 78 °C  
 Melting range (upper value)..... ≤ 82 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20216.0025	Plastic bottle	25 g	inquire

## 841256 2-Bromo-4'-phenylacetophenone for synthesis

C<sub>14</sub>H<sub>11</sub>BrO

alpha-Bromo-4-phenylacetophenone

- CAS-No. 135-73-9 ■ EC-No. 205-217-6  
 ■ M = 275.14 g/mol ■ Melting point 123 - 126 °C  
 ■ WGK 3  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion,

Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A ■ Store below +15°C.  
 ■ HS-No. 2914 70 00 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(1-BROM-4-PHENYLACETOPHENON), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(1-BROMO-4-PHENYLACETOPHENONE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

ORGANIC, N.O.S.(1-BROMO-4-PHENYLACETOPHENONE), 8, II

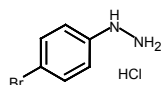
**Specification**  
 Assay (GC, area%)..... ≥ 96.0 % (a/a)  
 Melting range (lower value)..... ≥ 123 °C  
 Melting range (upper value)..... ≤ 126 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41256.0005	Glass bottle	5 g	inquire

α-Bromo-4-phenylacetophenone → 2-Bromo-4'-phenylacetophenone page 511

1-Bromo-2-phenylethane → 2-Phenylethyl bromide page 1304

## 820217 4-Bromophenylhydrazinium chloride for synthesis

C<sub>6</sub>H<sub>8</sub>BrClN<sub>2</sub>4-(Br)C<sub>6</sub>H<sub>4</sub>NHNH<sub>2</sub> \* HCl

- CAS-No. 622-88-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble

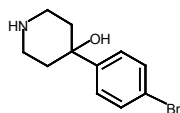
- M = 223.50 g/mol ■ Melting point 200 - 205 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A
- HS-No. 2928 00 90 ■ Disposal 9

**Specification**  
 Assay (argentometric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 200 °C  
 Melting range (upper value)..... ≤ 205 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20217.0010	Glass bottle	10 g	inquire

# Bromop

## 814666 4-(4-Bromophenyl)-4-hydroxypiperidine for synthesis



- Spec. density 1 g/cm<sup>3</sup> ■ M = 256.14 g/mol
- Melting point 163 - 166 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 163 °C

Melting range (upper value) ..... ≤ 166 °C  
Identity (IR) ..... passes test

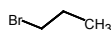
C<sub>11</sub>H<sub>14</sub>BrNO  
■ CAS-No. 57988-58-6 ■ EC-No. 261-065-0

2-Bromophenylmercaptane → 2-Bromothiophenol  
page 516

1-Bromo-3-phenylpropane → 3-Phenylpropyl  
bromide page 1313

Ord.No.	Packaging	Quantity	Price
8.14666.0001	Glass bottle	1 g	inquire
8.14666.0005	Glass bottle	5 g	inquire

## 801667 1-Bromopropane for synthesis



- H225; Reproductive toxicity, Category 1B, H360FD; Specific target organ toxicity - repeated exposure, Category 2, H373; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, ; Skin irritation, Category 2, H315, P201, P210, P233, P240, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313
- LC50 rat 35 mg/l
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- EC-Index-No. 602-019-00-5 ■ LGK 3
- HS-No. 2903 39 19 ■ Disposal 9
- ADR-RID UN 2344 Bromopropane, 3, II ■ IMDG-Code UN 2344 BROMOPROPANES, 3, II,

Segregation Group: 10 (Liquid halogenated hydrocarbons)

■ IATA-DGR UN 2344 BROMOPROPANES, 3, II

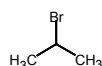
### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,351 - 1,354  
Identity (IR) ..... conforms

C<sub>3</sub>H<sub>7</sub>Br  
CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>Br  
*Propyl bromide*  
■ CAS-No. 106-94-5 ■ EC-No. 203-445-0  
■ Refractive index 1.4341 (20 °C, 589 nm)  
■ Vapour pressure 146 hPa (20 °C)  
■ Spec. density 1.35 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.4 - 9.1 % (V) ■ Flash point -10 °C ■ Solub. in H<sub>2</sub>O 2.5 g/l (20 °C) ■ M = 122.99 g/mol  
■ Melting point -108 °C ■ Boiling point 71 °C (1013 hPa) ■ Ignition temp. 490 °C  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2,

Ord.No.	Packaging	Quantity	Price
8.01667.0005	Glass bottle	5 ml	inquire
8.01667.0250	Glass bottle	250 ml	inquire
8.01667.1000	Glass bottle	1 l	inquire

## 801668 2-Bromopropane for synthesis



- H<sub>2</sub>O 3.18 g/l (20 °C) ■ M = 122.99 g/mol
- Melting point -89 °C ■ Boiling point 59 - 60 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Reproductive toxicity, Category 1A, H360F; Specific target organ toxicity - repeated exposure, Category 2, H373, P201, P210, P281, P308 + P313
- EC-Index-No. 602-085-00-5 ■ LGK 3
- HS-No. 2903 39 19 ■ Disposal 9
- ADR-RID UN 2344 Bromopropane, 3, II ■ IMDG-Code UN 2344 BROMOPROPANES, 3, II,
- Segregation Group: 10 (Liquid halogenated

hydrocarbons)

■ IATA-DGR UN 2344 BROMOPROPANES, 3, II

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,313 - 1,316  
Identity (IR) ..... conforms

C<sub>3</sub>H<sub>7</sub>Br  
(CH<sub>3</sub>)<sub>2</sub>CHBr  
*iso-Propyl bromide, Isopropyl bromide*  
■ CAS-No. 75-26-3 ■ EC-No. 200-855-1  
■ Refractive index 1.4252 (20 °C, 589 nm)  
■ Vapour pressure 224 hPa (20 °C)  
■ Spec. density 1.31 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4.6 % (V) ■ Flash point 19 °C ■ Solub. in

Ord.No.	Packaging	Quantity	Price
8.01668.0250	Glass bottle	250 ml	inquire
8.01668.1000	Glass bottle	1 l	inquire

## 841113 1-Bromo-2-propanol for synthesis



- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338
- LGK 3
- HS-No. 2905 59 98 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-BROMO-2-PROPANOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-

BROMO-2-PROPANOL), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROMO-2-PROPANOL), 3, III

### Specification

Assay (GC, area%) ..... ≥ 70,0 % (a/a)  
Identity (IR) ..... passes test

C<sub>3</sub>H<sub>7</sub>BrO  
*1-Bromo-2-hydroxypropane*  
■ CAS-No. 19686-73-8 ■ EC-No. 243-225-1  
■ Spec. density 1.53 g/cm<sup>3</sup> (20 °C)  
■ Flash point 54 °C ■ M = 138.99 g/mol  
■ Boiling point 145 - 148 °C

Ord.No.	Packaging	Quantity	Price
8.41113.0010	Glass bottle	10 ml	inquire

## 820218 3-Bromo-1-propanol for synthesis



- M = 138.99 g/mol ■ pH value (10 g/l, H<sub>2</sub>O) neutral ■ Boiling point 62 °C (7 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2905 59 98 ■ Disposal 9
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

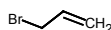
### Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.570 - 1.595  
Identity (IR) ..... passes test

C<sub>3</sub>H<sub>7</sub>BrO  
Br(CH<sub>2</sub>)<sub>3</sub>OH  
*Trimethylene bromohydrin*  
■ CAS-No. 627-18-9 ■ EC-No. 210-986-6  
■ Refractive index 1.4858 (20 °C, 589 nm)  
■ Vapour pressure 0.13 hPa (20 °C)  
■ Spec. density 1.60 g/cm<sup>3</sup> (20 °C)  
■ Flash point 65 °C ■ Solub. in H<sub>2</sub>O 167 g/l (20 °C)

Ord.No.	Packaging	Quantity	Price
8.20218.0010	Glass bottle	10 ml	inquire
8.20218.0025	Glass bottle	25 ml	inquire

## 801021 3-Bromo-1-propene (stabilised) for synthesis

C<sub>3</sub>H<sub>5</sub>BrBrCH<sub>2</sub>CH=CH<sub>2</sub>

Allyl bromide

- CAS-No. 106-95-6 ■ EC-No. 203-446-6
- Refractive index 1.4697 (20 °C, 589 nm)
- Spec. density 1.428 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4.3 - 7.3 % (V) ■ Flash point -1 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 120.98 g/mol
- Melting point -119 °C ■ Boiling point 70 - 72 °C (1013 mbar) ■ Ignition temp. 295 °C
- WGK 2

- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400, P210, P233, P240, P273, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 10 mg/l
- LD50 oral rat 120 mg/kg
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2903 39 19 ■ Disposal 9
- ADR-RID UN 1099 Allylbromid, 3 (6.1), I
- IMDG-Code UN 1099 ALLYL BROMIDE, 3 (6.1), I,

Marine Pollutant: P, Segregation Group: 10 (Liquid halogenated hydrocarbons)

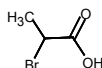
- IATA-DGR UN 1099 ALLYL BROMIDE, 3 (6.1), I

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C / 4 °C) ..... 1,428 - 1,431  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01021.0250	Glass bottle	250 ml	inquire
8.01021.1000	Glass bottle	1 l	inquire

## 802396 2-Bromopropionic acid for synthesis

C<sub>3</sub>H<sub>5</sub>BrO<sub>2</sub>CH<sub>3</sub>CHBrCOOH

- CAS-No. 598-72-1 ■ EC-No. 209-947-6
- Refractive index 1.475 (20 °C, 589 nm) ■ Vapour pressure 0.133 hPa (25 °C) ■ Spec. density 1.70 g/cm<sup>3</sup> (25 °C) ■ Flash point 100 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 152.97 g/mol
- Melting point 25 °C ■ Boiling point 203 - 204 °C

- (1013 hPa)
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 323 mg/kg
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2-BROMOPROPIONSÄURE), 8,

II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-BROMOPROPIONIC ACID), 8, II, Segregation Group: 1 (Acids)

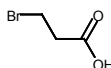
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-BROMOPROPIONIC ACID), 8, II

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C / 4 °C) ..... 1,698 - 1,703  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02396.0250	Glass bottle	250 ml	inquire

## 840075 3-Bromopropionic acid for synthesis

C<sub>3</sub>H<sub>5</sub>BrO<sub>2</sub>

beta-Bromopropionic acid

- CAS-No. 590-92-1 ■ EC-No. 209-694-1
- Spec. density 1.48 g/cm<sup>3</sup> ■ Flash point 65 °C
- M = 152.97 g/mol ■ Melting point 60 - 63 °C
- Boiling point 140 - 142 °C (60 hPa)
- WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(3-BROMOPROPIONSÄURE), 8, II
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-BROMOPROPIONIC ACID), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

ORGANIC, N.O.S.(3-BROMOPROPIONIC ACID), 8, II

## Specification

Assay (acidimetric) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 60 °C  
 Melting range (upper value) ..... ≤ 63 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40075.0025	Glass bottle	25 g	inquire
8.40075.0100	Glass bottle	100 g	inquire

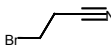
β-Bromopropionic acid → 3-Bromopropionic acid page 513

2-Bromopropionic acid ethyl ester → Ethyl 2-bromopropionate page 854

2-Bromopropionic acid methyl ester → Methyl 2-bromopropionate page 1137

3-Bromopropionic acid methyl ester → Methyl 3-bromopropionate page 1137

## 841334 3-Bromopropionitrile for synthesis

C<sub>3</sub>H<sub>4</sub>BrN

β-Bromopropionitrile

- CAS-No. 2417-90-5 ■ EC-No. 219-332-4
- Spec. density 1.615 g/cm<sup>3</sup> (20 °C)
- Flash point 97 °C ■ M = 133.97 g/mol
- Boiling point 76 - 78 °C (13.3 hPa)
- WGK 3

- GHS: Danger, Acute toxicity, Category 2, Oral, H300, P309 + P310
- LD50 oral rat 25 - 50 mg/kg
- LGK 6.1A
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(3-BROMOPROPIONITRIL), 6.1, II ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(3-BROMOPROPIONITRILE), 6.1, II
- IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC,

N.O.S.(3-BROMOPROPIONITRILE), 6.1, II

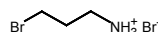
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 1.630 - 1.635  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41334.0025	Glass bottle	25 ml	inquire

β-Bromopropionitrile → 3-Bromopropionitrile page 513

## 841194 3-Bromopropylammonium bromide for synthesis

C<sub>3</sub>H<sub>9</sub>Br<sub>2</sub>N

■ CAS-No. 5003-71-4 ■ EC-No. 225-675-0

- M = 218.91 g/mol ■ Melting point 171 - 174 °C
- WGK 3

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2921 19 99 ■ Disposal 3

## Specification

Assay (argentometric) ..... ≥ 98,0 %

Melting range (lower value) ..... ≥ 171 °C  
 Melting range (upper value) ..... ≤ 174 °C  
 Identity (IR) ..... passes test

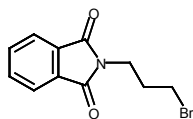
Ord.No.	Packaging	Quantity	Price
8.41194.0025	Plastic bottle	25 g	inquire

(3-Bromopropyl)benzene → 3-Phenylpropyl bromide page 1313



# Bromop

## 814408 N-(3-Bromopropyl)phthalimide for synthesis



C<sub>11</sub>H<sub>10</sub>BrNO<sub>2</sub>

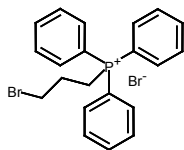
- CAS-No. 5460-29-7 ■ EC-No. 226-738-5
- Solub. in H<sub>2</sub>O < 1 g/l (20 °C) ■ M = 268.11 g/mol
- Melting point 70 - 73 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2925 19 95 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 70 °C  
 Melting range (upper value)..... ≤ 73 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14408.0025	Plastic bottle	25 g	inquire

## 840158 3-Bromopropyltriphenylphosphonium bromide for synthesis



C<sub>21</sub>H<sub>21</sub>Br<sub>2</sub>P

■ CAS-No. 3607-17-8 ■ EC-No. 222-770-9

- M = 464.17 g/mol ■ Melting point 228 - 231 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

### Specification

Assay (argentometric)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 228 °C  
 Melting range (upper value)..... ≤ 231 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40158.0025	Glass bottle	25 g	inquire

## 801933 2-Bromopyridine for synthesis



C<sub>5</sub>H<sub>4</sub>BrN

2-(Br)C<sub>5</sub>H<sub>4</sub>N

- CAS-No. 109-04-6 ■ EC-No. 203-641-6
- Refractive index 1.572 (20 °C, 589 nm) ■ Vapour pressure 1.02 hPa (25 °C) ■ Spec. density 1.62 g/cm<sup>3</sup> (20 °C) ■ Flash point 90.6 °C ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 157.99 g/mol
- Boiling point 70 - 75 °C (13 hPa)
- Ignition temp. >400 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 92 mg/kg ■ LD50 dermal rabbit 82 mg/kg
- LGK 6.1A
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger

Stoff, n.a.g.(2-BROMOPYRIDIN), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-BROMOPYRIDINE), 6.1, II  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-BROMOPYRIDINE), 6.1, II

### Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01933.0025	Glass bottle	25 ml	inquire
8.01933.0100	Glass bottle	100 ml	inquire

## 801934 3-Bromopyridine for synthesis



C<sub>5</sub>H<sub>4</sub>BrN

3-(Br)C<sub>5</sub>H<sub>4</sub>N

- CAS-No. 626-55-1 ■ EC-No. 210-952-0
- Refractive index 1.5674 (25 °C, 589 nm)
- Vapour pressure 2.33 hPa (25 °C) (experimental)
- Spec. density 1.62 g/cm<sup>3</sup> (20 °C)
- Flash point 73.2 °C ■ Solub. in H<sub>2</sub>O 31 g/l (25 °C) ■ M = 157.99 g/mol ■ Melting point -

- 27 °C ■ Boiling point 174 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10
- HS-No. 2933 39 99 ■ Disposal 2
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(3-BROMOPYRIDIN), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-BROMOPYRIDINE), 6.1, III

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-BROMOPYRIDINE), 6.1, III

### Specification

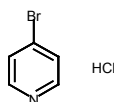
Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,620 - 1,630  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01934.0010	Glass bottle	10 ml	inquire
8.01934.0050	Glass bottle	50 ml	inquire

5-Bromopyridine-3-carboxylic acid → 5-Bromonicotinic acid page 508

4-Bromopyridine hydrochloride → 4-Bromopyridinium chloride page 514

## 801935 4-Bromopyridinium chloride for synthesis



C<sub>5</sub>H<sub>5</sub>BrClN

C<sub>5</sub>H<sub>4</sub>BrN<sup>+</sup>HCl

4-Bromopyridine hydrochloride

- CAS-No. 19524-06-2 ■ EC-No. 243-128-4
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 194.46 g/mol

- mol ■ Melting point 235 - 238 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-BROMOPYRIDINIUMCHLORID), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(4-BROMOPYRIDINIUM CHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-BROMOPYRIDINIUM CHLORIDE), 6.1, III

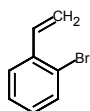
### Specification

Assay (argentometric)..... ≥ 99,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01935.0005	Glass bottle	5 g	inquire
8.01935.0025	Glass bottle	25 g	inquire

5-Bromosalicylaldehyde → 5-Bromo-2-hydroxybenzaldehyde page 503

## 841112 2-Bromostyrene (stabilised) for synthesis



C<sub>8</sub>H<sub>7</sub>Br

- CAS-No. 2039-88-5 ■ EC-No. 218-027-3
- Spec. density 1.416 g/cm<sup>3</sup> (20 °C)

- Flash point 85 °C ■ M = 183.05 g/mol
- Melting point -52.5 °C ■ Boiling point 209 °C (1013 hPa)
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13 ■ Store below +15 °C.

■ HS-No. 2903 99 90 ■ Disposal 3

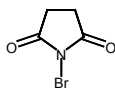
### Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.415 - 1.425  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41112.0001	Glass bottle	1 ml	inquire



## 801949 N-Bromosuccinimide for synthesis

C<sub>4</sub>H<sub>4</sub>BrNO<sub>2</sub>

NBS

- CAS-No. 128-08-5 ■ EC-No. 204-877-2
- Vapour pressure 14.8 hPa (20 °C)
- Spec. density 2.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 14.8 g/l (20 °C) (decomposition)
- M = 177.98 g/mol ■ Melting point 174 - 179 °C
- Bulk density 750 kg/m<sup>3</sup>

- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat > 2000 mg/kg
- LGK 8A ■ Store at +2°C to +8°C.
- HS-No. 2929 90 00
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(N-BROMOSUCCINIMID), 8, III
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(N-BROMOSUCCINIMIDE), 8, III,

Segregation Group: 1 (Acids)

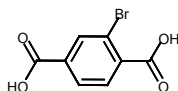
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(N-BROMOSUCCINIMIDE), 8, III

## Specification

Assay (iodometric) ..... ≥ 99,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01949.0005	Glass bottle	5 g	inquire
8.01949.0250	Glass bottle	250 g	inquire
8.01949.1000	Glass bottle	1 kg	inquire

## 841467 2-Bromoterephthalic acid for synthesis

C<sub>8</sub>H<sub>5</sub>BrO<sub>4</sub>

2-Bromo-1,4-benzenedicarboxylic acid

- CAS-No. 586-35-6 ■ EC-No. 209-572-8
- M = 245.02 g/mol ■ Melting point >300 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2917 39 95 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41467.0005	Plastic bottle	5 g	inquire
8.41467.0025	Glass bottle	25 g	inquire

## 818896 1-Bromotetradecane for synthesis

C<sub>14</sub>H<sub>29</sub>BrCH<sub>3</sub>(CH<sub>2</sub>)<sub>13</sub>Br

Myristyl bromide, Tetradecyl bromide

- CAS-No. 112-71-0 ■ EC-No. 203-999-3
- Refractive index 1.4575 (20 °C, 589 nm)
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)

- Flash point 149 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 277.28 g/mol
- Melting point 4 - 6 °C
- Boiling point 175 - 178 °C (27 hPa)
- WGK 3
- LGK 10
- HS-No. 2903 39 19 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,015 - 1,020  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18896.0005	Glass bottle	5 ml	inquire
8.18896.0250	Glass bottle	250 ml	inquire

## 814661 2-Bromothiazole for synthesis

C<sub>3</sub>H<sub>3</sub>BrNS

- CAS-No. 3034-53-5 ■ EC-No. 221-229-4
- Spec. density 1.84 g/cm<sup>3</sup> (20 °C)
- Flash point 63 °C ■ M = 164.01 g/mol

- Boiling point 70 - 71 °C (27 hPa)
- WGK 3
- LGK 10 ■ Store at +2°C to +8°C.
- HS-No. 2934 10 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,845 - 1,850  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14661.0005	Glass bottle	5 ml	inquire

## 801659 2-Bromothiophene for synthesis

C<sub>4</sub>H<sub>3</sub>BrS

α-Thienyl bromide

- CAS-No. 1003-09-4 ■ EC-No. 213-699-4
- Refractive index 1.586 (20 °C, 589 nm) ■ Vapour pressure 67 hPa (71 °C) ■ Spec. density 1.71 g/cm<sup>3</sup> (20 °C) ■ Flash point 52 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 163.03 g/mol

- Boiling point 150 - 152 °C (1013 hPa)
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P260, P262
- LGK 3
- HS-No. 2934 99 90 ■ Disposal 6
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(2-BROMOTHIOPHEN), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(2-BROMOTHIOPHENE), 6.1 (3), II

- IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(2-BROMOTHIOPHENE), 6.1 (3), II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,705 - 1,708  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01659.0050	Glass bottle	50 ml	inquire

## 814233 3-Bromothiophene for synthesis

C<sub>4</sub>H<sub>3</sub>BrS

3-Thienylbromide

- CAS-No. 872-31-1 ■ EC-No. 212-821-3
- Refractive index 1.5863 (20 °C, 589 nm)
- Vapour pressure 75 hPa (60 °C)
- Spec. density 1.72 g/cm<sup>3</sup> (20 °C)
- Flash point 52 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 163.03 g/mol
- Melting point < -10 °C
- Boiling point 157 - 158 °C

- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 1, Inhalation, H330; Chronic aquatic toxicity, Category 2, H411; Specific target organ toxicity - single exposure, Category 3, H335; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301, P210, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LC50 rat 0.25 - 1 mg/l
- LD50 oral rat 66 - 160 mg/kg
- LD50 dermal rabbit 173 - 694 mg/kg
- LGK 3
- HS-No. 2934 99 90 ■ Disposal 9
- ADR-RID UN 2929 Giftiger organischer flüssiger

Stoff, entzündbar, n.a.g.(3-BROMOTHIOPHEN), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(3-BROMOTHIOPHENE), 6.1 (3), II

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,715 - 1,725  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14233.0010	Glass bottle	10 ml	inquire
8.14233.0050	Glass bottle	50 ml	inquire

## 841392 2-Bromothiophenol for synthesis

C<sub>6</sub>H<sub>5</sub>BrS

2-Bromophenylmercaptane

- CAS-No. 6320-02-1 ■ EC-No. 228-665-4
- Spec. density 1.604 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ M = 189.06 g/mol
- Boiling point 114 - 116 °C (13.3 hPa)
- WGK 3

- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 6.1 C ■ Store at -20°C to 0°C.
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-BROMTHIOPHENOL), 6.1, III
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-BROMTHIOPHENOL), 6.1, III

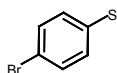
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-BROMTHIOPHENOL), 6.1, III

## Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.607 - 1.613  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41392.0005	Glass bottle	5 ml	inquire

## 841605 4-Bromothiophenol for synthesis

C<sub>6</sub>H<sub>5</sub>BrSSH(C<sub>6</sub>H<sub>4</sub>)Br

4-Bromobenzenethiol

- CAS-No. 106-53-6 ■ EC-No. 203-407-3
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 189.06 g/mol
- Melting point 73 - 76 °C
- Boiling point 239 °C (1013 hPa)
- WGK 3

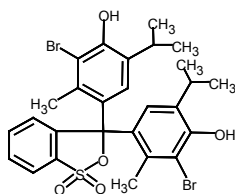
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-BROMTHIOPHENOL), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-BROMTHIOPHENOL), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-BROMTHIOPHENOL), 6.1, III

## Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Melting range (lower value)..... ≥ 73 °C  
Melting range (upper value)..... ≤ 76 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41605.0025	Glass bottle	25 g	inquire
8.41605.0100	Glass bottle	100 g	inquire

## 103026 Bromothymol blue indicator ACS, Reag. Ph Eur

C<sub>27</sub>H<sub>28</sub>Br<sub>2</sub>O<sub>5</sub>S

3',3''-Dibromothymolsulfonphthalein, BTB

- CAS-No. 76-59-5 ■ EC-No. 200-971-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 624.38 g/mol
- Bulk density 450 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3
- Use as pH indicator: 0.1 g in 100 ml ethanol (20%)

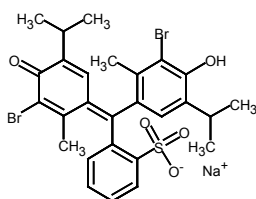
## Specification

Transition range..... pH 5.8 - pH 7.6  
yellow - blue  
Appearance of solution ..... passes test  
Loss on drying (110 °C)..... ≤ 3%  
Transition range (according to ACS)..... passes test  
Sensitivity test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.03026.0005	Glass bottle	5 g	inquire
1.03026.0025	Glass bottle	25 g	inquire

Bromothymol-blue lactose cystine agar → page 99

## 101895 Bromothymol blue sodium salt indicator water-soluble ACS

C<sub>27</sub>H<sub>27</sub>Br<sub>2</sub>NaO<sub>5</sub>S

- CAS-No. 34722-90-2 ■ EC-No. 252-169-7
- M = 646.36 g/mol
- WGK 2
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3
- Use as pH indicator: 0.1 g in 100 ml water

## Specification

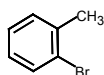
Transition range..... pH 5.8 - 7.6

yellow - blue

Appearance of solution ..... conforms  
Loss on drying (110 °C)..... ≤ 5.0 %  
Transition range (according to ACS)..... conforms  
ACS conforms

Ord.No.	Packaging	Quantity	Price
1.01895.0010	Glass bottle	10 g	inquire

## 821715 2-Bromotoluene for synthesis

C<sub>7</sub>H<sub>7</sub>Br

- CAS-No. 95-46-5 ■ EC-No. 202-421-7
- Refractive index 1.5552 (20 °C, 589 nm)
- Vapour pressure 1 hPa (25 °C)
- Spec. density 1.42 g/cm<sup>3</sup> (20 °C)
- Flash point 79 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 171.03 g/mol
- Melting point -27 °C
- Boiling point 179 - 181 °C (1013 hPa)

- Ignition temp. >100 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LC50 rat > 45 mg/l
- LD50 oral rat 1540 mg/kg
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 2
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(2-BROMTOLUOL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2-BROMTOLUENE),

9, III, Marine Pollutant: P

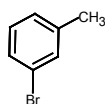
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2-BROMTOLUENE), 9, III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.418 - 1.428  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21715.0025	Glass bottle	25 ml	inquire
8.21715.0100	Glass bottle	100 ml	inquire

## 802400 3-Bromotoluene for synthesis



C<sub>7</sub>H<sub>7</sub>Br  
 3-(Br)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>  
 ■ CAS-No. 591-17-3 ■ EC-No. 209-702-3  
 ■ Refractive index 1.5517 (20 °C, 589 nm)  
 ■ Vapour pressure 2.04 hPa (25 °C)  
 ■ Spec. density 1.405 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 60 °C ■ Solub. in H<sub>2</sub>O 0.05 g/l  
 ■ M = 171.03 g/mol ■ Melting point -40 °C

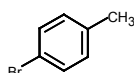
■ Boiling point 184 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Chronic aquatic toxicity, Category 2, H411, P210, P223, P262, P273, P304 + P340, P309 + P310  
 ■ LC50 rat 6.8 mg/l  
 ■ LD50 oral rat 1540 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2903 99 90 ■ Disposal 2  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-BROMTOLUOL), 3, III ■ IMDG-Code UN

1993 FLAMMABLE LIQUID, N.O.S.(3-BROMOTOLUENE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-BROMOTOLUENE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.405 - 1.415  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.02400.0010	Glass bottle	10 ml	inquire
8.02400.0050	Glass bottle	50 ml	inquire

## 801637 4-Bromotoluene for synthesis



C<sub>7</sub>H<sub>7</sub>Br  
 4-(Br)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>  
 ■ CAS-No. 106-38-7 ■ EC-No. 203-391-8  
 ■ Vapour pressure 1.5 hPa (25 °C) (experimental)  
 ■ Spec. density 1.40 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 5.49 ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 171.04 g/mol  
 ■ Melting point 24 - 27 °C ■ Boiling point 184 °C (1013 hPa)  
 ■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Chronic aquatic toxicity, Category 2, H411, P262, P273  
 ■ LC50 rat > 5.0 mg/l  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 99 90  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(4-BROMTOLUOL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-BROMOTOLUENE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-BROMOTOLUENE), 9, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Melting range (lower value) ..... ≥ 24 °C  
 Melting range (upper value) ..... ≤ 27 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01637.0100	Glass bottle	100 g	inquire
8.01637.0250	Glass bottle	250 g	inquire

α-Bromotoluene → Benzyl bromide page 448

2-Bromo-p-toluidine → 2-Bromo-4-methylaniline page 505

α-Bromo-m-tolunitrile → 3-(Bromomethyl)-benzonitrile page 506

α-Bromo-o-tolunitrile → 2-(Bromomethyl)-benzonitrile page 505

## 801986 Bromotrichloromethane for synthesis



CB<sub>3</sub>Cl<sub>3</sub>  
 Trichlorobromomethane  
 ■ CAS-No. 75-62-7 ■ EC-No. 200-886-0  
 ■ Refractive index 1.5051 (20 °C, 589 nm)  
 ■ Vapour pressure 49 hPa (25 °C)  
 ■ Spec. density 2.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.28 g/mol  
 ■ Melting point -6 °C ■ Boiling point 105 °C

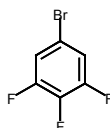
(1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 78 00 ■ Disposal 3  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(BROMTRICHLORMETHAN), 6.1, III  
 ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(BROMOTRICHLOROMETHANE), 6.1, III

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(BROMOTRICHLOROMETHANE), 6.1, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 2.005 - 2.015  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.01986.0100	Glass bottle	100 ml	inquire
8.01986.0250	Glass bottle	250 ml	inquire

## 814966 1-Bromo-3,4,5-trifluorobenzene for synthesis



C<sub>6</sub>H<sub>2</sub>BrF<sub>3</sub>  
 ■ CAS-No. 138526-69-9 ■ EC-No. 418-480-9  
 ■ Vapour pressure 8.65 hPa (25 °C)  
 ■ Spec. density 1.77 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 48 °C ■ Solub. in H<sub>2</sub>O 0.130 g/l (20 °C) ■ M = 210.98 g/mol ■ pH value 7 (2 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -20 °C

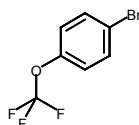
■ Boiling point 140 °C (1006 hPa)  
 ■ Ignition temp. 635 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Carcinogenicity, Category 2, H351; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat > 22 mg/l  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ EC-Index-No. 602-092-00-3 ■ LGK 3  
 ■ HS-No. 2903 99 90  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(1-BROM-3,4,5-TRIFLUORBENZOL), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROM-3,4,5-TRIFLUORO BENZENE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-BROM-3,4,5-TRIFLUORO BENZENE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,775 - 1,785  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14966.0010	Glass bottle	10 ml	inquire
8.14966.0050	Glass bottle	50 ml	inquire

## 814964 1-Bromo-4-(trifluoromethoxy)benzene for synthesis



C<sub>7</sub>H<sub>4</sub>BrF<sub>3</sub>O  
 p-Trifluoromethoxy bromo benzene  
 ■ CAS-No. 407-14-7 ■ EC-No. 206-979-2  
 ■ Vapour pressure 20 hPa (55 °C)  
 ■ Spec. density 1.62 g/cm<sup>3</sup> (20 °C)

■ Flash point 67 °C ■ Solub. in H<sub>2</sub>O 11.7 mg/l (20 °C) ■ M = 241.01 g/mol  
 ■ Boiling point 91 - 92 °C (100 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315, P260, P262, P302 + P352  
 ■ LD50 oral rat > 2500 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2909 30 38 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(1-BROMO-4-(TRIFLUOROMETHOXY)-BENZENE), 9, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14964.0010	Glass bottle	10 ml	inquire
8.14964.0050	Glass bottle	50 ml	inquire

# Bromot

1-Bromo-3-(trifluoromethyl)benzene → 3-Bromobenzotrifluoride page 491

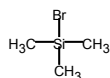
1-Bromo-4-(trifluoromethyl)benzene → 4-Bromobenzotrifluoride page 491

m-Bromo- $\alpha,\alpha,\alpha$ -trifluorotoluene → 3-Bromobenzotrifluoride page 491

p-Bromo- $\alpha,\alpha,\alpha$ -trifluorotoluene → 4-Bromobenzotrifluoride page 491

2-Bromo-1,3,5-trimethylbenzene → 2-Bromomesitylene page 504

## 814324 Bromotrimethylsilane for synthesis



$C_3H_7BrSi$   
 $(CH_3)_3SiBr$   
*Trimethylbromosilane, Trimethylsilyl bromide, TMB, TMBS*

■ CAS-No. 2857-97-8 ■ EC-No. 220-672-0  
 ■ Refractive index 1.4211 (25 °C, 589 nm)  
 ■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 32 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 153.09 g/mol

■ Melting point -43 °C ■ Boiling point 79 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 2931 90 90 ■ Disposal 24  
 ■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(BROMOTRIMETHYLSILAN), 8 (3), I  
 ■ IMDG-Code UN 2920 CORROSIVE LIQUID,

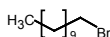
FLAMMABLE, N.O.S.(BROMOTRIMETHYLSILANE), 8 (3), I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(BROMOTRIMETHYLSILANE), 8 (3), I

### Specification

Assay (argentometric)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14324.0010	Glass bottle	10 ml	inquire
8.14324.0100	Glass bottle	100 ml	inquire

## 801961 1-Bromoundecane for synthesis



$C_{11}H_{23}Br$   
 $CH_3(CH_2)_{10}Br$   
*Undecyl bromide*

■ CAS-No. 693-67-4 ■ EC-No. 211-757-3  
 ■ Refractive index 1.4563 (20 °C, 589 nm)

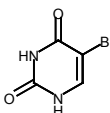
■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 235.2 g/mol  
 ■ Melting point -9 °C ■ Boiling point 137 - 138 °C (24 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 39 19 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,051 - 1,056  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01961.0025	Glass bottle	25 ml	inquire

## 841743 5-Bromouracil for synthesis



$C_4H_5BrN_2O_2$   
 ■ CAS-No. 51-20-7 ■ EC-No. 200-084-0  
 ■ Solub. in H<sub>2</sub>O < 1 g/l (24 °C) ■ M = 190.98 g/mol

mol ■ Melting point 310 °C (decomposition)  
 ■ WGK 1  
 ■ LGK 6.1A  
 ■ HS-No. 2933 59 95 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(5-BROMURACIL), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(5-BROMOURACIL), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

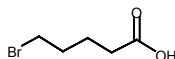
N.O.S.(5-BROMOURACIL), 6.1, II

### Specification

Assay (HPLC, area%)..... ≥ 98,0 Area %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41743.0005	Plastic bottle	5 g	inquire
8.41743.0025	Plastic bottle	25 g	inquire

## 818329 5-Bromovaleric acid for synthesis



$C_5H_9BrO_2$   
 $Br(CH_2)_4COOH$   
*5-Bromopentanoic acid*  
 ■ CAS-No. 2067-33-6 ■ EC-No. 218-185-3  
 ■ Flash point > 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 181.02 g/mol

■ Melting point 38 - 41 °C  
 ■ Boiling point 142 - 145 °C (17 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 90 70 ■ Disposal 4

### Specification

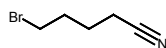
Assay (acidimetric)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 38 °C  
 Melting range (upper value)..... ≤ 41 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18329.0050	Plastic bottle	50 g	inquire
8.18329.0250	Plastic bottle	250 g	inquire

2-Bromovaleric acid ethyl ester → Ethyl 2-bromovalerate page 854

5-Bromovaleric acid methyl ester → Methyl 5-bromovalerate page 1138

## 814670 5-Bromovaleronitrile for synthesis



$C_5H_8BrN$   
 $Br(CH_2)_4CN$   
*4-Bromo-butyl cyanide*  
 ■ CAS-No. 5414-21-1 ■ EC-No. 226-505-8  
 ■ Spec. density 1.40 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 110 °C ■ M = 162.02 g/mol  
 ■ Boiling point 103 - 104 °C  
 ■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 6.1A  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(5-BROMVALERONITRIL), 6.1, II  
 ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(5-BROMOVALERONITRILE), 6.1, II  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(5-BROMOVALERONITRILE), 6.1, II

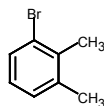
### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1,396 - 1,401  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14670.0005	Glass bottle	5 ml	inquire
8.14670.0025	Glass bottle	25 ml	inquire

4-Bromoveratrole → 4-Bromo-1,2-dimethoxybenzene page 498

## 842746 3-Bromo-o-xylene for synthesis

C<sub>8</sub>H<sub>9</sub>Br

- CAS-No. 576-23-8 ■ EC-No. 209-398-2
- Spec. density 1.365 g/cm<sup>3</sup> (20 °C)
- Flash point 80 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 185.06 g/mol

- mol ■ Boiling point 212 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 6.1A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1701 Xylylbromid, flüssig, 6.1, II
- IMDG-Code UN 1701 XYLYL BROMIDE, LIQUID, 6.1, II, Segregation Group: 10 (Liquid halogenated hydrocarbons)

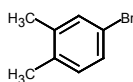
- IATA-DGR UN 1701 XYLYL BROMIDE, LIQUID, 6.1, II

## Specification

- Assay (GC, area%)..... ≥ 95.0 % (a/a)
- Density (d 20 °C/ 4 °C)..... 1.370 - 1.375
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42746.0005	Glass bottle	5 ml	inquire
8.42746.0025	Glass bottle	25 ml	inquire

## 841701 4-Bromo-o-xylene for synthesis

C<sub>8</sub>H<sub>9</sub>Br

- 3,4-Dimethylbromobenzene
- CAS-No. 583-71-1 ■ EC-No. 209-518-3
- Spec. density 1.370 g/cm<sup>3</sup> (20 °C)
- Flash point 80 °C ■ M = 185.06 g/mol
- Melting point 10 - 12 °C ■ Boiling point 215 °C

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 6.1A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1701 Xylylbromid, flüssig, 6.1, II
- IMDG-Code UN 1701 XYLYL BROMIDE, LIQUID, 6.1, II, Segregation Group: 10 (Liquid halogenated hydrocarbons)

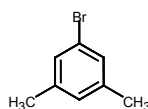
- IATA-DGR UN 1701 XYLYL BROMIDE, LIQUID, 6.1, II

## Specification

- Assay (GC, area%)..... 68,0 - 72,0 Area %
- Density (d 20 °C/ 4 °C)..... 1,365 - 1,375
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41701.0050	Glass bottle	50 ml	inquire

## 841280 5-Bromo-m-xylene for synthesis

C<sub>8</sub>H<sub>9</sub>Br

- 3,5-Dimethylbromobenzene
- CAS-No. 556-96-7

- Spec. density 1.361 g/cm<sup>3</sup> (20 °C)
- Flash point 87 °C ■ M = 185.06 g/mol
- Boiling point 204 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

## Specification

- Assay (GC, area%)..... ≥ 98.0 % (a/a)
- Density (d 20 °C/ 4 °C)..... 1.342 - 1.348
- Identity (IR)..... passes test

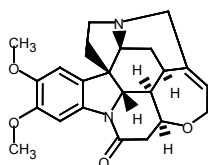
Ord.No.	Packaging	Quantity	Price
8.41280.0005	Glass bottle	5 ml	inquire

α-Bromo-o-xylene → 2-Methylbenzyl bromide  
page 1136

5-Bromosalicylic acid → 5-Bromo-2-hydroxybenzoic acid  
page 503

Brucella agar → page 99

## 101952 Brucine GR for analysis

C<sub>23</sub>H<sub>26</sub>N<sub>2</sub>O<sub>4</sub>

- 2,3-Dimethoxy strychnine
- CAS-No. 357-57-3 ■ EC-No. 206-614-7
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble

- M = 394.47 g/mol ■ Melting point 175 - 178 °C
- Bulk density 230 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Oral, H300; Chronic aquatic toxicity, Category 3, H412, P273, P304 + P340, P309 + P310
- EC-Index-No. 614-006-00-1 ■ LGK 6.1A
- HS-No. 2939 99 00 ■ Disposal 9
- ADR-RID UN 1570 Brucin, 6.1, I ■ IMDG-Code UN 1570 BRUCINE, 6.1, I
- IATA-DGR UN 1570 BRUCINE, 6.1, I

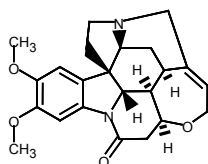
Reagent for nitrate.

## Specification

- Assay (HClO<sub>4</sub>)..... ≥ 99.5 %
- Identity (IR-spectrum)..... passes test
- Spec. rotation (α 20/D; 1 %; ethanol).... -86 - -81 °
- Suitability as reagent (of nitrate)..... passes test

Ord.No.	Packaging	Quantity	Price
1.01952.0010	Glass bottle	10 g	inquire
1.01952.0050	Plastic bottle	50 g	inquire

## 818308 (-)-Brucine for resolution of racemates for synthesis

C<sub>23</sub>H<sub>26</sub>N<sub>2</sub>O<sub>4</sub>

- 2,3-Dimethoxy strychnine
- CAS-No. 357-57-3 ■ EC-No. 206-614-7
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble

- M = 394.47 g/mol ■ Melting point 175 - 178 °C
- Bulk density 230 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Oral, H300; Chronic aquatic toxicity, Category 3, H412, P273, P304 + P340, P309 + P310
- EC-Index-No. 614-006-00-1 ■ LGK 6.1A
- HS-No. 2939 99 00 ■ Disposal 9
- ADR-RID UN 1570 Brucin, 6.1, I ■ IMDG-Code UN 1570 BRUCINE, 6.1, I
- IATA-DGR UN 1570 BRUCINE, 6.1, I

## Specification

- Assay (HClO<sub>4</sub>)..... ≥ 98.0 %
- Melting range (lower value)..... ≥ 173 °C
- Melting range (upper value)..... ≤ 178 °C
- Spec. rotation [α<sup>20</sup>/D (c=1 in ethanol)..... -86.0 - -80.0 °
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18308.0050	Plastic bottle	50 g	inquire

BSA → page 44

BT → page 191

BTB → Bromothymol blue page 516

BTEAC → page 456

BTMSA → Bis(trimethylsilyl)acetylene page 477



## 104182 BTS catalyst (about 5 x 3 mm) for gas purification



- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 8.5 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Bulk density 850 - 1000 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273
- LD50 oral rat 1700 mg/kg
- LGK 10 - 13

- HS-No. 3815 19 90 ■ Disposal 15
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(KUPFER(II)-OXID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II) OXIDE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II) OXIDE), 9, III

Catalyst for the purification of gases (removal of oxygen from gases or hydrogen and carbon monoxide from nitrogen and noble gases).

### Specification

Identity.....passes test

Ord.No.	Packaging	Quantity	Price
1.04182.1000	Glass bottle	1 kg	inquire

## Buffer concentrates Titrisol®

### Buffer concentrates Titrisol® for 500 ml buffer solution (20 °C)

#### 109888 Buffer concentrate (borate/hydrochloric acid), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 8.00 ± 0.02 (20°C) Titrisol®



- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.2 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Reproductive toxicity, Category 1B, H360FD, P201, P308 + P313
- LGK 6.1 D
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) ..... 8.00 ± 0.02  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09888.0001	Plastic ampoule	1 amp	inquire

#### 109889 Buffer concentrate (boric acid/potassium chloride/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 9.00 ± 0.02 (20°C) Titrisol®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 8.9 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) ..... 9.00 +/- 0.02  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09889.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	24 x 1 amp	inquire

#### 109890 Buffer concentrate (boric acid/potassium chloride/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 10.00 ± 0.05 (20°C) Titrisol®



- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 10.4 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

**Specification**  
pH-value (20 °C) ..... 10.00 ± 0.05  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09890.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	24 x 1 amp	inquire

#### 109880 Buffer concentrate (boric acid/potassium chloride/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 11.00 ± 0.05 (20°C) Titrisol®



- Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.8 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Reproductive toxicity, Category 1B, H360FD, P201, P308 + P313
- LGK 6.1 D
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) ..... 11.00 ± 0.05  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09880.0001	Plastic ampoule	1 amp	inquire

#### 109882 Buffer concentrate (citrate/hydrochloric acid), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 2.00 ± 0.02 (20°C) Titrisol®

- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.0 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) ..... 2.00 +/- 0.02  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09882.0001	Plastic ampoule	1 amp	inquire

#### 109883 Buffer concentrate (citrate/hydrochloric acid), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 3.00 ± 0.02 (20°C) Titrisol®

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.7 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) ..... 3.00 ± 0.02  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09883.0001	Plastic ampoule	1 amp	inquire



### 109884 Buffer concentrate (citrate/hydrochloric acid), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 4.00 ± 0.02 (20°C) Titrisol®

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.0 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -6 °C
- Boiling point 110 °C
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) ..... 4.00 +/- 0.02  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09884.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	24 x 1 amp	inquire

### 109885 Buffer concentrate (citrate/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 5.00 ± 0.02 (20°C) Titrisol®

- Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.6 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) ..... 5.00 +/- 0.02  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09885.0001	Plastic ampoule	1 amp	inquire

### 109886 Buffer concentrate (citrate/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 6.00 ± 0.02 (20°C) Titrisol®

- Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.6 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) ..... 6.00 ± 0.02  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09886.0001	Plastic ampoule	1 amp	inquire

### 109881 Buffer concentrate (glycine/hydrochloric acid), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 1.00 ± 0.02 (20°C) Titrisol®

- Titrisols for preparation of buffer solutions*
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 0.5 (H<sub>2</sub>O, 20 °C)
  - WGK 1
  - GHS: Warning, Corrosive to metals, Category 1, H290
  - LGK 8B
  - HS-No. 3822 00 00 ■ Disposal 28
  - ADR-RID UN 1789 Chlorwasserstoffsäure,

Lösung, 8, III ■ IMDG-Code UN 1789 HYDROCHLORIC ACID SOLUTION, 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1789 HYDROCHLORIC ACID SOLUTION, 8, III

**Specification**  
pH-value (20 °C) ..... 1.00 +/- 0.02  
Measured after dilution to 500 ml with a

combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09881.0001	Plastic ampoule	1 amp	inquire

### 109892 Buffer concentrate (phosphate/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 12.00 ± 0.05 (20°C) Titrisol®

- Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 12 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
pH-value (20 °C) ..... 12.00 +/- 0.05  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with

reference materials for the preparation to standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09892.0001	Plastic ampoule	1 amp	inquire

### 109887 Buffer concentrate (phosphate), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 7.00 ± 0.02 (20°C) Titrisol®

- Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.7 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) ..... 7.00 +/- 0.02  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268) with reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09887.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	24 x 1 amp	inquire

### 109893 Buffer concentrate (potassium chloride/sodium hydroxide), traceable to SRM of NIST and PTB for 500 ml buffer solution, pH 13.00 ± 0.05 (20°C) Titrisol®

- Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
pH-value (20 °C) 13.00 +/- 0.05  
Measured after dilution to 500 ml with a combination glass electrode after multiple point calibration (according to DIN 19268 ) with

reference materials for the preparation of standard buffer solutions according to DIN 19266.

Ord.No.	Packaging	Quantity	Price
1.09893.0001	Plastic ampoule	1 amp	inquire



## Buffer concentrates Titrisol® for preparation of 500 ml buffer solution acc. to WEISE

**109879 Buffer concentrate for buffer solution acc. to WEISE for 1000 ml of solution (phosphate), pH 7.20 Titrisol®**

## Weise's Buffer solution

- pH value 7 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

## Specification

pH-value (20 °C) ..... 7.20 +/- 0.05  
Measured after dilution to 1l at 20 °C.

Ord.No.	Packaging	Quantity	Price
1.09879.0001	Plastic ampoule	1 amp	inquire

## Buffer reference materials Certipur®

## Certified secondary standard reference buffer solutions Certipur® (25 °C)

**107203 Certified sec. standard reference buffer solution di-sodium tetraborate decahydrate, directly traceable to primary SRM from NIST/PTB pH(S) = 9.18<sub>4</sub> (25°C) Certipur®**

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.2 (H<sub>2</sub>O, 20 °C)
- Boiling point 100 °C (1013 hPa)
- WGK nwg
- LGK 10 - 13

- HS-No. 2840 19 90 ■ Disposal 28

## Specification

pH-value ..... 9.180 - 9.186

Ord.No.	Packaging	Quantity	Price
1.07203.0105	Plastic bottle	5 x 100 ml	inquire

**107202 Certified sec. standard reference buffer solution potassium dihydrogen phosphate/di-sodium hydrogen phosphate, directly traceable to primary SRM from NIST/PTB pH (S) = 6.86<sub>3</sub> (25°C) Certipur®**

- Spec. density 1.003 g/cm<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

## Specification

pH-value ..... 6.861 - 6.867  
For complete data see the enclosed certificate

Ord.No.	Packaging	Quantity	Price
1.07202.0105	Plastic bottle	5 x 100 ml	inquire

**107205 Certified sec. standard reference buffer solution potassium hydrogen phosphate/di-sodium hydrogen phosphate, directly traceable to primary SRM from NIST/PTB pH(S) = 7.41<sub>6</sub> (25°C) Certipur®**

- Spec. density 1.002 g/cm<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

## Specification

pH-value ..... 7.414 - 7.420  
For complete data see the enclosed certificate

Ord.No.	Packaging	Quantity	Price
1.07205.0105	Plastic bottle	5 x 100 ml	inquire

**107200 Certified sec. standard reference buffer solution potassium hydrogen phthalate, directly traceable to primary SRM from NIST/PTB pH(S) = 4.00<sub>5</sub> (25°C) Certipur®**

- Spec. density 1.002 g/cm<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

## Specification

pH-value ..... 4.005 - 4.011  
For complete data see the enclosed certificate

Ord.No.	Packaging	Quantity	Price
1.07200.0105	Plastic bottle	5 x 100 ml	inquire

**107204 Certified sec. standard reference buffer solution potassium tetraoxalate dihydrate, directly traceable to primary SRM from NIST/PTB pH(S) = 1.68<sub>1</sub> (25°C) Certipur®**

- Spec. density 1.003 g/cm<sup>3</sup> (20 °C) ■ pH value 1.7 (H<sub>2</sub>O, 25 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 2917 11 00 ■ Disposal 28

## Specification

pH-value ..... 1.674 - 1.683  
For complete data see the enclosed certificate

Ord.No.	Packaging	Quantity	Price
1.07204.0105	Plastic bottle	5 x 100 ml	inquire

## Certified secondary standard reference buffer substances Certipur® (25 °C)

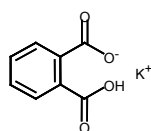
**101960 Potassium dihydrogen phosphate, di-Sodium hydrogen phosphate certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S)=6.86<sub>3</sub>/pH(S)=7.41<sub>6</sub> (25°C) (DIN 19266) Certipur®**

- LGK 10 - 13
- HS-No. 3822 00 00

pH-value (25 °C) ..... 6.861 - 6.867

## Specification

Ord.No.	Packaging	Quantity	Price
1.01960.0001	Fibre case	2 x 25 g	inquire

**101965 Potassium hydrogen phthalate certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S) = 4.00<sub>5</sub> (25°C) (DIN 19266) Certipur®**

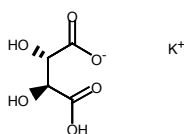
C<sub>8</sub>H<sub>5</sub>KO<sub>4</sub>

- CAS-No. 877-24-7 ■ EC-No. 212-889-4
- Spec. density 1.636 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 80 g/l (20 °C) ■ M = 204.22 g/mol ■ pH value 4.0 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 295 - 300 °C
- Bulk density 900 kg/m<sup>3</sup>
- WGK 1

- LD50 oral rat > 3200 mg/kg
- LGK 10 - 13
- HS-No. 2917 39 95 ■ Disposal 3

Ord.No.	Packaging	Quantity	Price
1.01965.0025	Glass bottle	25 g	inquire

**101963 Potassium hydrogen tartrate** certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S)= 3.63<sub>9</sub> (25 °C) (DIN 19266) Certipur®

C<sub>4</sub>H<sub>5</sub>KO<sub>6</sub>

■ CAS-No. 868-14-4 ■ EC-No. 212-769-1

- Solub. in H<sub>2</sub>O 5.7 g/l (20 °C) ■ M = 188.17 g/mol
- pH value 3.4 - 3.7 (H<sub>2</sub>O, 20 °C) (saturated solution) ■ Melting point 250 °C (decomposition)
- Bulk density 720 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2918 13 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**

pH-value (25 °C) .....3.634 - 3.640  
 Identity..... passes test

Ord.No.	Packaging	Quantity	Price
1.01963.0025	Glass bottle	25 g	inquire

**101961 Potassium tetraoxalate dihydrate** certified secondary standard reference material for pH measurement; directly traceable to primary reference material from NIST/PTB pH(S)=1.68<sub>1</sub> (25 °C) (DIN 19266) Certipur®

C<sub>4</sub>H<sub>2</sub>KO<sub>8</sub> \* 2 H<sub>2</sub>O

Potassium hydrogen oxalate-oxalic acid-water (1/1/2)

- CAS-No. 6100-20-5 ■ EC-No. 204-874-6
- Spec. density 1.84 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 25 g/l (20 °C) ■ M = 254.20 g/mol
- pH value 1.7 (12.6 g/l, H<sub>2</sub>O, 25 °C)
- Bulk density 860 kg/m<sup>3</sup>
- WGK 1

- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312, P302 + P352
- EC-Index-No. 607-007-00-3 ■ LGK 6.1 C
- HS-No. 2917 11 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(KALIUMTETRAOXALAT), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(POTASSIUM TETRAOXALATE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(POTASSIUM TETRAOXALATE), 6.1, III

**Specification**

pH-value (25 °C) .....1.674 - 1.683

Ord.No.	Packaging	Quantity	Price
1.01961.0025	Glass bottle	25 g	inquire

**101962 Sodium hydrogen carbonate/sodium carbonate** certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S) =10.01<sub>4</sub> (25 °C) (DIN 19266) Certipur®

■ WGK 1

- GHS: Warning, P260, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 3822 00 00

**Specification**

pH-value (25 °C) ..... 10.010 - 10.016

Ord.No.	Packaging	Quantity	Price
1.01962.0001	Fibre case	2 x 25 g	inquire

**101964 di-Sodium tetraborate decahydrate** certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S)=9.18<sub>4</sub> (25 °C) (DIN 19266) Certipur®

B<sub>4</sub>Na<sub>2</sub>O<sub>7</sub>\*10H<sub>2</sub>ONa<sub>2</sub>B<sub>4</sub>O<sub>7</sub>\*10 H<sub>2</sub>O

Borax, Sodium tetraborate decahydrate, Sodium borate decahydrate

- CAS-No. 1303-96-4 ■ EC-No. 215-540-4
- Vapour pressure 0.213 hPa (20 °C)
- Spec. density 1.72 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 51.4 g/l (20 °C) ■ M = 381.32 g/mol
- pH value 9.2 (47 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 75 °C Elimination of water of crystallisation ■ Bulk density 750 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Reproductive toxicity, Category 1B, H360FD, P201, P308 + P313
- LD50 oral rat 2660 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 005-011-00-4 ■ LGK 6.1 D
- HS-No. 2840 19 90 ■ Disposal 3

**Specification**

pH-value (25 °C) .....9.180 - 9.186  
 Identity..... passes test

Ord.No.	Packaging	Quantity	Price
1.01964.0025	Glass bottle	25 g	inquire

**Buffer solutions Certipur® (20 °C)**

**107827 Buffer solution** (acetic acid/sodium acetate) traceable to SRM from NIST and PTB pH 4.66 (20 °C) Certipur®

Buffer solution pH 4.66

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.7 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**

pH-value (20 °C) .....4.65 - 4.67

Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the

accredited laboratory according to DIN EN ISO/IEC 17025.

Deviations of pH ( Delta pH ) at various temperatures:

(0 °C) .....	+ 0.02
(5 °C) .....	+ 0.02
(10 °C) .....	+ 0.01
(15 °C) .....	+ 0.01
(20 °C) .....	+/- 0
(25 °C) .....	+/- 0
(30 °C) .....	+/- 0
(35 °C) .....	+/- 0
(40 °C) .....	+ 0.01

(50 °C) ..... + 0.02

Traceable to primary reference materials from:  
 NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.07827.1000	Plastic bottle	1 l	inquire

# Buffer

## 109461 Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 9.00 (20°C) Certipur®

■ Spec. density 1.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.0 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 pH-value (20 °C) .....8.99 - 9.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviation of pH (Delta pH) at various temperatures:  
 (0 °C) ..... + 0.24  
 (5 °C) ..... + 0.16  
 (10 °C) ..... + 0.11  
 (15 °C) ..... + 0.05  
 (20 °C) ..... +/- 0  
 (25 °C) ..... - 0.05  
 (30 °C) ..... - 0.09  
 (35 °C) ..... - 0.12  
 (40 °C) ..... - 0.15  
 (50 °C) ..... - 0.21

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09461.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09461.4000	Titripac PE/Alu	4 l	inquire
1.09461.9010	Titripac PE/Alu	10 l	inquire

## 109438 Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20°C) Certipur®

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 10.0 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -6 °C ■ Boiling point 110 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 pH-value (20 °C) .....9.98 - 10.02  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.02) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviation of pH (Delta pH) at various temperatures:  
 (0 °C) ..... + 0.26  
 (5 °C) ..... + 0.17  
 (10 °C) ..... + 0.11  
 (15 °C) ..... + 0.05  
 (20 °C) ..... +/- 0  
 (25 °C) ..... - 0.06  
 (30 °C) ..... - 0.11  
 (35 °C) ..... - 0.16  
 (40 °C) ..... - 0.18  
 (50 °C) ..... - 0.26

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09438.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09438.4000	Titripac PE/Alu	4 l	inquire
1.09438.9010	Titripac PE/Alu	10 l	inquire

## 109462 Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 11.00 (20°C) Certipur®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.0 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 pH-value (20 °C) .....10.98 - 11.02  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.02) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviation of pH (Delta pH) at various temperatures:  
 (0 °C) ..... + 0.45  
 (5 °C) ..... + 0.32  
 (10 °C) ..... + 0.20  
 (15 °C) ..... + 0.10  
 (20 °C) ..... +/- 0  
 (25 °C) ..... - 0.10  
 (30 °C) ..... - 0.19  
 (35 °C) ..... - 0.28  
 (40 °C) ..... - 0.36  
 (50 °C) ..... - 0.52

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09462.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

## 109460 Buffer solution (boric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 8.00 (20°C) Certipur®

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 8.0 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 pH-value (20 °C) .....7.99 - 8.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviation of pH (Delta pH) at various temperatures:  
 (0 °C) ..... + 0.15  
 (5 °C) ..... + 0.10  
 (10 °C) ..... + 0.07  
 (15 °C) ..... + 0.04  
 (20 °C) ..... +/- 0  
 (25 °C) ..... - 0.04  
 (30 °C) ..... - 0.06  
 (35 °C) ..... - 0.08  
 (40 °C) ..... - 0.10  
 (50 °C) ..... - 0.15

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09460.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09460.4000	Titripac PE/Alu	4 l	inquire

## 109433 Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 2.00 (20°C) Certipur®

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.0 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 pH-value (20 °C) .....1.99 - 2.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviations of pH (Delta pH) at various temperatures:  
 (0 °C) ..... + 0.01  
 (5 °C) ..... + 0.01  
 (10 °C) ..... + 0.01  
 (15 °C) ..... +/- 0  
 (20 °C) ..... +/- 0  
 (25 °C) ..... +/- 0  
 (30 °C) ..... +/- 0  
 (35 °C) ..... +/- 0  
 (40 °C) ..... +/- 0  
 (50 °C) ..... +/- 0

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09433.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09433.4000	Titripac PE/Alu	4 l	inquire
1.09433.9010	Titripac PE/Alu	10 l	inquire

### 109434 Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 3.00 (20°C) Certipur®

■ Vapour pressure 23 hPa (20 °C)  
 ■ Spec. density 1.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.0 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -1 °C ■ Boiling point 101 °C (1013 hPa)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
 pH-value (20 °C) .....2.99 - 3.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266,

prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC 17025.  
 Deviations of pH (Delta pH) at various temperatures:  
 (0 °C) ..... + 0.05  
 (5 °C) ..... + 0.05  
 (10 °C) ..... + 0.03  
 (15 °C) ..... + 0.01  
 (20 °C) ..... +/- 0  
 (25 °C) ..... +/- 0  
 (30 °C) ..... +/- 0  
 (35 °C) ..... +/- 0  
 (40 °C) ..... - 0.02

(50 °C) ..... - 0.03  
 Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09434.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

### 109435 Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 4.00 (20°C) Certipur®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.0 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
 pH-value (20 °C) .....3.99 - 4.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviations of pH (ΔpH) at various temperatures:  
 (0 °C) ..... + 0.05  
 (5 °C) ..... + 0.04  
 (10 °C) ..... + 0.02  
 (15 °C) ..... + 0.01  
 (20 °C) ..... +/- 0  
 (25 °C) ..... + 0.01  
 (30 °C) ..... + 0.01  
 (35 °C) ..... + 0.01  
 (40 °C) ..... + 0.01  
 (50 °C) ..... +/- 0  
 Traceable to primary reference materials from:

NIST 189c, 188, 185h, 186 lg, 186 llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09435.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09435.4000	Titripac PE/Alu	4 l	inquire
1.09435.9010	Titripac PE/Alu	10 l	inquire

### 109436 Buffer solution (citric acid/sodium hydroxide) traceable to SRM from NIST and PTB pH 5.00 (20°C) Certipur®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.0 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
 pH-value (20 °C) .....4.99 - 5.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviation of pH (Delta pH) at various temperatures:  
 (0 °C) ..... + 0.06  
 (5 °C) ..... + 0.05  
 (10 °C) ..... + 0.02  
 (15 °C) ..... + 0.01  
 (20 °C) ..... +/- 0  
 (25 °C) ..... +/- 0  
 (30 °C) ..... +/- 0  
 (35 °C) ..... +/- 0  
 (40 °C) ..... +/- 0  
 (50 °C) ..... + 0.01

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09436.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

### 109437 Buffer solution (citric acid/sodium hydroxide), traceable to SRM from NIST and PTB pH 6.00 (20°C) Certipur®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.0 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
 pH-value (20 °C) .....5.99 - 6.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviation of pH (Delta pH) at various temperatures:  
 (0 °C) ..... + 0.04  
 (5 °C) ..... + 0.02  
 (10 °C) ..... + 0.01  
 (15 °C) ..... +/- 0  
 (20 °C) ..... +/- 0  
 (25 °C) ..... + 0.02  
 (30 °C) ..... + 0.03  
 (35 °C) ..... + 0.03  
 (40 °C) ..... + 0.04  
 (50 °C) ..... + 0.06

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09437.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09437.4000	Titripac PE/Alu	4 l	inquire



# Buffer

## 109439 Buffer solution (di-sodium hydrogen phosphate/potassium dihydrogen phosphate), traceable to SRM from NIST and PTB pH 7.00 (20°C) Certipur®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.0 (H<sub>2</sub>O, 20 °C) ■ Melting point -5 °C ■ Boiling point 109 °C (1013 hPa) ■ WGK nwg ■ LGK 10 - 13 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) .....6.99 - 7.01  
Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the

accredited laboratory according to DIN EN ISO/IEC 17025.  
Deviations of pH (ΔpH) at various temperatures:  
(0 °C) ..... + 0.13  
(5 °C) ..... + 0.07  
(10 °C) ..... + 0.05  
(15 °C) ..... + 0.02  
(20 °C) ..... +/- 0  
(25 °C) ..... - 0.02  
(30 °C) ..... - 0.02  
(35 °C) ..... - 0.04  
(40 °C) ..... - 0.05  
(50 °C) ..... - 0.05  
Traceable to primary reference materials from:

NIST 189c, 188, 185h, 186 lg, 186 llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09439.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09439.4000	Titripac PE/Alu	4 l	inquire
1.09439.9010	Titripac PE/Alu	10 l	inquire

## 107294 Buffer solution (di-sodium hydrogen phosphate/potassium hydrogen phosphate), traceable to SRM from NIST and PTB pH 6.88 (20 °C) Certipur®

■ Spec. density 1.001 g/cm<sup>3</sup> ■ WGK nwg ■ LGK 10 - 13 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) .....6.87 - 6.89  
Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
Deviation of pH (Delta pH) at various temperatures  
(0 °C) ..... + 0.10  
(5 °C) ..... + 0.07  
(10 °C) ..... + 0.04  
(15 °C) ..... + 0.02  
(20 °C) ..... +/- 0  
(25 °C) ..... - 0.02  
(30 °C) ..... - 0.02  
(35 °C) ..... - 0.03  
(40 °C) ..... - 0.04  
(50 °C) ..... - 0.04

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.07294.1000	Plastic bottle	1 l	inquire

## 101645 Buffer solution (di-sodium tetraborate), traceable to SRM from NIST and PTB pH 9.22 (20°C) Certipur®

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.2 (H<sub>2</sub>O, 20 °C) ■ Boiling point 100 °C (1013 hPa) ■ WGK nwg ■ LGK 10 - 13 ■ HS-No. 2840 19 90 ■ Disposal 28

**Specification**  
pH-value (20 °C) .....9.21 - 9.23  
Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the

accredited laboratory according to DIN EN ISO/IEC 17025.  
Deviations of pH ( Delta pH ) at various temperatures:  
(0 °C) ..... + 0.24  
(5 °C) ..... + 0.18  
(10 °C) ..... + 0.11  
(15 °C) ..... + 0.06  
(20 °C) ..... +/- 0  
(25 °C) ..... - 0.04  
(30 °C) ..... - 0.08  
(35 °C) ..... - 0.12  
(40 °C) ..... - 0.15

(50 °C) ..... - 0.21  
Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.01645.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

## 109432 Buffer solution (glycine/sodium chloride/hydrogen chloride), traceable to SRM from NIST and PTB pH 1.00 (20°C) Certipur®

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.0 (H<sub>2</sub>O, 20 °C) ■ WGK nwg ■ LGK 10 - 13 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
pH-value (20 °C) .....0.99 - 1.01  
Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
Deviations of pH (Delta pH) at various temperatures:  
(0 °C) ..... - 0.04  
(5 °C) ..... - 0.01  
(10 °C) ..... - 0.01  
(15 °C) ..... - 0.01  
(20 °C) ..... +/- 0  
(25 °C) ..... + 0.01  
(30 °C) ..... + 0.01  
(35 °C) ..... + 0.01  
(40 °C) ..... + 0.01  
(50 °C) ..... + 0.01

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186 llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHOA-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09432.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

## Buffer solutions Certipur® (25 °C)

### 199050 Buffer solution (boric acid/potassium chloride/sodium hydroxide) colour coded: blue, traceable to NIST and PTB pH 10.00 (25°C) Certipur®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ pH value 10.0 ■ Disposal 28 (H<sub>2</sub>O, 25 °C) ■ WGK nwg ■ LGK 10 - 13

Ord.No.	Packaging	Quantity	Price
1.99050.0500	Plastic bottle	500 ml	inquire
1.99050.4000	Titripac PE/Alu	4 l	inquire



**199038 Buffer solution** (boric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 8.00 (25°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 8.0 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99038.0500	Plastic bottle	500 ml	inquire
1.99038.4000	Titripac PE/Alu	4 l	inquire

**199054 Buffer solution** (Citric acid/Sodium hydroxide/Hydrogen chloride) colour: red, traceable to SRM from NIST and PTB pH 4.00 (25 °C)

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.0 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99054.0500	Plastic bottle	500 ml	inquire
1.99054.4000	Titripac PE/Alu	4 l	inquire

**199012 Buffer Solution** (Citric acid, Sodium hydroxide, Hydrogen chloride), traceable to SRM from NIST and PTB pH 2.00 (25°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.0 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99012.0001	Fibre case	30 x 30 ml	inquire

**109444 Buffer solution** (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 3.00 (25°C) Certipur®

- Vapour pressure 23 hPa (20 °C)
- Spec. density 1.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.0 (H<sub>2</sub>O, 20 °C)
- Melting point -1 °C ■ Boiling point 101 °C (1013 hPa)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.09444.0500	Plastic bottle	500 ml	inquire
1.09444.4000	Titripac PE/Alu	4 l	inquire

**109446 Buffer solution** (citric acid/sodium hydroxide) traceable to SRM from NIST and PTB pH 5.00 (25°C) Certipur®

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.0 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.09446.0500	Plastic bottle	500 ml	inquire
1.09446.4000	Titripac PE/Alu	4 l	inquire

**199036 Buffer solution** (citric acid/sodium hydroxide), traceable to SRM from NIST and PTB pH 6.00 (25°C) Certipur®

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.0 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99036.0500	Plastic bottle	500 ml	inquire
1.99036.4000	Titripac PE/Alu	4 l	inquire

**199057 Buffer solution** (di-Sodium hydrogen phosphate/Potassium dihydrogen phosphate), colour: yellow, traceable to SRM from NIST and PTB pH 7.00 (25°C) Certipur®

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.0 (H<sub>2</sub>O, 25 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99057.0500	Plastic bottle	500 ml	inquire
1.99057.4000	Titripac PE/Alu	4 l	inquire

**199019 Buffer solution** (Disodium tetraborate), traceable to SRM from NIST and PTB pH 9.18 (25°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.2 (H<sub>2</sub>O, 20 °C)
- Boiling point 100 °C (1013 hPa)
- WGK nwg
- LGK 10 - 13
- HS-No. 2840 19 90 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99019.0001	Fibre case	30 x 30 ml	inquire

**109441 Buffer solution** (glycine/sodium chloride/hydrogen chloride), traceable to SRM from NIST and PTB pH 1.00 (25°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.0 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.09441.0500	Plastic bottle	500 ml	inquire

# Buffer

## 109407 Buffer solution (potassium dihydrogen phosphate/di-sodium hydrogen phosphate), traceable to SRM from NIST and PTB pH 7.00 (25°C) Certipur®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.0 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -5 °C ■ Boiling point 109 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
 pH-value (25 °C).....6.99 - 7.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the

accredited laboratory according to DIN EN ISO/IEC 17025.  
 Deviations of pH (delta pH) at various temperatures:  
 (5 °C).....+ 0.09  
 (10 °C).....+ 0.06  
 (15 °C).....+ 0.04  
 (20 °C).....+ 0.02  
 (25 °C).....+/- 0  
 (30 °C).....- 0.02  
 (35 °C).....- 0.02  
 (40 °C).....- 0.03  
 (45 °C).....- 0.03  
 (50 °C).....- 0.03

Traceable to primary reference materials from: NIST 189c, 188, 185g, 186 le, 186ll, 187d PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09407.0500	Plastic bottle	500 ml	inquire
1.09407.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09407.4000	Titripac PE/Alu	4 l	inquire

## 109445 Buffer solution pH 4.00 (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 4.00 (25°C) Certipur®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.0 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.09445.0500	Plastic bottle	500 ml	inquire
1.09445.4000	Titripac PE/Alu	4 l	inquire

## 109406 Buffer solution pH 4.01 (Potassium hydrogen phthalate), traceable to SRM from NIST and PTB pH 4.01 (25°C) Certipur®

■ Spec. density 1.003 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.0 (H<sub>2</sub>O, 25 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
 pH-value (25 °C).....4.00 - 4.02  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviations of pH (ΔpH) at various temperatures:  
 (5 °C).....- 0.01  
 (10 °C).....- 0.01  
 (15 °C).....- 0.01  
 (20 °C).....- 0.01  
 (25 °C).....+/- 0  
 (30 °C).....+/- 0  
 (35 °C).....+ 0.02  
 (40 °C).....+ 0.02  
 (45 °C).....+ 0.04  
 (50 °C).....+ 0.05  
 Traceable to primary reference materials from:

NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09406.0500	Plastic bottle	500 ml	inquire
1.09406.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09406.4000	Titripac PE/Alu	4 l	inquire

## 109408 Buffer solution pH 9.00 (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 9.00 (25°C) Certipur®

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.0 (H<sub>2</sub>O, 25 °C)  
 ■ Boiling point 100 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
 pH-value (25 °C).....8.99 - 9.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the

accredited laboratory according to DIN EN ISO/IEC 17025.  
 Deviations of pH (delta pH) at various temperatures:  
 (5 °C).....+ 0.22  
 (10 °C).....+ 0.16  
 (15 °C).....+ 0.10  
 (20 °C).....+ 0.05  
 (25 °C).....+/- 0  
 (30 °C).....- 0.04  
 (35 °C).....- 0.07  
 (40 °C).....- 0.11  
 (45 °C).....- 0.14  
 (50 °C).....- 0.16

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09408.0500	Plastic bottle	500 ml	inquire
1.09408.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09408.4000	Titripac PE/Alu	4 l	inquire

## 109409 Buffer solution pH 10.00 (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (25°C) Certipur®

■ Spec. density 1.0044 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 10.0 (H<sub>2</sub>O, 25 °C)  
 ■ Boiling point 100 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
 pH-value (25 °C).....9.98 - 10.02  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.02) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the

accredited laboratory according to DIN EN ISO/IEC 17025.  
 Deviations of pH (ΔpH) at various temperatures:  
 (5 °C).....+ 0.22  
 (10 °C).....+ 0.16  
 (15 °C).....+ 0.10  
 (20 °C).....+ 0.05  
 (25 °C).....+/- 0  
 (30 °C).....- 0.06  
 (35 °C).....- 0.10  
 (40 °C).....- 0.14  
 (45 °C).....- 0.20  
 (50 °C).....- 0.27

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09409.0500	Plastic bottle	500 ml	inquire
1.09409.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09409.4000	Titripac PE/Alu	4 l	inquire

## Buffer solutions Certipur® (20 °C) with color coding

**109400 Buffer Solution** (boric acid/potassium chloride/sodium hydroxide) colour coded: yellow, traceable to NIST and PTB pH 10.00 (20°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ pH value 10.0 (H<sub>2</sub>O, 20 °C) ■ Boiling point 110 °C (1013 hPa)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**

pH-value (20 °C) ..... 9.98 - 10.02  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.02) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviations of pH (Delta pH) at various temperatures:

(0 °C) .....	+ 0.24
(5 °C) .....	+ 0.16
(10 °C) .....	+ 0.11
(15 °C) .....	+ 0.05
(20 °C) .....	+/- 0
(25 °C) .....	- 0.05
(30 °C) .....	- 0.09
(35 °C) .....	- 0.12
(40 °C) .....	- 0.15
(50 °C) .....	- 0.21

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09400.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
1.09400.4000	Titripac PE/Alu	4 l	inquire
1.09400.9010	Titripac PE/Alu	10 l	inquire

**109476 Buffer solution** (boric acid/potassium chloride/sodium hydroxide), coloured: blue, traceable to SRM from NIST and PTB pH 9.00 (20°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.0 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**

pH-value (20 °C) ..... 8.99 - 9.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviations of pH (ΔpH) at various temperatures:

(0 °C) .....	+ 0.24
(5 °C) .....	+ 0.16
(10 °C) .....	+ 0.11
(15 °C) .....	+ 0.05
(20 °C) .....	+/- 0
(25 °C) .....	- 0.05
(30 °C) .....	- 0.09
(35 °C) .....	- 0.12
(40 °C) .....	- 0.15
(50 °C) .....	- 0.21

188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09476.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
1.09476.4000	Titripac PE/Alu	4 l	inquire
1.09476.9010	Titripac PE/Alu	10 l	inquire

**109475 Buffer solution** (Citric acid/Sodium hydroxide/Hydrogen chloride) colour: red, traceable to SRM from NIST and PTB pH 4.00 (20 °C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.0 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**

pH-value (20 °C) ..... 3.99 - 4.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory according to DIN EN ISO/IEC

17025.  
 Deviations of pH (Delta pH) at various temperatures:

(0 °C) .....	+ 0.05
(5 °C) .....	+ 0.04
(10 °C) .....	+ 0.02
(15 °C) .....	+ 0.01
(20 °C) .....	+/- 0
(25 °C) .....	+ 0.01
(30 °C) .....	+ 0.01
(35 °C) .....	+ 0.01
(40 °C) .....	+ 0.01
(50 °C) .....	+/- 0

Traceable to primary reference materials from: NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09475.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
1.09475.4000	Titripac PE/Alu	4 l	inquire
1.09475.9010	Titripac PE/Alu	10 l	inquire

**109477 Buffer solution** (di-Sodium hydrogen phosphate/Potassium dihydrogen phosphate), colour: green, traceable to SRM from NIST and PTB pH 7.00 (20°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.0 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**

pH-value (20 °C) ..... 6.99 - 7.01  
 Measured with a combined glass electrode after 5-point calibration according to DIN 19268 (expanded measurement uncertainty +/-0.01) with ref.buffer solutions according to DIN 19266, prepared with primary reference materials, at the accredited laboratory DIN EN ISO/IEC 17025.

Deviations of pH ( Delta pH ) at various temperatures:

(0 °C) .....	+ 0.13
(5 °C) .....	+ 0.07
(10 °C) .....	+ 0.05
(15 °C) .....	+ 0.02
(20 °C) .....	+/- 0
(25 °C) .....	- 0.02
(30 °C) .....	- 0.02
(35 °C) .....	- 0.04
(40 °C) .....	- 0.05
(50 °C) .....	- 0.05

NIST 189c, 188, 185h, 186 lg, 186llg, 187e PTB OX-179/10,TA-212/11,PHT-232/12,PHO-243/12,BO-211/11 NIST: National Institute of Standards and Technology PTB: Physikalisch-Technische Bundesanstalt

Ord.No.	Packaging	Quantity	Price
1.09477.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
1.09477.4000	Titripac PE/Alu	4 l	inquire
1.09477.9010	Titripac PE/Alu	10 l	inquire

## Buffer solutions in sachets Certipur® (25 °C)

**199003 Buffer solution** (boric acid/potassium chloride/sodium hydroxide solution), traceable to SRM from NIST and PTB pH 9.00 (25°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.0 (H<sub>2</sub>O, 25 °C)
- Boiling point 100 °C
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99003.0001	Sachet	30 x 30 ml	inquire

# Buffer

## 199004 Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (25°C) Certipur®

- Spec. density 1.0044 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 10.0 (H<sub>2</sub>O, 25 °C)
- Boiling point 100 °C
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99004.0001	Sachet	30 x 30 ml	inquire

## 199021 Buffer Solution (Boric acid, Sodium hydroxide, Potassium chloride) traceable to SRM from NIST and PTB pH 11.00 (25°C) Certipur®

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.0 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99021.0001	Fibre case	30 x 30 ml	inquire

## 199012 Buffer Solution (Citric acid, Sodium hydroxide, Hydrogen chloride), traceable to SRM from NIST and PTB pH 2.00 (25°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.0 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99012.0001	Fibre case	30 x 30 ml	inquire

## 199022 Buffer Solution (Disodium hydrogen phosphate/Sodium hydroxide) traceable to SRM from NIST und PTB pH 12.00 (25°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ pH value 12.0
- HS-No. 3822 00 00
- WGK nwg
- LGK 10 - 13

Ord.No.	Packaging	Quantity	Price
1.99022.0001	Fibre case	30 x 30 ml	inquire
1.99022.4000	Titripac PE/Alu	4 l	inquire

## 199019 Buffer solution (Disodium tetraborate), traceable to SRM from NIST and PTB pH 9.18 (25°C) Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.2 (H<sub>2</sub>O, 20 °C)
- Boiling point 100 °C (1013 hPa)
- WGK nwg
- LGK 10 - 13
- HS-No. 2840 19 90 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99019.0001	Fibre case	30 x 30 ml	inquire

## 199002 Buffer solution (potassium dihydrogen phosphate/di-sodium hydrogen phosphate), traceable to SRM from NIST and PTB pH 7.00 (25°C) Certipur®

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.0 (H<sub>2</sub>O, 20 °C)
- Melting point -5 °C ■ Boiling point 109 °C
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99002.0001	Fibre case	30 x 30 ml	inquire

## 199001 Buffer solution (potassium hydrogen phthalate), traceable to SRM from NIST and PTB pH 4.01 (25°C) Certipur®

- Spec. density 1.003 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.0 (H<sub>2</sub>O, 25 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.99001.0001	Fibre case	30 x 30 ml	inquire

## 199005 Buffer solutions traceable to SRM from NIST and PTB 10 x pH 4.01 (phthalate) 10 x pH 7.00 (phosphate) 10 x pH 9.00 (borate) pH 4.01/pH 7.00/pH 9.00 (25°C) Certipur®

- LGK 10 - 13
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
1.99005.0001	Fibre case	30 x 30 ml	inquire

## 199006 Buffer solutions traceable to SRM from NIST and PTB 10 x pH 4.01 (phthalate) 10 x pH 7.00 (phosphate) 10 x pH 10.00 (borate) pH 4.01/pH 7.00/pH 10.00(25°C) Certipur®

- LGK 10 - 13
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
1.99006.0001	Fibre case	30 x 30 ml	inquire

## Buffers for the calibration of pH meters

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
563	102111	Calcium hydroxide	177	107204	Certified sec. standard reference buffer solution	177	101961	Potassium tetraoxalate dihydrate
177	107202	Certified sec. standard reference buffer solution	177	101960	Potassium dihydrogen phosphate, di-Sodium hydrogen phosphate	177	101962	Sodium hydrogen carbonate/sodium carbonate
177	107205	Certified sec. standard reference buffer solution	177	101965	Potassium hydrogen phthalate	177	101964	di-Sodium tetraborate decahydrate
177	107200	Certified sec. standard reference buffer solution	177	101963	Potassium hydrogen tartrate			

## Buffer substances

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	115226	N-(2-Acetamido)-2-aminoethanesulfonic acid	169	109057	Hydrochloric acid	1436	106329	Sodium hydrogen carbonate
336	100063	Acetic acid (glacial) 100%	982	115231	2-[4-(2-Hydroxyethyl)-1-piperazinyl]-ethanesulfonic acid sodium salt	1437	106586	di-Sodium hydrogen phosphate dihydrate
356	101008	β-Alanine				5	119753	di-Sodium hydrogen phosphate dihydrate
407	101115	Ammonium acetate	982	115230	3-[4-(2-Hydroxyethyl)-1-piperazinyl]-propanesulfonic acid	1437	106580	di-Sodium hydrogen phosphate dihydrate
471	115228	N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid	998	104716	Imidazole	1438	106579	di-Sodium hydrogen phosphate dodecahydrate
472	101910	N,N-Bis(2-hydroxyethyl)glycine	1193	106126	2-Morpholinoethanesulfonic acid monohydrate	170	111584	Sodium hydroxide solution
472	103252	2,2-Bis(hydroxyethyl)-(iminotris)-(hydroxymethyl)-methane	1193	106129	3-Morpholinopropane sulfonic acid	1448	106557	di-Sodium oxalate
480	100165	Boric acid	1329	110220	Piperazine-1,4-bis(2-ethanesulfonic acid)	167	106308	di-Sodium tetraborate decahydrate
590	111662	CHAPS (3-[(3-Cholamidopropyl)-dimethylammonio]-propane-sulfonate)	1349	104873	Potassium dihydrogen phosphate	1504	100682	Succinic acid
646	100244	Citric acid monohydrate	5	119754	di-Potassium hydrogen phosphate trihydrate	1583	108379	Triethanolamine
674	115229	2-(Cyclohexylamino)ethanesulfonic acid	1353	105099	di-Potassium hydrogen phosphate trihydrate	1583	108357	Triethanolamine hydrochloride
316	116205	Diethanolamine	1353	104874	Potassium hydrogen phthalate	1616	108382	Tris(hydroxymethyl)aminomethane
913	100264	Formic acid 98-100%	1354	105033	Potassium hydroxide	1616	108387	Tris(hydroxymethyl)aminomethane
928	104169	Glycine	1425	106267	Sodium acetate trihydrate	1616	110695	N-[Tris(hydroxymethyl)methyl]-2-aminoethanesulfonic acid
928	104201	Glycine	1429	106392	Sodium carbonate	1616	108320	N-[Tris(hydroxymethyl)methyl]-3-aminopropanesulfonic acid
929	104233	Glycylglycine	1431	106448	tri-Sodium citrate dihydrate	1616	108602	N-[Tris(hydroxymethyl)methyl]glycine
959	104350	L-Histidine monohydrochloride monohydrate	1433	106346	Sodium dihydrogen phosphate monohydrate			
			1433	106591	tetra-Sodium diphosphate decahydrate			

## Buffers, zwitterionic

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	115226	N-(2-Acetamido)-2-aminoethanesulfonic acid	982	115231	2-[4-(2-Hydroxyethyl)-1-piperazinyl]-ethanesulfonic acid sodium salt	1616	110695	N-[Tris(hydroxymethyl)methyl]-2-aminoethanesulfonic acid
471	115228	N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid	982	115230	3-[4-(2-Hydroxyethyl)-1-piperazinyl]-propanesulfonic acid	1616	108320	N-[Tris(hydroxymethyl)methyl]-3-aminopropanesulfonic acid
472	101910	N,N-Bis(2-hydroxyethyl)glycine	1193	106126	2-Morpholinoethanesulfonic acid monohydrate	1616	108602	N-[Tris(hydroxymethyl)methyl]glycine
674	115229	2-(Cyclohexylamino)ethanesulfonic acid	1193	106129	3-Morpholinopropane sulfonic acid			
929	104233	Glycylglycine	1329	110220	Piperazine-1,4-bis(2-ethanesulfonic acid)			



# Buildi

## Building blocks for enantioselective synthesis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
392	814615	(R)-(-)-2-Amino-3-methylbutanol	670	824449	(1R,2R)-(-)-1,2-Cyclohexanedicarboxylic acid	1071	820752	L-(-)-Lactamide
399	814132	(S)-(-)-2-Amino-3-phenyl-1-propanol	670	824450	(1S,2S)-(+)-1,2-Cyclohexanedicarboxylic acid	1077	818407	(R)-(+)-Limonene
401	818231	(S)-(+)-1-Amino-2-propanol	675	818241	(-)-4,5,0-Cyclohexylidenequinic acid lactone	1078	818408	(S)-(-)-Limonene
417	818549	(-)-1,6-Anhydro-β-D-glucopyranose	692	818235	(2R)-(-)-2,3-Epoxypropyl toluene-4-sulfonate	1083	822084	L-(+)-Lithium lactate
444	818233	(2R,6S)-(+)-4-Benzoyloxy-2-benzoyloxymethyl-6-methoxy-2H-pyran-3(6H)-one	768	818239	(-)-1,2:5,6-Di-O-isopropylidene-α-D-glucofuranose	1156	818429	(R)-(-)-Methyl 3-hydroxy-2-methylpropionate
451	824490	(S)-(-)-2-O-Benzylglycerinaldehyde	768	818237	(+)-2,3:5,6-Di-O-isopropylidene-α-D-mannofuranose	1156	818428	(S)-(+)-Methyl 3-hydroxy-2-methylpropionate
451	843848	N-Benzylglycine ethyl ester	793	818225	(2R,3R)-(-)-Dimethyl-2,3-O-isopropylidene tartrate	1158	818726	(S)-(-)-Methyl lactate
452	814156	(-)-2,3-O-Benzylidene-L-threitol	794	818267	(S)-(-)-Dimethyl malate	1170	814144	(4S,5R)-(-)-4-Methyl-5-phenyloxazolidin-2-one
453	814642	(R)-(+)-4-Benzyl-2-oxazolidinone	809	814248	(R)-(-)-N-(3,5-Dinitrobenzoyl) phenylglycine	1242	818321	(R)-(-)-2-Octanol
453	814643	(S)-(-)-4-Benzyl-2-oxazolidinone	837	814365	(2R)-(-)-2,3-Epoxypropyl toluene-4-sulfonate	1311	824446	(R)-(+)-1-Phenyl-1-propanol
454	824471	(-)-N-Benzoyloxycarbonyl-L-tert-leucine dicyclohexyl ammonium salt	849	818289	(+)-Ethyl-4,6-di-O-acetyl-2,3-dideoxy-α-D-erythro-hex-2-enopyranoside	1311	824445	(S)-(-)-1-Phenyl-1-propanol
479	814644	(S)-(-)-BOC-Phenylalaninol	871	818653	(S)-Ethyl-3-hydroxybutyrate	1328	818632	(1R)-(+)-α-Pinene
481	814472	(1S)-(-)-Borneol	871	824456	(2S,4R)-(-)-Ethyl 4-hydroxy-2-pyrrolidincarboxylate hydrochloride	1328	818405	(1S)-(-)-α-Pinene
533	818335	(R,R)-(-)-2,3-Butanediol	873	822100	(S)-(-)-Ethyl lactate	1367	814133	(S)-(+)-1,2-Propanediol
533	818334	(S,S)-(+)-2,3-Butanediol	914	818263	(+)-N-Formyl-D-tert-leucine	1371	824472	(R)-(+)-Propanolol hydrochloride
566	820254	(+)-Camphene	915	818264	(-)-N-Formyl-L-tert-leucine	1376	818567	(R)-(+)-1,2-Propylene oxide
566	814033	(1S)-(-)-Camphor	920	842649	Gallic acid	1376	818659	(S)-(-)-1,2-Propylene oxide
567	814071	(1R)-(-)-Camphorquinone	949	824460	(R)-(-)-4,4a,5,6,7,8-Hexahydro-4a-methyl-2(3H)-naphthalenone	1379	818665	(R)-(+)-Pulegone
567	814065	(1S)-(+)-Camphorquinone	988	818345	(S)-(-)-2-Hydroxymethyl-1-methylpyrrolidine	1394	820942	(S)-(-)-2-Pyrrolidone-5-carboxylic acid
568	814372	D-(-)-Camphorsulfonylimine	992	818612	(R)-(-)-2-(4-Hydroxyphenyl) glycine	1397	822194	(-)-Quinine hydrochloride dihydrate
583	818409	(R)-(-)-Carvone	996	824406	(-)-5-Hydroxy-L-tryptophane	1522	818260	(-)-Tetra-O-benzoyl-2-hydroxy-D-glucal
583	818410	(S)-(+)-Carvone	1054	818234	(+)-5,6-O-Isopropylidene-L-ascorbic acid	1548	821110	(R)-(-)-Thiazolidine-4-carboxylic acid
618	814612	(S)-2-Chloro-3-methylbutyric acid	1054	818637	(R)-(-)-1,2-O-Isopropylidenglycerol	1572	818251	(-)-Tri-O-acetyl-D-galactal
631	814498	(R)-(+)-2-Chloropropionic acid	1054	818636	(-)-2,3-O-Isopropylidene-D-threitol	1572	818298	(-)-Tri-O-acetyl-D-glucal
646	818378	(S)-(-)-β-Citronellol	1055	824505	(4R)-(+)-4-Isopropyl-2-oxazolidinone			

Butadiene sulfone → 3-Sulfolene page 1507

1,3-Butadienyl acetate → 1-Acetoxy-1,3-butadiene page 343

Butanal → Butyraldehyde page 557

### 845154 1,3-Butandiol for pharma synthesis, non-GMP

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>  
 CH<sub>3</sub>CH(OH)CH<sub>2</sub>CH<sub>2</sub>OH  
 1,3-Butylene glycol  
 ■ CAS-No. 107-88-0 ■ EC-No. 203-529-7  
 ■ Refractive index 1.4395 (20 °C, 589 nm)  
 ■ Vapour pressure 0.08 hPa (20 °C)  
 ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 9.4 % (V) ■ Flash point 109 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 90.12 g/mol  
 ■ pH value 6 - 7 (1 g/l, H<sub>2</sub>O) ■ Melting point < -50 °C ■ Boiling point 207.5 °C (1.013 hPa)

- Ignition temp. 440 °C DIN 51794
- WGK 1
- LD50 oral rat 18610 mg/kg
- LD50 dermal rabbit > 20000 mg/kg
- LGK 10
- HS-No. 2905 39 20 ■ Disposal 3

#### Specification

Colour number (Hazen) (visual) ..... ≤ 20  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Ethanol (GC, area%) ..... lot specific result

1-Butanol (GC, area%) ..... lot specific result  
 Density (d 20 °C/4 °C) ..... 1,003 - 1,005  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45154.1000	Plastic bottle	1 l	inquire
8.45154.9025	Plastic container	25 l	inquire

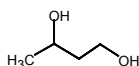
1,4-Butanediamine → 1,4-Diaminobutane page 693

1,4-Butanediammonium dichloride → 1,4-Diaminobutane dihydrochloride page 693

Butanedioic acid → page 1503



## 801964 1,3-Butanediol for synthesis

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>CH<sub>3</sub>CH(OH)CH<sub>2</sub>CH<sub>2</sub>OH

1,3-Butylene glycol

- CAS-No. 107-88-0 ■ EC-No. 203-529-7
- Refractive index 1.4395 (20 °C, 589 nm)
- Vapour pressure 0.08 hPa (20 °C)
- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 1.8 - 9.4 % (V) ■ Flash point 109 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 90.12 g/mol
- pH value 6 - 7 (1 g/l, H<sub>2</sub>O) ■ Melting point < -50 °C ■ Boiling point 207.5 °C (1.013 hPa)
- Ignition temp. 440 °C DIN 51794
- WGK 1
- LD50 oral rat 18610 mg/kg
- LD50 dermal rabbit > 20000 mg/kg
- LGK 10
- HS-No. 2905 39 20 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,003 - 1,005  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01964.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.01964.9025	Plastic container	25 kg	inquire

## 801532 1,4-Butanediol for synthesis

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>HO(CH<sub>2</sub>)<sub>4</sub>OH

1,4-Butylene glycol

- CAS-No. 110-63-4 ■ EC-No. 203-786-5
- Refractive index 1.4446 (25 °C, 589 nm)
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Explosive
- limit 2.4 - 15.3 % (V) ■ Flash point 134 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 90.12 g/mol
- pH value 7 - 8 (500 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 19.5 - 20.0 °C
- Boiling point 230 °C (1013 hPa)
- Ignition temp. 385 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LC50 rat > 5.1 mg/l
- LD50 oral rat 1525 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2905 39 25 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 1.015 - 1.016  
 Water (K. F.) ..... ≤ 0.3 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.01532.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.01532.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.01532.9025	Plastic container	25 l	inquire

## 818801 2,3-Butanediol (mixture of meso- D- and L-form) for synthesis

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>CH<sub>3</sub>CH(OH)CH(OH)CH<sub>3</sub>

2,3-Butylene glycol

- CAS-No. 513-85-9 ■ EC-No. 208-173-6
- Refractive index 1.4348 (20 °C, 589 nm)
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 3.1 - 11.4 % (V) ■ Flash point 96 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C)
- M = 90.12 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C) Aqueous solution
- Melting point 18 - 20 °C
- Boiling point 180 - 182 °C (1013 hPa)
- Ignition temp. 395 °C DIN 51794
- WGK 1
- LD50 oral rat > 5000 mg/kg
- LGK 10
- HS-No. 2905 39 95 ■ Disposal 3

## Specification

Assay isomers (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,000 - 1,005  
 Water (K. F.) ..... ≤ 2,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18801.0005	Glass bottle	5 ml	inquire
8.18801.0250	Glass bottle	250 ml	inquire
8.18801.1000	Glass bottle	1 l	inquire

## 818335 (R,R)-(-)-2,3-Butanediol for synthesis

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>

■ CAS-No. 24347-58-8 ■ EC-No. 246-186-9

■ Refractive index 1.4311 (20 °C, 589 nm)

- Vapour pressure 0.22 hPa (20 °C)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C)
- Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 90.12 g/mol ■ Melting point 16 °C
- Boiling point 179 - 180 °C (1013 hPa)
- WGK 1
- LGK 10
- HS-No. 2905 39 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.989 - 0.992  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (undiluted)] ..... -13.0 - -12.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18335.0001	Glass bottle	1 ml	inquire

## 818334 (S,S)-(+)-2,3-Butanediol for synthesis

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>

■ CAS-No. 19132-06-0 ■ EC-No. 208-173-6

■ Refractive index 1.4311 (20 °C, 589 nm)

■ Vapour pressure 0.22 hPa (20 °C)

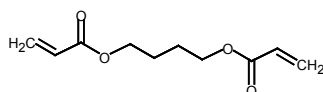
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive
- limit 3.1 - 11.4 % (V) ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 90.12 g/mol
- pH value 9 - 10 (500 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 25 °C ■ Boiling point 179 - 180 °C (1013 hPa) ■ Ignition temp. 400 °C DIN 51794
- WGK 1
- LGK 10
- HS-No. 2905 39 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.989 - 0.992  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18334.0001	Glass bottle	1 ml	inquire

## 801996 1,4-Butanediol diacrylate (stabilised with hydroquinone monomethyl ether) for synthesis

C<sub>10</sub>H<sub>14</sub>O<sub>4</sub>CH<sub>2</sub>=CHCOO(CH<sub>2</sub>)<sub>4</sub>OOCCH=CH<sub>2</sub>

Tetramethylene diacrylate

- CAS-No. 1070-70-8 ■ EC-No. 213-979-6
- Refractive index 1.4538 (20 °C, 589 nm)
- Vapour pressure 0.83 hPa (80 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive
- limit 1.3 - 7 % (V) ■ Flash point 133 °C ■ Solub. in H<sub>2</sub>O 16.3 g/l (25 °C) ■ M = 198.22 g/mol

- Melting point -7 °C ■ Boiling point 120 °C (13 hPa) ■ Ignition temp. 285 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 587 mg/kg ■ LD50 dermal rabbit 400 - 800 mg/kg
- EC-Index-No. 607-119-00-2 ■ LGK 8A
- HS-No. 2916 12 00 ■ Disposal 3
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(1,4-BUTANDIOL-DIACRYLAT), 8 (6.1),

II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1,4-BUTANEDIOL DIACRYLATE), 8 (6.1), II  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1,4-BUTANEDIOL DIACRYLATE), 8 (6.1), II

## Specification

Assay (GC, area%) ..... ≥ 90,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,050 - 1,053  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01996.0100	Glass bottle	100 ml	inquire



# Butane

## 840143 1,4-Butanediolmonovinylether (stabilized with potassium hydroxide) for synthesis



C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>  
 ■ CAS-No. 17832-28-9 ■ EC-No. 241-793-5  
 ■ Vapour pressure 0.3 hPa (20 °C)  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 9.9 % (V) ■ Flash point 88 °C DIN 51758  
 ■ Solub. in H<sub>2</sub>O 75 g/l (20 °C) ■ M = 116.15 g/mol  
 ■ Melting point -33 °C ■ Boiling point 189 °C

■ Ignition temp. 225 °C DIN 51794  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1738 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 ■ Store below +15°C.  
 ■ HS-No. 2909 49 80 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

### Specification

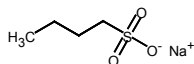
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,942 - 0,946  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40143.0050	Glass bottle	50 ml	inquire

2,3-Butanedione → Diacetyl page 691

2,3-Butanedionedioxime disodium salt →  
 Dimethylglyoxime disodium salt octahydrate page 791

## Butane-1-sulfonic acid sodium salt



C<sub>4</sub>H<sub>9</sub>NaO<sub>3</sub>S  
 ■ CAS-No. 2386-54-1 ■ EC-No. 219-201-1  
 ■ M = 160.17 g/mol ■ Melting point >310 °C  
 ■ WGK 3

■ LGK 10 - 13  
 ■ HS-No. 2904 10 00 ■ Disposal 3

## 841661 Butane-1-sulfonic acid sodium salt for synthesis

### Specification

Assay (ex Na) ..... ≥ 99,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41661.0005	Plastic bottle	5 g	inquire
8.41661.0010	Plastic bottle	10 g	inquire
8.41661.0050	Plastic bottle	50 g	inquire

## 118303 Butane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®

### Specification

Assay (alkalimetric, calculated on dried substance) ..... ≥ 99,0 %  
 Identity (IR-spectrum) ..... conforms  
 pH (100 g/l, water) ..... 5.0 - 7.0  
 Loss on drying (120 °C; 4h; Vacuum) ..... ≤ 2.0 %  
 UV-transmission (0.005 mol/l;  
 1 cm; Water) (at 200 nm) ..... ≥ 70 %  
 UV-transmission (0.005 mol/l;  
 1 cm; Water) (at 220 nm) ..... ≥ 90 %  
 UV-transmission (0.005 mol/l;  
 1 cm; Water) (at 250 nm) ..... ≥ 98 %

Ord.No.	Packaging	Quantity	Price
1.18303.0025	Glass bottle	25 g	inquire

## 820665 1,4-Butanesultone for synthesis



C<sub>4</sub>H<sub>6</sub>O<sub>3</sub>S  
 4-Hydroxy-1-butanefulfonic acid δ-sultone  
 ■ CAS-No. 1633-83-6 ■ EC-No. 216-647-9  
 ■ Refractive index 1.462 (25 °C, 589 nm)  
 ■ Spec. density 1.34 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 154 °C ■ Solub. in H<sub>2</sub>O 54 g/l (20 °C) (decomposition) ■ M = 136.16 g/mol

■ Melting point 12.5 - 15.0 °C  
 ■ Boiling point 153 °C (19 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Carcinogenicity, Category 2, H351; Specific target organ toxicity - single exposure, Category 3, H335; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P281, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LD50 oral rat 500 mg/kg  
 ■ LGK 10 - 13

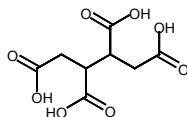
■ HS-No. 2934 99 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.334 - 1.336  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20665.0050	Glass bottle	50 ml	inquire
8.20665.0250	Glass bottle	250 ml	inquire

## 814924 1,2,3,4-Butanetetracarboxylic acid for synthesis



C<sub>8</sub>H<sub>10</sub>O<sub>8</sub>  
 ■ CAS-No. 1703-58-8 ■ EC-No. 216-938-0  
 ■ Solub. in H<sub>2</sub>O 118 g/l (19 °C) ■ M = 234.16 g/mol

mol ■ Melting point 187 - 190 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 1720 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

### Specification

Assay (acidimetric) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 186 °C  
 Melting range (upper value) ..... ≤ 190 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14924.0050	Glass bottle	50 g	inquire
8.14924.0251	Glass bottle	250 g	inquire

## 801587 1-Butanethiol for synthesis



C<sub>4</sub>H<sub>10</sub>S  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>SH  
 Butyl mercaptan  
 ■ CAS-No. 109-79-5 ■ EC-No. 203-705-3  
 ■ Refractive index 1.4425 (20 °C, 589 nm)  
 ■ Vapour pressure 61 hPa (25 °C)  
 ■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 11.3 % (V) ■ Flash point 12 °C ■ Solub. in H<sub>2</sub>O 0.597 g/l (20 °C) ■ M = 90.18 g/mol

■ Melting point -116 °C ■ Boiling point 97 - 99 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P210, P233  
 ■ LC50 rat 16 mg/l  
 ■ LD50 oral rat 1500 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 2347 Butylmercaptan, 3, II

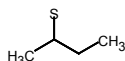
■ IMDG-Code UN 2347 BUTYL MERCAPTANS, 3, II  
 ■ IATA-DGR UN 2347 BUTYL MERCAPTAN, 3, II

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,840 - 0,842  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01587.0100	Glass bottle	100 ml	inquire
8.01587.0500	Glass bottle	500 ml	inquire

## 801818 2-Butanethiol for synthesis



C<sub>4</sub>H<sub>10</sub>S  
 CH<sub>3</sub>CH<sub>2</sub>CH(SH)CH<sub>3</sub>  
*sec-Butyl mercaptan, 1-Methyl-1-propanthiol*  
 ■ CAS-No. 513-53-1 ■ EC-No. 208-165-2  
 ■ Vapour pressure 108 hPa (25 °C)  
 ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 9.6 % (V) ■ Flash point -23 °C ■ Solub.

in H<sub>2</sub>O 1.32 g/l (20 °C) ■ M = 90.18 g/mol  
 ■ Melting point -165 °C ■ Boiling point 82 - 88 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P223  
 ■ LD50 oral rat 5176 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 2347 Butylmercaptan, 3, II

■ IMDG-Code UN 2347 BUTYL MERCAPTANS, 3, II  
 ■ IATA-DGR UN 2347 BUTYL MERCAPTAN, 3, II

## Specification

Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,830 - 0,833  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01818.0005	Glass bottle	5 ml	inquire
8.01818.0250	Glass bottle	250 ml	inquire

## 1-Butanol



C<sub>4</sub>H<sub>10</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>OH  
*Butan-1-ol, n-Butyl alcohol, BuOH*  
 ■ CAS-No. 71-36-3 ■ EC-No. 200-751-6  
 ■ Refractive index 1.3993 (20 °C, 589 nm)  
 ■ Vapour pressure 6.7 hPa (20 °C) (calculated)  
 ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 17.8 (20 °C) ■ El. dipole moment 1.66 (20 °C) ■ Explosive limit 1.4 - 11.3 % (V)

■ Flash point 34 °C ■ Solub. in H<sub>2</sub>O 77 g/l (20 °C)  
 ■ M = 74.12 g/mol ■ pH value 7 (70 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -89 °C  
 ■ Boiling point 116 - 118 °C (1013 hPa)  
 ■ Evaporation number 33 ■ Ignition temp. 340 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318;

Specific target organ toxicity - single exposure, Category 3, H336, P210, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P313

■ LC50 rat > 18 mg/l  
 ■ LD50 oral rat 790 mg/kg ■ LD50 dermal rabbit 3400 mg/kg  
 ■ EC-Index-No. 603-004-00-6 ■ LGK 3  
 ■ HS-No. 2905 13 00 ■ Disposal 1  
 ■ ADR-RID UN 1120 Butanole, 3, III ■ IMDG-Code UN 1120 BUTANOLS, 3, III  
 ■ IATA-DGR UN 1120 BUTANOLS, 3, III

## 822262 1-Butanol EEMPLURA®

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,809 - 0,810  
 Water (K. F.) ..... ≤ 0,20 %  
 Evaporation residue ..... ≤ 0,004 %

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22262.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.22262.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire
8.22262.9025	Steel barrel	25 l	inquire

## 101990 1-Butanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
 Purity (GC) ..... ≥ 99.5 %  
 Identity (IR) ..... conforms  
 Appearance ..... clear  
 Colour ..... ≤ 10 Hazen  
 Titrable acid ..... ≤ 0.0008 meq/g  
 Density (d 20 °C/20 °C) ..... 0.8090 - 0.8120  
 Boiling point ..... 116 - 119 °C  
 2-Butanol (GC) ..... ≤ 0.05 %  
 Butyraldehyde (GC) ..... ≤ 0.01 %  
 Dibutyl ether (GC) ..... ≤ 0.1 %  
 Isobutanol (GC) ..... ≤ 0.15 %  
 Aldehydes ..... conforms  
 Carbonyl compounds (as CO) ..... ≤ 0.01 %

Readily carbonizable substances ..... conforms  
 Al (Aluminium) ..... ≤ 0.00005 %  
 B (Boron) ..... ≤ 0.000002 %  
 Ba (Barium) ..... ≤ 0.00001 %  
 Ca (Calcium) ..... ≤ 0.00005 %  
 Cd (Cadmium) ..... ≤ 0.000005 %  
 Co (Cobalt) ..... ≤ 0.000002 %  
 Cr (Chromium) ..... ≤ 0.000002 %  
 Cu (Copper) ..... ≤ 0.000002 %  
 Fe (Iron) ..... ≤ 0.00001 %  
 Mg (Magnesium) ..... ≤ 0.00001 %  
 Mn (Manganese) ..... ≤ 0.000002 %  
 Ni (Nickel) ..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.00001 %

Sn (Tin) ..... ≤ 0.00001 %  
 Zn (Zinc) ..... ≤ 0.00001 %  
 Evaporation residue ..... ≤ 0.001 %  
 Water ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.01990.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01990.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01990.4000	Glass bottle	4 l	inquire
1.01990.6010	Drum stainl. st.	10 l	inquire
1.01990.6025	Drum stainl. st.	25 l	inquire

## 101989 1-Butanol for spectroscopy Uvasol®

**Specification**  
 Purity (GC) ..... ≥ 99.9 %  
 Evaporation residue ..... ≤ 0.0002 %  
 Water ..... ≤ 0.03 %  
 Colour ..... ≤ 10 Hazen  
 Acidity ..... ≤ 0.0002 meq/g  
 Alkalinity ..... ≤ 0.0002 meq/g  
 Fluorescence (as quinine at 254 nm) ..... ≤ 1.0 ppb  
 Fluorescence (as quinine at 365 nm) ..... ≤ 1.0 ppb

Transmission (at 210 nm) ..... ≥ 25 %  
 Transmission (at 220 nm) ..... ≥ 60 %  
 Transmission (at 230 nm) ..... ≥ 70 %  
 Transmission (at 240 nm) ..... ≥ 85 %  
 Transmission (at 245 nm) ..... ≥ 90 %  
 Transmission (from 270 nm) ..... ≥ 98 %  
 Absorbance (at 210 nm) ..... ≤ 0.60  
 Absorbance (at 220 nm) ..... ≤ 0.22

Absorbance (at 230 nm) ..... ≤ 0.16  
 Absorbance (at 240 nm) ..... ≤ 0.07  
 Absorbance (at 245 nm) ..... ≤ 0.05  
 Absorbance (from 270 nm) ..... ≤ 0.01

Ord.No.	Packaging	Quantity	Price
1.01989.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire

## 101988 1-Butanol for liquid chromatography LiChrosolv®

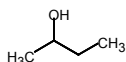
**Specification**  
 Purity (GC) ..... ≥ 99.8 %  
 Identity (IR) ..... conforms  
 Evaporation residue ..... ≤ 2.0 mg/l  
 Water ..... ≤ 0.05 %  
 Acidity ..... ≤ 0.0002 meq/g

Alkalinity ..... ≤ 0.0002 meq/g  
 Transmission (at 230 nm) ..... ≥ 75 %  
 Transmission (at 240 nm) ..... ≥ 85 %  
 Transmission (from 310 nm) ..... ≥ 99 %  
 Filtered by 0.2 µm filter

Ord.No.	Packaging	Quantity	Price
1.01988.1000	Glass bottle	1 l	inquire
1.01988.2500	Glass bottle	2.5 l	inquire

# Butano

## 2-Butanol



C<sub>4</sub>H<sub>10</sub>O  
 CH<sub>3</sub>CH(OH)CH<sub>2</sub>CH<sub>3</sub>  
*sec-Butyl alcohol*  
 ■ CAS-No. 78-92-2 ■ EC-No. 201-158-5  
 ■ Vapour pressure 16.5 hPa (20 °C)  
 ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 15.8 (20 °C) ■ Explosive

limit 1.4 - 9.8 % (V) ■ Flash point 24 °C ■ Solub. in H<sub>2</sub>O 125 g/l (20 °C) ■ M = 74.12 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral  
 ■ Saturation conc. 52 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -115 °C  
 ■ Boiling point 99 - 102 °C (1013 hPa)  
 ■ Evaporation number 20 ■ Ignition temp. 390 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category

3, H335; Specific target organ toxicity - single exposure, Category 3, H336, P210, P304 + P340, P305 + P351 + P338  
 ■ LC50 rat 48.5 mg/l  
 ■ LD50 oral rat 6480 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ EC-Index-No. 603-127-00-5 ■ LGK 3  
 ■ HS-No. 2905 14 90 ■ Disposal 1  
 ■ ADR-RID UN 1120 Butanole, 3, III ■ IMDG-Code UN 1120 BUTANOLS, 3, III  
 ■ IATA-DGR UN 1120 BUTANOLS, 3, III



### 822263 2-Butanol EEMPLURA®

#### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,806 - 0,807  
 Water (K. F.) ..... ≤ 0,20 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22263.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.22263.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

### 109630 2-Butanol for analysis EMSURE®

#### Specification

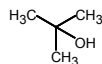
Purity (GC) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms  
 Colour ..... ≤ 10 Hazen  
 Acidity ..... ≤ 0.0005 meq/g  
 Alkalinity ..... ≤ 0.0002 meq/g  
 tert-butanol (GC) ..... ≤ 0.1 %  
 Dibutyl ether (GC) ..... ≤ 0.2 %  
 Ethylmethylketone (GC) ..... ≤ 0.1 %  
 2-Propanol (GC) ..... ≤ 0.2 %  
 Al (Aluminium) ..... ≤ 0.00005 %  
 B (Boron) ..... ≤ 0.000002 %

Ba (Barium) ..... ≤ 0.00001 %  
 Ca (Calcium) ..... ≤ 0.00005 %  
 Cd (Cadmium) ..... ≤ 0.000005 %  
 Co (Cobalt) ..... ≤ 0.000002 %  
 Cr (Chromium) ..... ≤ 0.000002 %  
 Cu (Copper) ..... ≤ 0.000002 %  
 Fe (Iron) ..... ≤ 0.00001 %  
 Mg (Magnesium) ..... ≤ 0.00001 %  
 Mn (Manganese) ..... ≤ 0.000002 %  
 Ni (Nickel) ..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.00001 %

Sn (Tin) ..... ≤ 0.00001 %  
 Zn (Zinc) ..... ≤ 0.00001 %  
 Evaporation residue ..... ≤ 0.001 %  
 Water ..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.09630.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09630.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09630.9025	Steel barrel	25 l	inquire

## tert-Butanol



C<sub>4</sub>H<sub>10</sub>O  
 (CH<sub>3</sub>)<sub>3</sub>COH  
*tert-Butyl alcohol, 2-Methyl-2-propanol, Trimethylcarbinol*  
 ■ CAS-No. 75-65-0 ■ EC-No. 200-889-7  
 ■ Vapour pressure 40.7 hPa (20 °C)  
 ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Dielectricity

constant 10.9 (30 °C) ■ El. dipole moment 1.7 (20 °C) ■ Explosive limit 2.3 - 8.0 % (V)  
 ■ Flash point 14 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 74.12 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral  
 ■ Saturation conc. 122 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point 24 - 25 °C  
 ■ Boiling point 81 - 83 °C (1013 hPa)  
 ■ Ignition temp. 490 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation,

H332; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P305 + P351 + P338  
 ■ LC50 rat > 29.8 mg/l  
 ■ LD50 oral rat 2733 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 603-005-00-1 ■ LGK 3  
 ■ HS-No. 2905 14 10 ■ Disposal 3  
 ■ ADR-RID UN 1120 Butanole, 3, II ■ IMDG-Code UN 1120 BUTANOLS, 3, II  
 ■ IATA-DGR UN 1120 BUTANOLS, 3, II



### 822264 tert-Butanol EEMPLURA®

#### Specification

Purity (GC) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms  
 Melting point ..... 24.0 - 26.0 °C  
 Water ..... ≤ 0.10 %

Ord.No.	Packaging	Quantity	Price
8.22264.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.22264.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
8.22264.9025	Plastic container	25 l	inquire

### 109629 tert-Butanol for analysis EMSURE® ACS, Reag. Ph Eur

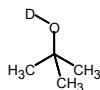
#### Specification

Purity (GC) ..... ≥ 99.5 %  
 Identity (IR) ..... conforms  
 Appearance ..... clear  
 Colour ..... ≤ 10 Hazen  
 Acidity ..... ≤ 0.0005 meq/g  
 Alkalinity ..... ≤ 0.0002 meq/g  
 Boiling range (81-83°C) ..... ≥ 95 % (v/v)  
 Aldehydes and ketones (as formaldehyde) ..... ≤ 0.01 %  
 Melting point ..... 24.0 - 26.0 °C  
 Al (Aluminium) ..... ≤ 0.00005 %  
 B (Boron) ..... ≤ 0.000002 %  
 Ba (Barium) ..... ≤ 0.00001 %

Ca (Calcium) ..... ≤ 0.00005 %  
 Cd (Cadmium) ..... ≤ 0.000005 %  
 Co (Cobalt) ..... ≤ 0.000002 %  
 Cr (Chromium) ..... ≤ 0.000002 %  
 Cu (Copper) ..... ≤ 0.000002 %  
 Fe (Iron) ..... ≤ 0.00001 %  
 Mg (Magnesium) ..... ≤ 0.00001 %  
 Mn (Manganese) ..... ≤ 0.000002 %  
 Ni (Nickel) ..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.00001 %  
 Sn (Tin) ..... ≤ 0.00001 %  
 Zn (Zinc) ..... ≤ 0.00001 %

Evaporation residue ..... ≤ 0.001 %  
 Water ..... ≤ 0.1 %  
 Conforms to ACS, Ph Eur-reagent

Ord.No.	Packaging	Quantity	Price
1.09629.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.09629.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.09629.9025	Barrel PE/met	25 l	inquire

815014 **tert-Butanol-D1** deuteration degree min. 99% for NMR spectroscopy MagniSolv™C<sub>4</sub>H<sub>9</sub>DO*tert-Butyl alcohol, 2-Methyl-2-propanol, Trimethylcarbinol*

- CAS-No. 3972-25-6 ■ EC-No. 223-597-1
- Vapour pressure 40.7 hPa (20 °C)
- Spec. density 0.797 g/cm<sup>3</sup> ■ Explosive limit 2.3 - 8.0 % (V) ■ Flash point 14 °C

- M = 75.13 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral
- Melting point 24 - 25 °C
- Boiling point 81 - 83 °C (1013 hPa)
- Ignition temp. 490 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P304 + P340, P305 + P351 + P338
- LC50 rat > 29.8 mg/l
- LD50 oral rat 2733 mg/kg ■ LD50 dermal rabbit

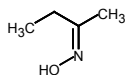
- > 2000 mg/kg
- EC-Index-No. 603-005-00-1 ■ LGK 3
- HS-No. 2845 90 10 ■ Disposal 3
- ADR-RID UN 1120 Butanole, 3, II ■ IMDG-Code UN 1120 BUTANOLS, 3, II
- IATA-DGR UN 1120 BUTANOLS, 3, II

**Specification**

Deuteration degree..... ≥ 99 %

Ord.No.	Packaging	Quantity	Price
8.15014.0025	Glass bottle	25 ml	inquire

2-Butanone → page 303

818962 **2-Butanoneoxime** for synthesisC<sub>4</sub>H<sub>9</sub>NO*Ethyl methyl ketoxime*

- CAS-No. 96-29-7 ■ EC-No. 202-496-6
- Vapour pressure 3.5 hPa (20 °C)
- Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 12.3 % (V) ■ Flash point 60 °C ■ Solub. in H<sub>2</sub>O 114 g/l (20 °C) ■ M = 87.12 g/mol
- pH value 6.5 (114 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -30 °C ■ Ignition temp. 345 °C
- WGK 1

- GHS: Danger, Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Dermal, H312; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317, P280, P308 + P313, P302 + P352, P305 + P351 + P338
- LC50 rat 20 mg/l
- LD50 oral rat 930 mg/kg ■ LD50 dermal rabbit 184 mg/kg
- EC-Index-No. 616-014-00-0 ■ LGK 10
- HS-No. 2928 00 90 ■ Disposal 1
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(2-BUTANOXIM), 6.1 (3), II
- IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(2-

- BUTANONEOXIME), 6.1 (3), II
- IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(2-BUTANONEOXIME), 6.1 (3), II

**Specification**Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C / 4 °C) ..... 0.923 - 0.924  
Identity (IR)..... passes test

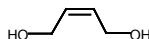
Ord.No.	Packaging	Quantity	Price
8.18962.0250	Glass bottle	250 ml	inquire
8.18962.1000	Glass bottle	1 l	inquire

2-Butenal → Crotonaldehyde page 659

trans-2-Butenal → Crotonaldehyde page 659

cis-Butenedioic acid → page 1091

trans-Butenedioic acid → Fumaric acid page 916

801529 **cis-2-Butene-1,4-diol** for synthesisC<sub>4</sub>H<sub>8</sub>O<sub>2</sub>*HOCH<sub>2</sub>CH=CHCH<sub>2</sub>OH*

- CAS-No. 6117-80-2 ■ EC-No. 228-085-1
- Vapour pressure 1.5 hPa (60 °C)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point 127 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 88.1 g/mol ■ pH value 6

- (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 10 - 11 °C
- Boiling point 142 - 145 °C (24 hPa)
- Ignition temp. 335 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 856 mg/kg
- LGK 10 - 13
- HS-No. 2905 39 95 ■ Disposal 3

**Specification**Assay (GC, area%)..... ≥ 95.0 Area %  
Density (d 20 °C / 4 °C) ..... 1,072 - 1,073  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01529.0100	Glass bottle	100 ml	inquire
8.01529.0500	Glass bottle	500 ml	inquire

3-Butenenitrile → Allyl cyanide page 365

3-Butennitrile → Allyl cyanide page 365

2-Butenoic acid → Crotonic acid page 659

3-Butenoic acid → Vinylacetic acid page 1629

trans-2-Butenoic acid ethyl ester → Ethyl crotonate page 857

trans-2-Butenoic acid methyl ester → Methyl crotonate page 1144

2-Butenoic anhydride → Crotonic anhydride page 659

841628 **3-Buten-1-ol** for synthesisC<sub>4</sub>H<sub>8</sub>O*Allyl carbinol*

- CAS-No. 627-27-0 ■ EC-No. 210-991-3
- Spec. density 0.841 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 28 % (V) ■ Flash point 32 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 72.1 g/mol
- Boiling point 113 - 114 °C (1013 hPa)
- WGK 3

- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2905 29 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-BUTEN-1-OL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-BUTEN-1-OL),

- 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-BUTEN-1-OL), 3, III

**Specification**Assay (GC, area%)..... ≥ 97.5 Area %  
Density (d 20 °C / 4 °C) ..... 0,842 - 0,846  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41628.0005	Glass bottle	5 ml	inquire

2-Buten-1,4-olide → 2(5H)-Furanone page 918

1-Buten-3-one → Methyl vinyl ketone page 1186

tert-Butoxycarbonylhydrazide → tert-Butyl carbazate page 543

N-tert-Butoxycarbonyl-L-phenylalaninol → (S)-(-)-BOC-Phenylalaninol page 479

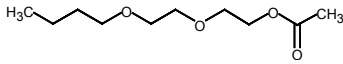
1-Butoxy-2,3-epoxypropane → Butyl 2,3-epoxypropyl ether page 546

2-Butoxyethanol → Ethylene glycol monobutyl ether page 303



# Butoxy

## 821014 [2-(2-Butoxyethoxy)ethyl] acetate for synthesis



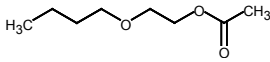
$C_{10}H_{20}O_4$   
Butyl diglycol acetate, Acetic acid 2-(2-butoxyethoxy)ethyl ester, Diethylene glycol monobutyl ether acetate, Diethylene glycol butyl ether acetate  
■ CAS-No. 124-17-4 ■ EC-No. 204-685-9  
■ Refractive index 1.4262 (20 °C, 589 nm)  
■ Vapour pressure < 0.01 hPa (20 °C)

■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 5.3 % (V) ■ Flash point 102 °C ■ Solub. in H<sub>2</sub>O 64 g/l (20 °C) ■ M = 204.26 g/mol  
■ pH value 3 - 4 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point -32 °C  
■ Boiling point 244 - 250 °C (1013 hPa)  
■ Ignition temp. 290 °C  
■ WGK 1  
■ LC50 rat 72.5 mg/l  
■ LD50 oral rat 6500 mg/kg ■ LD50 dermal rabbit 5640 mg/kg  
■ LGK 10 - 13

■ HS-No. 2915 39 00 ■ Disposal 3  
**Specification**  
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,976 - 0,978  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21014.0100	Glass bottle	100 ml	inquire
8.21014.1000	Glass bottle	1 l	inquire
8.21014.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 801395 2-Butoxyethyl acetate for synthesis



$C_8H_{16}O_3$   
CH<sub>3</sub>COOCH<sub>2</sub>CH<sub>2</sub>O(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>  
Ethylene glycol monobutyl ether acetate, Ethylene glycol butyl ether acetate, Acetic acid 2-butoxyethyl ester, Butyl glycol acetate  
■ CAS-No. 112-07-2 ■ EC-No. 203-933-3  
■ Refractive index 1.4138 (20 °C, 589 nm)  
■ Vapour pressure 0.31 hPa (20 °C)  
■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Dielectricity

constant 6.8 (20 °C) ■ Explosive limit 1.7 - 8.4 % (V) ■ Flash point 78 °C ■ Solub. in H<sub>2</sub>O 15 g/l (20 °C) ■ M = 160.21 g/mol  
■ pH value 4 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -64 - -62 °C ■ Boiling point 194 - 196 °C (1013 hPa) ■ Evaporation number 190  
■ Ignition temp. 280 °C  
■ WGK 1  
■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312, P302 + P352, P304 + P340  
■ LD50 oral rat 2400 mg/kg ■ LD50 dermal rabbit 1500 mg/kg

■ EC-Index-No. 607-038-00-2 ■ LGK 10  
■ HS-No. 2915 39 00 ■ Disposal 3  
**Specification**  
Assay (GC, area%) ..... ≥ 98 %  
Density (d 20 °C/ 4 °C) ..... 0.940 - 0.942  
Identity (IR) ..... passes test

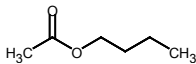
Ord.No.	Packaging	Quantity	Price
8.01395.1000	Glass bottle	1 l	inquire
8.01395.2500	Glass bottle	2.5 l	inquire

2-Butoxyethyl ether → Diethylene glycol dibutyl ether page 301

2-(2-Butoxyethoxy)ethanol → Diethylene glycol monobutyl ether page 301

α-(2-(2-Butoxyethoxy)ethoxy)-4,5-methylenedioxy-2-propyltoluene → Piperonylbutoxide page 1332  
5-((2-(2-Butoxyethoxy)ethoxy)methyl)-6-propyl-1,3-benzodioxole → Piperonylbutoxide page 1332

## n-Butyl acetate



$C_6H_{12}O_2$   
CH<sub>3</sub>COO(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>  
Acetic acid n-butyl ester, Butyl ethanoate  
■ CAS-No. 123-86-4 ■ EC-No. 204-658-1  
■ Vapour pressure 13 hPa (20 °C)

■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 7.5 % (V) ■ Flash point 25 °C ■ Solub. in H<sub>2</sub>O 7 g/l (20 °C) ■ M = 116.16 g/mol  
■ pH value (H<sub>2</sub>O) neutral ■ Melting point -76 °C  
■ Boiling point 124 - 127 °C (1013 hPa)  
■ Ignition temp. 370 °C  
■ WGK 1  
■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single

exposure, Category 3, H336, P210  
■ LC50 rat > 21 mg/l  
■ LD50 oral rat 13100 mg/kg  
■ LD50 dermal rabbit > 14100 mg/kg  
■ EC-Index-No. 607-025-00-1 ■ LGK 3  
■ HS-No. 2915 33 00  
■ ADR-RID UN 1123 Butylacetate, 3, III ■ IMDG-Code UN 1123 BUTYL ACETATES, 3, III  
■ IATA-DGR UN 1123 BUTYL ACETATES, 3, III

## 101974 n-Butyl acetate EMPLURA®

**Specification**  
Purity (GC) ..... ≥ 99.0 %  
Identity (IR) ..... conforms  
Free acid (as CH<sub>3</sub>COOH) ..... ≤ 0.02 %  
Density (d 20 °C/ 4 °C) ..... 0.879 - 0.881  
Density (d 20 °C/20 °C) ..... 0.881 - 0.883  
n-Butyl alcohol (GC) ..... ≤ 1 %  
Evaporation residue ..... ≤ 0.0010 %

Ord.No.	Packaging	Quantity	Price
1.01974.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01974.6025	Drum stainl. st.	25 l	inquire
1.01974.9190	Steel barrel	190 l	inquire

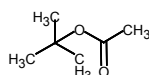
## 109652 n-Butyl acetate for analysis EMSURE®

**Specification**  
Purity (GC) ..... ≥ 99.5 %  
Identity (IR) ..... conforms  
Colour ..... ≤ 10 Hazen  
Acidity ..... ≤ 0.0017 meq/g  
Readily carbonizable substances ..... conforms  
n-Butyl alcohol (GC) ..... ≤ 0.2 %  
n-Butyl formiate (GC) ..... ≤ 0.1 %  
n-Butyl propionate (GC) ..... ≤ 0.1 %  
Evaporation residue ..... ≤ 0.001 %  
Water ..... ≤ 0.1 %  
Al (Aluminium) ..... ≤ 0.00005 %  
B (Boron) ..... ≤ 0.000002 %  
Ba (Barium) ..... ≤ 0.00001 %  
Ca (Calcium) ..... ≤ 0.00005 %  
Cd (Cadmium) ..... ≤ 0.000005 %  
Co (Cobalt) ..... ≤ 0.000002 %  
Cr (Chromium) ..... ≤ 0.000002 %  
Cu (Copper) ..... ≤ 0.000002 %  
Fe (Iron) ..... ≤ 0.00001 %  
Mg (Magnesium) ..... ≤ 0.00001 %  
Mn (Manganese) ..... ≤ 0.000002 %  
Ni (Nickel) ..... ≤ 0.000002 %  
Pb (Lead) ..... ≤ 0.00001 %  
Sn (Tin) ..... ≤ 0.00001 %  
Zn (Zinc) ..... ≤ 0.00001 %

Ord.No.	Packaging	Quantity	Price
1.09652.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09652.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09652.4000	Glass bottle	4 l	inquire
1.09652.6010	Drum stainl. st.	10 l	inquire



## 802189 tert-Butyl acetate for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>CH<sub>3</sub>COOC(CH<sub>3</sub>)<sub>3</sub>

Acetic acid tert-butyl ester

■ CAS-No. 540-88-5 ■ EC-No. 208-760-7  
 ■ Refractive index 1.387 (20 °C, 589 nm) ■ Vapour pressure 41 hPa (20 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 %(V)

■ Flash point 1 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ M = 116.15 g/mol ■ Saturation conc. 248 g/m<sup>3</sup> (25 °C) Air ■ Boiling point 95 - 97 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
 ■ LD50 oral rat 4100 mg/kg  
 ■ EC-Index-No. 607-026-00-7 ■ LGK 3  
 ■ HS-No. 2915 39 00 ■ Disposal 3  
 ■ ADR-RID UN 1123 Butylacetate, 3, II ■ IMDG-Code UN 1123 BUTYL ACETATES, 3, II

■ IATA-DGR UN 1123 BUTYL ACETATES, 3, II

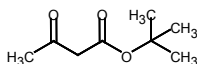
## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,865 - 0,866  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02189.0250	Glass bottle	250 ml	inquire
8.02189.1000	Glass bottle	1 l	inquire

sec-Butyl acetic acid → 3-Methylpentanoic acid page 1167

## 821649 tert-Butyl acetoacetate for synthesis

C<sub>8</sub>H<sub>14</sub>O<sub>3</sub>CH<sub>3</sub>COCH<sub>2</sub>COOC(CH<sub>3</sub>)<sub>3</sub>

Acetoacetic acid tert-butyl ester

■ CAS-No. 1694-31-1 ■ EC-No. 216-904-5  
 ■ Refractive index 1.42 (20 °C, 589 nm)  
 ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 %(V) ■ Flash point 76 °C ■ Solub. in

H<sub>2</sub>O 9 g/l (20 °C) ■ M = 158.19 g/mol  
 ■ pH value 5.7 (9 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -38 °C ■ Boiling point 72 - 73 °C (13 hPa) ■ Ignition temp. 390 °C  
 ■ WGK 1  
 ■ LGK 10  
 ■ HS-No. 2918 30 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TERT-BUTYLACETOACETAT), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TERT-BUTYLACETOACETATE), 3, III

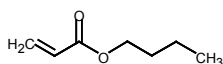
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TERT-BUTYLACETOACETATE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,968 - 0,970  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21649.0250	Glass bottle	250 ml	inquire

## 800832 Butyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

C<sub>7</sub>H<sub>12</sub>O<sub>2</sub>CH<sub>2</sub>=CHCOO(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>

Acrylic acid butyl ester

■ CAS-No. 141-32-2 ■ EC-No. 205-480-7  
 ■ Refractive index 1.419 (20 °C, 589 nm) ■ Vapour pressure 4.3 hPa (20 °C) ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 7.8 %(V)  
 ■ Flash point 36.5 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C)  
 ■ M = 128.17 g/mol ■ Melting point -65 °C  
 ■ Boiling point 147 - 148 °C (1013 hPa)  
 ■ Water absorption 70 g/kg (20 °C)

■ Ignition temp. 267 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P210, P280, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LC50 rat 10.3 - 11.9 mg/l  
 ■ LD50 oral rat 3140 mg/kg ■ LD50 dermal rabbit 1800 mg/kg  
 ■ EC-Index-No. 607-062-00-3 ■ LGK 3  
 ■ HS-No. 2916 12 00 ■ Disposal 3  
 ■ ADR-RID UN 2348 Butylacrylate, stabilisiert, 3, III ■ IMDG-Code UN 2348 BUTYL ACRYLATES,

STABILIZED, 3, III

■ IATA-DGR UN 2348 BUTYL ACRYLATES, STABILIZED, 3, III

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,898 - 0,899  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00832.0100	Glass bottle	100 ml	inquire
8.00832.0500	Glass bottle	500 ml	inquire
8.00832.2500	Glass bottle	2.5 l	inquire

sec-Butyl alcohol → page 315

tert-Butyl alcohol → page 316

## Butylamine

C<sub>4</sub>H<sub>11</sub>NCH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>NH<sub>2</sub>

1-Aminobutane

■ CAS-No. 109-73-9 ■ EC-No. 203-699-2  
 ■ Refractive index 1.4015 (20 °C, 589 nm)  
 ■ Vapour pressure 93 hPa (20 °C)  
 ■ Spec. density 0.74 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 9.8 %(V) ■ Flash point -12 °C DIN

51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 73.14 g/mol ■ pH value 12.6 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -50 °C  
 ■ Boiling point 76 - 78 °C ■ Ignition temp. 290 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1A, H314, P210, P233, P240,

P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

■ LC50 rat 4.2 mg/l

■ LD50 oral rat 366 mg/kg ■ LD50 dermal rabbit 625 mg/kg

■ EC-Index-No. 612-005-00-0 ■ LGK 3

■ HS-No. 2921 19 99 ■ Disposal 3

■ ADR-RID UN 1125 n-Butylamin, 3 (8), II

■ IMDG-Code UN 1125 N-BUTYLAMINE, 3 (8), II

■ IATA-DGR UN 1125 N-BUTYLAMINE, 3 (8), II

## 801539 Butylamine for synthesis

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,736 - 0,738  
 Water (K. F.) ..... ≤ 0,20 %(m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01539.1000	Glass bottle	1 l	inquire
8.01539.2500	Glass bottle	2.5 l	inquire

## 845021 Butylamine for pharma synthesis, non-GMP

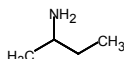
## Specification

Appearance of substance (visual) ..... clear  
 Colour number (Hazen) ..... ≤ 20  
 Assay (GC, area%) ..... ≥ 99,5 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,736 - 0,738

Water (K. F.) ..... ≤ 0,20 %(m)

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45021.0100	Glass bottle	100 ml	inquire
8.45021.1000	Glass bottle	1 l	inquire

801540 *sec*-Butylamine for synthesis

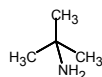
C<sub>4</sub>H<sub>11</sub>N  
 CH<sub>3</sub>CH<sub>2</sub>CH(NH<sub>2</sub>)CH<sub>3</sub>  
 2-Aminobutane  
 ■ CAS-No. 13952-84-6 ■ EC-No. 237-732-7  
 ■ Refractive index 1.3928 (20 °C, 589 nm)  
 ■ Vapour pressure 182 hPa (20 °C)  
 ■ Spec. density 0.72 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 9.0 % (V) ■ Flash point -20 °C ■ Solub. in H<sub>2</sub>O 112 g/l (20 °C) ■ M = 73.14 g/mol  
 ■ Melting point -104 °C ■ Boiling point 63 - 64 °C (1013 hPa) ■ Ignition temp. 290 °C

■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314; Acute aquatic toxicity, Category 1, H400, P210, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat < 350 mg/l  
 ■ LD50 oral rat 152 mg/kg ■ LD50 dermal rabbit 2500 mg/kg  
 ■ EC-Index-No. 612-052-00-7 ■ LGK 3  
 ■ HS-No. 2921 19 99 ■ Disposal 3  
 ■ ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(SEC-BUTYLAMIN), 3 (8), II ■ IMDG-Code UN

2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(SEC-BUTYLAMINE), 3 (8), II, Segregation Group: 18 (Alkalies)  
 ■ IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(SEC-BUTYLAMINE), 3 (8), II

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,722 - 0,723  
 Water (K. F.) ..... ≤ 1,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01540.0100	Glass bottle	100 ml	inquire
8.01540.0500	Glass bottle	500 ml	inquire

801546 *tert*-Butylamine for synthesis

C<sub>4</sub>H<sub>11</sub>N  
 (CH<sub>3</sub>)<sub>3</sub>CNH<sub>2</sub>  
 2-Amino-2-methylpropane  
 ■ CAS-No. 75-64-9 ■ EC-No. 200-888-1  
 ■ Refractive index 1.37 (20 °C, 589 nm) ■ Vapour pressure 300 hPa (20 °C) ■ Spec. density 0.69 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 9.2 % (V)  
 ■ Flash point -38 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 73.14 g/mol  
 ■ pH value 12 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -72 °C ■ Boiling point 44 °C  
 ■ Ignition temp. 375 °C DIN 51794

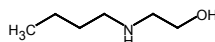
■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1A, H314; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Inhalation, H332, P210, P223, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 3.8 mg/l  
 ■ LD50 oral rat 80 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2921 19 99 ■ Disposal 9  
 ■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(TERT-BUTYLAMIN), 8 (3), I  
 ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(TERT-BUTYLAMINE), 8 (3), I, Segregation Group: 18

(Alkalies)  
 ■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(TERT-BUTYLAMINE), 8 (3), I

**Specification**  
 Assay (GC, area%) ..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 0.692 - 0.694  
 Water (K. F.) ..... ≤ 0.5 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.01546.0100	Glass bottle	100 ml	inquire
8.01546.0500	Glass bottle	500 ml	inquire
8.01546.1000	Glass bottle	1 l	inquire
8.01546.9035	Barrel PE/met	35 kg	inquire

## 814843 2-Butylamino-ethanol for synthesis

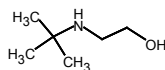


C<sub>6</sub>H<sub>15</sub>NO  
 ■ CAS-No. 111-75-1 ■ EC-No. 203-904-5  
 ■ Vapour pressure 6 hPa (80 °C)  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 8.6 % (V) ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (25 °C) ■ M = 117.19 g/mol  
 ■ pH value 11.9 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -2 °C ■ Boiling point 199 °C  
 ■ Ignition temp. 265 °C  
 ■ WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 890 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-BUTYLAMINOETHANOL), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-BUTYLAMINOETHANOL), 8, II, Segregation Group: 18 (Alkalies)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-BUTYLAMINOETHANOL), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,890 - 0,893  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14843.0100	Glass bottle	100 ml	inquire
8.14843.0500	Glass bottle	500 ml	inquire

818661 2-*tert*-Butylamino-ethanol for synthesis

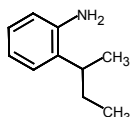
C<sub>6</sub>H<sub>15</sub>NO  
 (CH<sub>3</sub>)<sub>3</sub>CNHCH<sub>2</sub>CH<sub>2</sub>OH  
 N-*tert*-Butylethanolamin  
 ■ CAS-No. 4620-70-6 ■ EC-No. 225-034-5  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 69 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 117.19 g/mol ■ Melting point 40 - 43 °C  
 ■ Boiling point 176 - 177 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1620 mg/kg ■ LD50 dermal rabbit 635 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-TERT-BUTYLAMINOETHANOL), 6.1,

III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-TERT-BUTYLAMINO-ETHANOL), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-TERT-BUTYLAMINO-ETHANOL), 6.1, III

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 40 °C  
 Melting range (upper value) ..... ≤ 43 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18661.0101	Glass bottle	100 g	inquire

814005 2-*sec*-Butylaniline for synthesis

C<sub>10</sub>H<sub>15</sub>N  
 2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH(CH<sub>3</sub>)CH<sub>2</sub>CH<sub>3</sub>  
 2-(Dimethylethyl)-aniline

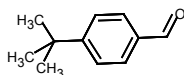
■ CAS-No. 55751-54-7 ■ EC-No. 259-794-4  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 105 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 149.23 g/mol  
 ■ Boiling point 106 °C (13 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13  
 ■ HS-No. 2921 49 00 ■ Disposal 9

**Specification**  
 Assay (GC, area%) ..... ≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,954 - 0,956  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14005.0010	Glass bottle	10 ml	inquire

## 843094 4-tert-Butylbenzaldehyde for synthesis

C<sub>11</sub>H<sub>14</sub>O

- CAS-No. 939-97-9 ■ EC-No. 213-367-9
- Spec. density 0.971 g/cm<sup>3</sup> ■ Explosive limit 1.3 - 5.6 % (V) ■ Flash point 101 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 162.23 g/mol ■ Boiling point 249 °C
- Ignition temp. 400 °C
- WGK 2

- GHS: Warning, Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P273, P280, P302 + P352
- LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2912 29 00 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(4-TERT-BUTYLBENZALDEHYD), 9, III
- IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(4-TERT-BUTYLBENZALDEHYDE), 9, III, Marine Pollutant: P

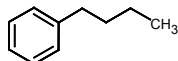
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(4-TERT-BUTYLBENZALDEHYDE), 9, III

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.969 - 0.973  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43094.0005	Glass bottle	5 ml	inquire
8.43094.0025	Glass bottle	25 ml	inquire

## 820239 Butylbenzene for synthesis

C<sub>10</sub>H<sub>14</sub>

## 1-Phenylbutane

- CAS-No. 104-51-8 ■ EC-No. 203-209-7
- Refractive index 1.4895 (20 °C, 589 nm)
- Vapour pressure 1.33 hPa (23 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 0.8 - 5.8 % (V) ■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O 11.8 mg/l (25 °C) ■ M = 134.22 g/mol
- Melting point -88 °C ■ Boiling point 183 °C
- Ignition temp. 410 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2902 90 00 ■ Disposal 3
- ADR-RID UN 2709 Butylbenzene, 3, III ■ IMDG-

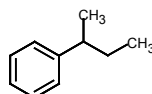
- Code UN 2709 BUTYLBENZENES, 3, III
- IATA-DGR UN 2709 BUTYLBENZENES, 3, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.859 - 0.861  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20239.0100	Glass bottle	100 ml	inquire

## 821717 sec-Butylbenzene for synthesis

C<sub>10</sub>H<sub>14</sub>CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)C<sub>6</sub>H<sub>5</sub>

## 2-Phenylbutane

- CAS-No. 135-98-8 ■ EC-No. 205-227-0
- Refractive index 1.489 (20 °C, 589 nm) ■ Vapour pressure 80 hPa (96 °C) ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 6.9 % (V)

- Flash point 52 °C ■ Solub. in H<sub>2</sub>O 17.6 mg/l (20 °C) ■ M = 134.22 g/mol ■ Melting point -75 °C ■ Boiling point 173 - 174 °C
- Ignition temp. 415 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210
- LD50 oral rat 1926 mg/kg ■ LD50 dermal rabbit > 13760 mg/kg
- LGK 3
- HS-No. 2902 90 00 ■ Disposal 3
- ADR-RID UN 2709 Butylbenzene, 3, III ■ IMDG-

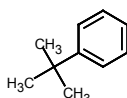
- Code UN 2709 BUTYLBENZENES, 3, III
- IATA-DGR UN 2709 BUTYLBENZENES, 3, III

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.861 - 0.862  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21717.0100	Glass bottle	100 ml	inquire

## 820240 tert-Butylbenzene for synthesis

C<sub>10</sub>H<sub>14</sub>(CH<sub>3</sub>)<sub>3</sub>CC<sub>6</sub>H<sub>5</sub>

## 2-Methyl-2-phenylpropane

- CAS-No. 98-06-6 ■ EC-No. 202-632-4
- Refractive index 1.492 (20 °C, 589 nm) ■ Vapour pressure 1.33 hPa (13 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 5.6 % (V)
- Flash point 44 °C ■ Solub. in H<sub>2</sub>O 29.5 mg/l

- (25 °C) ■ M = 134.22 g/mol ■ Melting point -58 °C ■ Boiling point 64 °C (27 hPa)
- Ignition temp. 445 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Skin irritation, Category 2, H315; Aspiration hazard, Category 1, H304, P210, P301 + P310, P302 + P352, P331
- LC50 rat 4.6 mg/l
- LD50 oral rat 3045 mg/kg
- LGK 3
- HS-No. 2902 90 00 ■ Disposal 3

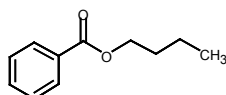
- ADR-RID UN 2709 Butylbenzene, 3, III ■ IMDG-Code UN 2709 BUTYLBENZENES, 3, III
- IATA-DGR UN 2709 BUTYLBENZENES, 3, III

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.865 - 0.866  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20240.0100	Glass bottle	100 ml	inquire
8.20240.0500	Glass bottle	500 ml	inquire

## 801755 Butyl benzoate for synthesis

C<sub>11</sub>H<sub>14</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>COO(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>

## Benzoic acid butyl ester

- CAS-No. 136-60-7 ■ EC-No. 205-252-7
- Vapour pressure 0.2 hPa (20 °C)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)

- Flash point 106 °C ■ Solub. in H<sub>2</sub>O 0.06 g/l (25 °C) ■ M = 178.23 g/mol ■ Melting point -22 °C ■ Boiling point 250 °C (1013 hPa)
- Ignition temp. 440 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 735 mg/kg ■ LD50 dermal rabbit 4000 mg/kg

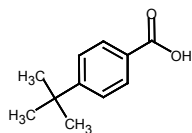
- LGK 10 - 13
- HS-No. 2916 31 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,005 - 1,006  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01755.0100	Glass bottle	100 ml	inquire
8.01755.0500	Glass bottle	500 ml	inquire

## 820238 4-tert-Butylbenzoic acid for synthesis



C<sub>11</sub>H<sub>14</sub>O<sub>2</sub>  
 4-[(CH<sub>3</sub>)<sub>3</sub>C]C<sub>6</sub>H<sub>4</sub>COOH  
 PTBBA  
 ■ CAS-No. 98-73-7 ■ EC-No. 202-696-3  
 ■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Spec. density 0.6 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 180 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l  
 (20 °C) ■ M = 178.23 g/mol ■ pH value 3.9  
 (H<sub>2</sub>O) (saturated solution)  
 ■ Melting point 165 - 167 °C

■ Bulk density 340 kg/m<sup>3</sup>  
 ■ Boiling point 280 °C (decomposition)  
 ■ Ignition temp. >510 °C  
 ■ WGK 3  
 ■ GHS: Warning, Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute toxicity, Category 4, Inhalation, H332; Chronic aquatic toxicity, Category 2, H411; Acute toxicity, Category 4, Dermal, H312, P273, P280, P281, P302 + P352, P309 + P310  
 ■ LC50 rat > 1.8 mg/l  
 ■ LD50 oral rat 473 - 735 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 4  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff,

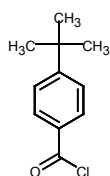
fest, n.a.g.(4-TERT-BUTYLBENZOESAEURE), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-TERT-BUTYLBENZOIC ACID), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-TERT-BUTYLBENZOIC ACID), 9, III

**Specification**  
 Assay (acidimetric)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 165 °C  
 Melting range (upper value)..... ≤ 167 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20238.0100	Plastic bottle	100 g	inquire
8.20238.1000	Plastic bottle	1 kg	inquire

4-tert-Butylbenzoic chloride → 4-tert-Butylbenzoyl chloride page 542

## 841040 4-tert-Butylbenzoyl chloride for synthesis



C<sub>11</sub>H<sub>13</sub>ClO  
 4-tert-Butylbenzoic chloride  
 ■ CAS-No. 1710-98-1 ■ EC-No. 216-973-1  
 ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 87 °C ■ Solub. in

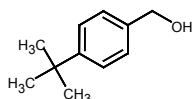
H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 196.67 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) acidic  
 ■ Boiling point 125 - 126 °C (13 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(4-TERT-BUTYLBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC,

N.O.S.(4-TERT-BUTYLBENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-TERT-BUTYLBENZOYL CHLORIDE), 8, II

**Specification**  
 Assay (morpholine method)..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C)..... 1.080 - 1.084  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41040.0025	Glass bottle	25 ml	inquire

## 814660 4-tert-Butylbenzyl alcohol for synthesis



C<sub>11</sub>H<sub>16</sub>O  
 ■ CAS-No. 877-65-6 ■ EC-No. 212-894-1  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 9.5 % (V) ■ Flash point 128 °C DIN

51758 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 164.25 g/mol ■ pH value 7 (H<sub>2</sub>O)  
 ■ Boiling point 140 °C (27 hPa)  
 ■ Ignition temp. 405 °C DIN 51794  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.965 - 0.970  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14660.0025	Glass bottle	25 ml	inquire
8.14660.0100	Glass bottle	100 ml	inquire

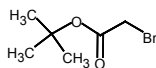
N-tert-Butylbenzylamine → N-Benzyl-tert-butylamine page 448

Butyl bromide → 1-Bromobutane page 493  
 iso-Butyl bromide → 1-Bromo-2-methylpropane page 507

sec-Butyl bromide → 2-Bromobutane page 493  
 tert-Butyl bromide → 2-Bromo-2-methylpropane page 507

N-Butylbis(2-hydroxyethyl)-amine → N-Butyl-2,2'-iminodiethanol page 548

## 821328 tert-Butyl bromoacetate for synthesis



C<sub>6</sub>H<sub>11</sub>BrO<sub>2</sub>  
 BrCH<sub>2</sub>COOC(CH<sub>3</sub>)<sub>3</sub>  
 Bromoacetic acid tert-butyl ester  
 ■ CAS-No. 5292-43-3 ■ EC-No. 226-133-6  
 ■ Refractive index 1.4162 (25 °C, 589 nm)  
 ■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 49 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 195.05 g/mol  
 ■ Boiling point 50 °C (13 hPa)

■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2915 90 70 ■ Disposal 3  
 ■ ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(TERT-BUTYLBROMOACETAT), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC,

N.O.S.(TERT-BUTYL BROMOACETATE), 6.1 (3), II  
 ■ IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(TERT-BUTYL BROMOACETATE), 6.1 (3), II

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.325 - 1.335  
 Identity (IR)..... passes test

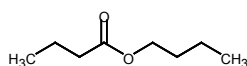
Ord.No.	Packaging	Quantity	Price
8.21328.0025	Glass bottle	25 ml	inquire

N-Butyl-1-butanamine → Dibutylamine page 707

Butyl butanoate → Butyl butyrate page 543



## 814903 Butyl butyrate for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>*Butyric acid butyl ester, Butyl butanoate*

- CAS-No. 109-21-7 ■ EC-No. 203-656-8
- Vapour pressure 4 hPa (20 °C)
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 % (V) ■ Flash point 49 °C ■ Solub. in H<sub>2</sub>O 0.50 g/l (20 °C) ■ M = 144.22 g/mol
- Melting point -91 °C

- Boiling point 164 - 165 °C (1013 hPa)
- Ignition temp. 454 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LD50 dermal rabbit > 5000 mg/kg
- EC-Index-No. 607-031-00-4 ■ LGK 3
- HS-No. 2915 60 19 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(BUTYLBUTYRAT), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(BUTYLBUTYRATE), 3, III

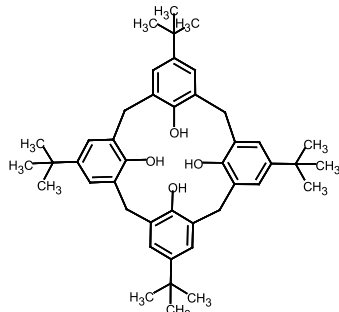
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(BUTYLBUTYRATE), 3, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14903.0100	Glass bottle	100 ml	inquire
8.14903.1000	Glass bottle	1 l	inquire

## 814707 p-tert-Butylcalix[4]arene for synthesis

C<sub>44</sub>H<sub>56</sub>O<sub>4</sub>

- CAS-No. 60705-62-6
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 648.92 g/mol
- Melting point 344 - 347 °C
- WGK 3

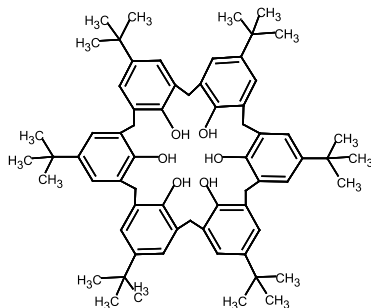
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

**Specification**

Assay (ex C)..... ≥ 98,0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14707.0001	Glass bottle	1 g	inquire

## 814708 p-tert-Butylcalix[6]arene for synthesis

C<sub>66</sub>H<sub>84</sub>O<sub>6</sub>

- CAS-No. 78092-53-2
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 973.38 g/mol

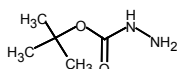
- Melting point 380 - 381 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

**Specification**

Assay (to C, H)..... ≥ 98,0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14708.0001	Glass bottle	1 g	inquire

## 801656 tert-Butyl carbazate for synthesis

C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>NH<sub>2</sub>NHCOOC(CH<sub>3</sub>)<sub>3</sub>

*tert-Butoxycarbonylhydrazide, Carbazinic acid tert-butyl ester, BOC-hydrazide, Hydrazine carboxylic acid tert-butyl ester*

- CAS-No. 870-46-2 ■ EC-No. 212-795-3
- Flash point 91 °C ■ M = 132.16 g/mol

- Melting point 38 - 41 °C ■ Boiling point 65 °C (1 hPa)
- WGK 3
- GHS: Danger, Flammable solid, Category 1, H228, P210, P262
- LGK 4.1B
- HS-No. 2928 00 90 ■ Disposal 3
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(TERT-BUTYL CARBAZAT), 4.1, II
- IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(TERT-BUTYL CARBAZATE), 4.1, II

- IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(TERT-BUTYL CARBAZATE), 4.1, II

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
Melting range (lower value)..... ≥ 38 °C  
Melting range (upper value)..... ≤ 41 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01656.0050	Glass bottle	50 g	inquire

n-Butyl carbinol → page 315

sec-Butyl carbinol → 2-Methyl-1-butanol page 305

Butyl carbitol → Diethylene glycol monobutyl ether  
page 301

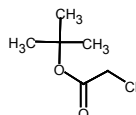
Butyl chloride → page 604

n-Butyl chloride → page 2

sec-Butyl chloride → 2-Chlorobutane page 604

tert-Butyl chloride → 2-Chloro-2-methylpropane  
page 620

## 841606 tert-Butyl chloroacetate for synthesis

C<sub>6</sub>H<sub>11</sub>ClO<sub>2</sub>*Chloroacetic acid tert-butyl ester*

- CAS-No. 107-59-5 ■ EC-No. 203-506-1
- Spec. density 1.053 g/cm<sup>3</sup> (20 °C)
- Flash point 46 °C ■ M = 150.6 g/mol
- Boiling point 47 - 49 °C (14.7 hPa)
- WGK 3

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273, P302 + P352, P309 + P310
- LC50 rat 4.7 mg/l
- LD50 oral rat 231 mg/kg ■ LD50 dermal rabbit 1414 mg/kg
- LGK 3
- HS-No. 2915 40 00 ■ Disposal 3

- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(TERT-BUTYLCHLOROACETAT), 3 (6.1), III
- IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(TERT-BUTYL CHLOROACETATE), 3 (6.1), III
- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(TERT-BUTYL CHLOROACETATE), 3 (6.1), III

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41606.0100	Glass bottle	100 ml	inquire

# Butyl

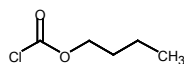
Butyl chlorocarboxylate → Butyl chloroformate  
page 544

tert-Butylchlorodimethylsilane → tert-  
Butyldimethylchlorosilane page 545

Butyl chloro dihydroxy stannan → Butyltinchloride-  
dihydroxide page 555

tert-Butylchlorodiphenylsilane → tert-Butyl-  
diphenylchlorosilane page 546

## 820270 Butyl chloroformate for synthesis



C<sub>5</sub>H<sub>9</sub>ClO<sub>2</sub>  
ClCOO(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>  
*Chloroformic acid butyl ester, Butyl chlorocarboxylate*  
■ CAS-No. 592-34-7 ■ EC-No. 209-750-5  
■ Refractive index 1.4114 (20 °C, 589 nm)  
■ Vapour pressure 7.18 hPa (20 °C)  
■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C)  
■ Flash point 39 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 136.57 g/mol  
■ Melting point -70 °C  
■ Boiling point 138.0 - 144.5 °C (1013 hPa)  
■ Ignition temp. 285 °C DIN 51794  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Skin corrosion, Category 1B, H314, P210, P280, P304 + P340, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 1325 mg/kg  
■ EC-Index-No. 607-138-00-6 ■ LGK 3  
■ HS-No. 2915 90 70 ■ Disposal 11

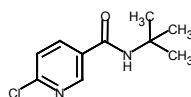
■ ADR-RID UN 2743 n-Butylchlorformiat, 6.1 (3, 8), II ■ IMDG-Code UN 2743 N-BUTYL CHLOROFORMATE, 6.1 (8, 3), II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2743 N-BUTYL CHLOROFORMATE, 6.1 (3, 8),

### Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.055 - 1.057  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20270.0250	Glass bottle	250 ml	inquire

## 843921 N-tert-Butyl-6-chloronicotinamide for synthesis



C<sub>10</sub>H<sub>13</sub>ClN<sub>2</sub>O  
■ CAS-No. 115309-58-5  
■ M = 212.68 g/mol ■ Melting point 108 - 110 °C  
■ WGK 3

■ LGK 10 - 13  
■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

Colour (visual) ..... white to off white  
Appearance of substance (visual) ..... powder  
Assay (HPLC, area%) ..... ≥ 97.0 Area %  
Melting range (lower value) ..... ≥ 107 °C  
Melting range (upper value) ..... ≤ 110 °C

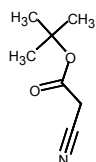
Water (K. F.) ..... ≤ 0,10 %(m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43921.0005	Glass bottle	5 g	inquire
8.43921.0025	Plastic bottle	25 g	inquire

2-tert-Butyl-p-cresol → 2-tert-Butyl-4-  
methylphenol page 552

Butyl cyanide → Pentanonitrile page 1271

## 841096 tert-Butyl cyanoacetate for synthesis



C<sub>7</sub>H<sub>11</sub>NO<sub>2</sub>  
*Cyanoacetic acid tert-butyl ester*

■ CAS-No. 1116-98-9 ■ EC-No. 214-243-7  
■ Spec. density 0.987 g/cm<sup>3</sup> (20 °C)  
■ Flash point 91 °C ■ M = 141.16 g/mol  
■ Boiling point 67 - 68 °C (2 hPa)  
■ WGK 3  
■ LGK 10  
■ HS-No. 2926 90 95 ■ Disposal 3  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(TERT-BUTYLCYANACETAT), 6.1, III  
■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

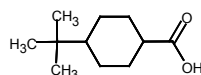
N.O.S.(TERT-BUTYL CYANOACETATE), 6.1, III  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(TERT-BUTYL CYANOACETATE), 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.985 - 0.989  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41096.0025	Glass bottle	25 ml	inquire

## 841275 4-tert-Butylcyclohexanecarboxylic acid (mixture of cis and trans isomers) for synthesis



C<sub>11</sub>H<sub>20</sub>O<sub>2</sub>  
■ CAS-No. 5451-55-8

■ M = 184.27 g/mol ■ Melting point 148 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2916 20 00 ■ Disposal 3

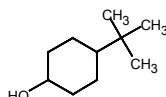
### Specification

Assay of cis-trans-Isomers (acidimetric) ... ≥ 99.0 %

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41275.0010	Glass bottle	10 g	inquire

## 814086 4-tert-Butylcyclohexanol (mixture of cis- and trans isomers) for synthesis



C<sub>10</sub>H<sub>20</sub>O  
■ CAS-No. 98-52-2 ■ EC-No. 202-676-4  
■ Refractive index 1.447 (80 °C, 589 nm) ■ Vapour pressure < 0.10 hPa (20 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (80 °C) ■ Explosive limit 0.64 - 7.9 %(V)

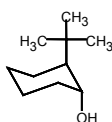
■ Flash point 105 °C ■ Solub. in H<sub>2</sub>O < 100 g/l (20 °C) ■ M = 156.26 g/mol  
■ Melting point 59 - 62 °C  
■ Boiling point 110 - 115 °C (20 hPa)  
■ Ignition temp. 420 °C  
■ WGK 1  
■ LD50 oral rat 4200 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2906 19 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
Melting range (lower value) ..... ≥ 59 °C  
Melting range (upper value) ..... ≤ 62 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14086.0250	Plastic bottle	250 g	inquire

## 824508 (+)-trans-2-tert-Butylcyclohexanol for synthesis



C<sub>10</sub>H<sub>20</sub>O  
■ CAS-No. 13492-07-4

■ Spec. density 1 g/cm<sup>3</sup> ■ M = 156.26 g/mol  
■ Melting point 54 - 57 °C ■ Boiling point 88 °C (10.7 hPa)  
■ WGK 1  
■ LGK 10 - 13  
■ HS-No. 2906 19 00 ■ Disposal 3

### Specification

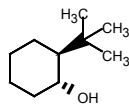
Assay (GC, area%) ..... ≥ 99.0 % (a/a)

Melting range (lower value) ..... ≥ 54 °C  
Melting range (upper value) ..... ≤ 57 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup> (c=1 in chloroform) ..... 40,0 - 44,0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24508.0500	Glass bottle	500 mg	inquire



## 824509 (-)-trans-2-tert-Butylcyclohexanol for synthesis

C<sub>10</sub>H<sub>20</sub>O

■ CAS-No. 98104-30-4

- Spec. density 1 g/cm<sup>3</sup> ■ M = 156.27 g/mol
- WGK 1
- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 3

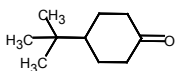
**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 54 °C

Melting range (upper value) ..... ≤ 57 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in chloroform) ..... -44,0 - -40,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24509.0500	Glass bottle	500 mg	inquire

## 841500 4-tert-Butylcyclohexanone for synthesis

C<sub>10</sub>H<sub>18</sub>O

■ CAS-No. 98-53-3 ■ EC-No. 202-678-5  
 ■ Spec. density 0.893 g/cm<sup>3</sup> (50 °C)  
 ■ Flash point 95 °C ■ M = 154.25 g/mol

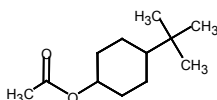
- Melting point 46 - 50 °C
- Boiling point 113 - 116 °C (26.6 hPa)
- Ignition temp. 440 °C
- WGK 2
- LD50 oral rat 5000 mg/kg ■ LD50 dermal rabbit 5000 mg/kg
- LGK 10 - 13
- HS-No. 2914 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 46 °C  
 Melting range (upper value) ..... ≤ 50 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41500.0100	Glass bottle	100 g	inquire

## 814083 4-tert-Butylcyclohexyl acetate (mixture of cis- and trans isomers) for synthesis

C<sub>12</sub>H<sub>22</sub>O<sub>2</sub>4-(CH<sub>3</sub>)<sub>3</sub>C-C<sub>6</sub>H<sub>10</sub>-OOCCH<sub>3</sub>*Acetic acid 4-tert-butylcyclohexyl ester*

■ CAS-No. 32210-23-4 ■ EC-No. 250-954-9  
 ■ Refractive index 1.4505 (20 °C, 589 nm)

- Vapour pressure 8 hPa (100 °C)
- Spec. density 0.94 g/cm<sup>3</sup> (20 °C)
- Flash point 102 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.3 g/mol
- Melting point -50 °C
- Boiling point 100 - 105 °C (11 hPa)
- Ignition temp. 390 °C
- WGK 1
- LD50 oral rat 5000 mg/kg
- LGK 10

■ HS-No. 2915 39 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,936 - 0,938  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14083.0250	Glass bottle	250 ml	inquire

N-Butyldiethanolamine → N-Butyl-2,2'-iminodiethanol page 548

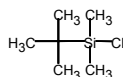
Butyl diglycol → Diethylene glycol monobutyl ether page 301

Butyl diglycol acetate → [2-(2-Butoxyethoxy)ethyl] acetate page 299

2-tert-Butyl-1,4-dihydroxybenzene → tert-Butylhydroquinone page 547

1-tert-Butyl-3,5-dimethylbenzene → 5-tert-Butyl-xylene page 556

## 818642 tert-Butyldimethylchlorosilane for synthesis

C<sub>6</sub>H<sub>15</sub>ClSi(CH<sub>3</sub>)<sub>3</sub>CSi(CH<sub>3</sub>)<sub>2</sub>Cl*tert-Butyldimethylsilyl chloride, tert-Butylchlorodimethylsilane, TBDMSCl*

■ CAS-No. 18162-48-6 ■ EC-No. 242-042-4  
 ■ Flash point 22 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 150.72 g/mol  
 ■ Melting point 87 - 90 °C ■ Boiling point 125 °C  
 ■ WGK 3

- GHS: Danger, Flammable solid, Category 1, H228; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310, P370 + P378
- LGK 4.1B
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 2925 Entzündbarer organischer fester Stoff, ätzend, n.a.g.(TERT-BUTYLDIMETHYLCHLORSILAN), 4.1 (8), II ■ IMDG-Code UN 2925 FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.(BUTYLDIMETHYLCHLOROSILANE), 4.1 (8), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2925 FLAMMABLE SOLID,

CORROSIVE, ORGANIC, N.O.S.(BUTYLDIMETHYLCHLOROSILANE), 4.1 (8), II

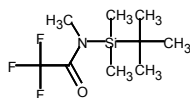
**Specification**

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 87 °C  
 Melting range (upper value) ..... ≤ 91 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18642.0025	Glass bottle	25 g	inquire
8.18642.0100	Glass bottle	100 g	inquire

tert-Butyldimethylsilyl chloride → tert-Butyldimethylchlorosilane page 545

## 814219 N-tert-Butyldimethylsilyl-N-methyltrifluoroacetamide for synthesis

C<sub>9</sub>H<sub>18</sub>F<sub>3</sub>NOSi*MTBSTFA*

■ CAS-No. 77377-52-7

■ Refractive index 1.4018 (20 °C, 589 nm)

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)

■ Flash point 52 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 241.33 g/mol

■ Boiling point 168 - 170 °C

■ WGK 3

- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(N-TERT-BUTYLDIMETHYLSILYL-N-METHYLTRIFLUOROACETAMID), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(N-TERT-BUTYLDIMETHYLSILYL-N-METHYLTRIFLUOROACETAMIDE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(N-TERT-BUTYLDIMETHYLSILYL-N-METHYLTRIFLUOROACETAMIDE), 3, III

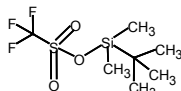
**Specification**

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,034 - 1,039  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14219.0001	Glass bottle	1 ml	inquire
8.14219.0005	Glass bottle	5 ml	inquire

tert-Butyldimethylsilyl triflate → tert-Butyldimethylsilyl trifluoromethanesulfonate page 546

## 818313 tert-Butyldimethylsilyl trifluoromethanesulfonate for synthesis



$C_7H_{15}F_3O_3Si$   
 $CF_3SO_3Si(CH_3)_2C(CH_3)_3$   
 Trifluoromethanesulfonic acid tert-butyl-dimethylsilyl ester, tert-Butyldimethylsilyl triflate  
 ■ CAS-No. 69739-34-0 ■ EC-No. 274-102-0  
 ■ Refractive index 1.3848 (20 °C, 589 nm)  
 ■ Spec. density 1.151 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 36 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 264.34 g/mol

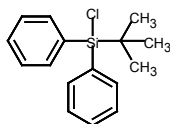
■ Boiling point 65 - 67 °C (13 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2931 90 90 ■ Disposal 10  
 ■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(TERT-BUTYLDIMETHYLSILYL-TRIFLUORMETHANSULFONAT), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(TERT-

BUTYLDIMETHYLSILYLTRIFLUORMETHANESULFONATE), 8 (3), II  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(TERT-BUTYLDIMETHYLSILYLTRIFLUORMETHANESULFONATE), 8 (3), II

**Specification**  
 Assay (acidimetric)..... ≥ 98,0 %  
 Density (d 20 °C/ 4 °C) ..... 1.145 - 1.152  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18313.0005	Glass bottle	5 ml	inquire
8.18313.0025	Glass bottle	25 ml	inquire

## 814047 tert-Butyl-diphenylchlorosilane for synthesis



$C_{16}H_{19}ClSi$   
 tert-Butylchlorodiphenylsilane, tert-Butyldiphenylsilyl chloride  
 ■ CAS-No. 58479-61-1 ■ EC-No. 261-282-0  
 ■ Refractive index 1.5675 (20 °C, 589 nm)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 274.86 g/mol  
 ■ Boiling point 90 °C (0.019 hPa)  
 ■ Ignition temp. 480 °C  
 ■ WGK 3  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2931 90 90 ■ Disposal 24  
 ■ ADR-RID UN 2987 Chlorosilane, ätzend, n.a.g., 8, II ■ IMDG-Code UN 2987 CHLOROSILANES, CORROSIVE, N.O.S., 8, II, Segregation Group: 1

(Acids)  
 ■ IATA-DGR UN 2987 CHLOROSILANES, CORROSIVE, N.O.S., 8, II  
 Derivatising agent for hydroxy groups to form the TBDMS protecting group/1.

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,070 - 1,080  
 Identity (IR) ..... passes test

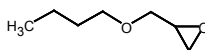
Ord.No.	Packaging	Quantity	Price
8.14047.0025	Glass bottle	25 ml	inquire

tert-Butyldiphenylsilyl chloride → tert-Butyl-diphenylchlorosilane page 546  
 Butyl disulfide → Dibutyl disulfide page 708

1,3-Butylene glycol → 1,3-Butanediol page 533  
 1,4-Butylene glycol → 1,4-Butanediol page 533

2,3-Butylene glycol → 2,3-Butanediol page 533  
 1,2-Butylene oxide → 1,2-Epoxybutane page 836

## 801553 Butyl 2,3-epoxypropyl ether for synthesis



$C_7H_{14}O_2$   
 Glycidol butyl ether, Butyl glycidyl ether, BGE, 1,2-Epoxy-3-butoxypropane  
 ■ CAS-No. 2426-08-6 ■ EC-No. 219-376-4  
 ■ Vapour pressure 5 hPa (20 °C)  
 ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 43 °C ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C)  
 ■ M = 130.19 g/mol ■ Boiling point 163 - 165 °C (1013 mbar) ■ Ignition temp. 215 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3,

H226; Carcinogenicity, Category 2, H351; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P210, P281, P273, P308 + P313, P302 + P352  
 ■ LC50 rat 14.02 mg/l  
 ■ LD50 oral rat 1660 mg/kg ■ LD50 dermal rabbit 2520 mg/kg  
 ■ EC-Index-No. 603-039-00-7 ■ LGK 3  
 ■ HS-No. 2910 90 00 ■ Disposal 3  
 ■ ADR-RID UN 3271 Ether, n.a.g.(BUTYL-2,3-

EPOXYPROPYLETHER), 3, III ■ IMDG-Code UN 3271 ETHERS, N.O.S.(BUTYL-2,3-EPOXYPROPYLETHER), 3, III  
 ■ IATA-DGR UN 3271 ETHERS, N.O.S.(BUTYL-2,3-EPOXYPROPYLETHER), 3, III

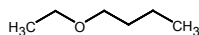
**Specification**  
 Assay (GC, area%)..... ≥ 94,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,911 - 0,915  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,005 %(m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01553.0250	Glass bottle	250 ml	inquire

N-tert-Butylethanolamin → 2-tert-Butylamino-ethanol page 540

Butyl ether → Dibutyl ether page 301

## 840031 n-Butylethylether for synthesis



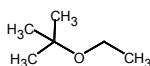
$C_6H_{14}O$   
 1-Ethoxy-butane  
 ■ CAS-No. 628-81-9 ■ EC-No. 211-055-7  
 ■ Vapour pressure 58 hPa (20 °C)  
 ■ Spec. density 0.75 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 18.5 %(V) ■ Flash point -13 °C ■ Solub. in H<sub>2</sub>O 3.8 g/l (20 °C) ■ M = 102.17 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point -

124 °C ■ Boiling point 93 °C (1013 hPa)  
 ■ Ignition temp. 184 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302, P210, P223, P260  
 ■ LC50 rat > 4 mg/l  
 ■ LD50 oral rat 1870 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2909 19 90 ■ Disposal 1  
 ■ ADR-RID UN 1179 Ethylbutylether, 3, II

■ IMDG-Code UN 1179 ETHYL BUTYL ETHER, 3, II  
 ■ IATA-DGR UN 1179 ETHYL BUTYL ETHER, 3, II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,747 - 0,752  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40031.0025	Glass bottle	25 ml	inquire

## 841873 tert-Butyl ethyl ether for synthesis



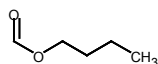
$C_6H_{14}O$   
 ■ CAS-No. 637-92-3 ■ EC-No. 211-309-7  
 ■ Vapour pressure 173 hPa (25 °C)  
 ■ Spec. density 0.74 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.23 - 7.7 %(V) ■ Flash point -19 °C ■ Solub. in H<sub>2</sub>O 12 g/l (25 °C) ■ M = 102.18 g/mol  
 ■ Melting point -97 °C ■ Boiling point 71 °C

(1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P233  
 ■ LC50 rat > 5880 mg/m<sup>3</sup>  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2909 19 10 ■ Disposal 3  
 ■ ADR-RID UN 1179 Ethylbutylether, 3, II  
 ■ IMDG-Code UN 1179 ETHYL BUTYL ETHER, 3, II

■ IATA-DGR UN 1179 ETHYL BUTYL ETHER, 3, II  
**Specification**  
 Assay (GC, area%)..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,737 - 0,744  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41873.0002	Glass bottle	2 ml	inquire
8.41873.0005	Glass bottle	5 ml	inquire
8.41873.0025	Glass bottle	25 ml	inquire

## 820055 Butyl formate for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>HCOO(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>

Formic acid butyl ester

- CAS-No. 592-84-7 ■ EC-No. 209-772-5
- Refractive index 1.3912 (20 °C, 589 nm)
- Vapour pressure 29 hPa (20 °C)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 8.2 % (V) ■ Flash point 18 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition), Hydrolysis

- M = 102.13 g/mol ■ pH value 6 - 7 (H<sub>2</sub>O)
- Saturation conc. 164 g/m<sup>3</sup> (20 °C) Air
- Melting point -92 °C
- Boiling point 105 - 107 °C (1013 hPa)
- Ignition temp. 320 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P262, P304 + P340, P305 + P351 + P338
- EC-Index-No. 607-017-00-8 ■ LGK 3
- HS-No. 2915 13 00 ■ Disposal 3

- ADR-RID UN 1128 n-Butylformiat, 3, II ■ IMDG-Code UN 1128 N-BUTYL FORMATE, 3, II
- IATA-DGR UN 1128 N-BUTYL FORMATE, 3, II

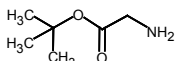
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.893 - 0.895  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20055.0100	Glass bottle	100 ml	inquire
8.20055.0500	Glass bottle	500 ml	inquire

Butyl glycidyl ether → Butyl 2,3-epoxypropyl ether page 546

## 818213 tert-Butyl glycinate for synthesis

C<sub>6</sub>H<sub>13</sub>N<sub>2</sub>H<sub>2</sub>NCH<sub>2</sub>COOC(CH<sub>3</sub>)<sub>3</sub>

Glycine tert-butyl ester

- CAS-No. 6456-74-2
- Refractive index 1.4237 (20 °C, 589 nm)

- Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 131.17 g/mol
- Boiling point 29 - 31 °C (3 hPa)
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2922 49 85 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

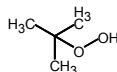
Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.959 - 0.962  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18213.0006	Glass bottle	5 ml	inquire

Butyl glycol → Ethylene glycol monobutyl ether page 303

Butyl glycol acetate → 2-Butoxyethyl acetate page 299

## 814006 tert-Butyl hydroperoxide (70% solution in water) for synthesis



- Refractive index 1.4015 (20 °C, 589 nm)
- Vapour pressure 232 hPa (60 °C)
- Spec. density 0.94 g/cm<sup>3</sup> (20 °C)
- Flash point 38 °C ■ Solub. in H<sub>2</sub>O 130 - 150 g/l (20 °C) ■ Melting point -3 °C ■ Boiling point 37 °C (20 hPa)
- WGK 3
- GHS: Danger, Self reactive substances, Type F, H242; Flammable liquid, Category 3, H226; Acute

- toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1A, H314; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 810 mg/kg ■ LD50 dermal rabbit 628 mg/kg
- LGK 5.2
- HS-No. 2909 60 00 ■ Disposal 10
- ADR-RID UN 3109 Organisches Peroxid Typ F, flüssig(TERT-BUTYLHYDROPEROXID), 5.2 (8),

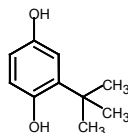
- IMDG-Code UN 3109 ORGANIC PEROXIDE TYPE F, LIQUID(TERT-BUTYL HYDROPEROXIDE), 5.2 (8),
- IATA-DGR UN 3109 ORGANIC PEROXIDE TYPE F, LIQUID(TERT-BUTYL HYDROPEROXIDE), 5.2 (8),

## Specification

Assay (iodometric) ..... 67,0 - 73,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,937 - 0,938

Ord.No.	Packaging	Quantity	Price
8.14006.0005	Glass bottle	5 ml	inquire
8.14006.0250	Plastic bottle	250 ml	inquire
	Plastic bottle	6 x 250 ml	inquire

## 841424 tert-Butylhydroquinone for synthesis

C<sub>10</sub>H<sub>14</sub>O<sub>2</sub>

2-tert-Butyl-1,4-dihydroxybenzene

- CAS-No. 1948-33-0 ■ EC-No. 217-752-2
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C)
- Flash point 171 °C ■ M = 166.21 g/mol
- Melting point 127 - 129 °C
- Boiling point 295 °C (1013 hPa)

- Ignition temp. 457 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P305 + P351 + P338
- LD50 oral rat 700 mg/kg
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(TERT-BUTYLHYDROCHINON), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY

- HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TERT-BUTYLHYDROQUINONE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TERT-BUTYLHYDROQUINONE), 9, III

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Melting range (lower value) ..... ≥ 126 °C  
 Melting range (upper value) ..... ≤ 129 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41424.0100	Plastic bottle	100 g	inquire
8.41424.0500	Plastic bottle	500 g	inquire

3-tert-Butyl-4-hydroxyanisole → 2-tert-Butyl-4-methoxyphenol page 549

Butylhydroxyoxo stannane → Butyltinhydroxide-oxide page 555

tert-Butyl N-hydroxycarbamate → N-tert-BOC-Hydroxylamine page 479

Butylhydroxytoluene → 2,6-Di-tert-butyl-4-methylphenol page 709

## 814979 1-Butyl imidazole for synthesis

C<sub>7</sub>H<sub>12</sub>N<sub>2</sub>

- CAS-No. 4316-42-1 ■ EC-No. 224-335-9
- Spec. density 0.951 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.7 - 15.7 % (V) ■ Flash point 145 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 124.19 g/mol
- Melting point 90 - 91 °C ■ Boiling point 257 °C (1013 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Skin corrosion, Category 1B,

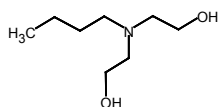
- H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.11 mg/l
- LGK 6.1A
- HS-No. 2933 29 90 ■ Disposal 9
- ADR-RID UN 2690 n,n-Butylimidazol, 6.1, II
- IMDG-Code UN 2690 N,N-BUTYLIMIDAZOLE, 6.1, II
- IATA-DGR UN 2690 N,N-BUTYLIMIDAZOLE, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,949 - 0,953  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14979.0025	Glass bottle	25 ml	inquire
8.14979.0100	Glass bottle	100 ml	inquire

## 801551 N-Butyl-2,2'-iminodiethanol for synthesis



$C_8H_{19}NO_2$   
 $CH_3(CH_2)_3N(CH_2CH_2OH)_2$   
*N-Butylbis(2-hydroxyethyl)-amine, N-Butyldiethanolamine*  
 ■ CAS-No. 102-79-4 ■ EC-No. 203-055-0  
 ■ Refractive index 1.4625 (20 °C, 589 nm)  
 ■ Vapour pressure 3.6 hPa (20 °C)  
 ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 6.5 % (V) ■ Flash point 143 °C ■ Solub.

in H<sub>2</sub>O (20 °C) soluble ■ M = 161.24 g/mol  
 ■ pH value 10.8 - 11.1 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -45 °C ■ Boiling point 264 °C (1013 hPa) ■ Ignition temp. 260 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 4800 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(N-BUTYL-2,2-IMINODIETHANOL), 8, II  
 ■ IMDG-Code UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(N-BUTYL-2,2-IMINODIETHANOL), 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(N-BUTYL-2,2-IMINODIETHANOL), 8, II

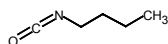
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,969 - 0,971  
 Water (K. F.)..... ≤ 0,50 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01551.0250	Glass bottle	250 ml	inquire
8.01551.1000	Glass bottle	1 l	inquire

Butyl iodide → 1-Iodobutane page 1009

sec-Butyl iodide → 2-Iodobutane page 1009

## 840099 n-Butyl isocyanate for synthesis



$C_5H_9NO$   
*Isocyanic acid butyl ester*  
 ■ CAS-No. 111-36-4 ■ EC-No. 203-862-8  
 ■ Vapour pressure 23 hPa (20 °C)  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 10 % (V) ■ Flash point 19 °C  
 ■ M = 99.13 g/mol ■ Melting point -75 °C  
 ■ Boiling point 116 °C ■ Ignition temp. 425 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Respiratory sensitisation, Category 1, H334;

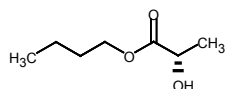
Acute toxicity, Category 1, Inhalation, H330; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P260, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310, P342 + P311  
 ■ LC50 rat 0.059 mg/l  
 ■ LD50 oral rat 360 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2929 10 00 ■ Disposal 11  
 ■ ADR-RID UN 2485 n-Butylisocyanat, 6.1 (3), I  
 ■ IMDG-Code UN 2485 N-BUTYL ISOCYANATE, 6.1 (3), I

■ IATA-DGR UN 2485 N-BUTYL ISOCYANATE, 6.1 (3),

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,887 - 0,890  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.40099.0005	Glass bottle	5 ml	inquire
8.40099.0025	Glass bottle	25 ml	inquire
8.40099.0250	Glass bottle	250 ml	inquire

## 814557 (S)-(-)-Butyllactate for synthesis



$C_7H_{14}O_3$   
 ■ CAS-No. 34451-19-9 ■ EC-No. 252-036-3  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)

■ Flash point 79 °C ■ Solub. in H<sub>2</sub>O 34 g/l (20 °C)  
 ■ M = 146.18 g/mol ■ Boiling point 187 - 189 °C  
 ■ Ignition temp. 300 °C  
 ■ WGK 1  
 ■ LGK 10  
 ■ HS-No. 2918 11 00 ■ Disposal 3

Spec. rotation [ $\alpha^20/D$  (undiluted)]..... -13,5 - -11,0 °  
 Identity (IR)..... conforms

**Specification**  
 Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,981 - 0,983

Ord.No.	Packaging	Quantity	Price
8.14557.0101	Glass bottle	100 ml	inquire
8.14557.0500	Glass bottle	500 ml	inquire

## n-Butyllithium



*BuLi solution, 1-Lithiobutane, n-Butyllithium, NBL*  
 ■ Vapour pressure 163 hPa (20 °C)  
 ■ Spec. density 0.68 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 7.8 % (V) ■ Flash point -22 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ pH value (H<sub>2</sub>O, 20 °C) alkaline ■ Melting point -95 °C ■ Boiling point 69 °C (1013 hPa)  
 ■ Ignition temp. 240 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2,

H225; Pyrophoric liquid, Category 1, H250; Substances, which in contact with water, emit flammable gases, Category 1, H260; Skin corrosion, Category 1B, H314; Reproductive toxicity, Category 2, H361F; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P233, P273, P280, P309 + P310, P301 + P330 + P331, P305 + P351 + P338, P370 + P378  
 ■ LGK 4.2

■ HS-No. 2931 90 90  
 ■ ADR-RID UN 3394 Pyrophorer metallorganischer flüssiger Stoff, mit Wasser reagierend(BUTYLLITHIUM), 4.2 (4.3), I ■ IMDG-Code UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE(BUTYLLITHIUM), 4.2 (4.3), I  
 ■ IATA-DGR UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE(BUTYLLITHIUM), 4.2 (4.3),

## 801660 Butyllithium (15% solution in n-hexane) for synthesis

**Specification**  
 Assay (acidimetric)..... 14.0 - 16.0 %

Ord.No.	Packaging	Quantity	Price
8.01660.0100	Glass bottle	100 ml	inquire
	Glass bottle	6 x 100 ml	inquire

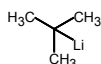
## 818874 Butyllithium (15% solution in n-hexane) for synthesis

**Specification**  
 Assay (acidimetric)..... 13.5 - 16.5 %  
 Assay (total alkalinity)..... 13.5 - 16.5 %

Ord.No.	Packaging	Quantity	Price
8.18874.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire



## 814147 tert-Butyllithium (15% solution in n-pentane) for synthesis



## Lithium-tert-butyl

- Vapour pressure 573 hPa (20 °C) (Pentane)
- Spec. density 0.63 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 7.8 % (V) (Pentane) ■ Flash point -48 °C (Pentane) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition) ■ pH value >7 (H<sub>2</sub>O, 20 °C)
- Melting point -130 °C (Pentane)
- Boiling point 36 °C (1013 hPa) (Pentane)
- Ignition temp. 285 °C (Pentane)
- WGK 2

- GHS: Danger, Pyrophoric liquid, Category 1, H250; Substances and mixtures, which in contact with water, emit flammable gases, Category 1, H260; Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H336; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P301 + P310, P301 + P330 + P331, P305 + P351 + P338, P370 + P378
- LGK 4.2 ■ Store below +15°C.
- HS-No. 2931 90 90 ■ Disposal 8
- ADR-RID UN 3394 Pyrophorer metallorganischer flüssiger Stoff, mit Wasser reagierend(TERT-

BUTYLLITHIUM), 4.2 (4.3), I ■ IMDG-Code UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE(TERT-BUTYLLITHIUM), 4.2 (4.3), I

■ IATA-DGR UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE(TERT-BUTYLLITHIUM), 4.2 (4.3),

## Specification

Assay (acidimetric)..... 14.5 - 19.5 %  
Assay (total alkalinity)..... 14.5 - 19.5 %

Ord.No.	Packaging	Quantity	Price
8.14147.0100	Glass bottle	100 ml	inquire

Butylmalonic acid diethyl ester → Diethyl

butylmalonate page 740

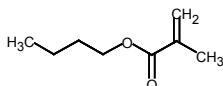
Butyl mercaptan → 1-Butanethiol page 534

sec-Butyl mercaptan → 2-Butanethiol page 535

tert-Butyl mercaptan → 2-Methyl-2-propanethiol

page 1173

## 800585 Butyl methacrylate (stabilised) for synthesis



C<sub>8</sub>H<sub>14</sub>O<sub>2</sub>

CH<sub>2</sub>=C(CH<sub>3</sub>)COO(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>

Butyl-2-methylpropenoate, Methacrylic acid butyl ester

- CAS-No. 97-88-1 ■ EC-No. 202-615-1
- Refractive index 1.424 (20 °C, 589 nm) ■ Vapour pressure 2.7 hPa (20 °C) ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.00 - 8.00 % (V)
- Flash point 46 °C ■ Solub. in H<sub>2</sub>O 0.36 g/l

(25 °C) ■ M = 142.20 g/mol ■ Melting point -75 °C ■ Boiling point 163 °C (1013 hPa)

■ Ignition temp. 290 °C

■ WGK 1

■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338

■ LC50 rat 29 mg/l

■ LD50 oral rat > 2000 mg/kg

■ LD50 dermal rabbit > 2000 mg/kg

■ EC-Index-No. 607-033-00-5 ■ LGK 3

■ HS-No. 2916 14 00 ■ Disposal 3

■ ADR-RID UN 2227 n-Butylmethacrylat, stabilisiert, 3, III ■ IMDG-Code UN 2227 N-BUTYL METHACRYLATE, STABILIZED, 3, III

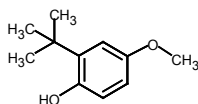
■ IATA-DGR UN 2227 N-BUTYL METHACRYLATE, STABILIZED, 3, III

## Specification

Assay (GC, area%)..... ≥ 99.0 Area %  
Density (d 20 °C/4 °C)..... 0.894 - 0.895  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00585.0100	Glass bottle	100 ml	inquire
8.00585.0500	Glass bottle	500 ml	inquire

## 820246 2-tert-Butyl-4-methoxyphenol for synthesis



C<sub>11</sub>H<sub>16</sub>O<sub>2</sub>

2-[(CH<sub>3</sub>)<sub>3</sub>C]-4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>3</sub>OH

BHA, 3-tert-Butyl-4-hydroxyanisole

■ CAS-No. 121-00-6 ■ EC-No. 204-442-7

■ Vapour pressure 1.33 hPa (105 °C)

■ Flash point 130 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 180.25 g/mol

■ Melting point 48 - 63 °C ■ Boiling point 263 °C (1013 hPa)

■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302

■ LD50 oral rat 880 mg/kg

■ LGK 10 - 13

■ HS-No. 2909 50 00 ■ Disposal 3

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20246.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
8.20246.0500	Plastic bottle	500 g	inquire

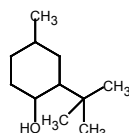
N-Butylmethylamine → N-Methylbutylamine page

1140

1-tert-Butyl-4-methyl benzene → 4-tert-

Butyltoluene page 555

## 814694 2-tert-Butyl-4-methylcyclohexanol for synthesis



C<sub>11</sub>H<sub>22</sub>O

■ CAS-No. 67634-11-1 ■ EC-No. 266-815-0

■ Vapour pressure < 1 hPa (20 °C)

■ Spec. density 0.9 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 6.6 % (V) ■ Flash point 104 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 170.3 g/mol

■ Boiling point 215 - 216 °C (1013 hPa)

■ Ignition temp. 275 °C

■ WGK 2

■ LD50 oral rat 4970 mg/kg ■ LD50 dermal rat > 2000 mg/kg

■ LGK 10

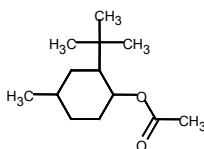
■ HS-No. 2906 19 00 ■ Disposal 3

## Specification

Assay isomers (GC, area%)..... ≥ 97.0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14694.0025	Glass bottle	25 ml	inquire

## 814693 (2-tert-Butyl-4-methylcyclohexyl) acetate (mixture of isomers) for synthesis



C<sub>13</sub>H<sub>24</sub>O<sub>2</sub>

■ CAS-No. 115724-27-1

■ Vapour pressure < 1 hPa (50 °C)

■ Spec. density 0.925 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 0.6 - 4.3 % (V) ■ Flash point 96 °C DIN 51758

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 212.34 g/mol

■ pH value 7.5 (100 g/l, H<sub>2</sub>O, 20 °C) (as an emulsion) ■ Boiling point 60 - 70 °C (0.4 hPa)

■ Ignition temp. 265 °C DIN 51794

■ WGK 3

■ LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat

> 2000 mg/kg

■ LGK 10

■ HS-No. 2915 39 00 ■ Disposal 3

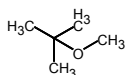
## Specification

Assay isomers (GC, area%)..... ≥ 95.0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14693.0025	Glass bottle	25 ml	inquire

# Butylm

## tert-Butyl methyl ether



C<sub>5</sub>H<sub>12</sub>O  
(CH<sub>3</sub>)<sub>3</sub>COCH<sub>3</sub>  
Methyl tert-butyl ether, MTB, MTBE, Methyl tert-butyl ether  
■ CAS-No. 1634-04-4 ■ EC-No. 216-653-1  
■ Refractive index 1.3756 (20 °C, 589 nm)  
■ Vapour pressure 268 hPa (20 °C)

■ Spec. density 0.74 g/cm<sup>3</sup> (20 °C) ■ El. dipole moment 1.23 (20 °C) ■ Explosive limit 1.5 - 8.5 % (V) ■ Flash point -28 °C ■ Solub. in H<sub>2</sub>O 42 g/l (20 °C) ■ M = 88.15 g/mol  
■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -108.6 °C ■ Boiling point 55.3 °C (1013 hPa)  
■ Ignition temp. 460 °C  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315, P210, P233, P302 + P352

■ LC50 rat 85 mg/l  
■ LD50 oral rat > 2000 mg/kg  
■ LD50 dermal rabbit > 2000 mg/kg  
■ EC-Index-No. 603-181-00-X ■ LGK 3  
■ HS-No. 2909 19 90 ■ Disposal 3  
■ ADR-RID UN 2398 Methyl-tert-butylether, 3, II  
■ IMDG-Code UN 2398 METHYL TERT-BUTYL ETHER, 3, II  
■ IATA-DGR UN 2398 METHYL TERT-BUTYL ETHER, 3, II



### 101843 tert-Butyl methyl ether EMPLURA®

**Specification**  
Purity (GC)..... ≥ 99.0 %  
Identity (IR)..... conforms  
Free acid (as CH<sub>3</sub>COOH)..... ≤ 0.001 %  
Density (d 20 °C/ 4 °C)..... 0.740 - 0.742  
Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.005 %

Evaporation residue..... ≤ 0.005 %  
Water..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.01843.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01843.6025	Drum stainl. st.	25 l	inquire
1.01843.6190	Drum stainl. st.	190 l	inquire
1.01843.9011	Steel barrel	10 l	inquire

### 101849 tert-Butyl methyl ether for analysis EMSURE® ACS

**Specification**  
Purity (GC)..... ≥ 99.5 %  
Identity (IR)..... conforms  
Colour..... ≤ 10 Hazen  
Acidity..... ≤ 0.0005 meq/g  
Al (Aluminium)..... ≤ 0.00005 %  
B (Boron)..... ≤ 0.000002 %  
Ba (Barium)..... ≤ 0.00001 %  
Ca (Calcium)..... ≤ 0.00005 %  
Cd (Cadmium)..... ≤ 0.000005 %  
Co (Cobalt)..... ≤ 0.000002 %

Cr (Chromium)..... ≤ 0.000002 %  
Cu (Copper)..... ≤ 0.000002 %  
Fe (Iron)..... ≤ 0.00001 %  
Mg (Magnesium)..... ≤ 0.00001 %  
Mn (Manganese)..... ≤ 0.000002 %  
Ni (Nickel)..... ≤ 0.000002 %  
Pb (Lead)..... ≤ 0.00001 %  
Sn (Tin)..... ≤ 0.00001 %  
Zn (Zinc)..... ≤ 0.00001 %  
Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.0001 %

Evaporation residue..... ≤ 0.001 %  
Water..... ≤ 0.03 %

Ord.No.	Packaging	Quantity	Price
1.01849.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01849.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01849.4000	Glass bottle	4 l	inquire
1.01849.9190	Steel barrel	190 l	inquire

### 101995 tert-Butyl methyl ether for gas chromatography ECD and FID SupraSolv®

**Specification**  
Purity (GC)..... ≥ 99.8 %  
Identity (IR)..... conforms  
Evaporation residue..... ≤ 3.0 mg/l  
Water..... ≤ 0.02 %  
Colour..... ≤ 10 Hazen  
GC/ECD (retention range 1,2,4-trichlorobenzene to

decachlorobiphenyle individual signals (lindane standard))..... ≤ 3 pg/ml  
GC/FID (retention range n-undecane - n-tetracontane individual signals (n- tetradecane standard))..... ≤ 3 ng/ml  
suitable for residue analysis

Ord.No.	Packaging	Quantity	Price
1.01995.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01995.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

### 101984 tert-Butyl methyl ether for spectroscopy Uvasol®

**Specification**  
Purity (GC)..... ≥ 99.9 %  
Evaporation residue..... ≤ 0.0002 %  
Water..... ≤ 0.01 %  
Colour..... ≤ 10 Hazen  
Acidity..... ≤ 0.0002 meq/g  
Alkalinity..... ≤ 0.0002 meq/g  
Fluorescence (as quinine at 254 nm)..... ≤ 1.0 ppb  
Fluorescence (as quinine at 365 nm)..... ≤ 1.0 ppb  
Transmission (at 215 nm)..... ≥ 40 %

Transmission (at 235 nm)..... ≥ 55 %  
Transmission (at 240 nm)..... ≥ 60 %  
Transmission (at 255 nm)..... ≥ 85 %  
Transmission (at 260 nm)..... ≥ 90 %  
Transmission (from 280 nm)..... ≥ 98 %  
Absorbance (at 215 nm)..... ≤ 0.40  
Absorbance (at 235 nm)..... ≤ 0.26  
Absorbance (at 240 nm)..... ≤ 0.22  
Absorbance (at 255 nm)..... ≤ 0.07

Absorbance (at 260 nm)..... ≤ 0.05  
Absorbance (from 280 nm)..... ≤ 0.01  
Meet the requirements of "Specific use spectroscopy" according ACS and Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.01984.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

### 101845 tert-Butyl methyl ether for liquid chromatography LiChrosolv®

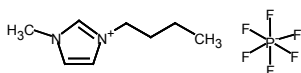
**Specification**  
Purity (GC)..... ≥ 99.8 %  
Identity (IR)..... conforms  
Evaporation residue..... ≤ 2.0 mg/l  
Water..... ≤ 0.02 %  
Acidity..... ≤ 0.0002 meq/g  
Alkalinity..... ≤ 0.0002 meq/g

Transmission (at 240 nm)..... ≥ 60 %  
Transmission (at 255 nm)..... ≥ 85 %  
Transmission (from 280 nm)..... ≥ 98 %  
Filtered by 0.2 µm filter

Ord.No.	Packaging	Quantity	Price
1.01845.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01845.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01845.9010	Barrel stainl. st.	10 l	inquire



## 1-Butyl-3-methylimidazolium hexafluorophosphate



C<sub>8</sub>H<sub>15</sub>F<sub>6</sub>N<sub>2</sub>P  
C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> F<sub>6</sub>P

- CAS-No. 174501-64-5
- Spec. density 1.38 g/cm<sup>3</sup> (20 °C)
- M = 284.18 g/mol ■ pH value 5 (H<sub>2</sub>O, 20 °C)
- Melting point 12 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319, P302 + P352,  
P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2933 29 90

## 490050 1-Butyl-3-methylimidazolium hexafluorophosphate for synthesis

## Specification

Purity (HPLC) ..... ≥ 98,0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0,1 %  
Water (K. F.) ..... ≤ 1,0 %

Ord.No.	Packaging	Quantity	Price
4.90050.0025	Glass bottle	25 g	inquire
4.90050.0100	Glass bottle	100 g	inquire
4.90050.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

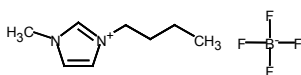
## 491050 1-Butyl-3-methylimidazolium hexafluorophosphate high purity

## Specification

Purity (HPLC) ..... ≥ 99,0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 100 ppm  
Water (K. F.) ..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91050.0025	Glass bottle	25 g	inquire
4.91050.0100	Glass bottle	100 g	inquire
4.91050.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 1-Butyl-3-methylimidazolium tetrafluoroborate



C<sub>8</sub>H<sub>15</sub>BF<sub>4</sub>N<sub>2</sub>

- CAS-No. 174501-65-6
- Spec. density 1.20 g/cm<sup>3</sup> ■ M = 226.02 g/mol
- pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -71 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319, P302 + P352,  
P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2933 29 90

## 490049 1-Butyl-3-methylimidazolium tetrafluoroborate for synthesis

## Specification

Purity (HPLC) ..... ≥ 98,0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0,1 %  
Water (K. F.) ..... ≤ 1,0 %

Ord.No.	Packaging	Quantity	Price
4.90049.0025	Glass bottle	25 g	inquire
4.90049.0100	Glass bottle	100 g	inquire
4.90049.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

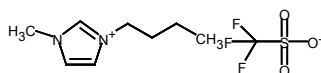
## 491049 1-Butyl-3-methylimidazolium tetrafluoroborate high purity

## Specification

Purity (HPLC, area%) ..... ≥ 99,0 %  
Identity (NMR) ..... passes test  
Halides ..... ≤ 100 ppm  
Water (K. F.) ..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91049.0025	Glass bottle	25 g	inquire
4.91049.0100	Glass bottle	100 g	inquire
4.91049.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 1-Butyl-3-methylimidazolium trifluoromethanesulfonate



C<sub>9</sub>H<sub>15</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>S

C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> CF<sub>3</sub>O<sub>3</sub>S

■ CAS-No. 174899-66-2

- Spec. density 1.30 g/cm<sup>3</sup> ■ M = 288.29 g/mol
  - pH value 7 - 8 (200 g/l, H<sub>2</sub>O, 20 °C)
  - Melting point 17 °C
  - WGK 3
  - GHS: Warning, Skin irritation, Category 2, H315;
- Eye irritation, Category 2, H319, P302 + P352,  
P305 + P351 + P338

■ LGK 10 - 13  
■ HS-No. 2933 29 90  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
Dangerous Good  
■ IATA-DGR No Dangerous Good

## 490024 1-Butyl-3-methylimidazolium trifluoromethanesulfonate for synthesis

## Specification

Purity (HPLC) ..... ≥ 98,0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0,1 %  
Water (K. F.) ..... ≤ 1,0 %

Ord.No.	Packaging	Quantity	Price
4.90024.0025	Glass bottle	25 g	inquire
4.90024.0100	Glass bottle	100 g	inquire
4.90024.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 491024 1-Butyl-3-methylimidazolium trifluoromethanesulfonate high purity

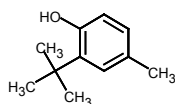
## Specification

Purity (HPLC) ..... ≥ 99,0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 100 ppm  
Water (K. F.) ..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91024.0025	Glass bottle	25 g	inquire
4.91024.0100	Glass bottle	100 g	inquire
4.91024.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

tert-Butyl methyl ketone → 3,3-Dimethyl-2-butanone page 784

## 818620 2-tert-Butyl-4-methylphenol for synthesis

C<sub>11</sub>H<sub>16</sub>O2-[(CH<sub>3</sub>)<sub>3</sub>C]-4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>OH

2-tert-Butyl-p-cresol

■ CAS-No. 2409-55-4 ■ EC-No. 219-314-6

■ Vapour pressure 0.02 hPa (20 °C)

■ Spec. density 0.92 g/cm<sup>3</sup> (75 °C)

- Flash point 105 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 164.24 g/mol ■ pH value 4 - 5 (H<sub>2</sub>O, 20 °C) (saturated solution) ■ Melting point 49 - 52 °C
- Boiling point 237 °C (1013 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 2390 mg/kg ■ LD50 dermal rabbit 2200 mg/kg

- LGK 10 - 13
- HS-No. 2907 19 90 ■ Disposal 3

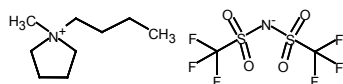
## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 49 °C  
 Melting range (upper value)..... ≤ 53 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18620.0100	Plastic bottle	100 g	inquire
8.18620.0500	Plastic bottle	500 g	inquire

Butyl-2-methylpropenoate → Butyl methacrylate page 549

## 1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide

C<sub>11</sub>H<sub>20</sub>F<sub>6</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>C<sub>9</sub>H<sub>20</sub>N C<sub>2</sub>F<sub>6</sub>NO<sub>4</sub>S<sub>2</sub>

■ CAS-No. 223437-11-4

■ Spec. density 1.40 g/cm<sup>3</sup> ■ M = 422.41 g/mol■ pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -6 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2935 00 90

## 490046 1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide for synthesis

## Specification

Purity (electrophoresis)..... ≥ 98.0 %  
 Identity (NMR)..... passes test  
 Halides (IC)..... ≤ 0.1 %  
 Water (K. F.)..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90046.0025	Glass bottle	25 g	inquire
4.90046.0100	Glass bottle	100 g	inquire
4.90046.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 491046 1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide high purity

## Specification

Purity (electrophoresis)..... ≥ 99.0 %  
 Identity (NMR)..... passes test  
 Halides (IC)..... ≤ 100 ppm  
 Water (K. F.)..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91046.0025	Glass bottle	25 g	inquire
4.91046.0100	Glass bottle	100 g	inquire
4.91046.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

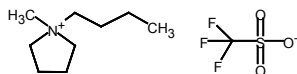
## 492046 1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide ultra pure

## Specification

Purity (electrophoresis)..... ≥ 99.0 %  
 Identity (NMR)..... passes test  
 Halides (IC)..... ≤ 10 ppm  
 Water (K. F.)..... ≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
4.92046.0025	Glass bottle	25 g	inquire
4.92046.0100	Glass bottle	100 g	inquire
4.92046.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 1-Butyl-1-methylpyrrolidinium trifluoromethanesulfonate

C<sub>10</sub>H<sub>20</sub>F<sub>3</sub>NO<sub>3</sub>SC<sub>9</sub>H<sub>20</sub>N CF<sub>3</sub>O<sub>3</sub>S

■ CAS-No. 367522-96-1

■ Spec. density 1.25 g/cm<sup>3</sup> (20 °C)■ M = 291.34 g/mol ■ pH value 6 (H<sub>2</sub>O, 25 °C)

■ Melting point 3 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80

## 490029 1-Butyl-1-methylpyrrolidinium trifluoromethanesulfonate for synthesis

## Specification

Purity (electrophoresis)..... ≥ 98.0 %  
 Identity (NMR)..... passes test  
 Halides (IC)..... ≤ 0.1 %  
 Water (K. F.)..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90029.0025	Glass bottle	25 g	inquire
4.90029.0100	Glass bottle	100 g	inquire
4.90029.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 491029 1-Butyl-1-methylpyrrolidinium trifluoromethanesulfonate high purity

## Specification

Purity (electrophoresis)..... ≥ 99.0 %  
 Identity (NMR)..... passes test  
 Halides (IC)..... ≤ 100 ppm  
 Water (K. F.)..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91029.0025	Glass bottle	25 g	inquire
4.91029.0100	Glass bottle	100 g	inquire
4.91029.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

Butyl nicotinate → Butyl 3-pyridinecarboxylate page 554

## 820247 Butyl nitrite for synthesis

C<sub>4</sub>H<sub>9</sub>NO<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>ONO

Nitrous acid butyl ester

- CAS-No. 544-16-1 ■ EC-No. 208-862-1
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C)
- Flash point 10 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 103.12 g/mol
- Boiling point 78 °C (decomposition)

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301, P210, P233, P304 + P340, P309 + P310
- LC50 rat 1.8 mg/l
- LD50 oral rat 83 mg/kg
- EC-Index-No. 007-016-00-7 ■ LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2920 90 85
- ADR-RID UN 2351 Butylnitrite, 3, II ■ IMDG-

Code UN 2351 BUTYL NITRITES, 3, II

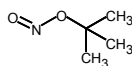
■ IATA-DGR UN 2351 BUTYL NITRITES, 3, II

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.882 - 0.885  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20247.0050	Glass bottle	50 ml	inquire
8.20247.0250	Glass bottle	250 ml	inquire

## 818528 tert-Butyl nitrite for synthesis

C<sub>4</sub>H<sub>9</sub>NO<sub>2</sub>(CH<sub>3</sub>)<sub>3</sub>CONO

Nitrous acid tert-butyl ester

- CAS-No. 540-80-7 ■ EC-No. 208-757-0
- Refractive index 1.3687 (20 °C, 589 nm)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Flash point -11 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 103.12 g/mol ■ Boiling point 62 - 64 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P210, P233
- EC-Index-No. 007-019-00-3 ■ LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2920 90 85 ■ Disposal 6
- ADR-RID UN 2351 Butylnitrite, 3, II ■ IMDG-

Code UN 2351 BUTYL NITRITES, 3, II

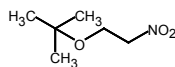
■ IATA-DGR UN 2351 BUTYL NITRITES, 3, II

## Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.863 - 0.868  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18528.0100	Glass bottle	100 ml	inquire

## 814278 tert-Butyl 2-nitroethyl ether for synthesis

C<sub>6</sub>H<sub>13</sub>NO<sub>3</sub>O<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>OC(CH<sub>3</sub>)<sub>3</sub>

2-Nitroethanol tert-butyl ether

■ CAS-No. 77791-00-5

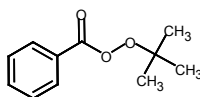
- Spec. density 1.00 g/cm<sup>3</sup> (20 °C)
- Flash point 75 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 147.17 g/mol
- Boiling point 30 - 35 °C (1 hPa)
- WGK 3
- LGK 10
- HS-No. 2909 19 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 95.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,003 - 1,006  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14278.0001	Glass bottle	1 ml	inquire

## 820967 tert-Butyl perbenzoate for synthesis

C<sub>11</sub>H<sub>14</sub>O<sub>3</sub>C<sub>6</sub>H<sub>5</sub>COOOC(CH<sub>3</sub>)<sub>3</sub>

Perbenzoic acid tert-butyl ester, Peroxybenzoic acid tert-butyl ester

- CAS-No. 614-45-9 ■ EC-No. 210-382-2
- Refractive index 1.4992 (20 °C, 589 nm)
- Vapour pressure 0.43 hPa (50 °C)
- Spec. density 1.04 g/cm<sup>3</sup> (20 °C)
- Flash point 98 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 194.22 g/mol
- Melting point 8 °C
- WGK 2
- GHS: Danger, Organic peroxide, Type C, H242; Skin irritation, Category 2, H315, P210, P280, P302 + P352
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 4.1A
- HS-No. 2916 39 90 ■ Disposal 10
- ADR-RID UN 3103 Organisches Peroxid Typ C, flüssig(TERT-BUTYLPEROXYBENZOAT), 5,2,

■ IMDG-Code UN 3103 ORGANIC PEROXIDE TYPE C, LIQUID(TERT-BUTYL PEROXYBENZOATE), 5,2,  
 ■ IATA-DGR UN 3103 ORGANIC PEROXIDE TYPE C, LIQUID(TERT-BUTYL PEROXYBENZOATE), 5,2,

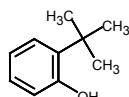
## Specification

Assay (iodometric) ..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C) ..... 1.039 - 1.041  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20967.0250	Plastic bottle	250 ml	inquire

tert-Butyl peroxide → Di-tert-butyl peroxide page 709

## 820249 2-tert-Butylphenol for synthesis

C<sub>10</sub>H<sub>14</sub>O2-[CH<sub>3</sub>]<sub>3</sub>C-C<sub>6</sub>H<sub>4</sub>-OH

- CAS-No. 88-18-6 ■ EC-No. 201-807-2
- Refractive index 1.5228 (20 °C, 589 nm)
- Vapour pressure 0.05 hPa (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 84 °C ■ Solub. in H<sub>2</sub>O 2.3 g/l (20 °C)
- M = 150.22 g/mol ■ Melting point -7 °C
- Boiling point 223 °C (1013 hPa)
- Ignition temp. 355 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 1.07 mg/l
- LD50 oral rat > 200 - 2000 mg/kg
- LD50 dermal rat 705 mg/kg
- LGK 6.1 C
- HS-No. 2907 19 90 ■ Disposal 1

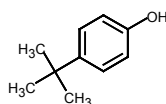
■ ADR-RID UN 3145 Alkylphenole, flüssig, n.a.g.(2-TERT-BUTYLPHENOL), 8, III ■ IMDG-Code UN 3145 ALKYLPHENOLS, LIQUID, N.O.S.(2-TERT BUTYLPHENOL), 8, III  
 ■ IATA-DGR UN 3145 ALKYLPHENOLS, LIQUID, N.O.S., 8, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.981 - 0.983  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20249.0005	Glass bottle	5 ml	inquire
8.20249.0250	Glass bottle	250 ml	inquire

## 820250 4-tert-Butylphenol for synthesis

C<sub>10</sub>H<sub>14</sub>O

- CAS-No. 98-54-4 ■ EC-No. 202-679-0
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 0.908 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 5.3 % (V) ■ Flash point 125 °C ■ Solub. in H<sub>2</sub>O 0.6 g/l (20 °C) ■ M = 150.22 g/mol
- pH value 7 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 95 - 98 °C ■ Bulk density 450 kg/m<sup>3</sup> ■ Boiling point 239 °C (1013 hPa)

- Ignition temp. 475 °C
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 4000 mg/kg ■ LD50 dermal rabbit 2288 mg/kg
- LGK 8A
- HS-No. 2907 19 90 ■ Disposal 3
- ADR-RID UN 2430 Alkylphenole, fest, n.a.g.(4-TERT-BUTYLPHENOL), 8, III ■ IMDG-Code UN 2430 ALKYLPHENOLS, SOLID, N.O.S.(4-TERT-BUTYLPHENOL), 8, III

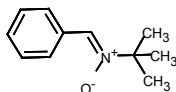
- IATA-DGR UN 2430 ALKYLPHENOLS, SOLID, N.O.S., 8, III

## Specification

- Assay (GC, area%) ..... ≥ 98.0 % (a/a)
- Melting range (lower value) ..... ≥ 98 °C
- Melting range (upper value) ..... ≤ 101 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20250.0100	Plastic bottle	100 g	inquire
8.20250.1000	Plastic bottle	1 kg	inquire
8.20250.2500	Plastic bottle	2.5 kg	inquire

## 841179 N-tert-Butyl-α-phenylnitron for synthesis

C<sub>11</sub>H<sub>15</sub>NO

Phenyl-N-tert-butylnitron

- CAS-No. 3376-24-7 ■ EC-No. 222-168-6
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 177.24 g/mol ■ Melting point 71 - 73 °C
- WGK 3
- LGK 10 - 13 ■ Store below +15 °C.
- HS-No. 2929 90 00 ■ Disposal 3

## Specification

- Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)
- Melting range (lower value) ..... ≥ 71 °C
- Melting range (upper value) ..... ≤ 73 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41179.0001	Glass bottle	1 g	inquire

## 820251 Butyl phosphate (mixture of mono and di esters) for synthesis

Dibutyl phosphate, Phosphoric acid butyl ester

- Spec. density 1.13 g/cm<sup>3</sup> (20 °C)
- Flash point > 108.5 °C ■ Solub. in H<sub>2</sub>O (20 °C) partly soluble ■ pH value 2.2 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point > 145 °C (1013 hPa)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8 A
- HS-No. 3824 90 97 ■ Disposal 4
- ADR-RID UN 1718 Butylphosphat, 8, III ■ IMDG-Code UN 1718 BUTYL ACID PHOSPHATE, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 1718 BUTYL ACID PHOSPHATE, 8, III

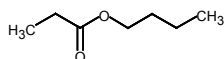
## Specification

- Assay (acidimetric) ..... ≥ 98,0 % (m)

- mono butyl phosphate (acidimetric) ..... 40,0 - 50,0 % (m)
- di-Butyl phosphate (acidimetric) .. 50,0 - 60,0 % (m)
- Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20251.0100	Glass bottle	100 ml	inquire
8.20251.1000	Glass bottle	1 l	inquire

## 822134 Butyl propionate for synthesis

C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>COO(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>

Propionic acid butyl ester

- CAS-No. 590-01-2 ■ EC-No. 209-669-5
- Refractive index 1.4012 (20 °C, 589 nm)
- Vapour pressure 4.6 hPa (20 °C)
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C)
- Flash point 38 °C ■ Solub. in H<sub>2</sub>O 1.5 g/l (20 °C)

- M = 130.18 g/mol ■ Melting point -90 °C
- Boiling point 146 °C (1013 hPa)
- Ignition temp. 425 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LC50 rat > 30.8 mg/l
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- EC-Index-No. 607-029-00-3 ■ LGK 3
- HS-No. 2915 50 00 ■ Disposal 3
- ADR-RID UN 1914 Butylpropionate, 3, III

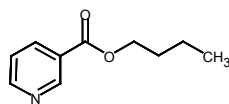
- IMDG-Code UN 1914 BUTYL PROPIONATES, 3, III
- IATA-DGR UN 1914 BUTYL PROPIONATES, 3, III

## Specification

- Assay (GC, area%) ..... ≥ 98,0 % (a/a)
- Density (d 20 °C / 4 °C) ..... 0,876 - 0,878
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22134.0100	Glass bottle	100 ml	inquire
8.22134.0500	Glass bottle	500 ml	inquire

## 800786 Butyl 3-pyridinecarboxylate for synthesis

C<sub>10</sub>H<sub>13</sub>NO<sub>2</sub>

Butyl nicotinate

- CAS-No. 6938-06-3 ■ EC-No. 230-064-7

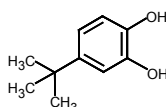
- Refractive index 1.494 (20 °C, 589 nm)
- Spec. density 1.05 g/cm<sup>3</sup> ■ Flash point 109 °C
- Solub. in H<sub>2</sub>O 2.61 g/l (25 °C) ■ M = 179.22 g/mol ■ Boiling point 122 - 123 °C (11 hPa)
- WGK 1
- LGK 10
- HS-No. 2933 39 99 ■ Disposal 3

## Specification

- Assay (GC, area%) ..... ≥ 99,0 Area %
- Density (d 20 °C / 4 °C) ..... 1,047 - 1,051
- Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00786.0100	Glass bottle	100 ml	inquire

## 801987 4-tert-Butylpyrocatechol for synthesis

C<sub>10</sub>H<sub>14</sub>O<sub>2</sub>4-[(CH<sub>3</sub>)<sub>3</sub>C]C<sub>6</sub>H<sub>3</sub>-1,2-(OH)<sub>2</sub>

- CAS-No. 98-29-3 ■ EC-No. 202-653-9
- Vapour pressure < 1 hPa (25 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (60 °C)
- Flash point 130 °C ■ Kin. viscosity 100 mm<sup>2</sup>/s (57 °C) ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C)
- M = 166.22 g/mol ■ Melting point 52 - 55 °C
- Bulk density 650 - 700 kg/m<sup>3</sup>

- Boiling point 284 - 286 °C (1013 hPa)
- Ignition temp. 160 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 815 mg/kg ■ LD50 dermal rat 1331 mg/kg
- LGK 6.1C
- HS-No. 2907 29 00 ■ Disposal 3
- ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(4-TERT-BUTYLBRENCATECHIN), 8 (6.1), III

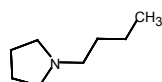
- IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(4-TERT-BUTYLPYROCATECHOL), 8 (6.1), III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(4-TERT-BUTYLPYROCATECHOL), 8 (6.1), III

## Specification

- Assay (GC, area%) ..... ≥ 98,0 Area %
- Melting range (lower value) ..... ≥ 52 °C
- Melting range (upper value) ..... ≤ 57 °C
- Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01987.0005	Glass bottle	5 g	inquire
8.01987.0250	Glass bottle	250 g	inquire
8.01987.1000	Glass bottle	1 kg	inquire

## 816022 1-Butylpyrrolidine for synthesis

C<sub>8</sub>H<sub>17</sub>N

- CAS-No. 767-10-2 ■ EC-No. 212-179-4
- Spec. density 0.818 g/cm<sup>3</sup> (20 °C)
- Flash point 36 °C ■ M = 127.23 g/mol
- Boiling point 156 °C (1005 hPa)

- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(1-BUTYLPYRROLIDIN), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(1-BUTYLPYRROLIDINE), 6.1 (3), II

- IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(1-BUTYLPYRROLIDINE), 6.1 (3), II

## Specification

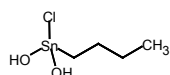
Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,816 - 0,820  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16022.0100	Glass bottle	100 ml	inquire

Butyl sulfide → Dibutyl sulfide page 710

O-*t*-Butylthreoninol 2-chlorotrityl resin → page 272

## 840129 Butyltinchloride-dihydroxide for synthesis

C<sub>4</sub>H<sub>11</sub>ClO<sub>2</sub>Sn

Butyl chloro dihydroxy stannan

- CAS-No. 13355-96-9 ■ EC-No. 236-406-1
- Vapour pressure 1.10 hPa (20 °C)
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 245.27 g/mol

- Melting point 144 °C ■ Boiling point >300 °C
- WGK 2
- LD50 oral rat 2459 mg/kg
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 15
- ADR-RID UN 3146 Organische Zinnverbindung, fest, n.a.g.(BUTYLZINNCHLORID-DIHYDROXID), 6.1, III ■ IMDG-Code UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(BUTYL TINCHLORIDE-DIHYDROXIDE), 6.1, III, Marine Pollutant: P

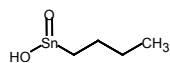
- IATA-DGR UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(BUTYL TINCHLORIDE-DIHYDROXIDE), 6.1, III

## Specification

Assay (argentometric)..... ≥ 98,0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40129.0010	Glass bottle	10 g	inquire

## 840126 Butyltinhydroxide-oxide for synthesis

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>Sn

Butylhydroxyoxo stannane

- CAS-No. 2273-43-0 ■ EC-No. 218-880-1
- Vapour pressure 1.47 hPa (20 °C)
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 208.81 g/mol

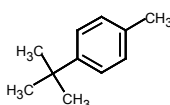
- Boiling point >350 °C
- WGK 1
- LD50 oral rat > 10000 mg/kg
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 15
- ADR-RID UN 3146 Organische Zinnverbindung, fest, n.a.g.(BUTYLZINNHYDROXID-OXID), 6.1, III ■ IMDG-Code UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(BUTYL TINHYDROXIDE-OXIDE), 6.1, III, Marine Pollutant: P

- IATA-DGR UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(BUTYL TINHYDROXIDE-OXIDE), 6.1, III

## Specification

Assay (Sn)..... 54,0 - 60,0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40126.0010	Glass bottle	10 g	inquire
8.40126.0100	Glass bottle	100 g	inquire

Butyl titanate(IV) → Tetra-*n*-butyl orthotitanate page 1525tert-Butyl titanate(IV) → Tetra-*tert*-butyl orthotitanate page 1525814286 4-*tert*-Butyltoluene for synthesisC<sub>11</sub>H<sub>16</sub>4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>C(CH<sub>3</sub>)<sub>3</sub>1-*tert*-Butyl-4-methyl benzene

- CAS-No. 98-51-1 ■ EC-No. 202-675-9
- Refractive index 1.4922 (20 °C, 589 nm)
- Vapour pressure 0.8 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 7 % (V) ■ Flash point 63 °C ■ Solub. in

- H<sub>2</sub>O 6 g/l (20 °C) ■ M = 148.24 g/mol
- Melting point -62.5 °C ■ Boiling point 193 °C (1013 hPa) ■ Ignition temp. 510 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P305 + P351 + P338
- LC50 rat 1.5 mg/l
- LD50 oral rat 1555 mg/kg ■ LD50 dermal rabbit 16934 mg/kg

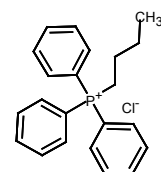
- LGK 10
- HS-No. 2902 90 00 ■ Disposal 9
- ADR-RID UN 2667 Butyltoluene, 6.1, III ■ IMDG-Code UN 2667 BUTYLTOLUENES, 6.1, III
- IATA-DGR UN 2667 BUTYLTOLUENES, 6.1, III

## Specification

Assay (GC, area%)..... ≥ 96,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,860 - 0,862  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14286.0100	Glass bottle	100 ml	inquire
8.14286.1000	Glass bottle	1 l	inquire

## 814141 Butyltriphenylphosphonium chloride for synthesis

C<sub>22</sub>H<sub>24</sub>ClP(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P<sup>+</sup>C<sub>4</sub>H<sub>9</sub>Cl<sup>-</sup>

Triphenylbutylphosphonium chloride

- CAS-No. 13371-17-0 ■ EC-No. 236-443-3
- Flash point >270 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 354.85 g/mol
- Melting point 223 - 226 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
- LD50 oral rat 320 mg/kg
- LGK 10 - 13

- HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 98,0 % (m)  
Melting range (lower value)..... ≥ 223 °C  
Melting range (upper value)..... ≤ 226 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14141.0010	Glass bottle	10 g	inquire



801847 *n*-Butyl vinyl ether (stabilised with 100 ppm KOH) for synthesisC<sub>6</sub>H<sub>12</sub>O

Vinyl butyl ether

■ CAS-No. 111-34-2 ■ EC-No. 203-860-7  
 ■ Refractive index 1.401 (20 °C, 589 nm) ■ Vapour pressure 51 hPa (20 °C) ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 8.6 % (V)  
 ■ Flash point -6 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O 3 g/l (20 °C) ■ M = 100.16 g/mol  
 ■ Melting point -113 °C ■ Boiling point 93 - 94 °C (1013 hPa) ■ Ignition temp. 190 °C DIN 51794

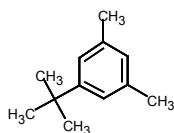
■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315, P210, P223, P260, P302 + P352  
 ■ LC50 rat > 33.2 - 66.5 mg/l  
 ■ LD50 oral rat 10000 mg/kg  
 ■ LD50 dermal rabbit 3300 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2909 19 90 ■ Disposal 1  
 ■ ADR-RID UN 2352 Butylvinylether, stabilisiert, 3, II ■ IMDG-Code UN 2352 BUTYL VINYL ETHER, STABILIZED, 3, II

■ IATA-DGR UN 2352 BUTYL VINYL ETHER, STABILIZED, 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,778 - 0,779  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,005 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01847.0100	Glass bottle	100 ml	inquire
8.01847.0500	Glass bottle	500 ml	inquire

814287 5-*tert*-Butyl-*m*-xylene for synthesisC<sub>12</sub>H<sub>18</sub>1-*tert*-Butyl-3,5-dimethylbenzene

■ CAS-No. 98-19-1 ■ EC-No. 202-647-6

■ Vapour pressure 0.4 hPa (20 °C)  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 84 °C DIN 51758 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 162.27 g/mol  
 ■ pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point -22 °C  
 ■ Boiling point 207 - 209 °C (1013 hPa)  
 ■ Ignition temp. 560 °C DIN 51794  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2902 90 00 ■ Disposal 1

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,864 - 0,866  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14287.0100	Glass bottle	100 ml	inquire
8.14287.0500	Glass bottle	500 ml	inquire

Butynedioic acid → Acetylenedicarboxylic acid page 347

2-Butynedioic acid diethyl ester → Diethyl acetylenedicarboxylate page 737

## 801537 2-Butyne-1,4-diol (not stabilised) for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>2</sub>

1,4-Dimethoxyacetylene

■ CAS-No. 110-65-6 ■ EC-No. 203-788-6  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 152 °C ■ Solub. in H<sub>2</sub>O 3740 g/l (25 °C) ■ M = 86.09 g/mol ■ pH value 4 - 7.5 (100 g/l, H<sub>2</sub>O, 23 °C) ■ Melting point 54 - 57 °C  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ Boiling point 125 - 127 °C (3 hPa)  
 ■ Ignition temp. 410 °C  
 ■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, Inhalation, H373; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.69 mg/l  
 ■ LD50 oral rat 100 mg/kg ■ LD50 dermal rat 659 mg/kg  
 ■ EC-Index-No. 603-076-00-9 ■ LGK 6.1 C  
 ■ HS-No. 2905 39 95 ■ Disposal 9  
 ■ ADR-RID UN 2716 Butin-1,4-diol, 6.1, III

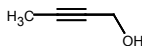
■ IMDG-Code UN 2716 1,4-BUTYNEIDIOL, 6.1, III  
 ■ IATA-DGR UN 2716 1,4-BUTYNEIDIOL, 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 54 °C  
 Melting range (upper value) ..... ≤ 57 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01537.0100	Plastic bottle	100 g	inquire
8.01537.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire

## 841715 2-Butyne-1-ol for synthesis

C<sub>4</sub>H<sub>6</sub>O

■ CAS-No. 764-01-2 ■ EC-No. 212-113-4  
 ■ Spec. density 0.938 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 51 °C ■ M = 70.09 g/mol  
 ■ Melting point -2 °C ■ Boiling point 142 - 143 °C  
 ■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single

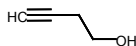
exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2905 29 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-BUTIN-1-OL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-BUTYN-1-OL), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-BUTYN-1-OL), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,934 - 0,938  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41715.0005	Glass bottle	5 ml	inquire

## 841543 3-Butyne-1-ol for synthesis

C<sub>4</sub>H<sub>6</sub>O

■ CAS-No. 927-74-2 ■ EC-No. 213-161-9  
 ■ Spec. density 0.927 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 36 °C ■ M = 70.09 g/mol  
 ■ Melting point -64 °C  
 ■ Boiling point 129 - 130 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3,

H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2905 29 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-BUTIN-1-OL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-BUTYN-1-OL), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(3-BUTYN-1-OL), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,923 - 0,928  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41543.0005	Glass bottle	5 ml	inquire



## 820230 3-Butyne-2-ol (55% solution in water) for synthesis



## 1-Butyn-3-ol

- Vapour pressure 30 hPa (20 °C)
- Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5 - 46 % (V) ■ Flash point 44 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4 - 6 (H<sub>2</sub>O) (ready-to-use solution) ■ Melting point -12 °C
- Boiling point 95 - 96 °C ■ Ignition temp. 340 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3,

- Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.53 - 2.09 mg/l
  - LD50 oral rat 57 mg/kg ■ LD50 dermal rabbit 50 - 200 mg/kg
  - LGK 3
  - HS-No. 2905 29 90 ■ Disposal 9
  - ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(3-BUTIN-2-OL), 6,1 (3), II
  - IMDG-Code UN 2929 TOXIC LIQUID,

FLAMMABLE, ORGANIC, N.O.S.(3-BUTIN-2-OL), 6,1 (3), II

■ IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(3-BUTIN-2-OL), 6,1 (3), II

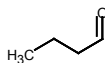
## Specification

Assay (iodometric) ..... 50.0 - 55.0 %  
Density (d 20 °C/ 4 °C) ..... 0.950 - 0.955

Ord.No.	Packaging	Quantity	Price
8.20230.0100	Glass bottle	100 ml	inquire
8.20230.0500	Glass bottle	500 ml	inquire

1-Butyn-3-ol → 3-Butyne-2-ol page 557

## 801555 Butyraldehyde for synthesis



C<sub>4</sub>H<sub>8</sub>O  
CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CHO

## Butanal

- CAS-No. 123-72-8 ■ EC-No. 204-646-6
- Refractive index 1.379 (20 °C, 589 nm) ■ Vapour pressure 116 hPa (20 °C) ■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 11.1 % (V)
- Flash point -12 °C ■ Solub. in H<sub>2</sub>O 71 g/l (20 °C)
- M = 72.11 g/mol ■ pH value 6 - 7 (71 g/l, H<sub>2</sub>O),

- 20 °C) ■ Melting point -99 °C
- Boiling point 75 - 76 °C (1013 hPa)
  - Ignition temp. 190 °C
  - WGK 1
  - GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P240
  - LC50 rat 49 mg/l
  - LD50 oral rat 2490 mg/kg ■ LD50 dermal rabbit 2848 mg/kg
  - EC-Index-No. 605-006-00-2 ■ LGK 3
  - HS-No. 2912 19 00 ■ Disposal 3
  - ADR-RID UN 1129 Butyraldehyd, 3, II ■ IMDG-Code UN 1129 BUTYRALDEHYDE, 3, II

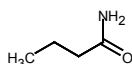
■ IATA-DGR UN 1129 BUTYRALDEHYDE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,802 - 0,804  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01555.0100	Glass bottle	100 ml	inquire
8.01555.1000	Glass bottle	1 l	inquire
8.01555.2500	Glass bottle	2.5 l	inquire

## 814977 Butyramide for synthesis



C<sub>4</sub>H<sub>9</sub>NO  
*n*-Butyramide

- CAS-No. 541-35-5 ■ EC-No. 208-776-4

- M = 87.12 g/mol ■ Melting point 114 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

## Specification

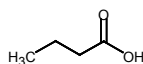
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 114 °C

Melting range (upper value) ..... ≤ 116 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14977.0100	Glass bottle	100 g	inquire

*n*-Butyramide → Butyramide page 557

## 800457 Butyric acid for synthesis



C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>  
CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>COOH

- CAS-No. 107-92-6 ■ EC-No. 203-532-3
- Refractive index 1.3991 (20 °C) ■ Vapour pressure 0.56 hPa (20 °C) ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 12.3 % (V)
- Flash point 69 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 88.1 g/mol ■ pH value 2.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -8 - -5 °C
- Boiling point 162 - 165 °C (1013 mbar)

- Ignition temp. 425 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2940 mg/kg ■ LD50 dermal rabbit 509 mg/kg
- EC-Index-No. 607-135-00-X ■ LGK 8A
- HS-No. 2915 60 19 ■ Disposal 4
- ADR-RID UN 2820 Buttersäure, 8, III ■ IMDG-Code UN 2820 BUTYRIC ACID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2820 BUTYRIC ACID, 8, III

## Specification

Assay (GC, area%) ..... ≥ 99 %  
Density (d 20 °C/ 4 °C) ..... 0.956 - 0.958  
Water (K. F.) ..... ≤ 0.2 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00457.0100	Glass bottle	100 ml	inquire
	Glass bottle	6 x 100 ml	inquire
8.00457.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00457.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.00457.9050	Barrel PE/met	50 kg	inquire

Butyric acid butyl ester → Butyl butyrate page 543

Butyric acid chloride → Butyryl chloride page 558

Butyric acid ethyl ester → Ethyl butyrate page 855

Butyric acid hexyl ester → Hexyl butyrate page 957

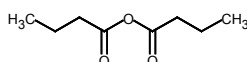
Butyric acid isopropyl ester → Isopropyl butyrate page 1053

Butyric acid methyl ester → Methyl butyrate page 1141

Butyric acid (3-methylbutyl ester) → Isoamyl butyrate page 1041

Butyric acid nitrile → Butyronitrile page 558  
Butyric acid sodium salt → page 1428

## 800503 Butyric anhydride for synthesis



C<sub>8</sub>H<sub>14</sub>O<sub>3</sub>  
(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CO)<sub>2</sub>O

- CAS-No. 106-31-0 ■ EC-No. 203-383-4
- Refractive index 1.413 (20 °C, 589 nm) ■ Vapour pressure 0.4 hPa (20 °C) ■ Spec. density 0.963 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 7.6 % (V)
- Flash point 87 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)

- M = 158.19 g/mol ■ Melting point -75 °C
- Boiling point 195 - 199 °C (1013 hPa)
- Ignition temp. 290 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 8790 mg/kg ■ LD50 dermal rabbit 6400 mg/kg
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 2739 Buttersäureanhydrid, 8, III

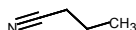
■ IMDG-Code UN 2739 BUTYRIC ANHYDRIDE, 8, III, Segregation Group: 1 (Acids)

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,966 - 0,968  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00503.0100	Glass bottle	100 ml	inquire
8.00503.1000	Glass bottle	1 l	inquire

## 821718 Butyronitrile for synthesis

C<sub>4</sub>H<sub>7</sub>N*Propyl cyanide, Butyric acid nitrile*

- CAS-No. 109-74-0 ■ EC-No. 203-700-6
- Refractive index 1.3842 (20 °C, 589 nm)
- Vapour pressure 19.7 hPa (20 °C)
- Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 % (V) ■ Flash point 18 °C ■ Solub. in H<sub>2</sub>O 33 g/l (25 °C) ■ M = 69.11 g/mol
- Melting point -112 °C
- Boiling point 117 - 118 °C (1013 hPa)
- Ignition temp. 488 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P210, P233, P280, P302 + P352, P304 + P340, P309 + P310
- LC50 rat > 300 mg/l
- LD50 oral rat 50 - 100 mg/kg
- LD50 dermal rabbit 397 mg/kg
- EC-Index-No. 608-005-00-5 ■ LGK 3
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 2411 Butyronitril, 3 (6.1), II

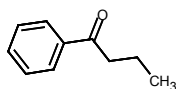
- IMDG-Code UN 2411 BUTYRONITRILE, 3 (6.1), II
- IATA-DGR UN 2411 BUTYRONITRILE, 3 (6.1), II

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.790 - 0.792  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21718.0250	Glass bottle	250 ml	inquire
8.21718.1000	Glass bottle	1 l	inquire

## 841778 Butyrophenone for synthesis

C<sub>10</sub>H<sub>12</sub>O

■ CAS-No. 495-40-9 ■ EC-No. 207-799-7

- Spec. density 0.988 g/cm<sup>3</sup> ■ Flash point 88 °C
- M = 148.2 g/mol ■ Melting point 11 - 13 °C
- Boiling point 220 - 222 °C (1013 hPa)
- WGK 1
- LGK 10
- HS-No. 2914 39 00 ■ Disposal 3

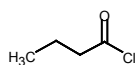
**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41778.0025	Glass bottle	25 ml	inquire
8.41778.0250	Glass bottle	250 ml	inquire

Butyrylactic acid ethyl ester → Ethyl butyrylacetate page 855

## 801977 Butyryl chloride for synthesis

C<sub>4</sub>H<sub>7</sub>ClOCH<sub>3</sub>(CH<sub>2</sub>)<sub>2</sub>COCl

- CAS-No. 141-75-3 ■ EC-No. 205-498-5
- Refractive index 1.412 (20 °C, 589 nm) ■ Vapour pressure 39 hPa (20 °C) ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.5 - 7.3 % (V)
- Flash point 18 °C ■ Solub. in H<sub>2</sub>O (20 °C) decomposes, Hydrolysis
- M = 106.55 g/mol ■ pH value (H<sub>2</sub>O) acidic

- Melting point -89 °C
- Boiling point 101 - 105 °C (1013 hPa)
- Ignition temp. 280 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1000 - 1500 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 607-136-00-5 ■ LGK 3
- HS-No. 2915 90 70
- ADR-RID UN 2353 Butyrylchlorid, 3 (8), II

- IMDG-Code UN 2353 BUTYRYL CHLORIDE, 3 (8), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2353 BUTYRYL CHLORIDE, 3 (8), II

**Specification**

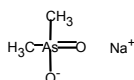
Assay (morpholine method) ..... ≥ 98.0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1.017 - 1.019  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01977.0250	Glass bottle	250 ml	inquire
8.01977.1000	Glass bottle	1 l	inquire

Cabinet wall duct 55 mm → page 327

Cacein-peptone soyameal-peptone agar → page 107

Cacodylic acid sodium salt → Cacodylic acid sodium salt trihydrate page 559

**103256 Cacodylic acid sodium salt trihydrate** buffer substance for biochemistryC<sub>2</sub>H<sub>6</sub>AsNaO<sub>2</sub> \* 3 H<sub>2</sub>OC<sub>2</sub>H<sub>6</sub>AsO<sub>2</sub>Na \* 3 H<sub>2</sub>O*Dimethylarsinic acid sodium salt, Cacodylic acid sodium salt*

- CAS-No. 6131-99-3 ■ EC-No. 204-708-2
- Solub. in H<sub>2</sub>O 2000 g/l (20 °C) ■ M = 214.05 g/mol ■ pH value 9.0 - 9.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 60 °C ■ Bulk density 870 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Acute toxicity, Category 3,

Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P309 + P310

- LD50 oral rat 2600 mg/kg
- EC-Index-No. 033-002-00-5 ■ LGK 6.1B
- HS-No. 2931 90 90 ■ Disposal 9
- ADR-RID UN 1688 Natriumkakodylat, 6.1, II
- IMDG-Code UN 1688 SODIUM CACODYLATE, 6.1, II
- IATA-DGR UN 1688 SODIUM CACODYLATE, 6.1, II

Buffer substance in biochemistry; pKa = 6.21.

**Specification**

Assay (perchloric acid titration)..... ≥ 98 %  
 Appearance of solution (10 %, water, 20 °C)..... conforms  
 Chloride (Cl)..... ≤ 0.01 %  
 Cd (Cadmium)..... ≤ 0.005 %  
 Cu (Copper)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.005 %  
 Pb (Lead)..... ≤ 0.005 %  
 Zn (Zinc)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.03256.0010	Glass bottle	10 g	inquire
1.03256.0100	Glass bottle	100 g	inquire

**Cadmium**

Cd

- CAS-No. 7440-43-9 ■ EC-No. 231-152-8
- Spec. density 8.64 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 112.41 g/mol
- Melting point 321 °C
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 2, H361fd; Acute

toxicity, Category 2, Inhalation, H330; Specific target organ toxicity - repeated exposure, Category 1, H372; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P281, P304 + P340, P309 + P310

- LD50 oral rat 225 mg/kg
- EC-Index-No. 048-002-00-0 ■ LGK 6.1B
- HS-No. 8107 20 00

- ADR-RID UN 3288 Giftiger anorganischer fester Stoff, n.a.g.(CADMIUM), 6.1, III ■ IMDG-Code UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(CADMIUM), 6.1, III
- IATA-DGR UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(CADMIUM), 6.1, III

Reagent for the reduction of nitrate in Cd reducers.

**102001 Cadmium coarse powder, for analysis and for filling reductors particle size about 0.3-1.6 mm EMSURE®****Specification**

Cu (Copper)..... ≤ 0.002 %  
 Fe (Iron)..... ≤ 0.001 %  
 Pb (Lead)..... ≤ 0.01 %

Zn (Zinc)..... ≤ 0.005 %

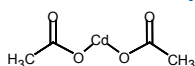
Ord.No.	Packaging	Quantity	Price
1.02001.0250	Metal can	250 g	inquire
1.02001.1000	Metal can	1 kg	inquire

**102004 Cadmium granular, for analysis particle size about 3-6 mm EMSURE®****Specification**

Cu (Copper)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.001 %  
 Hg (Mercury)..... ≤ 0.0005 %

Pb (Lead)..... ≤ 0.005 %  
 Zn (Zinc)..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.02004.0250	Metal can	250 g	inquire

**Cadmium acetate dihydrate**C<sub>4</sub>H<sub>8</sub>CdO<sub>4</sub> \* 2 H<sub>2</sub>O(CH<sub>3</sub>COO)<sub>2</sub>Cd \* 2 H<sub>2</sub>O*Cadmium Acetate*

- CAS-No. 5743-04-4 ■ EC-No. 208-853-2
- Spec. density 2.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 266.52 g/mol

- pH value 7 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 256 °C (anhydrous)
- Bulk density 950 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352

- LD50 oral rat 333 mg/kg
- EC-Index-No. 048-001-00-5 ■ LGK 10 - 13
- HS-No. 2915 29 00 ■ Disposal 15
- ADR-RID UN 2570 Cadmiumverbindung(CADMIUMUMACETAT), 6.1, III ■ IMDG-Code UN 2570 CADMIUM COMPOUND(CADMIUM ACETATE), 6.1, III, Marine Pollutant: P
- IATA-DGR UN 2570 CADMIUM COMPOUND(CADMIUM ACETATE), 6.1, III

**102002 Cadmium acetate dihydrate extra pure****Specification**

Assay (komplexometric (CH<sub>3</sub>COO)<sub>2</sub>Cd·2H<sub>2</sub>O) ≥ 98 %  
 Chloride (Cl)..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
 Cu (Copper)..... ≤ 0.0005 %

Fe (Iron)..... ≤ 0.001 %  
 Pb (Lead)..... ≤ 0.005 %  
 Zn (Zinc)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.02002.0500	Plastic bottle	500 g	inquire

**102003 Cadmium acetate dihydrate for analysis EMSURE®****Specification**

Assay (komplexometric (CH<sub>3</sub>COO)<sub>2</sub>Cd·2H<sub>2</sub>O) ..... ≥ 99.0 %  
 Insoluble matter ..... ≤ 0.005 %  
 Chloride (Cl)..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Ca (Calcium)..... ≤ 0.005 %

Cu (Copper)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Na (Sodium)..... ≤ 0.002 %  
 Pb (Lead)..... ≤ 0.001 %  
 Zn (Zinc)..... ≤ 0.002 %  
 Substances not precipitated with H<sub>2</sub>S (as

sulphates)..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.02003.0500	Plastic bottle	500 g	inquire

Cadmium Cell Test → page 53

**Cadmium, determination**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
462	103098	2,2'-Bipyridine	172	103092	Dithizone	1432	106689	Sodium diethyldithiocarbamate trihydrate
815	103091	1,5-Diphenylcarbazine	995	107098	8-Hydroxyquinoline	1554	107979	Thiourea

# Cadmium

## 102015 Cadmium oxide extra pure



CdO  
 ■ CAS-No. 1306-19-0 ■ EC-No. 215-146-2  
 ■ Spec. density 6.95 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.01 g/l (20 °C) ■ M = 128.41 g/mol  
 ■ pH value 9 - 10 (H<sub>2</sub>O) (aqueous suspension)  
 ■ Melting point < 1426 °C ■ Bulk density 400 kg/m<sup>3</sup> ■ Boiling point 900 - 1000 °C (decomposition)  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 2, H361fd; Acute toxicity, Category 2, Inhalation, H330; Specific target organ toxicity - repeated exposure, Category 1, H372; Acute aquatic toxicity,

Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P281, P304 + P340, P309 + P310  
 ■ LC50 rat 0.011 mg/l  
 ■ LD50 oral rat 72 mg/kg  
 ■ EC-Index-No. 048-002-00-0 ■ LGK 6.1 B  
 ■ HS-No. 2825 90 60 ■ Disposal 15  
 ■ ADR-RID UN 2570  
 Cadmiumverbindung(CADMIUMOXID), 6.1, I  
 ■ IMDG-Code UN 2570 CADMIUM COMPOUND(CADMIUM OXIDE), 6.1, I, Marine Pollutant: P  
 ■ IATA-DGR UN 2570 CADMIUM COMPOUND(CADMIUM OXIDE), 6.1, I

**Specification**  
 Assay (complexometric) ..... ≥ 99.0 %  
 Chloride (Cl) ..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Cu (Copper) ..... ≤ 0.001 %  
 Zn (Zinc) ..... ≤ 0.005 %  
 Particle size (D 50) ..... 0.5 - 1.5 µm  
 Specific surface area (BET) ..... 2.0 - 4.0 m<sup>2</sup>/g

Ord.No.	Packaging	Quantity	Price
1.02015.5000	Plastic bottle	5 kg	inquire

## 109960 Cadmium standard 1000 mg Cd, (CdCl<sub>2</sub> in H<sub>2</sub>O) Titrisol®



*Cadmium standard for aqueous matrices*  
 ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.2 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 1B, H360FD; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P201, P273, P308 +

P313  
 ■ LGK 6.1 B  
 ■ HS-No. 2827 39 85 ■ Disposal 15  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(CADMIUMCHLORID LOESUNG), 9, III  
 ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CADMIUM CHLORIDE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.(CADMIUM CHLORIDE), 9, III  
**Specification**  
 content (Cd) ..... 1000 mg / Ampoule  
 Determination method:Complexometric titration. (traceable of NIST - SRM 682) Accuracy of the method:±/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09960.0001	Plastic ampoule	1 amp	inquire

Cadmium standard for aqueous matrices → Cadmium standard page 560

## Cadmium sulfate hydrate



Cd<sub>3</sub>O<sub>12</sub>S<sub>8</sub> \* 8 H<sub>2</sub>O  
 3 CdSO<sub>4</sub> \* 8 H<sub>2</sub>O  
 ■ CAS-No. 7790-84-3 ■ EC-No. 233-331-6  
 ■ Spec. density 3.10 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1130 g/l (20 °C) ■ M = 769.51 g/mol  
 ■ pH value 3.0 - 6.0 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 41.5 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral,

H301; Acute toxicity, Category 2, Inhalation, H330; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 1B, H360FD; Specific target organ toxicity - repeated exposure, Category 1, H372; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P304 + P340, P309 + P310  
 ■ LD50 oral rat 280 mg/kg

■ EC-Index-No. 048-009-00-9 ■ LGK 6.1 B  
 ■ HS-No. 2833 29 20 ■ Disposal 15  
 ■ ADR-RID UN 2570 Cadmiumverbindung(CADMIUMSULFAT), 6.1, III ■ IMDG-Code UN 2570 CADMIUM COMPOUND(CADMIUMSULFATE), 6.1, III, Marine Pollutant: P  
 ■ IATA-DGR UN 2570 CADMIUM COMPOUND(CADMIUMSULFATE), 6.1, III

## 102027 Cadmium sulfate hydrate for analysis EMSURE® ACS

**Specification**  
 Assay (complexometric, CdSO<sub>4</sub>.8/3 H<sub>2</sub>O) ..... 98.0 - 102.0 %  
 Insoluble matter ..... ≤ 0.005 %  
 pH-value (5 %; water) ..... 3.0 - 6.0  
 Chloride (Cl) ..... ≤ 0.001 %  
 Total nitrogen (N) ..... ≤ 0.0005 %

Ca (Calcium) ..... ≤ 0.005 %  
 Cu (Copper) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.01 %  
 Na (Sodium) ..... ≤ 0.005 %  
 Pb (Lead) ..... ≤ 0.002 %

Zn (Zinc) ..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.02027.0100	Plastic bottle	100 g	inquire

## 845500 Cadmium sulfate hydrate Solarpur®

**Specification**  
 Assay (complexometric, CdSO<sub>4</sub>.8/3 H<sub>2</sub>O) ..... 98,0 - 102,0 % (m)  
 Identity (Cd) ..... passes test  
 Identity (SO<sub>4</sub>) ..... passes test  
 Insoluble matter ..... ≤ 0,005 % (m)  
 pH-value (5 %; water) ..... 3,0 - 6,0  
 Chloride (Cl) ..... ≤ 0,001 %  
 Ca (Calcium) ..... ≤ 0,005 %  
 Cu (Copper) ..... ≤ 0,0005 %

Fe (Iron) ..... ≤ 0,0005 %  
 K (Potassium) ..... ≤ 0,01 %  
 Na (Sodium) ..... ≤ 0,005 %  
 Pb (Lead) ..... ≤ 0,002 %  
 Zn (Zinc) ..... ≤ 0,002 %  
 Al (Aluminium) ..... ≤ 50 ppm(m)  
 Co (Cobalt) ..... ≤ 50 ppm(m)  
 Ni (Nickel) ..... ≤ 50 ppm(m)  
 Cr (Chromium) ..... ≤ 50 ppm(m)

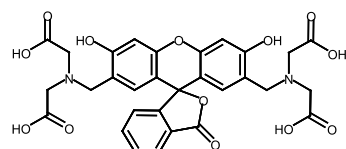
Mn (Manganese) ..... ≤ 50 ppm(m)  
 As (Arsenic) ..... ≤ 50 ppm(m)  
 Sn (Tin) ..... ≤ 50 ppm(m)  
 Sb (Antimony) ..... ≤ 50 ppm(m)  
 Li (Lithium) ..... ≤ 50 ppm(m)

Ord.No.	Packaging	Quantity	Price
8.45500.1000	Plastic bottle	1 kg	inquire

Cadmium Test → page 53  
 Caesium → page 165

Caffeic acid → 3,4-Dihydroxycinnamic acid page 761  
 Caffeine standard solution for HPLC system qualification → page 36

## 102315 Calcein indicator for metal determination



*fluorescein*  
 ■ CAS-No. 1461-15-0 ■ EC-No. 215-957-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 622.55 g/mol ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 3204 19 00 ■ Disposal 3  
 Use as metal indicator: 1:100 KCl or 1:100 KNO<sub>3</sub>:0.6 thymolphthalein

**Specification**  
 Appearance of solution ..... conforms  
 Loss on drying (110 °C) ..... ≤ 7.0 %  
 Suitability as indicator (for metal titration) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.02315.0005	Glass bottle	5 g	inquire

C<sub>30</sub>H<sub>26</sub>N<sub>2</sub>O<sub>13</sub>  
 2,7-Bis[bis(carboxymethyl)aminomethyl]

102053 Calcium granular

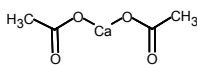
Ca  
 ■ CAS-No. 7440-70-2 ■ EC-No. 231-179-5  
 ■ Solub. in H<sub>2</sub>O 4 g/l (20 °C) ■ M = 40.08 g/mol  
 ■ pH value 14 (4 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 850 °C ■ Bulk density 700 kg/m<sup>3</sup>  
 ■ Boiling point 1482 °C  
 ■ WGK 1  
 ■ GHS: Danger, Substances, which in contact with

water, emit flammable gases, Category 2, H261  
 ■ EC-Index-No. 020-001-00-X ■ LGK 4.3  
 ■ HS-No. 2805 12 00 ■ Disposal 26  
 ■ ADR-RID UN 1401 Calcium, 4.3, II ■ IMDG-Code UN 1401 CALCIUM, 4.3, II  
 ■ IATA-DGR UN 1401 CALCIUM, 4.3, II  
 For the drying of solvents instead of Na for reductive dissolution.

**Specification**  
 Assay (complexometric) ..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
1.02053.0100	Glass bottle	100 g	inquire
1.02053.0500	Glass bottle	500 g	inquire

109325 Calcium acetate hydrate [about 94% Ca(CH<sub>3</sub>COO)<sub>2</sub>] for soil testing



C<sub>4</sub>H<sub>6</sub>CaO<sub>4</sub> · x H<sub>2</sub>O  
 (CH<sub>3</sub>COO)<sub>2</sub>Ca · x H<sub>2</sub>O  
 ■ CAS-No. 114460-21-8 ■ EC-No. 200-540-9  
 ■ Spec. density 1.5 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 400 g/l (0 °C) ■ M = 158.17 g/mol (anhydrous) ■ pH value 7.2 - 7.8 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ Ignition temp. 680 - 730 °C  
 ■ WGK 1

■ LD50 oral rat 4280 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 29 00 ■ Disposal 14  
 Decomposition agent for the testing of soil samples.  
**Specification**  
 Assay (complexometrically, Ca(CH<sub>3</sub>COO)<sub>2</sub>)..... 93.0 - 95.0 %  
 Identity (Ca)..... conforms  
 Identity (acetate)..... conforms  
 Appearance..... white to almost white fine powder  
 Appearance of solution (100 g/l, water) ..clear and colorless

pH (50 g/l; water)..... 7.2 - 7.8  
 Total nitrogen (N)..... ≤ 0.002 %  
 Chloride (Cl)..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.1 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.001 %  
 K (Potassium)..... ≤ 0.02 %  
 Na (Sodium)..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.09325.0500	Plastic bottle	500 g	inquire
1.09325.9025	Fibre carton	25 kg	inquire

Calcium carbonate

CCaO<sub>3</sub>  
 CaCO<sub>3</sub>  
 ■ CAS-No. 471-34-1 ■ EC-No. 207-439-9  
 ■ Solub. in H<sub>2</sub>O 0.014 g/l (20 °C) ■ M = 100.09 g/mol ■ pH value 9.5 - 10.5 (100 g/l, H<sub>2</sub>O,

20 °C) (slurry)  
 ■ Melting point 825 °C (decomposition)  
 ■ Bulk density 400 - 1400 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ LD50 oral rat 6450 mg/kg ■ LD50 dermal rat >

2000 mg/kg  
 ■ HS-No. 2836 50 00 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

102066 Calcium carbonate precipitated for analysis EMSURE® Reag. Ph Eur

**Specification**  
 Assay (complexometric; calculated on dried substance)..... 98.5 - 100.5 %  
 Identity..... passes test  
 Substances insoluble in acetic acid..... ≤ 0.2 %  
 Substances insoluble in hydrochloric acid..... ≤ 0.005 %  
 Chloride (Cl)..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.03 %  
 Heavy metals (as Pb)..... ≤ 0.002 %  
 Total nitrogen (N)..... ≤ 0.001 %  
 Al (Aluminium)..... ≤ 0.005 %

As (Arsenic)..... ≤ 0.0004 %  
 Ba (Barium)..... passes test  
 Cu (Copper)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.001 %  
 K (Potassium)..... ≤ 0.005 %  
 Mg (Magnesium)..... ≤ 0.02 %  
 Na (Sodium)..... ≤ 0.20 %  
 Pb (Lead)..... ≤ 0.0005 %  
 Sr (Strontium)..... ≤ 0.10 %  
 Magnesium and alkali metals..... ≤ 1.5 %  
 Particle size (d 50)..... about 14 µm

Loss on drying (200 °C)..... ≤ 1.0 %  
 Corresponds to Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.02066.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.02066.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.02066.9050	Fibre carton	50 kg	inquire

102067 Calcium carbonate precipitated for analysis of silicates EMSURE®

**Specification**  
 Assay (complexometric)..... ≥ 99.0 %  
 Substances insoluble in hydrochloric acid..... ≤ 0.005 %  
 Chloride (Cl)..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
 Total nitrogen (N)..... ≤ 0.01 %

Heavy metals (as Pb)..... ≤ 0.001 %  
 Ba (Barium)..... ≤ 0.02 %  
 Fe (Iron)..... ≤ 0.001 %  
 K (Potassium)..... ≤ 0.002 %  
 Mg (Magnesium)..... ≤ 0.02 %  
 Na (Sodium)..... ≤ 0.005 %

Sr (Strontium)..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.02067.0500	Plastic bottle	500 g	inquire

102059 Calcium carbonate 99.95 Suprapur®

**Specification**  
 Purity (metallic)..... ≥ 99.95 %  
 Assay (complexometric)..... ≥ 99.0 %  
 Chloride (Cl)..... ≤ 5 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 10 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 20 ppm  
 Al (Aluminium)..... ≤ 0.20 ppm  
 Ba (Barium)..... ≤ 2.0 ppm  
 Cd (Cadmium)..... ≤ 0.010 ppm  
 Ce (Cerium)..... ≤ 0.050 ppm  
 Co (Cobalt)..... ≤ 0.010 ppm  
 Cr (Chromium)..... ≤ 0.050 ppm  
 Cu (Copper)..... ≤ 0.050 ppm

Eu (Europium)..... ≤ 0.010 ppm  
 Fe (Iron)..... ≤ 0.100 ppm  
 Hg (Mercury)..... ≤ 0.050 ppm  
 K (Potassium)..... ≤ 2.0 ppm  
 La (Lanthanum)..... ≤ 0.050 ppm  
 Li (Lithium)..... ≤ 1.0 ppm  
 Mg (Magnesium)..... ≤ 5.0 ppm  
 Mn (Manganese)..... ≤ 0.050 ppm  
 Na (Sodium)..... ≤ 3.0 ppm  
 Ni (Nickel)..... ≤ 0.050 ppm  
 Pb (Lead)..... ≤ 0.050 ppm  
 Rb (Rubidium)..... ≤ 20 ppm

Sc (Scandium)..... ≤ 0.010 ppm  
 Sm (Samarium)..... ≤ 0.010 ppm  
 Sr (Strontium)..... ≤ 100 ppm  
 Tl (Thallium)..... ≤ 0.01 ppm  
 Y (Yttrium)..... ≤ 0.010 ppm  
 Yb (Ytterbium)..... ≤ 0.010 ppm  
 Zn (Zinc)..... ≤ 0.10 ppm

Ord.No.	Packaging	Quantity	Price
1.02059.0050	Plastic bottle	50 g	inquire
1.02059.0500	Plastic bottle	500 g	inquire

102410 Calcium carbonate volumetric standard, secondary reference material for complexometry, traceable to NIST Standard Reference Material (SRM) Certipur®

Ord.No.	Packaging	Quantity	Price
1.02410.0050	Glass bottle	50 g	inquire



# Calcium

## Calcium chloride

CaCl<sub>2</sub>  
**Calcium dichloride**  
 ■ CAS-No. 10043-52-4 ■ EC-No. 233-140-8  
 ■ Spec. density 2.15 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 740 g/l (20 °C) ■ M = 110.98 g/mol  
 ■ pH value 8 - 10 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 772 °C ■ Boiling point >1600 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 1000 mg/kg ■ LD50 dermal rat

2630 mg/kg  
 ■ EC-Index-No. 017-013-00-2 ■ LGK 10 - 13  
 ■ HS-No. 2827 20 00  
 Drying agent (Desiccant)



### 102378 Calcium chloride anhydrous powder Reag. Ph Eur

**Specification**  
 Assay (calculated on dried substance).....≥ 98.0 %  
 Free alkali (as Ca(OH)<sub>2</sub>).....≤ 0.2 %  
 Water absorption capacity (24 hrs.,80 % relative humidity) .....≥ 25.0 %  
 Loss on drying (200 °C).....≤ 5.0 %  
 Conforms Reag. Ph.Eur.

Ord.No.	Packaging	Quantity	Price
1.02378.0500	Plastic bottle	500 g	inquire
1.02378.2500	Plastic bottle	2.5 kg	inquire

### 102379 Calcium chloride anhydrous, granular ~ 1-2 mm

**Specification**  
 Assay (complexometric) .....≥ 90.0 %  
 Free alkali (as Ca(OH)<sub>2</sub>).....≤ 0.2 %  
 Water absorption capacity (24 hrs.,80 % relative humidity) .....≥ 20.0 %

Ord.No.	Packaging	Quantity	Price
1.02379.1000	Plastic bottle	1 kg	inquire
1.02379.5000	Plastic bottle	5 kg	inquire

### 102391 Calcium chloride anhydrous, granular ~ 2 - 6 mm

**Specification**  
 Assay (complexometric) .....≥ 85.0 %  
 Free alkali (as Ca(OH)<sub>2</sub>).....≤ 0.2 %  
 Water absorption capacity (24 hrs.,80 % relative humidity) .....≥ 20.0 %

Ord.No.	Packaging	Quantity	Price
1.02391.1000	Plastic bottle	1 kg	inquire
1.02391.5000	Fibre carton	5 kg	inquire
1.02391.9025	Fibre carton	25 kg	inquire

### 102392 Calcium chloride anhydrous, granular ~ 6 - 14 mm

**Specification**  
 Assay (complexometric) .....≥ 90.0 %  
 Free alkali (as Ca(OH)<sub>2</sub>).....≤ 0.2 %  
 Water absorption capacity (24 hrs.,80 % relative humidity) .....≥ 20.0 %

Ord.No.	Packaging	Quantity	Price
1.02392.1000	Plastic bottle	1 kg	inquire
1.02392.5000	Fibre carton	5 kg	inquire
1.02392.9025	Fibre carton	25 kg	inquire

### 102083 Calcium chloride fused, granular about 0.5-2.0 mm for elementary analysis

**Specification**  
 Assay (complexometric) .....≥ 98.0 %  
 Free alkali (as Ca(OH)<sub>2</sub>).....≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.02083.0250	Plastic bottle	250 g	inquire
1.02083.1000	Plastic bottle	1 kg	inquire

### 102382 Calcium chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

CaCl<sub>2</sub> \* 2 H<sub>2</sub>O  
**Calcium dichloride**  
 ■ CAS-No. 10035-04-8 ■ EC-No. 233-140-8  
 ■ Spec. density 1.85 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1000 g/l (0 °C) ■ M = 147.02 g/mol  
 ■ pH value 4.5 - 8.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 176 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 1000 mg/kg ■ LD50 dermal rat 2630 mg/kg  
 ■ EC-Index-No. 017-013-00-2 ■ LGK 10 - 13  
 ■ HS-No. 2827 20 00 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

Assay (complexometric) .....99.0 - 102.0 %  
 Identity.....passes test  
 Appearance of solution .....passes test  
 Insoluble matter .....≤ 0.01 %  
 Acidity or alkalinity .....passes test  
 pH-value (5 %; water, 25 °C) .....4.5 - 8.5  
 Sulphate (SO<sub>4</sub>).....≤ 0.005 %  
 Heavy metals (as Pb).....≤ 0.0005 %  
 Al (Aluminium).....≤ 0.0001 %  
 Ba (Barium) .....≤ 0.003 %  
 Ba (Barium).....passes test  
 Cu (Copper).....≤ 0.0005 %  
 Fe (Iron).....≤ 0.0003 %  
 K (Potassium).....≤ 0.01 %  
 Mg (Magnesium).....≤ 0.005 %  
 Na (Sodium).....≤ 0.01 %  
 NH<sub>4</sub> (Ammonium).....≤ 0.005 %

Sr (Strontium) .....≤ 0.05 %  
 Magnesium and alkali metals.....≤ 0.5 %  
 Oxidizing substances (as NO<sub>3</sub>).....≤ 0.003 %  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.02382.0250	Plastic bottle	250 g	inquire
1.02382.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.02382.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.02382.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.02382.9025	Fibre carton	25 kg	inquire
1.02382.9050	Fibre carton	50 kg	inquire

### 102384 Calcium chloride tetrahydrate 99.995 Suprapur®

CaCl<sub>2</sub> \* 4 H<sub>2</sub>O  
**Calcium dichloride**  
 ■ CAS-No. 25094-02-4 ■ EC-No. 233-140-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 183.05 g/mol ■ pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 772 °C (anhydrous substance)  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 1000 mg/kg ■ LD50 dermal rat 2630 mg/kg  
 ■ EC-Index-No. 017-013-00-2 ■ LGK 10 - 13  
 ■ HS-No. 2827 20 00 ■ Disposal 14

Phosphate (PO<sub>4</sub>).....≤ 10 ppm  
 Sulphate (SO<sub>4</sub>).....≤ 20 ppm  
 Al (Aluminium).....≤ 0.01 ppm  
 Ba (Barium).....≤ 2 ppm  
 Cd (Cadmium) .....≤ 0.005 ppm  
 Ce (Cerium).....≤ 0.01 ppm  
 Co (Cobalt).....≤ 0.005 ppm  
 Cr (Chromium).....≤ 0.01 ppm  
 Cu (Copper).....≤ 0.005 ppm  
 Eu (Europium).....≤ 0.01 ppm  
 Fe (Iron).....≤ 0.05 ppm  
 K (Potassium).....≤ 2 ppm  
 La (Lanthanum).....≤ 0.01 ppm  
 Li (Lithium).....≤ 1 ppm  
 Mg (Magnesium).....≤ 10 ppm  
 Mn (Manganese).....≤ 0.01 ppm

Na (Sodium).....≤ 5 ppm  
 Ni (Nickel).....≤ 0.01 ppm  
 Pb (Lead).....≤ 0.01 ppm  
 Rb (Rubidium).....≤ 5 ppm  
 Sc (Scandium).....≤ 0.01 ppm  
 Sm (Samarium).....≤ 0.01 ppm  
 Tl (Thallium).....≤ 0.005 ppm  
 Y (Yttrium).....≤ 0.01 ppm  
 Yb (Ytterbium).....≤ 0.01 ppm  
 Zn (Zinc).....≤ 0.01 ppm

Ord.No.	Packaging	Quantity	Price
1.02384.0100	Plastic bottle	100 g	inquire



## Calcium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
172	102315	Calcein indicator	930	104191	Glyoxalbis(2-hydroxyanil)			
172	103170	Eriochrome black T (C.I. 14645)	172	106161	Murexide			

## 802100 Calcium hydride for synthesis



<p>H<sub>2</sub>Ca CaH<sub>2</sub>  <ul style="list-style-type: none"> <li>■ CAS-No. 7789-78-8 ■ EC-No. 232-189-2</li> <li>■ Spec. density 1.9 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)</li> <li>■ M = 42.09 g/mol ■ Melting point 816 °C</li> <li>■ Ignition temp. &gt;300 °C</li> <li>■ WGK 1</li> <li>■ GHS: Danger, Substances, which in contact with</li> </ul> </p>	<p>water, emit flammable gases, Category 1, H260  <ul style="list-style-type: none"> <li>■ EC-Index-No. 001-004-00-5 ■ LGK 4.3</li> <li>■ HS-No. 2850 00 20 ■ Disposal 26</li> <li>■ ADR-RID UN 1404 Calciumhydrid, 4.3, I</li> <li>■ IMDG-Code UN 1404 CALCIUM HYDRIDE, 4.3, I</li> <li>■ IATA-DGR UN 1404 CALCIUM HYDRIDE, 4.3, I</li> </ul> <p><b>Specification</b>                      Assay (by gasvolumetry)..... ≥ 95.0 %</p> </p>	<p>Particle size..... 0 - 20 mm</p> <table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>8.02100.0100</td> <td>Glass bottle</td> <td>100 g</td> <td>inquire</td> </tr> <tr> <td></td> <td>Glass bottle</td> <td>6 x 100 g</td> <td>inquire</td> </tr> <tr> <td>8.02100.0500</td> <td>Glass bottle</td> <td>500 g</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	8.02100.0100	Glass bottle	100 g	inquire		Glass bottle	6 x 100 g	inquire	8.02100.0500	Glass bottle	500 g	inquire
Ord.No.	Packaging	Quantity	Price															
8.02100.0100	Glass bottle	100 g	inquire															
	Glass bottle	6 x 100 g	inquire															
8.02100.0500	Glass bottle	500 g	inquire															

## Calcium hydroxide



<p>H<sub>2</sub>CaO<sub>2</sub> Ca(OH)<sub>2</sub>  <ul style="list-style-type: none"> <li>■ CAS-No. 1305-62-0 ■ EC-No. 215-137-3</li> <li>■ Vapour pressure (20 °C) not applicable</li> <li>■ Spec. density 2.24 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1.7 g/l (20 °C) ■ M = 74.09 g/mol</li> <li>■ pH value 12.6 (H<sub>2</sub>O, 20 °C) (saturated solution)</li> </ul> </p>	<p> <ul style="list-style-type: none"> <li>■ Melting point 550 °C (decomposition)</li> <li>■ Bulk density 400 kg/m<sup>3</sup> ■ Boiling point 2850 °C (1013 hPa) (decomposition)</li> <li>■ WGK 1</li> <li>■ GHS: Danger, Serious eye damage, Category 1, H318; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category</li> </ul> </p>	<p>3, H335, P260, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P313  <ul style="list-style-type: none"> <li>■ LD50 oral rat 7340 mg/kg</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 2825 90 19 ■ Disposal 14</li> </ul> </p>
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## 102047 Calcium hydroxide for analysis EMSURE® ACS,Reag. Ph Eur

<p><b>Specification</b>                      Assay (acidimetric)..... ≥ 96.0 %                      Substances insoluble in hydrochloric acid ≤ 0.03 %                      Carbonate (as CaCO<sub>3</sub>)..... ≤ 3.0 %                      Chloride (Cl)..... ≤ 0.005 %                      Sulfur compounds (as SO<sub>4</sub>)..... ≤ 0.1 %                      Heavy metals (as Pb)..... ≤ 0.003 %                      Fe (Iron)..... ≤ 0.05 %</p>	<p>K (Potassium)..... ≤ 0.05 %                      Mg (Magnesium)..... ≤ 0.5 %                      Na (Sodium)..... ≤ 0.05 %                      Sr (Strontium)..... ≤ 0.05 %                      Conforms ACS, Reag. Ph. Eur.</p>	<table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1.02047.0500</td> <td>Plastic bottle</td> <td>500 g</td> <td>inquire</td> </tr> <tr> <td></td> <td>Plastic bottle</td> <td>6 x 500 g</td> <td>inquire</td> </tr> <tr> <td>1.02047.1000</td> <td>Plastic bottle</td> <td>1 kg</td> <td>inquire</td> </tr> <tr> <td></td> <td>Plastic bottle</td> <td>6 x 1 kg</td> <td>inquire</td> </tr> <tr> <td>1.02047.9050</td> <td>Fibre carton</td> <td>50 kg</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	1.02047.0500	Plastic bottle	500 g	inquire		Plastic bottle	6 x 500 g	inquire	1.02047.1000	Plastic bottle	1 kg	inquire		Plastic bottle	6 x 1 kg	inquire	1.02047.9050	Fibre carton	50 kg	inquire
Ord.No.	Packaging	Quantity	Price																							
1.02047.0500	Plastic bottle	500 g	inquire																							
	Plastic bottle	6 x 500 g	inquire																							
1.02047.1000	Plastic bottle	1 kg	inquire																							
	Plastic bottle	6 x 1 kg	inquire																							
1.02047.9050	Fibre carton	50 kg	inquire																							

## 102111 Calcium hydroxide for the preparation of DIN 19266 pH standard buffer solutions

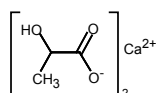
<p><b>Specification</b>                      pH-value (25 °C)..... 12.43 - 12.47</p>	<table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1.02111.0025</td> <td>Glass bottle</td> <td>25 g</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	1.02111.0025	Glass bottle	25 g	inquire
Ord.No.	Packaging	Quantity	Price						
1.02111.0025	Glass bottle	25 g	inquire						

## 841799 Calcium hypochlorite for synthesis



<p>CaCl<sub>2</sub>O<sub>2</sub> Ca(OCl)<sub>2</sub>  <ul style="list-style-type: none"> <li>■ CAS-No. 7778-54-3 ■ EC-No. 231-908-7</li> <li>■ Spec. density 2.35 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 200 g/l (20 °C) (decomposition)</li> <li>■ M = 142.98 g/mol ■ Melting point 100 °C</li> <li>■ WGK 2</li> <li>■ GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic</li> </ul> </p>	<p>toxicity, Category 1, H410, P210, P221, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  <ul style="list-style-type: none"> <li>■ LD50 oral rat 850 mg/kg ■ LD50 dermal rabbit &gt; 2000 mg/kg</li> <li>■ EC-Index-No. 017-012-00-7 ■ LGK 5.1A</li> <li>■ HS-No. 2828 10 00 ■ Disposal 22</li> <li>■ ADR-RID UN 1748 Calciumhypochlorit, trocken, 5.1, II ■ IMDG-Code UN 1748 CALCIUM HYPOCHLORITE, DRY, 5.1, II, Segregation Group: 8 (Hypochlorites)</li> </ul> </p>	<p>■ IATA-DGR UN 1748 CALCIUM HYPOCHLORITE, DRY, 5.1, II  <b>Specification</b>                      Assay (iodometric)..... 67,0 - 75,0 % (m)                      Identity..... conforms</p> <table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>8.41799.0100</td> <td>Glass bottle</td> <td>100 g</td> <td>inquire</td> </tr> <tr> <td>8.41799.0500</td> <td>Glass bottle</td> <td>500 g</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	8.41799.0100	Glass bottle	100 g	inquire	8.41799.0500	Glass bottle	500 g	inquire
Ord.No.	Packaging	Quantity	Price											
8.41799.0100	Glass bottle	100 g	inquire											
8.41799.0500	Glass bottle	500 g	inquire											

## 102103 Calcium lactate for soil tests



<p>C<sub>6</sub>H<sub>10</sub>CaO<sub>6</sub> * 5 H<sub>2</sub>O  <ul style="list-style-type: none"> <li>■ EC-No. 248-953-3</li> <li>■ Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 308.32 g/mol</li> <li>■ pH value 7 (50 g/l, H<sub>2</sub>O, 20 °C)</li> <li>■ Melting point 240 °C</li> <li>■ Bulk density 300 - 500 kg/m<sup>3</sup></li> </ul> </p>	<p> <ul style="list-style-type: none"> <li>■ Ignition temp. 610 °C</li> <li>■ WGK 1</li> <li>■ LD50 oral rat 3730 mg/kg ■ LD50 dermal rabbit &gt; 2000 mg/kg</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 2918 11 00 ■ Disposal 3</li> <li>■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good</li> <li>■ IATA-DGR No Dangerous Good</li> </ul> <p>Extraction agent for the testing of soil samples.  <b>Specification</b></p> </p>	<p>Assay (complexometric, calc. on anhydrous substance)..... ≥ 98 %                      Identity (IR-spectrum)..... passes test                      pH (5 %; water)..... 6 - 7                      K (Potassium)..... ≤ 0.01 %                      Phosphate (PO<sub>4</sub>)..... ≤ 0.002 %                      Water (according to Karl Fischer)..... 22 - 30 %</p> <table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1.02103.0250</td> <td>Plastic bottle</td> <td>250 g</td> <td>inquire</td> </tr> <tr> <td>1.02103.9025</td> <td>Fibre carton</td> <td>25 kg</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	1.02103.0250	Plastic bottle	250 g	inquire	1.02103.9025	Fibre carton	25 kg	inquire
Ord.No.	Packaging	Quantity	Price											
1.02103.0250	Plastic bottle	250 g	inquire											
1.02103.9025	Fibre carton	25 kg	inquire											

# Calcium

## Calcium nitrate tetrahydrate



CaN<sub>2</sub>O<sub>6</sub> \* 4 H<sub>2</sub>O  
 Ca(NO<sub>3</sub>)<sub>2</sub> \* 4 H<sub>2</sub>O  
 ■ CAS-No. 13477-34-4 ■ EC-No. 233-332-1  
 ■ Spec. density 1.82 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 2710 g/l (40 °C) ■ M = 236.15 g/mol  
 ■ pH value 5.0 - 7.0 (50 g/l, H<sub>2</sub>O, 25 °C)

■ Melting point 45 °C ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Oxidising solid, Category 3, H272; Eye irritation, Category 2, H319, P210, P221, P305 + P351 + P338  
 ■ LD50 oral rat 3900 mg/kg

■ LGK 5.1B  
 ■ HS-No. 2834 29 80 ■ Disposal 22  
 ■ ADR-RID UN 1454 Calciumnitrat, 5.1, III  
 ■ IMDG-Code UN 1454 CALCIUM NITRATE, 5.1, III  
 ■ IATA-DGR UN 1454 CALCIUM NITRATE, 5.1, III

### 102120 Calcium nitrate tetrahydrate extra pure

#### Specification

Assay (complexometric) .....	≥ 98.0 %	Fe (Iron) .....	≤ 0.001 %
pH-value (5 %; water) .....	4.0 - 6.0	NH <sub>4</sub> (Ammonium) .....	≤ 0.005 %
Chloride (Cl) .....	≤ 0.005 %	Substances not precipitated by ammonium oxalate (as sulphate) .....	≤ 0.3 %
Sulphate (SO <sub>4</sub> ) .....	≤ 0.02 %		
Heavy metals (as Pb) .....	≤ 0.002 %		

Ord.No.	Packaging	Quantity	Price
1.02120.5000	Plastic bottle	5 kg	inquire
1.02120.9050	Fibre carton	50 kg	inquire

### 102121 Calcium nitrate tetrahydrate for analysis EMSURE® ACS

#### Specification

Assay (complexometric) .....	99.0 - 102.0 %	Ba (Barium) .....	≤ 0.005 %
Insoluble matter .....	≤ 0.005 %	Cu (Copper) .....	≤ 0.0002 %
pH-value (5 %; water; 25 °C) .....	5.0 - 7.0	Fe (Iron) .....	≤ 0.0005 %
Chloride (Cl) .....	≤ 0.005 %	K (Potassium) .....	≤ 0.005 %
Nitrite (NO <sub>2</sub> ) .....	≤ 0.001 %	Mg (Magnesium) .....	≤ 0.01 %
Sulphate (SO <sub>4</sub> ) .....	≤ 0.002 %	Na (Sodium) .....	≤ 0.01 %
Heavy metals (as Pb) .....	≤ 0.0005 %	Sr (Strontium) .....	≤ 0.01 %

Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.02121.0500	Plastic bottle	500 g	inquire
1.02121.9050	Fibre carton	50 kg	inquire

### 102123 Calcium nitrate tetrahydrate 99.95 Suprapur®

#### Specification

Purity (metallic) .....	≥ 99.950 %	Eu (Europium) .....	≤ 0.010 ppm
Assay (complexometric) .....	≥ 99.0 %	Fe (Iron) .....	≤ 0.05 ppm
Chloride (Cl) .....	≤ 20 ppm	Hg (Mercury) .....	≤ 0.010 ppm
Phosphate (PO <sub>4</sub> ) .....	≤ 10 ppm	K (Potassium) .....	≤ 1.0 ppm
Sulphate (SO <sub>4</sub> ) .....	≤ 20 ppm	La (Lanthanum) .....	≤ 0.010 ppm
Al (Aluminium) .....	≤ 0.05 ppm	Li (Lithium) .....	≤ 2.0 ppm
Ba (Barium) .....	≤ 5 ppm	Mg (Magnesium) .....	≤ 2.0 ppm
Cd (Cadmium) .....	≤ 0.005 ppm	Mn (Manganese) .....	≤ 0.010 ppm
Ce (Cerium) .....	≤ 0.010 ppm	Na (Sodium) .....	≤ 5 ppm
Co (Cobalt) .....	≤ 0.005 ppm	Ni (Nickel) .....	≤ 0.010 ppm
Cr (Chromium) .....	≤ 0.010 ppm	Pb (Lead) .....	≤ 0.010 ppm
Cu (Copper) .....	≤ 0.005 ppm	Rb (Rubidium) .....	≤ 10 ppm

Sc (Scandium) .....	≤ 0.010 ppm
Sm (Samarium) .....	≤ 0.010 ppm
Sr (Strontium) .....	≤ 50 ppm
Tl (Thallium) .....	≤ 0.005 ppm
Y (Yttrium) .....	≤ 0.010 ppm
Yb (Ytterbium) .....	≤ 0.010 ppm
Zn (Zinc) .....	≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.02123.0100	Plastic bottle	100 g	inquire
1.02123.0500	Plastic bottle	500 g	inquire

### 102109 Calcium oxide from marble small lumps ~3-20 mm

CaO

*Lime, caustic, Quicklime*  
 ■ CAS-No. 1305-78-8 ■ EC-No. 215-138-9  
 ■ Spec. density 3.37 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1.65 g/l (20 °C) Risk of violent reaction.  
 ■ M = 56.07 g/mol ■ pH value 12.6 (H<sub>2</sub>O, 20 °C) (saturated solution)  
 ■ Melting point 2580 °C  
 ■ Bulk density 800 - 1200 kg/m<sup>3</sup>  
 ■ Boiling point 2850 °C  
 ■ WGK 1  
 ■ GHS: Danger, Serious eye damage, Category 1,

H318, P260, P280, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2825 90 19 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR UN 1910 CALCIUM OXIDE, 8, III  
 Absorptionsmittel for CO<sub>2</sub> and H<sub>2</sub>O.

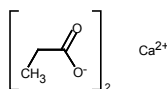
#### Specification

Assay (acidimetric) .....	≥ 97.0 %
Substances insoluble in hydrochloric acid .....	≤ 0.1 %
Chloride (Cl) .....	≤ 0.05 %

Sulphate (SO <sub>4</sub> ) .....	≤ 0.5 %
Heavy metals (as Pb) .....	≤ 0.005 %
Fe (Iron) .....	≤ 0.05 %
Substances not precipitated by ammonium oxalate (as SO <sub>4</sub> ) .....	≤ 3.0 %

Ord.No.	Packaging	Quantity	Price
1.02109.1000	Plastic bottle	1 kg	inquire
1.02109.9025	Fibre carton	25 kg	inquire

### 843275 Calcium propionate for synthesis



C<sub>6</sub>H<sub>10</sub>CaO<sub>4</sub>  
 ■ CAS-No. 4075-81-4 ■ EC-No. 223-795-8  
 ■ Solub. in H<sub>2</sub>O 260 g/l (20 °C) ■ M = 186.22 g/

mol ■ pH value 9.2 (200 g/l, H<sub>2</sub>O, 20 °C) (IUCLID)  
 ■ Bulk density 400 kg/m<sup>3</sup> ■ Ignition temp. 490 °C  
 ■ WGK 1  
 ■ LD50 oral rat 3920 - 4380 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 50 00 ■ Disposal 3

#### Specification

Assay (complexometric, calc. on anhydrous

substance) .....	≥ 99.0 %
Water (K. F.) .....	≤ 9.5 %
Identity (IR) .....	passes test

Ord.No.	Packaging	Quantity	Price
8.43275.0025	Glass bottle	25 g	inquire
8.43275.0250	Glass bottle	250 g	inquire

### 109943 Calcium standard 1000 mg Ca, (CaCl<sub>2</sub> in 6.5% HCl) Titrisol®

■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 12

■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

#### Specification

content (Ca) .....

Determination method: Complexometric titration.

(traceable to NIST - SRM 682) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09943.0001	Plastic ampoule	1 amp	inquire

Calcium standard for aqueous matrices → Calcium standard page 564

## 102161 Calcium sulfate dihydrate precipitated for analysis EMSURE®

CaO<sub>4</sub>S \* 2 H<sub>2</sub>OCaSO<sub>4</sub> \* 2 H<sub>2</sub>O

- CAS-No. 10101-41-4 ■ EC-No. 231-900-3
- Spec. density 2.32 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 172.17 g/mol
- pH value 7.0 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Bulk density 400 - 600 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat > 10000 mg/kg
- LGK 10 - 13

- HS-No. 2833 29 80 ■ Disposal 14

## Specification

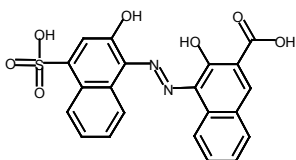
- Assay (complexometric).....99.0 - 102.0 %
- Substances insoluble in hydrochloric acid ≤ 0.01 %
- Carbonate (CO<sub>3</sub>).....passes test
- Chloride (Cl).....≤ 0.005 %
- Nitrate (NO<sub>3</sub>).....passes test
- Heavy metals (as Pb).....≤ 0.002 %
- Fe (Iron).....≤ 0.001 %

K (Potassium).....	≤ 0.005 %
Mg (Magnesium).....	≤ 0.01 %
Na (Sodium).....	≤ 0.2 %
Sr (Strontium).....	≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.02161.0500	Plastic bottle	500 g	inquire

Calcium Test → page 53

## 104595 Calconcarboxylic acid metal indicator



*hydroxy-4-sulfo-1-naphthylazo)-naphthalene-3-carboxylic acid*

- EC-No. 223-117-0
  - Solub. in H<sub>2</sub>O 8 g/l (20 °C) ■ M = 474.45 g/mol
  - Melting point 300 °C ■ Bulk density 400 kg/m<sup>3</sup>
  - WGK 2
  - LGK 10 - 13
  - HS-No. 2927 00 00 ■ Disposal 3
- Use as metal indicator: 0.4 in methanol or 1:100 Na<sub>2</sub>SO<sub>4</sub> respectively NaCl

C<sub>21</sub>H<sub>14</sub>N<sub>2</sub>O<sub>7</sub>S \* 2 H<sub>2</sub>O

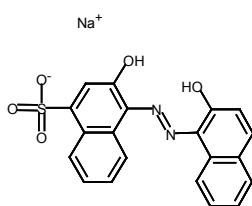
Patton and Reiders Reagent, 2-Hydroxy-1-(2-

## Specification

- Appearance of solution.....passes test
- Water (according to Karl Fischer).....6 - 9%
- Suitability as indicator (for metal titration)...passes test

Ord.No.	Packaging	Quantity	Price
1.04595.0005	Glass bottle	5 g	inquire
1.04595.0025	Glass bottle	25 g	inquire

## 104594 Calcon (C.I.15705) metal indicator



*2-Hydroxy-1-(2-hydroxy-1-naphthylazo) naphthalene-4-sulfonic acid sodium salt*

- CAS-No. 2538-85-4 ■ EC-No. 219-810-2
- Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 416.39 g/mol
- pH value 9.4 (10 g/l, H<sub>2</sub>O, 25 °C)
- Bulk density 530 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2927 00 00 ■ Disposal 3

## Specification

- Identity (UV/VIS-Spectrum).....passes test

C<sub>20</sub>H<sub>13</sub>N<sub>2</sub>NaO<sub>5</sub>S

- Absorption maximum λ<sub>max</sub> (buffer pH 12.2).....634 - 640 nm
- Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.0015 %; buffer pH 12.2; calculated on dried substance).....600 - 720
- Loss on drying (110 °C).....≤ 10 %
- Suitability as indicator (for metal titration)...passes test

Ord.No.	Packaging	Quantity	Price
1.04594.0050	Glass bottle	50 g	inquire

Calibration → Standards

Calibration standard → page 93

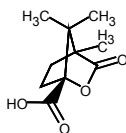
Calibration Standard Set → page 93

## Calibration Standards for Turbidimeter

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
93	118342	Calibration standard	93	118328	Calibration Standard Set	93	118349	Calibration Standard Set
93	118343	Calibration standard	93	118327	Calibration Standard Set			
93	118335	Calibration Standard Set	93	118329	Calibration Standard Set			

Calomel → Mercury(I) chloride page 1104

## 818254 (1R)-(+)-Camphanic acid for synthesis



- CAS-No. 67111-66-4
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.21 g/mol ■ Melting point 199 - 202 °C
- Bulk density 490 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

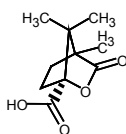
## Specification

- Assay (acidimetric).....≥ 99.0 %
- Melting range (lower value).....≥ 199 °C
- Melting range (upper value).....≤ 202 °C
- Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in dioxan).....17.0 - 19.0 °
- Identity (IR).....passes test

C<sub>10</sub>H<sub>14</sub>O<sub>4</sub>

Ord.No.	Packaging	Quantity	Price
8.18254.0001	Glass bottle	1 g	inquire

## 818207 (1S)-(-)-Camphanic acid for synthesis



- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.21 g/mol ■ Melting point 202 - 205 °C
- Bulk density 430 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

## Specification

- Assay (acidimetric).....≥ 99.0 %
- Melting range (lower value).....≥ 202 °C

- Melting range (upper value).....≤ 205 °C
- Water (K. F.).....≤ 1.0 %
- Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in dioxan).....-21.0 - -19.0 °
- Identity (IR).....passes test

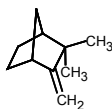
C<sub>10</sub>H<sub>14</sub>O<sub>4</sub>

- CAS-No. 13429-83-9 ■ EC-No. 236-552-6

Ord.No.	Packaging	Quantity	Price
8.18207.0005	Glass bottle	5 g	inquire

# Camphe

## 820254 (+)-Camphene for synthesis



C<sub>10</sub>H<sub>16</sub>  
**2,2-Dimethyl-3-methylenebicyclo[2.2.1]heptane, 3,3-Dimethyl-2-methylenenorcamphane**  
 ■ CAS-No. 79-92-5 ■ EC-No. 201-234-8  
 ■ Vapour pressure 3.99 hPa (20 °C)  
 ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 26 °C ■ Solub. in H<sub>2</sub>O 0.0042 g/l (20 °C) ■ M = 136.23 g/mol ■ pH value 5.5 (H<sub>2</sub>O),

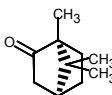
22 °C) (saturated aqueous solution)  
 ■ Melting point 42 - 45 °C  
 ■ Boiling point 158 - 159 °C (1013 hPa)  
 ■ Ignition temp. 265 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable solid, Category 1, H228; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P262, P273, P305 + P351 + P338  
 ■ LD50 dermal rabbit > 2500 mg/kg  
 ■ LGK 4.1B  
 ■ HS-No. 2902 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1325 Entzündbarer organischer

fester Stoff, n.a.g.(CAMPHEN), 4.1, II ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(CAMPHENE), 4.1, II  
 ■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(CAMPHENE), 4.1, II

**Specification**  
 Assay (GC, area%)..... ≥ 90.0 % (a/a)  
 Assay (GC, Tricyclene)..... ≤ 10.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20254.0100	Glass bottle	100 g	inquire
8.20254.1000	Glass bottle	1 kg	inquire

## 814033 (1S)-(-)-Camphor for synthesis



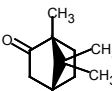
C<sub>10</sub>H<sub>16</sub>O  
**(1S)-(-)-Camphor**  
 ■ CAS-No. 464-48-2 ■ EC-No. 207-354-7  
 ■ Vapour pressure 0.27 hPa (20 °C)  
 ■ Spec. density 0.985 g/cm<sup>3</sup> (18 °C) ■ Explosive limit 0.6 - 4.5 % (V) ■ Flash point 66 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.23 g/mol  
 ■ Melting point 175 - 180 °C

■ Bulk density 350 kg/m<sup>3</sup> ■ Boiling point 204 °C (1013 hPa) (sublimed) ■ Ignition temp. 460 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable solid, Category 2, H228; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 4.1B  
 ■ HS-No. 2914 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2717 Campher, 4.1, III ■ IMDG-Code UN 2717 CAMPHOR, 4.1, III

■ IATA-DGR UN 2717 CAMPHOR, 4.1, III  
**Specification**  
 Assay (GC, area%)..... ≥ 99.0 Area %  
 Melting range (lower value)..... ≥ 175 °C  
 Melting range (upper value)..... ≤ 178 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=10 in ethanol) ..... -44.0 - -42.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14033.0001	Glass bottle	1 g	inquire

## 109656 D-Camphor reference substance for gas chromatography



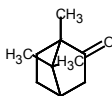
C<sub>10</sub>H<sub>16</sub>O  
**(+)-Camphor, (1R,4R)-Camphor, 1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one, 2-Bornanone**  
 ■ CAS-No. 464-49-3 ■ EC-No. 207-355-2  
 ■ Vapour pressure 0.27 hPa (20 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (25 °C) ■ Explosive

limit 0.6 - 4.5 % (V) ■ Flash point 66 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.23 g/mol  
 ■ Melting point 175 - 180 °C  
 ■ Bulk density 350 kg/m<sup>3</sup> ■ Boiling point 209 °C (1013 hPa) (sublimed) ■ Ignition temp. 460 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable solid, Category 2, H228; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat > 5000 mg/kg

■ LGK 4.1B  
 ■ HS-No. 2914 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2717 Campher, 4.1, III ■ IMDG-Code UN 2717 CAMPHOR, 4.1, III  
 ■ IATA-DGR UN 2717 CAMPHOR, 4.1, III  
**Specification**  
 Assay (GC)..... ≥ 96.0 %  
 Identity (IR-spectrum)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09656.0005	Glass bottle	5 g	inquire

## 841456 DL-Camphor for synthesis



C<sub>10</sub>H<sub>16</sub>O  
 ■ CAS-No. 76-22-2 ■ EC-No. 200-945-0  
 ■ Vapour pressure 1.2 hPa (20 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.6 - 4.5 % (V) ■ Flash point 66 °C ■ Solub. in H<sub>2</sub>O 1.5 g/l (20 °C) ■ M = 152.24 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral  
 ■ Melting point 180 °C ■ Bulk density 800 kg/m<sup>3</sup>

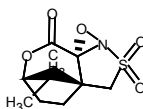
■ Boiling point 205 °C (1013 hPa)  
 ■ Ignition temp. 460 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable solid, Category 1, H228; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H335, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LC50 rat 0.5 mg/l  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 4.1B  
 ■ HS-No. 2914 29 00  
 ■ ADR-RID UN 2717 Campher, 4.1, III ■ IMDG-

Code UN 2717 CAMPHOR, 4.1, III  
 ■ IATA-DGR UN 2717 CAMPHOR, 4.1, III  
**Specification**  
 Assay (GC, area%)..... ≥ 95.0 Area %  
 Melting range (lower value)..... ≥ 170 °C  
 Melting range (upper value)..... ≤ 175 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41456.0250	Plastic bottle	250 g	inquire
8.41456.1000	Plastic bottle	1 kg	inquire

(1S)-(-)-Camphor → page 566

## 814564 (1S)-(+)-Camphorlactone-sulfonyloxaziridine for synthesis



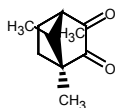
C<sub>10</sub>H<sub>13</sub>NO<sub>5</sub>S

■ CAS-No. 127411-75-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 259.27 g/mol  
 ■ Melting point 202 - 205 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
**Specification**

Assay (of S)..... ≥ 98.0 % (m)  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in Aceton) .88,0 - 91,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14564.0001	Glass bottle	1 g	inquire

## 814071 (1R)-(-)-Camphorquinone for synthesis



C<sub>10</sub>H<sub>14</sub>O<sub>2</sub>  
(1R)-2,3-Bornanedione

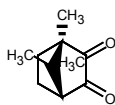
- CAS-No. 10334-26-6
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 166.21 g/mol ■ Melting point 198 - 201 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 29 00 ■ Disposal 3

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 198 °C  
Melting range (upper value) ..... ≤ 201 °C  
Spec. rotation [α<sup>20</sup>/D (c=2 in Chloroform) .....  
..... -106,0 - -102,0 °  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14071.0001	Plastic bottle	1 g	inquire

## 814065 (1S)-(+)-Camphorquinone for synthesis



C<sub>10</sub>H<sub>14</sub>O<sub>2</sub>  
(1S)-2,3-Bornanedione

■ CAS-No. 2767-84-2 ■ EC-No. 220-446-1

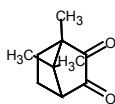
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 166.21 g/mol ■ Melting point 198 - 201 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 29 00 ■ Disposal 3

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 198 °C

Melting range (upper value) ..... ≤ 201 °C  
Spec. rotation [α<sup>20</sup>/D (c=2 in Chloroform) .....  
..... 101,0 - 105,0 °  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14065.0001	Plastic bottle	1 g	inquire

## 814531 DL-Camphorquinone for synthesis



C<sub>10</sub>H<sub>14</sub>O<sub>2</sub>  
2,3-Bornanedione

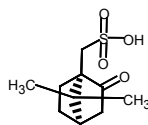
- CAS-No. 10373-78-1 ■ EC-No. 233-814-1
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 166.22 g/mol ■ Melting point 198 - 201 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 29 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 97,0 Area %  
Melting range (lower value) ..... ≥ 197 °C  
Melting range (upper value) ..... ≤ 200 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14531.0010	Glass bottle	10 g	inquire

## 840094 (1R)-(-)-Camphor-10-sulfonic acid for synthesis



C<sub>10</sub>H<sub>16</sub>O<sub>4</sub>S

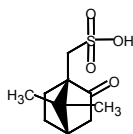
- CAS-No. 35963-20-3 ■ EC-No. 252-817-9
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 232.30 g/mol
- pH value 1.2 - 1.4 (20 g/l, H<sub>2</sub>O)
- Melting point 193 - 196 °C decomposes
- WGK 1

- GHS: Danger, Skin corrosion, Category 1B, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2914 70 00 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(CAMPHER-10-SULFONSAEURE), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CAMPHORSULFONIC ACID), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CAMPHORSULFONIC ACID), 8, III

**Specification**  
Assay (acidimetric) ..... ≥ 97,0 % (m)  
Melting range (lower value) ..... ≥ 193 °C  
Melting range (upper value) ..... ≤ 196 °C  
Spec. rotation [α<sup>20</sup>/D (c=20 in water) .....  
..... -23,0 - -21,0 °  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.40094.0100	Plastic bottle	100 g	inquire

## 822311 (1S)-(+)-Camphor-10-sulfonic acid for resolution of racemates for synthesis



C<sub>10</sub>H<sub>16</sub>O<sub>4</sub>S

for resolution of racemates

- CAS-No. 3144-16-9 ■ EC-No. 221-554-1
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 232.30 g/mol

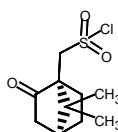
- mol ■ pH value 0.3 (200 g/l, H<sub>2</sub>O)
- Melting point 195 °C decomposes
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2914 70 00 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(CAMPHER-10-SULFONSAEURE),

8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CAMPHORSULFONIC ACID), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CAMPHORSULFONIC ACID), 8, II

**Specification**  
Assay (acidimetric) ..... ≥ 99,0 % (m)  
Spec. rotation [α<sup>20</sup>/D (c=10 in water) ..... 20,0 - 22,0 °

Ord.No.	Packaging	Quantity	Price
8.22311.0100	Plastic bottle	100 g	inquire

## 818358 (1R)-(-)-Camphor-10-sulfonic acid chloride for synthesis



C<sub>10</sub>H<sub>15</sub>ClO<sub>3</sub>S

(1R)-(-)-2-Oxobornan-10-sulfonylchlorid

- CAS-No. 39262-22-1
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 250.73 g/mol ■ Melting point 64 - 67 °C
- WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2914 70 00 ■ Disposal 11
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(CAMPHER-10-SULFONSAEURECHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CAMPHOR-10-SULFONYLCHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CAMPHOR-10-

SULFONYLCHLORIDE), 8, II

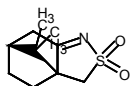
**Specification**  
Assay (morpholine method) ..... ≥ 98,0 %  
Melting range (lower value) ..... ≥ 64 °C  
Melting range (upper value) ..... ≤ 67 °C  
Spec. rotation [α<sup>20</sup>/D (c=1 in chloroform) .....  
..... -33,0 - -31,0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18358.0005	Glass bottle	5 g	inquire



# Campho

## 814372 D-(-)-Camphorsulfonylimine for synthesis



C<sub>10</sub>H<sub>15</sub>NO<sub>2</sub>S

- CAS-No. 60886-80-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 213.3 g/

- mol ■ Melting point 225 - 228 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2925 29 00 ■ Disposal 3

### Specification

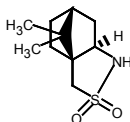
- Assay (of S) ..... ≥ 98,0 %(m)
- Melting range (lower value) ..... ≥ 225 °C
- Melting range (upper value) ..... ≤ 228 °C

Spec. rotation [α<sup>20</sup>/D (c=5 in Chloroform)..... -34,0 - -32,0 °

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14372.0010	Plastic bottle	10 g	inquire

## 814397 (1S,2R)-(-)-2,10-Camphorsultame for synthesis



C<sub>10</sub>H<sub>17</sub>NO<sub>2</sub>S

- CAS-No. 94594-90-8

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 215.3 g/
- mol ■ Melting point 180 - 183 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

### Specification

- Assay (of S) ..... ≥ 98,0 %(m)
- Melting range (lower value) ..... ≥ 180 °C

Melting range (upper value) ..... ≤ 183 °C

Spec. rotation [α<sup>20</sup>/D (c=1 in ethanol)..... -33,0 - -31,0 °

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14397.0001	Glass bottle	1 g	inquire

Canada balsam → page 187

Cane sugar → page 112

## 118603 Capping A for DNA-/RNA-synthesis Tetrahydrofurane/2,6-Lutidine/Acetic anhydride 8/1/1 v/v/v

- WGK 3
- HS-No. 3824 90 97
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(ENTH. TETRAHYDROFURAN UND ESSIGSAEUREANHYDRID), 3 (8), II ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. TETRAHYDROFURANE AND ACETIC

ANHYDRIDE), 3 (8), II, Segregation Group: 1 (Acids)

- IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. TETRAHYDROFURANE AND ACETIC ANHYDRIDE), 3 (8), II

Ord.No.	Packaging	Quantity	Price
1.18603.0450	Glass bottle	450 ml	inquire
	Glass bottle	6 x 450 ml	inquire
1.18603.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 118605 Capping A for DNA-/RNA-synthesis Tetrahydrofurane/Acetic anhydride 9/1 v/v

- HS-No. 3824 90 97
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(ENTH. TETRAHYDROFURAN UND ESSIGSAEUREANHYDRID), 3 (8), II ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. TETRAHYDROFURANE AND ACETIC ANHYDRIDE), 3 (8), II, Segregation Group: 1

(Acids)

- IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. TETRAHYDROFURANE AND ACETIC ANHYDRIDE), 3 (8), II

Ord.No.	Packaging	Quantity	Price
1.18605.0200	Glass bottle	200 ml	inquire
	Glass bottle	12 x 200 ml	inquire
1.18605.0450	Glass bottle	450 ml	inquire
	Glass bottle	6 x 450 ml	inquire
1.18605.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire

## 118608 Capping B for DNA-/RNA-synthesis 10% N-Methylimidazole in Tetrahydrofurane v/v

- HS-No. 3824 90 97
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(ENTH. TETRAHYDROFURAN UND 1-METHYLIMIDAZOL), 3 (8), II ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. TETRAHYDROFURANE AND 1-

METHYLIMIDAZOLE), 3 (8), II

- IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. TETRAHYDROFURANE AND 1-METHYLIMIDAZOLE), 3 (8), II

Ord.No.	Packaging	Quantity	Price
1.18608.0450	Glass bottle	450 ml	inquire
	Glass bottle	6 x 450 ml	inquire
1.18608.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 118610 Capping B for DNA-/RNA-synthesis Acetic anhydride/2,6-Lutidine/Acetonitrile 20/30/50 v/v/v

- WGK 3
- HS-No. 3824 90 97
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(ENTH. ACETONITRIL UND ESSIGSAEUREANHYDRID), 3 (8), II ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE,

N.O.S.(CONT. ACETONITRILE AND ACETIC ANHYDRIDE), 3 (8), II, Segregation Group: 1 (Acids)

- IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. ACETONITRILE AND ACETIC ANHYDRIDE), 3 (8), II

Ord.No.	Packaging	Quantity	Price
1.18610.2500	Glass bottle	2.5 l	inquire
1.18610.4001	Glass bottle	4 l	inquire

## 118609 Capping B for DNA-/RNA-synthesis N-Methylimidazole/Tetrahydrofurane/Pyridine 1/8/1 v/v/v

- Spec. density 0.916 g/cm<sup>3</sup> (20 °C)
- Flash point < 4.4 °C ■ pH value (H<sub>2</sub>O) no data available ■ Boiling point 66.2 °C (1013 hPa)
- Ignition temp. 321 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category

3, H335; Skin corrosion, Category 1B, H314, P210, P240, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

- LGK 3
- HS-No. 3824 90 97 ■ Disposal 1
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(ENTH. TETRAHYDROFURAN UND 1-METHYLIMIDAZOL), 3 (8), II ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. TETRAHYDROFURANE AND 1-

METHYLIMIDAZOLE), 3 (8), II

- IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. TETRAHYDROFURANE AND 1-METHYLIMIDAZOLE), 3 (8), II

Ord.No.	Packaging	Quantity	Price
1.18609.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire





Capping Reagent A, → page 283

Capping Reagent B, → page 283

Capraldehyde → Decanal page 685

Capric acid → Decanoic acid page 686

Capric acid chloride → Decanoyl chloride page 687

Capric acid methyl ester → Methyl decanoate page

44

Capric acid nitrile → Decanonitrile page 686

Capric alcohol → 1-Decanol page 300

Capric chloride → Decanoyl chloride page 687

Caproaldehyde → Hexanal page 952

Caproic acid → Hexanoic acid page 955

Caproic acid allyl ester → Allyl hexanoate page 365

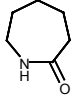
Caproic acid chloride → Hexanoyl chloride page 956

Caproic acid ethyl ester → Ethyl hexanoate page 869

Caproic acid methylbutyl ester → 3-Methylbutyl hexanoate page 1140

Caproic acid methyl ester → Methyl hexanoate page 1154

Caproic anhydride → Hexanoic anhydride page 955

**802800 ε-Caprolactam for synthesis**C<sub>6</sub>H<sub>11</sub>NO

6-Aminocaproic acid lactam, 2-Oxohexamethyleneimine

■ CAS-No. 105-60-2 ■ EC-No. 203-313-2

■ Vapour pressure 0.0014 hPa (20 °C)

■ Spec. density 1.01 g/cm<sup>3</sup> (80 °C) ■ Explosive limit 1.4 - 8 % (V) ■ Flash point 152 °C DIN 51758■ Solub. in H<sub>2</sub>O 4560 g/l (20 °C) ■ M = 113.15 g/mol ■ pH value 7.0 - 8.5 (333 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 69.2 °C

■ Bulk density 500 - 550 kg/m<sup>3</sup>

■ Boiling point 270.8 °C (1013 hPa)

■ Ignition temp. 395 °C DIN 51794

■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

■ LC50 rat 8.2 mg/l

■ LD50 oral rat 1660 mg/kg ■ LD50 dermal rabbit &gt; 2000 mg/kg

■ EC-Index-No. 613-069-00-2 ■ LGK 10 - 13

■ HS-No. 2933 71 00 ■ Disposal 3

**Specification**

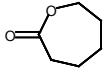
Assay (GC, area%) ..... ≥ 99,0 Area %

Melting range (lower value) ..... ≥ 68 °C

Melting range (upper value) ..... ≤ 71 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02800.0100	Plastic bottle	100 g	inquire
8.02800.0500	Plastic bottle	500 g	inquire
8.02800.1000	Plastic bottle	1 kg	inquire

**802801 ε-Caprolactone for synthesis**C<sub>6</sub>H<sub>10</sub>O<sub>2</sub>

2-Oxepanone, 6-Hydroxycaproic acid lactone

■ CAS-No. 502-44-3 ■ EC-No. 207-938-1

■ Refractive index 1.463 (20 °C, 589 nm) ■ Vapour pressure 0.013 hPa (20 °C) ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 9 % (V)

■ Flash point 127 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 114.14 g/mol

■ Melting point -1.5 °C ■ Boiling point 235 °C

(1013 hPa) ■ Ignition temp. 204 °C

■ WGK 1

■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338

■ LD50 oral rat &gt; 2000 mg/kg

■ LD50 dermal rabbit 5990 mg/kg

■ LGK 10 - 13

■ HS-No. 2932 20 90 ■ Disposal 3

**Specification**

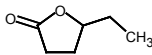
Assay (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,075 - 1,076

Water (K. F.) ..... ≤ 0,10 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02801.0250	Glass bottle	250 ml	inquire

**814999 γ-Caprolactone for synthesis**C<sub>6</sub>H<sub>10</sub>O<sub>2</sub>

γ-Hexalactone, γ-Ethyl-γ-butyrolactone

■ CAS-No. 695-06-7 ■ EC-No. 211-778-8

■ Spec. density 1.03 g/cm<sup>3</sup> ■ Flash point 98 °C

■ M = 114.15 g/mol ■ Melting point -18 °C

■ Boiling point 217 °C (1013 hPa)

■ WGK 2

■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338

■ LD50 oral rat &gt; 5000 mg/kg

■ LD50 dermal rabbit &gt; 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2932 20 90 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,025 - 1,029

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14999.0100	Glass bottle	100 ml	inquire

Caproyl chloride → Hexanoyl chloride page 956

n-Caproylhydride → page 318

2-Capryl alcohol → 2-Octanol page 307

Caprylaldehyde → Octanal page 1240

Caprylamine → Octylamine page 1244

Caprylene → 1-Octene page 1243

Capryloyl chloride → Octanoyl chloride page 1243

Caprylyl chloride → Octanoyl chloride page 1243

Carbamic acid ammonium salt → Ammonium carbamate page 409

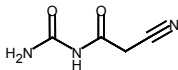
Carbamic acid benzyl ester → Benzyl carbamate page 449

Carbamic acid methyl ester → Methyl carbamate page 1141

Carbamide → page 1625

Carbamide peroxide → Hydrogen peroxide urea page 974

Carbamide peroxide tablets → Perhydrit® tablets 1 g page 1277

**843302 N-Carbamoyl-2-cyanoacetamide for synthesis**C<sub>4</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub>

■ CAS-No. 1448-98-2 ■ EC-No. 215-906-3

■ M = 127.1 g/mol ■ Melting point 203 - 207 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310

■ LGK 6.1C

■ HS-No. 2926 90 95 ■ Disposal 9

■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(N-CARBAMOYL-2-CYANACETAMID), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(N-CARBAMOYL-2-CYANOACETAMIDE), 6.1, III ■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(N-CARBAMOYL-2-CYANOACETAMIDE), 6.1, III

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 203 °C

Melting range (upper value) ..... ≤ 207 °C

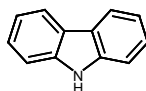
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43302.0025	Glass bottle	25 g	inquire

Carbazinic acid tert-butyl ester → tert-Butyl carbazate page 543

# Carbaz

## 820255 Carbazole for synthesis



C<sub>12</sub>H<sub>9</sub>N  
**Diphenylenimine, 9-Azafluorene**  
 ■ CAS-No. 86-74-8 ■ EC-No. 201-696-0  
 ■ Flash point 220 °C ■ Solub. in H<sub>2</sub>O 0.1 g/l (20 °C) ■ M = 167.2 g/mol  
 ■ Melting point 244 - 246 °C  
 ■ Bulk density 620 kg/m<sup>3</sup> ■ Boiling point 355 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273  
 ■ LD50 oral rat > 16000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(CARBAZOL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CARBAZOLE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CARBAZOLE), 9, III

### Specification

Assay (GC, area%)..... ≥ 95,0 Area %  
 Melting range (lower value)..... ≥ 243 °C  
 Melting range (upper value)..... ≤ 246 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20255.0005	Glass bottle	5 g	inquire
8.20255.0250	Plastic bottle	250 g	inquire

2-Carboxycyclohexanone → Ethyl 2-oxocyclohexanecarboxylate page 879

Carbinol → page 293

Carbitol → Diethylene glycol monoethyl ether page 301

Carbitolacetate → 2-(2-Ethoxyethoxy)ethyl acetate page 846

Carbobenzoxy glycine → page 250

N-Carbobenzoylglycine → page 250

## Carbohydrates and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
586	102352	Cellobiose	1005	104507	myo-Inositol	1460	107759	D(-)-Sorbitol
667	102126	α-Cyclodextrine	1071	107660	Lactose monohydrate	1500	101257	Starch
916	104007	D(-)-Fructose	1093	105912	Maltose monohydrate	1500	101252	Starch
920	104058	D(+)-Galactose	1097	105388	D(+)-Mannose	1500	111685	Starch (from wheat)
923	108337	D(+)-Glucose	1099	112240	Melibiose monohydrate	1505	107687	Sucrose (saccharose)
923	104074	D(+)-Glucose monohydrate	1399	107419	Raffinose pentahydrate	1508	818484	N-(3-Sulfopropyl)-N-methacroyloxyethyl- N,N-dimethylammonium betaine
318	104094	Glycerol 85%	1407	107605	D(-)-Ribose	1637	108689	D(+)-Xylose

Carbol fuchsin solution → page 193

Carbonate hardness, determination → page 54

Carbonate Hardness Test → page 54

Carbonate Hardness Test in freshwater and seawater → page 54

## Carbonates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
409	159504	Ammonium carbonate	165	105676	Lithium carbonate	165	106395	Sodium carbonate
431	101714	Barium carbonate	1081	105680	Lithium carbonate	1429	106393	Sodium carbonate
165	102059	Calcium carbonate	1081	105670	Lithium carbonate	1429	106392	Sodium carbonate
561	102066	Calcium carbonate	1087	105827	Magnesium hydroxide carbonate	168	102405	Sodium carbonate
561	102067	Calcium carbonate				1429	106391	Sodium carbonate decahydrate
168	102410	Calcium carbonate	1345	104928	Potassium carbonate	170	109940	Sodium carbonate solution
654	102722	Copper(II) hydroxide carbonate	165	104926	Potassium carbonate-1.5-hydrate	1436	106329	Sodium hydrogen carbonate
1074	107381	Lead(II) carbonate	1346	106683	Potassium carbonate/sodium carbonate			
			1352	104854	Potassium hydrogen carbonate			

Carbon dioxide absorption → Absorption tube for CO<sub>2</sub> page 330

Carbon dioxidedi-n-butyl ester → Di-n-butyl carbonate page 707

Carbon disulfide → page 292

## Carbon disulfide



CS<sub>2</sub>  
 ■ CAS-No. 75-15-0 ■ EC-No. 200-843-6  
 ■ Vapour pressure 398 hPa (20 °C)  
 ■ Spec. density 1.26 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.6 (20 °C) ■ Explosive limit 1 - 60 % (V)  
 ■ Flash point -30 °C ■ Solub. in H<sub>2</sub>O 2.1 g/l (20 °C)  
 ■ M = 76.13 g/mol ■ Saturation conc. 1244 g/m<sup>3</sup> (20 °C) Air ■ Melting point -111.6 °C

■ Boiling point 46.5 °C (1013 hPa)  
 ■ Evaporation number 1.8 ■ Ignition temp. 95 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Reproductive toxicity, Category 2, H361fd; Specific target organ toxicity - repeated exposure, Category 1, H372; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P210, P233, P240, P281, P302 + P352, P305 + P351 + P338, P308 + P313

■ LC50 rat 25 mg/l  
 ■ LD50 oral rat 3188 mg/kg  
 ■ EC-Index-No. 006-003-00-3 ■ LGK 3  
 ■ HS-No. 2813 10 00 ■ Disposal 9  
 ■ ADR-RID UN 1131 Kohlenstoffdisulfid, 3 (6.1), I  
 ■ IMDG-Code UN 1131 CARBON DISULPHIDE, 3 (6.1), I  
 ■ IATA-DGR UN 1131 CARBON DISULPHIDE, 3 (6.1),



## 102211 Carbon disulfide EMPLURA®

### Specification

Assay (GC)..... ≥ 99.5 %  
 Identity (IR)..... passes test  
 Water (K. F.)..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.0005 %

Non-volatile matter ..... ≤ 0.005 %  
 Hydrogensulfid and foreign organic sulfur compounds..... passes test  
 Sulfite (as SO<sub>2</sub>)..... ≤ 0.003 %

Conforms to ÖAB

Ord.No.	Packaging	Quantity	Price
1.02211.1000	Glass bottle	1 l	inquire

## 102210 Carbon disulfide for spectroscopy Uvasol®

<b>Specification</b>	Toluene (GC)..... ≤ 0.0010 %	Suitable for BTX determination
Assay (GC)..... ≥ 99.90 %	Xylene (GC)..... ≤ 0.0010 %	
Water..... ≤ 0.010 %	Alkalinity..... ≤ 0.0002 meq/g	
Evaporation residue..... ≤ 0.0010 %	Acidity..... ≤ 0.0005 meq/g	
Benzene (GC)..... ≤ 0.0020 %		

Ord.No.	Packaging	Quantity	Price
1.02210.1000	Glass bottle	1 l	inquire

## 102214 Carbon disulfide for analysis EMSURE® ACS, Reag. Ph Eur

<b>CS<sub>2</sub></b>	Category 1, H372; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P210, P233, P240, P281, P302 + P352, P305 + P351 + P338, P308 + P313	Water..... ≤ 0.01 %
■ CAS-No. 75-15-0 ■ EC-No. 200-843-6	■ LC50 rat 25 mg/l	Density (d 20 °C/20 °C)..... ~1.26
■ Vapour pressure 398 hPa (20 °C)	■ LD50 oral rat 3188 mg/kg	Boiling point..... 46 - 47 °C
■ Spec. density 1.26 g/cm <sup>3</sup> (20 °C) ■ Dielectricity constant 2.6 (20 °C) ■ Explosive limit 1 - 60 % (V)	■ EC-Index-No. 006-003-00-3 ■ LGK 3	Identity (IR)..... passes test
■ Flash point -30 °C ■ Solub. in H <sub>2</sub> O 2.1 g/l (20 °C)	■ HS-No. 2813 10 00 ■ Disposal 9	Colour number (Hazen)..... ≤ 10
■ M = 76.13 g/mol ■ Saturation conc. 1244 g/m <sup>3</sup> (20 °C) Air ■ Melting point -111.6 °C	■ ADR-RID UN 1131 Kohlenstoffdisulfid, 3 (6.1), I	Sulphate (SO <sub>4</sub> )..... ≤ 0.0002 %
■ Boiling point 46.5 °C (1013 hPa)	■ IMDG-Code UN 1131 CARBON DISULPHIDE, 3 (6.1), I	Sulfite (as SO <sub>2</sub> )..... ≤ 0.00025 %
■ Evaporation number 1.8 ■ Ignition temp. 95 °C	■ IATA-DGR UN 1131 CARBON DISULPHIDE, 3 (6.1),	Sulfur, hydrogen sulfide and organic sulfur compounds (as S)..... ≤ 0.0001 %
■ WGK 2		Benzene (GC)..... ≤ 0.002 %
■ GHS: Danger, Flammable liquid, Category 2, H225; Reproductive toxicity, Category 2, H361fd; Specific target organ toxicity - repeated exposure,	<b>Specification</b>	Evaporation residue..... ≤ 0.001 %
	Appearance..... colourless or yellowish liquid	Conforms to ACS.
	Assay (GC)..... ≥ 99.9 %	

Ord.No.	Packaging	Quantity	Price
1.02214.1000	Glass bottle	1 l	inquire

Carbonic acid bistrichloromethyl ester → Bis(trichloromethyl) carbonate page 475	Carbonic acid diphenyl ester → Diphenyl carbonate page 815
Carbonic acid diethyl ester → Diethyl carbonate page 301	Carbonic acid propylene glycol ester → Propylene carbonate page 308
Carbonic acid dimethyl ester → Dimethyl carbonate page 302	Carbonic disulfide → page 292

Carbonylchloride acid benzylester → Benzyl chloroformate page 449
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## 822150 Carbon tetrabromide for synthesis

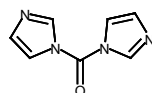


<b>CBr<sub>4</sub></b>	■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338
<i>Tetrabromomethane</i>	■ LD50 oral rat 1000 mg/kg
■ CAS-No. 558-13-4 ■ EC-No. 209-189-6	■ LGK 10 - 13
■ Vapour pressure 53 hPa (96 °C)	■ HS-No. 2903 39 19 ■ Disposal 3
■ Spec. density 2.961 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O (20 °C) insoluble ■ M = 331.63 g/mol	■ ADR-RID UN 2516 Tetrabromkohlenstoff, 6.1, III
■ Melting point 90 - 92 °C ■ Boiling point 190 °C	■ IMDG-Code UN 2516 CARBON TETRABROMIDE, 6.1, III, Marine Pollutant: P
■ WGK 3	■ IATA-DGR UN 2516 CARBON TETRABROMIDE, 6.1, III

<b>Specification</b>
Assay (GC, area%)..... ≥ 98.0 Area %
Melting range (lower value)..... ≥ 90 °C
Melting range (upper value)..... ≤ 94 °C
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22150.0100	Glass bottle	100 g	inquire
8.22150.0250	Glass bottle	250 g	inquire

## 802301 1,1'-Carbonyldiimidazole for synthesis



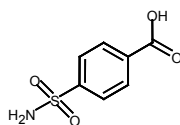
<b>C<sub>7</sub>H<sub>6</sub>N<sub>4</sub>O</b>	+ P330 + P331, P305 + P351 + P338, P309 + P310
■ CAS-No. 530-62-1 ■ EC-No. 208-488-9	■ LD50 oral rat 1071 mg/kg
■ Solub. in H <sub>2</sub> O (20 °C) (decomposition)	■ LGK 8A
■ M = 162.15 g/mol ■ pH value 7.7 (50 g/l, H <sub>2</sub> O, 20 °C) ■ Melting point 116 - 120 °C	■ HS-No. 2933 29 90 ■ Disposal 3
■ WGK 1	■ ADR-RID UN 3263 Ätzender basischer organischer fester Stoff, n.a.g.(1,1'-CARBONYLDIIMIDAZOL), 8, II ■ IMDG-Code UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(1,1'-CARBONYLDIIMIDAZOLE), 8, II, Segregation Group: 18 (Alkalis)
■ GHS: Danger, Skin corrosion, Category 1B, H314; Acute toxicity, Category 4, Oral, H302, P280, P301	■ IATA-DGR UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(1,1'-CARBONYLDIIMIDAZOLE),

8, II
<b>Specification</b>
Assay (GC, area%)..... ≥ 97.0 % (a/a)
Melting range (lower value)..... ≥ 115 °C
Melting range (upper value)..... ≤ 121 °C
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.02301.0002	Glass bottle	2 g	inquire
8.02301.0005	Glass bottle	5 g	inquire
8.02301.0025	Glass bottle	25 g	inquire
8.02301.0100	Glass bottle	100 g	inquire

Carbonyls → Organoelement compounds	Carbonylsulfamoyl chloride → Chlorosulfonyl isocyanate page 635	4-Carboxybenzaldehyde → Terephthalaldehydic acid page 1520
Carbonyl sulfamoyl chloride → Chlorosulfonyl isocyanate page 635	2-Carboxybenzaldehyde → Phthalaldehydic acid page 1324	

## 843093 4-Carboxybenzenesulfonamide for synthesis



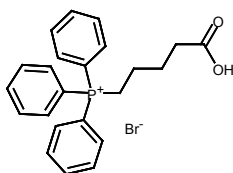
<b>C<sub>7</sub>H<sub>7</sub>NO<sub>4</sub>S</b>	■ CAS-No. 138-41-0 ■ EC-No. 205-327-4
	■ Solub. in H <sub>2</sub> O 0.5 g/l (25 °C)
	■ M = 201.20 g/mol
	■ Melting point 291 °C
	■ WGK 2
	■ LGK 10 - 13
	■ HS-No. 2935 00 90 ■ Disposal 3

<b>Specification</b>
Assay (HPLC, area%)..... ≥ 95.0 % (a/a)
Melting range (lower value)..... ≥ 275 °C
Melting range (upper value)..... ≤ 280 °C
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43093.0100	Glass bottle	100 g	inquire

3-Carboxybenzotrifluoride → 3-(Trifluoromethyl)-benzoic acid page 1593	4-Carboxybenzotrifluoride → 4-(Trifluoromethyl)-benzoic acid page 1594
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## 4-Carboxybutyltriphenylphosphonium bromide

C<sub>23</sub>H<sub>24</sub>BrO<sub>2</sub>P(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P(CH<sub>2</sub>)<sub>4</sub>COOH \* Br

■ CAS-No. 17814-85-6 ■ EC-No. 241-782-5

■ Flash point 195 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 443.31 g/mol  
 ■ Melting point 204 - 208 °C  
 ■ Bulk density 360 - 400 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: P260, P280  
 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 3464 Organische Phosphorverbindung, fest, giftig, n.a.g.(4-CARBOXYBUTYL-

TRIPHENYLPHOSPHONIUMBROMID), 6.1, II  
 ■ IMDG-Code UN 3464 ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.(4-CARBOXYBUTYL-TRIPHENYL-PHOSPHONIUMBROMIDE), 6.1, II  
 ■ IATA-DGR UN 3464 ORGANOPHOSPHORUS COMPOUND, SOLID, TOXIC, N.O.S.(4-CARBOXYBUTYL-TRIPHENYL-PHOSPHONIUMBROMIDE), 6.1, II

## 818330 4-Carboxybutyltriphenylphosphonium bromide for synthesis

## Specification

Identity (IR).....passes test  
 Assay (HPLC, area%).....≥ 97.0 % (a/a)  
 Melting range (lower value).....≥ 204 °C

Melting range (upper value).....≤ 208 °C

Ord.No.	Packaging	Quantity	Price
8.18330.0050	Glass bottle	50 g	inquire

## 845134 4-Carboxybutyltriphenylphosphonium bromide for pharma synthesis, non-GMP

## Specification

Colour (visual).....white to pale yellow  
 Appearance of substance (visual).....powder  
 Assay (HPLC, area%).....≥ 97.0 % (a/a)  
 Melting range (lower value).....≥ 204 °C  
 Melting range (upper value).....≤ 208 °C

Identity (IR).....passes test  
 Acetone.....lot specific result  
 N,N-Dimethylformamide.....lot specific result  
 Toluene.....lot specific result

Ord.No.	Packaging	Quantity	Price
8.45134.0025	Glass bottle	25 g	inquire
8.45134.0050	Glass bottle	50 g	inquire
8.45134.1000	Glass bottle	1 kg	inquire

2-Carboxydiphenylether → 2-Phenoxybenzoic acid  
 page 1295

3-Carboxydiphenylether → 3-Phenoxybenzoic acid  
 page 1295

2-(1-Carboxyethylamino)-4-phenylbutyric acid  
 ethyl ester → N-(1S)-Ethoxycarbonyl-3-  
 phenylpropyl-(S)-alanine page 845

9-Carboxyfluorene → 9-Fluorencarboxylic acid  
 page 894

5-Carboxyfluorescein → page 260

5(6)-Carboxyfluorescein → page 260

6-Carboxyfluorescein → page 260

## Carboxylic acid derivatives

## Esters of carboxylic acids

## Unsubstituted monoesters

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
343	841052	1-Acetoxy-1,3-butadiene	873	808541	Ethyl isopentanoate	1078	814988	Linalyl acetate
363	820554	Allyl acetate	873	805334	Ethyl laurate	1100	816147	(R)-(-)-Menthyl acetate
298	818700	n-Amyl acetate	874	800579	Ethyl methacrylate	1109	800589	Methacrylic acid alkylester (mixture of C <sub>12</sub> -C <sub>16</sub> )
417	820058	Amyl formate	875	818786	Ethyl 4-methylbenzoate	305	809711	Methyl acetate
445	803181	Benzyl acetate	875	818788	Ethyl 2-methylbutyrate	1129	841712	Methyl acetylenecarboxylate
447	818701	Benzyl benzoate	877	818970	Ethyl myristate	1129	800841	Methyl acrylate
448	816125	Benzyl butyrate	878	820916	Ethyl nonanoate	305	822330	Methyl benzoate
450	800239	Benzyl cinnamate	878	800202	Ethyl octanoate	1140	814994	3-Methylbutyl hexanoate
481	814997	L-Bornyl acetate	879	818775	Ethyl palmitate	1140	814993	3-Methylbutyl isovalerate
495	814989	5-Bromo-2-chlorobenzoic acid	880	808540	Ethyl pentanoate	1141	820232	Methyl butyrate
299	802189	tert-Butyl acetate	880	807286	Ethyl phenylacetate	1143	800240	Methyl cinnamate
539	800832	Butyl acrylate	880	821013	Ethyl phenylacetylenecarboxylate	1144	820352	Methyl crotonate
541	801755	Butyl benzoate	881	818778	Ethyl 3-phenylpropionate	1146	841225	Methyl cyclopropanecarboxylate
543	814903	Butyl butyrate	882	801300	Ethyl pivalate	1151	800889	Methyl formate
545	814083	4-tert-Butylcyclohexyl acetate	882	800606	Ethyl propionate	1153	814926	Methyl heptanoate
299	820055	Butyl formate	884	814352	Ethyl stearate	1154	820638	Methyl hexanoate
549	800585	Butyl methacrylate	885	841048	Ethyl p-tolylacetate	1158	820710	Methyl isobutyrate
549	814693	(2-tert-Butyl-4-methylcyclohexyl) acetate	886	808634	Ethyl tridecanoate	1160	800590	Methyl methacrylate
554	822134	Butyl propionate	887	841411	Ethyl 2,4,6-trimethylphenyl- acetate	1161	841700	Methyl 4-methylbenzoate
674	822052	Cyclohexyl acetate	888	808465	Ethyl undecanoate	1162	818613	Methyl myristate
303	822277	Ethyl acetate	957	820555	Hexyl acetate	1165	822111	Methyl nonanoate
849	821045	Ethyl acetylenecarboxylate	957	814992	Hexyl butyrate	1165	814927	Methyl octanoate
850	800836	Ethyl acrylate	1041	814500	Isoamyl benzoate	1168	841008	Methyl phenylacetate
303	801813	Ethyl benzoate	1041	814724	Isoamyl butyrate	1173	818736	Methyl pivalate
855	800500	Ethyl butyrate	1041	814845	Isoamyl propionate	1174	821047	Methyl propionate
857	800238	Ethyl cinnamate	1042	814998	Isobornyl acetate	1185	840019	Methyl-10-undecenoate
857	802668	Ethyl crotonate	305	820557	Isobutyl acetate	1186	814857	Methyl valerate
858	818548	Ethyl cyclopropanecarboxylate	1043	841833	Isobutyl isobutyrate	1303	818625	2-Phenylethyl acetate
858	802180	Ethyl decanoate	1044	814987	Isobutyl isovalerate	1312	814440	3-Phenylpropyl acetate
867	814991	Ethyl 2,3-epoxy-3-phenylbutyrate	1045	822135	Isobutyl propionate	308	803183	Propyl acetate
868	818779	Ethyl heptanoate	1045	843070	Isobutyl stearate	1375	821958	Propyl benzoate
869	800190	Ethyl hexanoate	1051	803138	Isopropenyl acetate	1376	800884	Propyl formate
869	814342	2-Ethylhexyl acetate	305	820560	Isopropyl acetate	1377	821048	Propyl propionate
870	800835	2-Ethylhexyl acrylate	1053	821981	Isopropyl butyrate	1629	803184	Vinyl acetate
870	840088	2-Ethylhexyl methacrylate	1055	822102	Isopropyl myristate			
872	800501	Ethyl isobutyrate	1055	843880	Isopropyl palmitate			

## Halogen substituted monoesters

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
448	820195	Benzyl bromoacetate	856	820303	Ethyl chloroformylformate	1137	820222	Methyl 2-bromopropionate
542	821328	tert-Butyl bromoacetate	856	841265	Ethyl 2-chloropropionate	1137	814628	Methyl 3-bromopropionate
543	841606	tert-Butyl chloroacetate	856	800365	Ethyl 3-chloropropionate	1138	841444	Methyl 5-bromovalerate
610	843963	1-Chloroethyl chloroformate	858	820418	Ethyl 2,3-dibromopropionate	1142	802413	Methyl chloroacetate
640	841499	Cholesteryl chloroformate	858	800179	Ethyl dichloroacetate	1142	816120	Methyl 2-chlorobenzoate
853	801636	Ethyl bromoacetate	868	841171	Ethyl 4-fluorobenzoate	1143	820304	Methyl chloroglyoxylate
853	816118	Ethyl 2-bromobenzoate	868	841181	Ethyl heptafluorobutyrate	1143	820331	Methyl 2-chloropropionate
853	801482	Ethyl 2-bromobutyrate	872	820733	Ethyl iodoacetate	1147	820440	Methyl dichloroacetate
854	820189	Ethyl 4-bromobutyrate	886	843427	Ethyl trichloroacetate	1147	818319	Methyl 2,3-dichloropropionate
854	820204	Ethyl 2-bromo-2-methylpropionate	886	821163	Ethyl trifluoroacetate	1184	822168	Methyl trichloroacetate
854	820219	Ethyl 2-bromopropionate	1053	814785	Isopropyl 2-bromoisobutyrate	1184	808263	Methyl trifluoroacetate
854	814560	Ethyl bromopyruvate	1137	820196	METHYL BROMOACETATE	1221	843965	4-Nitrobenzyl chloroformate
854	821979	Ethyl 2-bromovalerate	1137	816119	Methyl 3-bromobenzoate	1607	841341	Trimethylsilyl bromoacetate
855	800413	Ethyl chloroacetate	1137	842446	Methyl 2-bromobutyrate			



## Esters of di- and tricarboxylic acids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
386	818675	2-Aminodimethyl terephthalate	746	800266	Diethyl fumarate	794	841681	Dimethyl maleate
448	821030	Benzyl butyl phthalate	747	818389	Diethyl isobutylidenemalonate	794	800899	Dimethyl malonate
470	801453	Bis(2-ethylhexyl) adipate	747	818396	Diethyl isopropylidenemalonate	796	822115	Dimethyl oxalate
471	821874	Bis(2-ethylhexyl) phthalate	747	800378	Diethyl maleate	798	800918	Dimethyl phthalate
471	814576	Bis(2-ethylhexyl) sebacate	748	800898	Diethyl malonate	798	841252	Dimethyl pimelate
476	818375	Bis(3,5,5-trimethylhexyl) phthalate	748	841466	Diethyl methylmalonate	802	820150	Dimethyl succinate
			748	807059	Diethyl oxalate	805	808177	Dimethyl terephthalate
533	801996	1,4-Butanediol diacrylate	749	821002	Diethyl phenylmalonate	824	814971	Di-(N,N'-succinimidyl) carbonate
692	803289	Diallyl phthalate	749	800663	Diethyl pimelate			
708	818688	Dibutyl maleate	749	800757	Diethyl sebacate	303	800950	Ethylene glycol diacetate
709	841258	Di-tert-butyl malonate	750	845009	Diethyl succinate	865	818847	Ethylene glycol dimethacrylate
734	800920	Dicyclohexyl phthalate	749	800680	Diethyl succinate	865	814145	Ethylene glycol bis-mercaptoacetate
737	800074	Diethyl acetamidomalonate	765	814157	Diisobutyl phthalate			
737	841514	Diethyl acetylenedicarboxylate	765	814732	Diisodecyl phthalate	1191	814305	Monoethyl malonate potassium salt
737	800086	Diethyl adipate	765	814177	Diisoheptyl phthalate			
737	841118	Diethyl allylmalonate	774	800029	Dimethyl acetylenedicarboxylate	1191	820014	Monomethyl adipate
739	818510	Diethyl aminomalonate hydrochloride	302	800097	Dimethyl adipate	1191	821514	Monomethyl malonate potassium salt
740	801265	Diethyl benzylmalonate	775	814499	Dimethyl adipate/Dimethyl glutarate/Dimethyl succinate	1192	821569	Monomethyl phthalate
740	801274	Diethyl butylmalonate				1192	841706	Monomethyl sebacate
741	818258	Diethyl chloromalonate	790	820583	Dimethyl fumarate	1192	821602	Monomethyl terephthalate
746	801446	Diethyl ethoxymethylenemalonate	790	814659	Dimethyl glutarate	1375	814588	1,2-Propylene glycol diacetate
			793	804791	Dimethyl isophthalate	1574	814437	Tributylacetyl citrate
746	800906	Diethyl ethylmalonate				1587	810216	Triethyl methanetricarboxylate
						1606	818253	Trimethyl 1,2,3-propanetricarboxylate

## Monoesters with other functional groups

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
344	841286	2-Acetoxyisobutyl bromide	859	841086	Ethyl 4-dimethylaminobenzoate	1130	800466	Methyl 2-aminobenzoate
346	841870	Acetylcholine iodide				1130	841464	Methyl 4-aminobenzoate
347	814705	Acetylenediurea	859	818032	Ethyl 1,3-dithiane-2-carboxylate	1130	818590	Methyl 3-aminocrotonate
365	818559	Allyl cyanoacetate	868	814590	Ethyl glycinate hydrochloride	1144	820356	Methyl cyanoacetate
365	814990	Allyl hexanoate	871	840112	2-Ethylhexyl thioglycolate	1147	814704	Methyl 2,4-dihydroxy-3,6-dimethylbenzoate
446	814526	Benzyl acetoacetate	871	814884	DL-Ethyl-3-hydroxybutyrate	1152	818327	Methyl 2-furancarboxylate
299	821014	[2-(2-Butoxyethoxy)ethyl] acetate	871	818653	(S)-Ethyl-3-hydroxybutyrate	1153	814706	Methyl glycinate hydrochloride
299	801395	2-Butoxyethyl acetate	872	804804	Ethyl 3-indoleacetate	1155	841680	L-Methyl histidine dihydrochloride
544	841096	tert-Butyl cyanoacetate	878	843400	Ethyl 4-nitrobenzoate			
547	818213	tert-Butyl glycinate	878	821855	Ethyl-4-nitrocinnamate	1156	841861	Methyl 4-hydroxyphenylacetate
691	820384	Diacetin	878	822117	Ethyl oxamate			
748	841004	Diethyl methoxycarbonylmethanephosphonate	879	841196	Ethyl 3-oxovalerate	1157	814823	Methyl-(3-indolcarboxylate)
			880	841143	L-Ethylphenylalanate hydrochloride	1159	824464	L-(+)-Methyl-tert-leucinate hydrochloride
777	840083	(2-Dimethylaminoethyl) methacrylate	881	818615	Ethyl 4-piperidinecarboxylate	1159	841838	DL-Methyl mandelate
			883	807057	Ethyl 2-pyridinecarboxylate	1160	818404	Methyl methoxyacetate
794	841287	Dimethyl methoxycarbonylmethanephosphonate	883	806754	Ethyl 3-pyridinecarboxylate	1161	814899	Methyl-2-methyl-5-methylsulfonyl-4-(1-pyrrolyl) benzoate
			883	806750	Ethyl 4-pyridinecarboxylate			
825	818725	(2R,3R)-(-)-Di-O-4-toluoyl-L-tartaric acid	883	841203	Ethyl 3-pyridylacetate	1161	814360	Methyl 3-methylthiopropionate
			884	841018	Ethyl salicylate	1162	818713	Methyl nicotinate
825	818724	(2S,3S)-(+)-Di-O-4-toluoyl-D-tartaric acid	884	820764	Ethyl thioglycolate	1162	818713	Methyl nicotinate
			923	814812	$\beta$ -D-Glucose pentaacetate	1164	841599	Methyl 4-nitrobenzoate
845	841021	Ethoxycarbonylmethylene-triphenylphosphorane	983	840134	(2-Hydroxyethyl)-salicylate	1169	841679	L-Methyl phenylalanate hydrochloride
			1004	820706	3-Indolyl acetate			
845	840113	N-(1S)-Ethoxycarbonyl-3-phenylpropyl-(S)-alanine	1049	840110	Isooctylthioglycolate	1185	841414	L-Methyltyrosinate hydrochloride
			1119	841314	Methoxycarbonylmethylene-triphenylphosphorane	1186	841600	L-Methyl valinate hydrochloride
303	800187	2-Ethoxyethyl acetate	305	806061	2-Methoxyethyl acetate			
846	840085	(2-Ethoxyethyl) methacrylate	1120	840086	(2-Methoxyethyl) acrylate	1244	816102	Octyl gallate
847	818577	Ethyl acetamidocycanoacetate	305	818532	(1-Methoxy-2-propyl) acetate	1508	818484	N-(3-Sulfopropyl)-N-methacroyloxyethyl- N,N-dimethylammonium betaine
849	841465	Ethyl acetoxypruvate						
850	820113	Ethyl 2-aminobenzoate						
851	814295	Ethyl (3-aminopyrazole 4-carboxylate)				1574	814437	Tributylacetyl citrate
						1578	842265	2,2,2-Trichloroethyl chloroformate
857	800882	Ethyl cyanoacetate						
857	820355	Ethyl cyanoformate				1588	810557	Triethyl phosphonoacetate
858	841763	Ethylcyclopentanone-2-carboxylate				1588	841189	Triethyl 2-phosphonopropionate



## Acyclic carboxylic acid amides and derivatives

## Unsubstituted carboxylic acid amides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
331	822343	Acetamide	302	821752	N,N-Diethylformamide	1108	805792	Methacrylamide
333	822344	Acetanilide	302	803235	N,N-Dimethylacetamide	305	822319	N-Methylacetamide
351	800830	Acrylamide	302	822275	N,N-Dimethylformamide	1128	800077	4'-Methylacetanilide
435	802191	Benzamide	799	814885	N,N-Dimethylpropionamide	1151	806169	N-Methylformanilide
435	820123	Benzanilide	813	820524	N,N-Diphenylacetamide	1372	821046	Propionamide
557	814977	Butyramide	894	820576	N-Fluoren-2-ylacetamide	1397	815104	Quinoline-2,4-dicarboxylic acid amide
301	803214	N,N-Diethylacetamide	912	841718	Formanilide			
737	814730	N,N-Diethyl acetoacetamide	304	818730	N-Formylpiperidine			

## Halogen-substituted carboxylic acid amides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
486	841868	2-Bromoacetamide	607	820290	2-Chloro-N,N-dimethylacetamide	1184	841591	N-Methyl-2,2,2-trifluoroacetamide
487	821967	4'-Bromoacetanilide	619	841454	N-Chloromethyl phthalimide	1185	841102	N-Methyl-N-trimethylsilyl-trifluoroacetamide
545	814219	N-tert-Butyldimethylsilyl-N-methyltrifluoroacetamide	711	818672	2,2-Dichloroacetamide	1192	841345	4-Morpholine-carbonylchloride
594	802412	2-Chloroacetamide	752	841131	3,5-Difluorobenzamide	1589	814690	2,2,2-Trifluoroacetamide
594	841480	4-Chloroacetanilide	1007	804744	2-Iodoacetamide			
607	820399	2-Chloro-N,N-diethylacetamide	1011	820737	o-Iodohippuric acid sodium salt dihydrate			

## Carboxylic acid amides with further amino or amido groups

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	841227	N-(2-Acetamido)-iminodiacetic acid	385	107293	4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one	1255	820936	Oxamide
350	818227	1-Acetylthiourea	455	814473	(S)-(-)-2-(N-Benzylpropyl)aminobenzophenone	1382	821050	2-Pyrazinecarboxamide
355	800087	Adipamide	928	841793	Glycinamide hydrochloride	1386	814032	4-Pyridinecarboxylic acid amide
355	841689	Adipic dihydrazide	1092	806190	Malonamide	1503	807990	Succinamide
376	800262	4'-Aminoacetanilide	1149	805968	N,N'-Methylenediacrylamide	1544	818081	N,N,N',N'-Tetramethylsuccinyl diamide
378	820065	2-Aminobenzamide	173	106828	Nicotinamide			
378	801418	4-Aminobenzamide	1254	841589	Oxalyl dihydrazide			

## Carboxylic acid amides with other functional groups

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	841026	4-Acetamidobenzenesulfonyl chloride	959	820648	Hippuric acid sodium salt	1305	807111	(R)-(+)-N-(1-Phenylethyl) succinamic acid
332	841293	3-Acetamidophenol	1099	814537	Melatonin	1305	807113	(S)-(-)-N-(1-Phenylethyl) succinamic acid
440	820130	Benzohydroxamic acid	1214	820879	2'-Nitroacetanilide	1549	108180	2-Thiobarbituric acid
477	818727	N,O-Bis(trimethylsilyl)acetamide	1214	814647	3'-Nitroacetanilide	1549	821113	Thiobenzamide
569	843302	N-Carbamoyl-2-cyanoacetamide	1215	820880	4'-Nitroacetanilide	1606	818403	N-(Trimethylsilyl)acetamide
663	802866	Cyanoacetamide	1294	840139	Phenoxyacetamide			
809	814401	(S)-(+)-N-(3,5-Dinitrobenzoyl) phenylglycine	1304	807115	(S)-(-)-N-(1-Phenylethyl) phthalamic acid			

## Carboxylic acid halides

## Aliphatic and araliphatic carboxylic acid halides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
344	841286	2-Acetoxyisobutyryl bromide	660	820351	Crotonoyl chloride	1243	800199	Octanoyl chloride
345	821926	Acetyl bromide	670	818256	Cyclohexanecarboxylic acid chloride	1254	807066	Oxalyl chloride
346	822252	Acetyl chloride	677	841170	Cyclopentanecarboxylic acid chloride	1260	800510	Palmitoyl chloride
353	800826	Acryloyl chloride	679	841657	Cyclopropanecarboxylic acid chloride	1263	841174	Pentadecafluorooctanoyl chloride
453	841323	Benzoyloxyacetyl chloride	687	802182	Decanoyl chloride	1271	808544	Pentanoyl chloride
503	841092	6-Bromohexanoyl chloride	712	803628	Dichloroacetyl chloride	1294	841489	Phenoxyacetyl chloride
504	841116	2-Bromoisobutyryl bromide	813	814804	Diphenylacetyl chloride	1296	807076	Phenylacetyl chloride
558	801977	Butyryl chloride	869	814841	2-Ethylhexanoyl chloride	1312	820653	3-Phenylpropionyl chloride
596	802411	Chloroacetyl chloride	916	800272	Fumaryl chloride	1333	801276	Pivaloyl chloride
605	802590	4-Chlorobutyryl chloride	919	820169	2-Furoyl chloride	1374	807063	Propionyl chloride
610	843963	1-Chloroethyl chloroformate	936	804523	Heptafluorobutyryl chloride	1414	818899	Sebacoyl dichloride
628	841803	1-(4-Chlorophenyl)-1-cyclopentanecarboxylic acid chloride	956	800191	Hexanoyl chloride	1504	800678	Succinyl dichloride
632	820333	2-Chloropropionyl chloride	1046	801976	Isobutyryl chloride	1577	808391	Trichloroacetyl chloride
632	802680	3-Chloropropionyl chloride	1072	805336	Lauroyl chloride	1624	814914	10-Undecenoyl chloride
640	841499	Cholesteryl chloroformate	1115	841375	Methoxyacetyl chloride			
644	800236	Cinnamoyl chloride	1235	807171	Nonanoyl chloride			

## Aromatic carboxylic acid halides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
438	841731	1,3,5-Benzenetricarbonyl chloride	717	841172	2,6-Dichlorobenzoyl chloride	1135	821131	4-Methylbenzoyl chloride
444	801804	Benzoyl chloride	717	841231	3,5-Dichlorobenzoyl chloride	1201	820863	2-Naphthoyl chloride
460	841047	Biphenyl-4-carbonyl chloride	809	803075	3,5-Dinitrobenzoyl chloride	1220	806772	4-Nitrobenzoyl chloride
492	820185	4-Bromobenzoyl chloride	899	841208	2-Fluorobenzoyl chloride	1221	843965	4-Nitrobenzoyl chloroformate
542	841040	4-tert-Butylbenzoyl chloride	899	814262	3-Fluorobenzoyl chloride	1266	841331	Pentafluorobenzoyl chloride
602	821989	2-Chlorobenzoyl chloride	899	820571	4-Fluorobenzoyl chloride	1327	821029	Phthaloyl dichloride
602	841821	3-Chlorobenzoyl chloride	1009	820731	2-Iodobenzoyl chloride	1521	800740	Terephthaloyl dichloride
603	802618	4-Chlorobenzoyl chloride	1051	804808	Isophthaloyl dichloride	1552	841865	Thiophene-2-acetyl chloride
717	820438	2,4-Dichlorobenzoyl chloride	1117	841332	2-Methoxybenzoyl chloride	1594	841805	4-(Trifluoromethyl)benzoyl chloride

## Carboxylic acid anhydrides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
337	822278	Acetic anhydride	786	818758	Dimethyl dicarbonate	1270	808543	Pentanoic anhydride
438	807516	1,2,4,5-Benzenetetracarboxylic-1,2:4,5-dianhydride	794	841502	2,3-Dimethylmaleic anhydride	1278	820970	3,4,9,10-Perylenetetracarboxylic 3,4:9,10-dianhydride
439	820138	1,2,4-Benzenetricarboxylic 1,2-anhydride	828	822049	Dodecenylsuccinic anhydride	1326	800592	Phthalic anhydride
441	800131	Benzoic anhydride	926	820604	Glutaric anhydride	1333	801302	Pivalic anhydride
557	800503	Butyric anhydride	955	820637	Hexanoic anhydride	1373	800608	Propionic anhydride
645	841321	Citraconic anhydride	1040	804784	Isatoic anhydride	1504	845010	Succinic anhydride
659	822002	Crotonic anhydride	1046	800504	Isobutyric anhydride	1504	800683	Succinic anhydride
671	820365	Cyclohexane-1,2-dicarboxylic anhydride	1049	820722	Isopentanoic anhydride	1507	841501	2-Sulfobenzoic anhydride
707	818282	Di-tert-butyl dicarbonate	1091	800408	Maleic anhydride	1523	808096	Tetrabromophthalic anhydride
280	852261	Di-tert-butyl dicarbonate	1151	841075	Methylenesuccinic anhydride	1535	800742	1,2,3,6-Tetrahydrophthalic anhydride
712	818196	Dichloroacetic anhydride	1197	821847	1,8-Naphthalenedicarboxylic anhydride	1590	845060	Trifluoroacetic anhydride
755	841741	Diglycolic anhydride	1229	820903	3-Nitrophthalic anhydride	1590	808261	Trifluoroacetic anhydride

## Orthocarboxylic acid esters

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
754	814389	4,5-Difluorophthalic anhydride	1587	820934	Triethyl orthoacetate	1604	818804	Trimethyl orthoacetate
1530	818835	Tetraethyl orthocarbonate	1587	820935	Triethyl orthopropionate	1605	800885	Trimethyl orthoformate

## Other carboxylic acid derivatives

## Lactones

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
494	841432	2-Bromo- $\gamma$ -butyrolactone	918	814054	2(5H)-Furanone	1170	814144	(4S,5R)-(-)-4-Methyl-5-phenyloxazolidin-2-one
566	814564	(1S)-(+)-Camphorlactone-sulfonyloxaziridine	924	841864	D-(+)-Glucuronolactone	1271	808516	$\gamma$ -Pentanolactone
569	802801	$\epsilon$ -Caprolactone	1055	818310	(S)-(-)-4-Isopropyl-2-oxazolidinone	1326	807067	Phthalide

## Cyclic amides, lactams and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
386	818507	4-Amino-1,3-dimethyluracil	799	814228	3,6-Dimethylpiperazine-2,5-dione	1313	841580	1-Phenyl-3-pyrazolidinone
397	841670	6-Aminopenicillanic acid	817	820534	5,5-Diphenylhydantoin	1326	807303	Phthalimide
430	800133	Barbituric acid	895	814307	9-Fluorenylmethylsuccinimidyl-carbonate	1330	814160	Phthalimide potassium salt
500	820178	N-(2-Bromoethyl)phthalimide	901	841272	5-Fluoroisatin	1332	821035	2,5-Piperazinedione
507	814373	N-Bromomethylphthalimide	962	804511	Hydantoin	308	807041	2-Pyrrolidone
514	814408	N-(3-Bromopropyl)phthalimide	982	841185	N-(2-Hydroxyethyl)-phthalimide	1409	820128	Saccharin
515	801949	N-Bromosuccinimide	993	804528	N-Hydroxyphthalimide	1409	814114	Saccharin sodium salt dihydrate
569	802800	$\epsilon$ -Caprolactam	996	804518	N-Hydroxysuccinimide	1426	820233	Sodium barbiturate
604	840049	O-(2-Chlorobenzoyloxycarbonyl)-N-hydroxysuccinimide	1013	820743	N-Iodosuccinimide	1504	807971	Succinimide
619	841454	N-Chloromethyl phthalimide	1091	820754	Maleimide	1532	814638	1,2,3,4-Tetrahydro-6,7-dimethoxyquinazoline-2,4-dione
635	845027	N-Chlorosuccinimide	1171	807080	3-Methyl-1-phenyl-2-pyrazolin-5-one	1536	820370	1,2,3,6-Tetrahydrophthalimide
635	802811	N-Chlorosuccinimide	1172	842002	2-Methylpiperazine	1555	821063	2-Thioxo-4-thiazolidinone
638	841136	5-Chlorouracil	306	806072	1-Methyl-2-pyrrolidone	1630	808518	1-Vinyl-2-pyrrolidone
682	824513	(-)-Cytisine	1235	840046	O-(5-Norbornen-2,3-dicarboximido)-N,N,N',N'-tetramethyluroniumtetrafluoroborate			
703	803600	1,3-Dibromo-5,5-dimethylhydantoin	1256	807055	Oxindole			

## Metal salts of carboxylic acids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
710	820386	Dibutyltin diacetate	1308	807588	Phenylmercury acetate	1431	820293	Sodium chloroacetate
710	820421	Dibutyltin dilaurate	1363	822080	di-Potassium phthalate	1436	820584	di-Sodium fumarate
985	820308	4-(Hydroxymercuri)benzoic acid sodium salt	1365	841002	Potassium thioacetate	1451	818601	di-Sodium succinate
1003	820704	Indole-3-acetic acid potassium salt	1406	824435	Rhodium(II) acetate dimer (46.5% Rh)	1451	820151	di-Sodium succinate hexahydrate
1083	822085	di-Lithium oxalate	1420	801504	Silver acetate	1456	821164	Sodium trifluoroacetate
1107	804482	Mercury(II) trifluoroacetate	1421	821067	Silver benzoate	1558	840128	Tin(II) oxalate
1116	814622	4-Methoxybenzoic acid sodium salt	1423	818003	Silver trifluoroacetate	1575	821650	Tributyltin acetate
1219	822106	3-Nitrobenzoic acid sodium salt	1428	820236	Sodium butyrate	296	108652	3-(Trimethylsilyl)propionic acid-D4 sodium salt
1258	818056	Palladium(II) acetate (47% Pd)	1428	817500	Sodium butyrate			

## Peracids and peroxides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
445	801641	Benzoyl peroxide	553	820967	tert-Butyl perbenzoate	973	822287	Hydrogen peroxide 30%
468	820163	Bis(α,α-dimethylbenzyl) peroxide	662	820502	Cumene hydroperoxide	974	818356	Hydrogen peroxide urea
547	814006	tert-Butyl hydroperoxide	709	820248	Di-tert-butyl peroxide			

## Carboxylic acid hydrazides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
338	820556	Acetohydrazide	691	814463	N,N'-Diacetylhydrazine	1316	818147	4-Phenylurazole
385	107293	4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one	917	841178	2-Furancarboxylic acid hydrazide	1387	806753	4-Pyridinecarboxylic acid hydrazide
439	845092	Benzhydrazide	977	841410	4-Hydroxybenzhydrazide	1415	818369	Semicarbazide hydrochloride
439	820125	Benzhydrazide	1253	101841	Oxalic acid bis (cyclohexylidene hydrazide)	1554	821119	Thiosemicarbazide
543	801656	tert-Butyl carbazate	1296	820561	2-Phenylacetohydrazide			

## Carbonates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
389	801417	1-Aminoguanidinium hydrogen carbonate	707	814420	Di-n-butyl carbonate	816	818088	4,5-Diphenyl-1,3-dioxol-2-one
449	814688	Benzyl chloroformate	301	802898	Diethyl carbonate	821	818206	4,6-Diphenylthieno(3,4-d)-1,3-dioxol-2-one-5,5-dioxide
475	814283	Bis(trichloromethyl) carbonate	741	841751	Diethyl dicarbonate	860	800900	Ethylene carbonate
479	841266	2-(tert-BOC-Oxyimino)-2-phenylacetone nitrile	302	803525	Dimethyl carbonate	931	820611	Guanidinium carbonate
604	840049	O-(2-Chlorobenzoyloxycarbonyl)-N-hydroxysuccinimide	815	803545	Diphenyl carbonate	308	807051	Propylene carbonate

## Ureas and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
371	821945	N-Amidinoglycine	807	803244	N,N'-Dimethylurea	1186	820800	N-Methylurea
405	841698	4(6)-Aminouracil	807	820509	N,N-Dimethylurea	1235	840046	O-(5-Norbornen-2,3-dicarboximido)-N,N,N',N'-tetramethyluroniumtetrafluoroborate
428	800184	Azodicarboxamide	815	103091	1,5-Diphenylcarbazine			
443	840048	O-(1H-Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate	815	103087	1,5-Diphenylcarbazone			
457	801795	N-Benzylurea	817	840137	1,3-Diphenylguanidine	1316	807567	N-Phenylurea
571	802301	1,1'-Carbonyldiimidazole	821	843582	1,3-Diphenylurea	1415	107722	Semicarbazide hydrochloride
638	841136	5-Chlorouracil	916	814217	N-Formylurea	1542	821897	N,N,N',N'-Tetramethylguanidine
657	841470	Creatine monohydrate	932	820612	Guanidinium nitrate			
665	802491	1-Cyanoguanidine	932	814120	4-Guanidinobenzoic acid hydrochloride	309	808205	Tetramethylurea
						1625	818710	Urea

## Miscellaneous carboxylic acid derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
435	820122	Benzamidine hydrochloride hydrate	544	820270	Butyl chloroformate	1043	802358	Isobutyl chloroformate
449	841301	Benzyl carbamate	691	818064	1,3-Diacetoxy-1,1,3,3-tetrabutylidistannoxane	1141	802874	Methyl carbamate
453	814642	(R)-(+)-4-Benzyl-2-oxazolidinone	856	800881	Ethyl chloroformate	1142	802357	Methyl chloroformate
453	814643	(S)-(-)-4-Benzyl-2-oxazolidinone	867	801241	Ethyl 2-ethoxy-1,2-dihydro-1-quinolinecarboxylate	1192	841345	4-Morpholine-carbonylchloride
454	824471	(-)-N-Benzoyloxycarbonyl-L-tert-leucine dicyclohexyl ammonium salt	894	841866	N-(9-Fluorenylmethoxycarbonyl)-glycine	1253	816144	Oxalic acid
479	824428	(2S,4S)-(-)-N-BOC-4-Diphenylphosphino-2-diphenyl phosphino methyl-pyrrolidine	895	818203	(9-Fluorenylmethyl) chloroformate	1255	840165	2-Oxazolidinone
479	841145	N-tert-BOC-Hydroxylamine	280	852259	(9-Fluorenylmethyl) chloroformate	1545	840135	Tetramethylthiuram disulfide
479	814644	(S)-(-)-BOC-Phenylalaninol	912	814653	Formamidine acetate	1580	818154	Trichloromethyl chloroformate
479	841512	N-tert-BOC-4-Piperidinone	1013	804781	Iodosobenzene diacetate			

## Carboxylic acids

## Unsubstituted monocarboxylic acids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
335	818755	Acetic acid 99-100%	869	800758	2-Ethylhexanoic acid	1241	800192	Octanoic acid
347	841640	Acetylenecarboxylic acid	878	814762	Ethyloleate	1259	800508	Palmitic acid
353	800181	Acrylic acid	894	818306	9-Fluorenicarboxylic acid	1264	800661	Pentadecanoic acid
354	801337	1-Adamantanecarboxylic acid	912	822254	Formic acid	1270	800821	Pentanoic acid
420	821952	9-Anthracenecarboxylic acid	914	818028	Formic acid-triethylamine 5:2 addition compound	1272	841468	4-Pentenoic acid
440	822257	Benzoic acid	938	807582	Heptanoic acid	1272	818439	trans-2-Pentenoic acid
460	841529	Biphenyl-2-carboxylic acid	955	800198	Hexanoic acid	1296	820993	Phenylacetic acid
460	841816	Biphenyl-4-carboxylic acid	1045	800472	Isobutyric acid	1297	821012	Phenylacetylenecarboxylic acid
461	814482	4-Biphenylacetic acid	1049	800820	Isopentanoic acid	1299	820986	4-Phenylbutyric acid
542	820238	4-tert-Butylbenzoic acid	1072	805333	Lauric acid	1312	820651	2-Phenylpropionic acid
544	841275	4-tert-Butylcyclohexanecarboxylic acid	1109	800578	Methacrylic acid	1312	804543	3-Phenylpropionic acid
557	800457	Butyric acid	1134	821901	2-Methylbenzoic acid	1333	801336	Pivalic acid
644	800235	Cinnamic acid	1134	821902	3-Methylbenzoic acid	1373	800605	Propionic acid
659	802650	Crotonic acid	1134	821903	4-Methylbenzoic acid	1377	814439	2-Propylvaleric acid
666	820360	Cyclobutanecarboxylic acid	1141	820782	2-Methylbutyric acid	1383	841269	4-(1-Pyrenyl)-butyric acid
670	802289	Cyclohexanecarboxylic acid	1143	841098	4-Methylcinnamic acid	1397	815103	Quinoline-2,4-dicarboxylic acid
677	821743	Cyclopentanecarboxylic acid	1143	841014	$\alpha$ -Methylcinnamic acid	1501	800673	Stearic acid
679	800483	Cyclopropanecarboxylic acid	1165	816104	(R,S)-(+,-)-4-Methyloctanoic acid	1537	841249	Tetramethylammonium acetate
679	841313	Cyclopropylacetic acid	1167	818774	2-Methylpentanoic acid	1556	841511	Tiglic acid
686	802169	Decanoic acid	1167	814229	3-Methylpentanoic acid	1570	841360	o-Tolylacetic acid
783	841460	2,4-Dimethylbenzoic acid	1167	806088	4-Methyl pentanoic acid	1602	821179	2,4,6-Trimethylbenzoic acid
783	841363	2,6-Dimethylbenzoic acid	1195	800399	Myristic acid	1623	818568	Undecanoic acid
783	841678	3,4-Dimethylbenzoic acid	1199	800597	1-Naphthoic acid	1624	800813	Undecylenic-10 acid
783	814805	3,5-Dimethylbenzoic acid	1199	800598	2-Naphthoic acid	1629	841387	Vinylacetic acid
813	800486	Diphenylacetic acid	1201	806862	1-Naphthylacetic acid	1629	841019	4-Vinylbenzoic acid
853	841386	4-Ethylbenzoic acid	1201	818495	2-Naphthylacetic acid			
855	801480	2-Ethylbutyric acid	1233	807167	Nonanoic acid			

## Di- and polycarboxylic acids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	841227	N-(2-Acetamido)-iminodiacetic acid	791	820508	3,3-Dimethylglutaric acid	1228	800649	3-Nitrophthalic acid
347	800147	Acetylenedicarboxylic acid	825	818725	(2R,3R)-(-)-Di-O-4-toluoyl-L-tartaric acid	1228	800650	4-Nitrophthalic acid
347	820009	Acetylenedicarboxylic acid monopotassium salt	825	818724	(2S,3S)-(+)-Di-O-4-toluoyl-D-tartaric acid	1240	818800	Octanedioic acid
355	818650	Adipic acid	827	801305	Dodecanedioic acid	1253	818242	Oxalic acid dihydrate
362	101010	Alizarin-3-methylamine-N,N-diacetic acid dihydrate	905	841139	3-Fluorophthalic acid	1314	841783	Phenylsuccinic acid
391	801246	5-Aminoisophthalic acid	916	800269	Fumaric acid	1325	822298	Phthalic acid
426	100128	Aurin tricarboxylic acid ammonium salt	926	800295	Glutaric acid	1327	800668	Pimelic acid
427	820116	Azelaic acid,	946	841740	Hexadecanedioic acid	1368	841650	Propane-1,2,3-tricarboxylic acid
438	800784	1,2,4,5-Benzenetetracarboxylic acid	948	820634	trans, trans-2,4-Hexadienedioic acid	1372	814411	trans-Propene-1,2,3-tricarboxylic acid
438	820137	1,2,4-Benzenetricarboxylic acid	984	840013	5-Hydroxyisophthalic acid	1382	800616	2,3-Pyrazinedicarboxylic acid
438	801299	1,3,5-Benzenetricarboxylic acid	998	818370	Imidazole-4,5-dicarboxylic acid	1383	841164	Pyrazole-3,5-dicarboxylic acid monohydrate
460	802256	2,2'-Biphenyldicarboxylic acid	999	814165	Iminodiacetic acid	1387	800214	2,3-Pyridinedicarboxylic acid
515	841467	2-Bromoterephthalic acid	999	841784	Iminodiacetic acid disodium salt hydrate	1387	821052	2,4-Pyridinedicarboxylic acid
534	814924	1,2,3,4-Butanetetracarboxylic acid	1051	800607	Isophthalic acid	1387	821886	Pyridine-2,5-dicarboxylic acid
645	818707	Citric acid	1091	800380	Maleic acid	1387	800614	Pyridine-2,6-dicarboxylic acid
666	841260	1,1-Cyclobutanedicarboxylic acid	1092	814737	DL-Malic acid	1387	841198	Pyridine-3,4-dicarboxylic acid
670	824449	(1R,2R)-(-)-1,2-Cyclohexanedicarboxylic acid	1092	800763	D-(+)-Malic acid	1388	821054	Pyridine-3,5-dicarboxylic acid
670	824450	(1S,2S)-(+)-1,2-Cyclohexanedicarboxylic acid	1092	800384	L-(-)-Malic acid	1413	800753	Sebacic acid
671	841088	trans-Cyclohexane-1,2-dicarboxylic acid	1102	820763	Mercaptosuccinic acid	1503	822260	Succinic acid
694	841032	trans-1,2-Diaminocyclohexane-N,N,N',N'-tetracetic acid monohydrate	1108	820771	Metatartaric acid	1518	818531	(2R,3R)-(+)-Tartaric acid
697	841201	1,2-Diaminopropane-tetraacetic acid	1150	804812	Methylenesuccinic acid	1520	800762	Terephthalic acid
706	841348	2,3-Dibromosuccinic acid	1153	841328	2-Methylglutaric acid	1550	808625	2,2'-Thiodiacetic acid
755	841626	Diglycolic acid	1153	841393	3-Methylglutaric acid	1550	808626	3,3'-Thiodipropionic acid
791	841561	2,2-Dimethylglutaric acid	1194	800660	Mucic acid	1582	814475	Tridecanedioic acid

## Aminocarboxylic acids and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	814572	4-Acetamidobenzoic acid	697	841673	DL-2,3-Diaminopropionic acid monohydrochloride	1114	816010	L-Methionine
348	814596	N-Acetyl-L-glutamic acid				1129	821244	2-Methylalanine
348	818366	N-Acetyl glycine	738	814679	4-(Diethylamino)benzoic acid	1130	841325	2-Methylaminobenzoic acid
350	814599	N-Acetyl-DL-valine	776	814112	3-Dimethylaminobenzoic acid	1155	841680	L-Methyl histidinate dihydrochloride
357	816000	(S)-(+)-Alanine	776	814678	4-Dimethylaminobenzoic acid			
371	821945	N-Amidinoglycine	780	814616	Dimethyl ammonium dimethylcarbamate	1159	824464	L-(+)-Methyl-tert-leucinate hydrochloride
379	800104	3-Aminobenzoic acid						
379	822312	4-Aminobenzoic acid	791	818448	N,N-Dimethylglycine hydrochloride	1169	841679	L-Methyl phenylalanate hydrochloride
382	800302	4-Aminobutyric acid						
382	818855	DL-2-Aminobutyric acid	809	814401	(S)-(+)-N-(3,5-Dinitrobenzoyl) phenylglycine	1208	818714	Nicotinic acid
384	841860	1-Aminocyclohexanecarboxylic acid	817	814862	Diphenylglycin	1236	841327	D-Norvaline
			845	840113	N-(1S)-Ethoxycarbonyl-3-phenylpropyl-(S)-alanine	1236	841562	DL-Norvaline
389	800145	6-Aminohexanoic acid				1297	816011	(S)-(-)-Phenylalanine
389	814621	4-Aminohippuric acid	862	819040	Ethylenediaminetetraacetic acid dipotassium salt dihydrate	1298	820979	N-Phenylanthranilic acid
392	840171	3-Amino-4-methylbenzoic acid				1305	841801	N-Phenylglycin
399	800422	4-Aminophenylacetic acid	894	841866	N-(9-Fluorenylmethoxycarbonyl)-glycine	1305	818457	L-(+)- $\alpha$ -Phenylglycine
399	807070	DL- $\alpha$ -Aminophenylacetic acid				1331	814034	4-Piperidinecarboxylic acid
399	807073	(R)-(-)- $\alpha$ -Aminophenylacetic acid	914	818263	(+)-N-Formyl-D-tert-leucine	1366	816019	(S)-(-)-Proline
401	841217	(S)-(+)-2-Amino-1-propanol	915	818264	(-)-N-Formyl-L-tert-leucine	1382	800615	2-Pyrazinecarboxylic acid
405	801228	11-Aminoundecanoic acid	924	816004	(S)-(+)-Glutamic acid	1386	800735	2-Pyridinecarboxylic acid
405	841495	5-Aminovaleric acid	924	814632	L-Glutamic acid hydrochloride	1386	800736	4-Pyridinecarboxylic acid
421	820112	Anthranilic acid	925	816016	(S)-(+)-Glutamine	1391	814029	(4-Pyridylthio)acetic acid
424	816001	(S)-(+)-Arginine hydrochloride	928	816013	Glycine	1394	820943	DL-2-Pyrrolidone-5-carboxylic acid
426	816002	(S)-(+)-Asparagine monohydrate	932	814120	4-Guanidinobenzoic acid hydrochloride	1394	820942	(S)-(-)-2-Pyrrolidone-5-carboxylic acid
426	816003	(S)-(+)-Aspartic acid				1396	840010	Quinaldic acid
582	840092	L-Carnitine	959	816005	(S)-(+)-Histidine hydrochloride monohydrate	1412	807666	Sarcosine
583	841774	DL-Carnitine hydrochloride	961	814359	L(-)-Homoserine	1416	841235	DL-Serine
250	814728	N-Cbz-Glycine	991	841422	2-(4-Hydroxyphenylazo)-benzoic acid	1417	816020	(S)-(+)-Serine
657	841470	Creatine monohydrate				1548	821110	(R)-(-)-Thiazolidine-4-carboxylic acid
681	816014	(R)-(+)-Cysteine	993	816007	(S)-(-)-trans-4-Hydroxyproline			
682	816015	(R)-(-)-Cystine	995	814591	4-Hydroxyquinoline-2-carboxylic acid	1555	816012	(2S,3R)-(-)-Threonine
693	820405	3,5-Diaminobenzoic acid	998	820695	Imidazole-4-acrylic acid	1620	816017	(S)-(-)-Tryptophan
694	841032	trans-1,2-Diaminocyclohexane-N,N,N',N'-tetracetic acid monohydrate	999	841784	Iminodiacetic acid disodium salt hydrate	1622	816021	(S)-(-)-Tyrosine
697	841201	1,2-Diaminopropane-tetraacetic acid	1003	820703	Indole-2-carboxylic acid	1627	816006	(S)-(+)-Valine
			1004	820705	Indole-3-propionic acid			
			1047	816008	(S)-(+)-Isoleucine			
			1073	814715	N-Lauryl sarcosine sodium salt			
			1076	814986	DL-Leucine			
			1076	818367	L-(+)-tert-Leucine			
			1077	816009	(S)-(+)-Leucine			
			1085	816018	(S)-(+)-Lysine monohydrochloride			



## Hydroxycarboxylic acids and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
440	800140	Benzilic acid	922	822057	Gluconic acid	1093	806913	DL-Mandelic acid
472	814996	2,2-Bis(hydroxymethyl)propionic acid	922	820601	Gluconic acid potassium salt	1094	806914	(R)-(-)-Mandelic acid
548	814557	(S)-(-)-Butyllactate	922	822058	Gluconic acid sodium salt	1094	806925	(S)-(+)-Mandelic acid
582	840092	L-Carnitine	923	814723	D(+)-Glucuronic acid sodium salt monohydrate	1108	820771	Metatartaric acid
583	841774	DL-Carnitine hydrochloride	929	814186	Glycolic acid	1156	818429	(R)-(-)-Methyl 3-hydroxy-2-methylpropionate
628	841619	4-Chlorophenoxyacetic acid	929	814662	Glycolic acid	1156	818428	(S)-(+)-Methyl 3-hydroxy-2-methylpropionate
750	821217	(2R,3R)-(+)-Diethyl tartrate	929	804104	Glycolic acid	1158	818726	(S)-(-)-Methyl lactate
750	818685	(2S,3S)-(-)-Diethyl tartrate	979	820666	3-Hydroxybutyric acid	1201	841023	2-Naphthoxyacetic acid
761	841745	2,5-Dihydroxybenzoic acid	982	800588	2-Hydroxyethyl methacrylate	1308	821572	L-(-)-3-Phenyllactic acid
761	841533	3,4-Dihydroxybenzoic acid	983	841764	2-Hydroxyisobutyric acid	1397	800218	(-)-Quinic acid
768	818719	(2S,3S)-(-)-Diisopropyl tartrate	984	840013	5-Hydroxyisophthalic acid	1417	824476	(-)-Shikimic acid
794	818267	(S)-(-)-Dimethyl malate	987	814574	3-Hydroxy-4-methoxycinnamic acid	1446	820872	di-Sodium DL-malate
825	818725	(2R,3R)-(-)-Di-O-4-toluoyl-L-tartaric acid	990	841558	1-Hydroxy-naphthalene-2-carboxylic acid	1518	818531	(2R,3R)-(+)-Tartaric acid
825	818724	(2S,3S)-(+)-Di-O-4-toluoyl-D-tartaric acid	991	841462	(2-Hydroxyphenyl)-acetic acid	1518	800799	(2S,3S)-(-)-Tartaric acid
871	818653	(S)-Ethyl-3-hydroxybutyrate	991	814577	(3-Hydroxyphenyl)acetic acid	1533	814503	2-Tetrahydrofuran carboxylic acid
873	822100	(S)-(-)-Ethyl lactate	994	800610	Hydroxypropyl methacrylate	1574	820350	Tributyl citrate
874	806912	Ethyl mandelate	996	814193	(R)-(+)-2-Hydroxy-1,2,2-triphenylethyl acetate	1586	800251	Triethyl citrate
877	820808	Ethyl 2-methyl lactate	996	814192	(S)-(-)-2-Hydroxy-1,2,2-triphenylethyl acetate	1618	808384	DL-Tropic acid
917	814504	3-Furancarboxylic acid	1051	814461	4-Isopropoxybenzoic acid	1628	841025	Vanillic acid
921	814464	Gibberellic acid	1083	822084	L-(+)-Lithium lactate			

## Oxocarboxylic acids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
345	841664	4-Acetylbenzoic acid	758	843932	1,6-Dihydro-6-oxo-3-pyridinecarboxylic acid	1314	841780	Phenylpyruvic acid sodium salt monohydrate
426	100128	Aurin tricarboxylic acid ammonium salt	1151	841878	3-Methylflavone-8-carboxylic acid			
439	820138	1,2,4-Benzenetricarboxylic 1,2-anhydride	1306	841629	Phenylglyoxylic acid			

## Halogenated carboxylic acids and derivatives

## Aliphatic and araliphatic halogenated carboxylic acids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
487	802260	Bromoacetic acid	628	814003	2-Chlorophenylacetic acid	898	814626	4-Fluorobenzoic acid
494	800469	2-Bromobutyric acid	628	841450	3-Chlorophenylacetic acid	901	840002	4-Fluorocinnamic acid
494	841654	4-Bromobutyric acid	628	814259	4-Chlorophenylacetic acid	904	841867	3-Fluorophenylacetic acid
502	841242	6-Bromohexanoic acid	631	802810	2-Chloropropionic acid	904	814094	4-Fluorophenylacetic acid
504	841671	2-Bromoisovaleric acid	631	820330	3-Chloropropionic acid	936	843443	Heptafluorobutyric acid
504	820201	4-Bromo-DL-mandelic acid	631	814498	(R)-(+)-2-Chloropropionic acid	1011	820736	o-Iodhippuric acid
511	841130	3-Bromophenylacetic acid	638	802812	5-Chlorovaleric acid	1184	841591	N-Methyl-2,2,2-trifluoroacetamide
511	841138	4-Bromophenylacetic acid	639	843138	5-Chlorovaleryl chloride	1263	807114	Pentadecafluorooctanoic acid
511	820216	DL- $\alpha$ -Bromophenylacetic acid	704	841441	2,3-Dibromomalealdehydic acid	1267	820956	2,2,3,3,3-Pentafluoropropionic acid
513	802396	2-Bromopropionic acid	706	841348	2,3-Dibromosuccinic acid			
513	840075	3-Bromopropionic acid	712	803541	Dichloroacetic acid	1431	841122	Sodium chlorodifluoroacetate
518	818329	5-Bromovaleric acid	729	841503	2,6-Dichlorophenylacetic acid	1576	822342	Trichloroacetic acid
595	800412	Chloroacetic acid	731	819100	2,2-Dichloropropionic acid sodium salt	1578	842265	2,2,2-Trichloroethyl chloroformate
606	841324	3-Chlorocinnamic acid	740	843342	Diethylcarbonyl chloride	1589	808260	Trifluoroacetic acid
612	814741	2-Chloro-6-fluorophenyl acetic acid	751	841641	Difluoroacetic acid	296	113363	Trifluoroacetic acid-D1
618	814612	(S)-2-Chloro-3-methylbutyric acid	754	814697	2,6-Difluorophenylacetic acid			

## Aromatic halogenated carboxylic acids and their salts

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
382	841233	3-Amino-4-chlorobenzoic acid	622	843909	6-Chloronicotinic acid chloride	764	841653	3,5-Diiodosalicylic acid
382	841104	4-Amino-2-chlorobenzoic acid	624	800478	2-Chloro-4-nitrobenzoic acid	898	820569	2-Fluorobenzoic acid
385	815106	2-Amino-4,6-dichlorobenzoic acid	624	821998	2-Chloro-5-nitrobenzoic acid	898	841826	3-Fluorobenzoic acid
490	820183	2-Bromobenzoic acid	624	818482	4-Chloro-2-nitrobenzoic acid	905	841139	3-Fluorophthalic acid
490	800507	4-Bromobenzoic acid	624	800479	4-Chloro-3-nitrobenzoic acid	1008	820729	2-Iodobenzoic acid
505	821978	4-(Bromomethyl)benzoic acid	624	818539	5-Chloro-2-nitrobenzoic acid	1008	818513	4-Iodobenzoic acid
505	841486	4-Bromo-2-methylbenzoic acid	628	841450	3-Chlorophenylacetic acid	1013	841340	5-Iodosalicylic acid
515	841467	2-Bromoterephthalic acid	706	841158	3,5-Dibromosalicylic acid	1135	814855	3-Methylbenzoyl chloride
599	800463	2-Chlorobenzoic acid	716	820435	2,4-Dichlorobenzoic acid	1265	841434	2,3,4,5,6-Pentafluorobenzoic acid
600	800473	3-Chlorobenzoic acid	716	818834	2,5-Dichlorobenzoic acid	1591	841632	2,4,5-Trifluorobenzoic acid
600	800476	4-Chlorobenzoic acid	716	821764	2,6-Dichlorobenzoic acid	1593	814806	3-(Trifluoromethyl)-benzoic acid
612	841200	2-Chloro-6-fluorobenzoic acid	716	841788	3,4-Dichlorobenzoic acid	1594	841184	4-(Trifluoromethyl)-benzoic acid
622	843937	2-Chloronicotinic acid	753	841630	2,6-Difluorobenzoic acid	1596	841852	2,3,5-Triiodobenzoic acid
622	843935	6-Chloronicotinic acid	753	814717	3,4-Difluorobenzoic acid			

## Carboxylic acids with other substituents

## Nitro-substituted carboxylic acids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
402	843936	2-Aminopyridin-3-carboxylic acid	1164	818485	2-Methyl-3-nitrobenzoic acid	1219	800646	4-Nitrobenzoic acid
808	841366	2,4-Dinitrobenzoic acid	1164	841114	2-Methyl-5-nitrobenzoic acid	1222	820912	2'-Nitrocinnamic acid
809	814248	(R)-(-)-N-(3,5-Dinitrobenzoyl) phenylglycine	1164	814860	3-Methyl-4-nitrobenzoic acid	1222	818563	4'-Nitrocinnamic acid
810	841307	2,4-Dinitrophenylacetic acid	1191	818476	Monomethyl 5-nitroisophthalate	1226	820900	2-Nitrophenylacetic acid
877	841475	Ethyl nitroacetate	1219	841472	2-Nitrobenzoic acid	1226	800599	4-Nitrophenylacetic acid
1122	841153	3-Methoxy-2-nitrobenzoic acid	1219	800645	3-Nitrobenzoic acid			

## Sulfur-containing carboxylic acids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
397	841670	6-Aminopenicillanic acid	1406	814271	Rhodanine-N-acetic acid	1552	841123	Thiophene-2-acetic acid
172	103164	Eriochrome cyanine R (C.I. 43820)	1507	821600	2-Sulfobenzoic acid ammonium salt	1552	841797	Thiophene-3-acetic acid
1101	822087	2-Mercaptopropionic acid	1508	814413	Sulfosuccinic acid	1553	841613	Thiosalicylic acid
1102	805967	3-Mercaptopropionic acid	1550	814687	Thiobenzoylmercaptoacetic acid	1641	108739	Zincon
1315	814314	$\alpha$ -(Phenylthio)phenylacetic acid	1551	100700	Thioglycolic acid			

## Carboxylic acids with other substituents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
664	841282	4-Cyanobenzoic acid	1119	841295	3-Methoxycinnamic acid	1305	807113	(S)-(-)-N-(1-Phenylethyl) succinamic acid
983	841335	5-Hydroxyindole-2-carboxylic acid	1123	841039	3-Methoxyphenylacetic acid	1314	841883	2-Phenylquinoline-4-carboxylic acid
1004	814819	Indole-3-carboxylic acid	1295	841344	2-Phenoxybenzoic acid	1389	841251	2-Pyridylacetic acid hydrochloride
1004	814820	Indole-5-carboxylic acid	1304	807115	(S)-(-)-N-(1-Phenylethyl) phthalamic acid	1552	841525	Thiophene-3-carboxylic acid
1056	841663	Isoquinoline-1-carboxylic acid	1305	807111	(R)-(+)-N-(1-Phenylethyl) succinamic acid			

Carboxypolystyrene HL (100-200 mesh), 1% DVB  
→ page 268

3-Carboxypropanesulfonamide → page 279

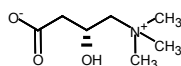
5-Carboxy-tetramethylrhodamine → page 260

5(6)-Carboxytetramethylrhodamine → page 260

6-Carboxy-tetramethylrhodamine → page 260

Carmine (C.I. 75470) → page 189

## 840092 L-Carnitine for synthesis



C<sub>7</sub>H<sub>15</sub>NO<sub>3</sub>

Vitamin B

■ CAS-No. 541-15-1 ■ EC-No. 208-768-0

■ Spec. density 0.64 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 800 g/l (20 °C) ■ M = 161.2 g/mol ■ pH value 6.5 - 8.5

(50 g/l, H<sub>2</sub>O)

■ Melting point 190 - 195 °C decomposes

■ Bulk density 636 kg/m<sup>3</sup> ■ Ignition temp. >365 °C

■ WGK 1

■ LD50 oral rat > 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2923 90 00 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>, calc. on anhydrous substance) .....

..... ≥ 98,0 %

Spec. rotation [ $\alpha$ '<sub>D</sub> (c=10 in water)..... -32,0 -

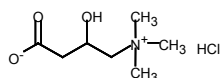
-29,0 °

Water (K. F.)..... ≤ 4,0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40092.0025	Plastic bottle	25 g	inquire

## 841774 DL-Carnitine hydrochloride for synthesis

C<sub>7</sub>H<sub>16</sub>ClNO<sub>3</sub>

- CAS-No. 461-05-2 ■ EC-No. 207-309-1
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 197.66 g/

- mol ■ pH value 1.8 - 2.5 (100 g/l, H<sub>2</sub>O)
- Melting point 196 - 197 °C decomposes
- WGK 1
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

**Specification**

Assay (argentometric)..... ≥ 99,0 %

Melting range (lower value)..... ≥ 197 °C  
 Melting range (upper value)..... ≤ 200 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41774.0025	Plastic bottle	25 g	inquire

Carriers for GC → page 43

CARS™ Cartridge Large → page 40

CARS™ Cartridge Small → page 40

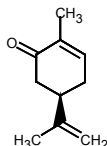
CARS™ Complete System (230V,50/60Hz) → page 40

Cartons → Laboratory equipment, auxiliaries

Carvacrol → 5-Isopropyl-2-methylphenol page 1055

Carvol → (R)-(-)-Carvone page 583

## 818409 (R)-(-)-Carvone for synthesis

C<sub>10</sub>H<sub>14</sub>O

(R)-(-)-5-Isopropenyl-2-methyl-2-cyclohexenone, (R)-(-)-p-Mentha-6,8-dien-2-one, Carvol

- CAS-No. 6485-40-1 ■ EC-No. 229-352-5
- Refractive index 1.4988 (20 °C, 589 nm)
- Spec. density 0.96 g/cm<sup>3</sup> (20 °C)
- Flash point 92 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 150.22 g/mol
- pH value 7 (H<sub>2</sub>O) ■ Boiling point 230 - 231 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1640 mg/kg
- LGK 10 - 13

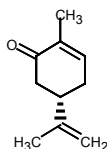
- HS-No. 2914 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.959 - 0.961  
 Spec. rotation [α<sup>20</sup>/D (undiluted)]..... -63.0 - -60.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18409.0100	Glass bottle	100 ml	inquire

## 818410 (S)-(+)-Carvone for synthesis

C<sub>10</sub>H<sub>14</sub>O

(S)-(+)-5-Isopropenyl-2-methyl-2-cyclohexenone, (S)-(+)-p-Mentha-6,8-dien-2-one

- CAS-No. 2244-16-8 ■ EC-No. 218-827-2
- Refractive index 1.4988 (20 °C, 589 nm)
- Spec. density 0.96 g/cm<sup>3</sup> (20 °C)
- Flash point 88 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 1300 mg/l (18 °C) ■ M = 150.22 g/mol
- Boiling point 228 - 230 °C (1013 hPa)
- WGK 1
- LD50 oral rat 3562 mg/kg
- LGK 10
- HS-No. 2914 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.958 - 0.962  
 Spec. rotation [α<sup>20</sup>/D (undiluted)]..... 57.0 - 62.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18410.0025	Glass bottle	25 ml	inquire

Case → page 91

## Casein

- CAS-No. 9000-71-9 ■ EC-No. 232-555-1
- Solub. in H<sub>2</sub>O 20.1 g/l (25 °C) (experimental)

- Bulk density 450 kg/m<sup>3</sup>
- WGK nwg

- LGK 10 - 13
- HS-No. 3501 10 90 ■ Disposal 3

## 102244 Casein for biochemistry

**Specification**

Appearance..... Almost white, fine or fine granular, almost odorless slightly yellowish or grey-yellowish.  
 N (Nitrogen)..... 14 - 15 %  
 P (phosphorus)..... 0.7 - 0.8 %

Fats..... ≤ 0.2 %  
 Free acid (as lactic acid)..... ≤ 0.1 %  
 Sulfated ash (800 °C)..... ≤ 1.5 %  
 Loss on drying (105 °C)..... ≤ 6 %  
 Suitability as enzyme substrate... conforms internal

standard

Ord.No.	Packaging	Quantity	Price
1.02244.0100	Plastic bottle	100 g	inquire

## 102242 Casein acc. to HAMMARSTEN LAB

**Specification**

Assay (ex N, calc. on dried substance)..... ≥ 95 %  
 Free acid (as lactic acid)..... ≤ 0.1 %  
 In water soluble matters..... ≤ 0.2 %  
 Fats..... ≤ 0.1 %

Sulfated ash (800 °C)..... ≤ 1.5 %  
 Loss on drying (105 °C)..... ≤ 6 %  
 Microbiological test..... passes test  
 Lactose (HPLC)..... ≤ 0.5 %

Glucose (HPLC)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.02242.2500	Plastic bottle	2.5 kg	inquire

Caseinhydrolysate (pancreatic) → page 112

Casein hydrolysate (pancreatically) → page 112

Casein-peptone dextrose meat extract agar → page 105

Casein-peptone dextrose yeast agar → page 103

Casein-peptone lecithin-polysorbate broth (base) → page 99

Casein-peptone soyameal-peptone agar → page 107

Casein-peptone soyameal-peptone broth → page 107

Casein-peptone soyameal-peptone broth → page 107

CASO agar → page 107

CASO broth → page 107

## Catalysts

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
363	821944	Alkylbenzyltrimethylammonium chloride	661	811866	Crown ether/Dicyclohexyl-18-crown-6	1524	818215	Tetra-n-butylammonium hydroxide
363	814363	N-Alkyl-N,N-dimethyl-N-benzylammonium chloride	829	818148	(-)-N-Dodecyl-N-methylephedrinium bromide	1524	818759	Tetra-n-butylammonium hydroxide
456	814140	Benzyltributylammonium chloride	829	820546	N-Dodecylpyridinium chloride	1525	822152	Tetra-n-butylammonium iodide
456	810298	Benzyltriethylammonium chloride	868	818424	Ethylhexadecyldimethylammonium bromide	1525	818244	Tetra-n-butylammonium tetrafluoroborate
457	821961	Benzyltrimethylammonium chloride	887	801019	Ethyltriphenylphosphonium bromide	1529	822147	Tetraethylammonium bromide
457	801816	Benzyltrimethylammonium hydroxide	947	814087	Hexadecyltrimethylammonium chloride	1529	822148	Tetraethylammonium chloride monohydrate
457	821685	Benzyltriphenylphosphonium chloride	304	843982	Indium(III)-sulfate, anhydrous	1529	818246	Tetraethylammonium tetrafluoroborate
466	843857	Bis(cyclopentadienyl)zirconium chloride hydrate	1184	818079	Methyltrialkylammonium chloride	1545	814002	Tetra-n-octylammonium bromide
555	814141	Butyltriphenylphosphonium chloride	1185	806116	Methyltriphenylphosphonium bromide	1546	808243	Tetraphenylphosphonium bromide
589	818188	N-Cetylpyridinium bromide monohydrate	1447	843899	Sodium molybdate dihydrate	1547	818735	Tetrapropylammonium bromide
660	813718	Crown ether/Benzo-15-crown-5	1454	824494	Sodium tetrakis(3,5-bis(trifluoromethyl)phenyl) borate dihydrate	1575	818075	Tributylhexadecylphosphonium bromide
660	814316	Crown ether/Benzo-18-crown-6	1523	818839	Tetra-n-butylammonium bromide	1617	818373	Tris[2-(2-methoxyethoxy)ethyl]amine
661	811731	Crown ether/Dibenzo-18-crown-6	1523	818164	Tetra-n-butylammonium fluoride trihydrate			
661	813755	Crown ether/Dibenzo-24-crown-8	1524	818858	Tetra-n-butylammonium hydrogen sulfate			

## Catalysts for enantioselective synthesis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
458	824499	(R)-(-)-1,1'-Binaphthalene-2,2'-diyl-phosphate	469	824430	(4R,5R)-(-)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane	479	824428	(2S,4S)-(-)-N-BOC-4-Diphenylphosphino-2-diphenyl phosphino methyl-pyrrolidine
458	824500	(S)-(+)-1,1'-Binaphthalene-2,2'-diyl-phosphate	469	824429	(4S,5S)-(+)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane	829	818148	(-)-N-Dodecyl-N-methylephedrinium bromide

Catalysts for enantioselective synthesis → Chiralica®

## Catalysts, heterogeneous

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
945	807340	Hexachloroplatinic(IV) acid hexahydrate (~40% Pt)	1259	814573	Palladium(II) nitrate dihydrate (40% Pd)	1335	807346	Platinum(IV) oxide hydrate (80% Pt)
1205	806749	Nickel-aluminium alloy	1259	807107	Palladium(II) oxide (85% Pd)	1399	820876	Raney nickel catalyst
1258	810489	Palladium/calcium carbonate (5 % Pd)	1334	807339	Platinum/charcoal activated (10% Pt)	1406	812309	Rhenium(VII) oxide (77% Re)
1258	807104	Palladium/charcoal activated (10% Pd)	1335	807347	Platinum(IV) chloride (57.5% Pt)	1406	807632	Rhodium(III) chloride trihydrate (38% Rh)
1259	807110	Palladium(II) chloride (59% Pd)	1335	824566	Platinum(II) chloride (73% Pt)	1408	810560	Ruthenium(IV) oxide hydrate (60% Ru)

## Catalysts, homogeneous

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
366	824434	Allylpalladium(II) chloride dimer (58% Pd)	477	814069	Bis(triphenylphosphine) carbonylrhodium(I) chloride	945	807340	Hexachloroplatinic(IV) acid hexahydrate (~40% Pt)
462	824436	Bis(acetonitrile)-palladium(II) chloride (41% Pd)	477	818504	Bis(triphenylphosphine) copper(I) borohydride	1406	824435	Rhodium(II) acetate dimer (46.5% Rh)
463	818181	Bis(benzonitrile)-palladium(II) chloride (27.7% Pd)	478	818158	Bis(triphenylphosphine) nickel(II) chloride	1617	808265	Tris(triphenylphosphine) rhodium(I) chloride (11% Rh)
470	824437	Bis(ethylene)rhodium(I) chloride dimer (53% Rh)	478	804174	Bis(triphenylphosphine) palladium(II) chloride (15.2% Pd)	1617	818120	Tris(triphenylphosphine) ruthenium(II) chloride (10.5% Ru)

## Catalysts, ligands

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
399	814132	(S)-(-)-2-Amino-3-phenyl-1-propanol	609	810158	Chlorodiphenylphosphine	989	818259	(2S,2'S)-(-)-2-Hydroxymethyl-1-[[1-methylpyrrolidine-2-yl]-methyl]-pyrrolidine
401	818231	(S)-(+)-1-Amino-2-propanol	670	824449	(1R,2R)-(-)-1,2-Cyclohexanedicarboxylic acid	1054	818636	(-)-2,3-O-Isopropylidene-D-threitol
458	814774	(R)-(+)-1,1'-Binaphthyl-2,2'-diol	735	803038	Dicyclopentadiene	1267	818534	1,2,3,4,5-Pentamethylcyclopentadiene
459	814773	(S)-(-)-1,1'-Binaphthyl-2,2'-diol	750	821217	(2R,3R)-(+)-Diethyl tartrate	1371	824472	(R)-(+)-Propanolol hydrochloride
468	818470	(2R,3R)-(-)-4,5-Bis(diphenylhydroxymethyl)-2,2-dimethyl-1,3-dioxolane	750	818685	(2S,3S)-(-)-Diethyl tartrate	1379	818665	(R)-(+)-Pulegone
469	824430	(4R,5R)-(-)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane	779	820499	4-(Dimethylamino)pyridine	1595	821167	1,1,1-Trifluoro-2,4-pentanedione
469	824429	(4S,5S)-(+)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane	871	824456	(2S,4R)-(-)-Ethyl 4-hydroxy-2-pyrrolidincarboxylate hydrochloride			
479	824428	(2S,4S)-(-)-N-BOC-4-Diphenylphosphino-2-diphenylphosphino methyl-pyrrolidine						

## Catalysts, phase transfer

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
363	821944	Alkylbenzyltrimethylammonium chloride	829	818148	(-)-N-Dodecyl-N-methylephedrinium bromide	1525	822152	Tetra-n-butylammonium iodide
363	814363	N-Alkyl-N,N-dimethyl-N-benzylammonium chloride	887	801019	Ethyltriphenylphosphonium bromide	1525	818244	Tetra-n-butylammonium tetrafluoroborate
439	843983	Benzethonium chloride	947	814087	Hexadecyltrimethylammonium chloride	1529	822147	Tetraethylammonium bromide
450	843863	N-Benzyl-N,N-dimethyldodecylammonium chloride	1184	818079	Methyltrialkylammonium chloride	1529	822148	Tetraethylammonium chloride monohydrate
456	814140	Benzyltributylammonium chloride	1185	806116	Methyltriphenylphosphonium bromide	1529	822149	Tetraethylammonium hydroxide
456	843254	Benzyltriethylammonium bromide	1454	824494	Sodium tetrakis(3,5-bis(trifluoromethyl)phenyl) borate dihydrate	1529	818246	Tetraethylammonium tetrafluoroborate
456	810298	Benzyltriethylammonium chloride	1523	818839	Tetra-n-butylammonium bromide	1538	843722	Tetramethylammonium bromide
457	821961	Benzyltrimethylammonium chloride	1523	818164	Tetra-n-butylammonium fluoride trihydrate	1539	843724	Tetramethylammonium iodide
457	801816	Benzyltrimethylammonium hydroxide	1524	845083	Tetra-n-butylammonium hydrogensulfate	1545	814002	Tetra-n-octylammonium bromide
457	821685	Benzyltriphenylphosphonium chloride	1524	818858	Tetra-n-butylammonium hydrogen sulfate	1547	818735	Tetrapropylammonium bromide
555	814141	Butyltriphenylphosphonium chloride	1524	818215	Tetra-n-butylammonium hydroxide	1575	818075	Tributylhexadecylphosphonium bromide
589	818188	N-Cetylpyridinium bromide monohydrate	1524	818759	Tetra-n-butylammonium hydroxide			

Catechol → Pyrocatechol page 1391

Cation exchanger → Ion exchanger

Catering industry → Hygiene monitoring

Cation exchangers → page 8

## Caustic alkalis and bases for analysis EMSURE®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
406	105432	Ammonia solution 25%	1354	105029	Potassium hydroxide	1440	105593	Sodium hydroxide solution 21%
407	105423	Ammonia solution 28-30%	1355	105545	Potassium hydroxide solution 47%	1441	105591	Sodium hydroxide solution min. 27% (1.30)
432	101737	Barium hydroxide octahydrate	1439	106498	Sodium hydroxide	1441	105590	Sodium hydroxide solution about 32%
563	102047	Calcium hydroxide	1439	106495	Sodium hydroxide	1441	111360	Sodium hydroxide solution min. 45%
1354	105033	Potassium hydroxide	1439	106469	Sodium hydroxide	1442	158793	Sodium hydroxide solution 50%
1354	105021	Potassium hydroxide	1440	105588	Sodium hydroxide solution min. 10% (1.11)			

Caustic baryta → page 432

CD-ROM → Books

Celite 545 → page 9

Caustic potash → page 1354

CDTA → Titriplex® IV page 172

Celite® Hyflo Supercel → page 9

Caustic potash monohydrate → Potassium hydroxide hydrate page 165

Celite® → page 9

Cell adapter → page 91

Caustic soda → page 1439

Celite® 281 → page 9

Cell diagnostics, mounting medium → page 187

N-Cbz-Glycine → page 250

Celite® 503 → page 9

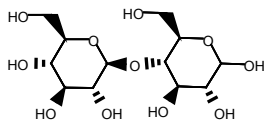
CDI → page 279

Celite® 545 → page 9



# Cellob

## 102352 Cellobiose for biochemistry



C<sub>12</sub>H<sub>22</sub>O<sub>11</sub>  
 ■ CAS-No. 528-50-7 ■ EC-No. 208-436-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 342.29 g/

mol ■ pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 225 - 230 °C (decomposition)  
 ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2940 00 00 ■ Disposal 3  
 Cellobiose exhibits mutarotation from [α] 20°/D = +14.2° to [α] 20°/D = 34.6° at c = 8 in water.  
 Substrat for β-Glucosidase.

**Specification**  
 Purity (HPLC) ..... ≥ 98 %  
 Identity (IR-spectrum) ..... conforms  
 Spec. rotation [α<sup>20</sup>/D (50 g/l; water) ... 34.0 - 35.0 °  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 Water (according to Karl Fischer) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.02352.0025	Glass bottle	25 g	inquire

Cellulosolve® → 2-Ethoxyethanol (stabilised) page 303

Cell rack → page 93

Cells and accessories for the photometric chlorine determination → page 57

## 102321 Cellulase Onozuka R-10 (from *Trichoderma viride*) 1 U/mg for biochemistry EC 3.2.1.4

■ CAS-No. 9012-54-8 ■ EC-No. 232-734-4  
 ■ Solub. in H<sub>2</sub>O (25 °C) soluble  
 ■ WGK nwg  
 ■ GHS: Danger, Respiratory sensitisation, Category 1, H334, P304 + P341, P342 + P311  
 ■ EC-Index-No. 647-002-00-3 ■ LGK 10 - 13  
 ■ Store at +2°C to +8°C.  
 ■ HS-No. 3507 90 90 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Catalysed reaction: Hydrolysis of β-1,4-gluco- linkages of native or partially degraded cellulose as well as of celodextrins.

Performance test.....Suitable for the formation of protoplasts  
 Suitable for the formation of protoplasts from plants.

**Specification**  
 Activity (CMC, pH 4.5, 37 °C) ..... ≥ 1 U/mg  
 Protease ..... ≤ 0.5 mAnsonU/mg

Ord.No.	Packaging	Quantity	Price
1.02321.0005	Glass bottle	5 g	inquire
1.02321.0025	Glass bottle	25 g	inquire

Cellulose microcrystalline → page 14

Cellulose pre-coated plates (TLC, HPTLC, PLC) → page 13

Cereus selective agar (base) acc. to MOSSSEL → page 99

Cerium(IV) ammonium nitrate → Ammonium cerium(IV) nitrate page 409

Cerium(IV) ammonium sulfate → Ammonium cerium(IV) sulfate dihydrate page 409

## Cerium, determination

Page	Cat.No.	Designation
995	107098	8-Hydroxyquinoline

Page	Cat.No.	Designation
1287	107223	1,10-Phenanthroline chloride monohydrate

Page	Cat.No.	Designation
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## 102271 Cerium(III) nitrate hexahydrate extra pure

CeN<sub>3</sub>O<sub>9</sub> \* 6 H<sub>2</sub>O  
 Ce(NO<sub>3</sub>)<sub>3</sub> \* 6 H<sub>2</sub>O  
 ■ CAS-No. 10294-41-4 ■ EC-No. 233-297-2  
 ■ Solub. in H<sub>2</sub>O 1754 g/l (25 °C) ■ M = 434.23 g/mol  
 ■ pH value 3.7 (100 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Bulk density 1050 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 2, H272  
 ■ LD50 oral rat 4200 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2846 10 00 ■ Disposal 14  
 ■ ADR-RID UN 1477 Nitrate, anorganische, n.a.g.,

5.1, II ■ IMDG-Code UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II  
 ■ IATA-DGR UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II

Fe (Iron) ..... ≤ 0.001 %  
 Ho (Holmium) ..... ≤ 0.02 %  
 Nd (Neodymium) ..... ≤ 0.02 %  
 Pr (Praseodym) ..... ≤ 0.01 %  
 Sm (Samarium) ..... ≤ 0.02 %  
 Tm (Thulium) ..... ≤ 0.02 %  
 Y (Yttrium) ..... ≤ 0.04 %

**Specification**  
 Assay (complexometric) ..... ≥ 98.5 %  
 Chloride (Cl) ..... ≤ 0.003 %  
 Heavy metals (as Pb) ..... ≤ 0.002 %  
 Dy (Dysprosium) ..... ≤ 0.04 %  
 Er (Erbium) ..... ≤ 0.2 %  
 Eu (Europium) ..... ≤ 0.04 %

Ord.No.	Packaging	Quantity	Price
1.02271.0100	Plastic bottle	100 g	inquire

## 102263 Cerium(IV) oxide 1-3 mm for elementary analysis

CeO<sub>2</sub>  
 ■ CAS-No. 1306-38-3 ■ EC-No. 215-150-4  
 ■ Spec. density 7.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 172.11 g/mol  
 ■ Melting point 2000 °C ■ Bulk density 1280 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LC50 rat > 5.05 mg/l

■ LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2846 10 00 ■ Disposal 14  
 Oxidizing agent for elemental analysis.

Fe (Iron) ..... ≤ 0.02%  
 Loss on ignition (1000 °C) ..... ≤ 1.0 %  
 Particle size (1-3.15 mm) ..... ≥ 80 %

**Specification**  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.02263.0100	Plastic can	100 g	inquire

## 109092 Cerium(IV) sulfate solution c(Ce(SO<sub>4</sub>)<sub>2</sub> \* 4 H<sub>2</sub>O) = 0.1 mol/l (0.1 N) Titripur®

■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.4 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SCHWEFELSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. SULPHURIC ACID), 8, III, Segregation

Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. SULPHURIC ACID), 8, III

**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP).  
 Amount-of-substance concentration .0.1000 mol/l  
 The concentration of this volumetric solution was determined with volumetric standard Iron(II) ethylenediammonium sulfate (Merck article number 1.02402). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage

probability). The certified value is traceable to primary standard NIST SRM 8040 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Iron(II) ethylenediammonium sulfate measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09092.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire



**102274 Cerium(IV) sulfate tetrahydrate for analysis EMSURE®**



CeO<sub>8</sub>S<sub>2</sub> \* 4 H<sub>2</sub>O  
 Ce(SO<sub>4</sub>)<sub>2</sub> \* 4 H<sub>2</sub>O  
 ■ CAS-No. 10294-42-5 ■ EC-No. 237-029-5  
 ■ Spec. density 5.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 38 g/l (50 °C) ■ M = 404.30 g/mol  
 ■ pH value 1.6 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 180 - 200 °C Elimination of water of crystallisation ■ Bulk density 650 - 850 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319;

Skin irritation, Category 2, H315, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2846 10 00 ■ Disposal 14  
**Specification**  
 Assay (potentiometric, Ce(SO<sub>4</sub>)<sub>2</sub>· 4 H<sub>2</sub>O) ..... ≥ 98.0 %  
 Substances insoluble in sulfuric acid ..... ≤ 0.005 %  
 Chloride (Cl) ..... ≤ 0.001 %  
 Phosphate (PO<sub>4</sub>) ..... ≤ 0.01 %

Heavy metals (as Pb) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.02274.0025	Plastic bottle	25 g	inquire
1.02274.0100	Plastic bottle	100 g	inquire
1.02274.0250	Plastic bottle	250 g	inquire

Certified reference material → Standards

CertiPUR® → Standards

CertiPUR® buffer → page 175

**Certipur® color reference solutions acc. to Ph Eur**

**100269 Colour Reference Solutions R for testing the colour intensity acc. to Ph. Eur. R1-R7**



Certipur®

■ GHS: Danger, P201, P273, P308 + P313  
 ■ LGK 6.1 D  
 ■ HS-No. 3822 00 00  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(COBALTDICHLORID UND ENTH. SALZSAEURE), 8, III ■ IMDG-Code UN 3264

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COBALT DICHLORIDE AND CONT. HYDROCHLORIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COBALT DICHLORIDE AND CONT. HYDROCHLORIC ACID), 8, III

Certificate of analysis is packed with each box, 7 cells and 1 empty cell

Ord.No.	Packaging	Quantity	Price
1.00269.0001	Fibre case	1 set	inquire

**100265 Colour Reference Solutions B for testing the colour intensity acc. to Ph. Eur. B1-B9**



Certipur®

■ GHS: Danger, P201, P273, P308 + P313  
 ■ LGK 6.1 D  
 ■ HS-No. 3822 00 00  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(KUPFER(II)-SULFAT UND ENTH. SALZSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III  
 Certificate of analysis is packed with each box, 9

cells and 1 empty cell

Ord.No.	Packaging	Quantity	Price
1.00265.0001	Fibre case	1 set	inquire

**100266 Colour Reference Solutions BY for testing the colour intensity acc. to Ph. Eur. BY1-BY7 Certipur®**



■ GHS: Danger, P201, P273, P308 + P313  
 ■ LGK 6.1 D  
 ■ HS-No. 3822 00 00  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(KUPFER(II)-SULFAT UND ENTH. SALZSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III  
 Certificate of analysis is packed with each box, 7

cells and 1 empty cell

Ord.No.	Packaging	Quantity	Price
1.00266.0001	Fibre case	1 set	inquire

**100268 Colour Reference Solutions GY for testing the colour intensity acc. to Ph. Eur. GY1-GY7 Certipur®**



■ GHS: Warning, P273  
 ■ LGK 8B  
 ■ HS-No. 3822 00 00  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(KUPFER(II)-SULFAT UND ENTH. SALZSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III  
 Certificate of analysis is packed with each box, 7

cells and 1 empty cell

Ord.No.	Packaging	Quantity	Price
1.00268.0001	Fibre case	1 set	inquire

**100267 Colour Reference Solutions Y for testing the colour intensity acc. to Ph. Eur. Y1-Y7 Certipur®**



■ GHS: Danger, P201, P273, P308 + P313  
 ■ LGK 6.1B  
 ■ HS-No. 3822 00 00  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8,

III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III  
 Certificate of analysis is packed with each box, 7 cells and 1 empty cell

Ord.No.	Packaging	Quantity	Price
1.00267.0001	Fibre case	1 set	inquire

Certistain® → page 189

# Cesium

## Cesium chloride

CICs

CsCl

■ CAS-No. 7647-17-8 ■ EC-No. 231-600-2  
 ■ Spec. density 3.97 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O 1860 g/l (20 °C) ■ M = 168.36 g/mol

■ pH value 7 - 9 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 646 °C ■ Bulk density 1800 kg/m<sup>3</sup>  
 ■ Boiling point 1382 °C  
 ■ WGK 1  
 ■ LD50 oral rat 2004 mg/kg

■ LGK 10 - 13

■ HS-No. 2827 39 85 ■ Disposal 14  
 Reagent for density-gradient centrifugation and  
 starting material for the electrolytic preparation of  
 Cs.

### 102041 Cesium chloride extra pure

<b>Specification</b>		K (Potassium).....	≤ 0.005 %
Assay (argentometric).....	≥ 99.0 %	Mg (Magnesium).....	≤ 0.002 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.03 %	Na (Sodium).....	≤ 0.005 %
Ba (Barium).....	≤ 0.002 %	Sr (Strontium).....	≤ 0.002 %
Ca (Calcium).....	≤ 0.002 %		

Ord.No.	Packaging	Quantity	Price
1.02041.1000	Plastic bottle	1 kg	inquire

### 102038 Cesium chloride for analysis EMSURE®

<b>Specification</b>		K (Potassium).....	max 0.002 %
Assay (argentometric).....	min 99.5 %	Li (Lithium).....	max 0.0005 %
Sulphate (SO <sub>4</sub> ).....	max 0.002 %	Mg (Magnesium).....	max 0.0005 %
Total nitrogen (N).....	max 0.001 %	Na (Sodium).....	max 0.002 %
Al (Aluminium).....	max 0.0005 %	Pb (Lead).....	max 0.0001 %
Cu (Copper).....	max 0.0003 %	Rb (Rubidium).....	max 0.008 %
Fe (Iron).....	max 0.0003 %	Zn (Zinc).....	max 0.0003 %

Ord.No.	Packaging	Quantity	Price
1.02038.0025	Glass bottle	25 g	inquire
1.02038.0100	Plastic bottle	100 g	inquire

### 102039 Cesium chloride 99.995 Suprapur®

<b>Specification</b>		Ca (Calcium).....	≤ 0.50 ppm
Purity (metallic).....	≥ 99.995 %	Cd (Cadmium).....	≤ 0.005 ppm
Assay (argentometric).....	≥ 99.5 %	Ce (Cerium).....	≤ 0.005 ppm
Specific absorbance (260 nm; 50 %; 1 cm; water).....	≤ 0.020	Co (Cobalt).....	≤ 0.005 ppm
Specific absorbance (280 nm; 50 %; 1 cm; water).....	≤ 0.020	Cr (Chromium).....	≤ 0.005 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 10 ppm	Cu (Copper).....	≤ 0.005 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 20 ppm	Eu (Europium).....	≤ 0.005 ppm
Total nitrogen (N).....	≤ 10 ppm	Fe (Iron).....	≤ 0.020 ppm
Al (Aluminium).....	≤ 0.05 ppm	K (Potassium).....	≤ 2 ppm
B (Boron).....	≤ 0.05 ppm	La (Lanthanum).....	≤ 0.005 ppm
Ba (Barium).....	≤ 2.0 ppm	Li (Lithium).....	≤ 0.2 ppm
		Mg (Magnesium).....	≤ 0.10 ppm
		Mn (Manganese).....	≤ 0.010 ppm
		Na (Sodium).....	≤ 4.0 ppm

Ni (Nickel).....	≤ 0.020 ppm
Pb (Lead).....	≤ 0.030 ppm
Rb (Rubidium).....	≤ 5 ppm
Sc (Scandium).....	≤ 0.005 ppm
Sm (Samarium).....	≤ 0.005 ppm
Sr (Strontium).....	≤ 0.20 ppm
Tl (Thallium).....	≤ 0.20 ppm
Y (Yttrium).....	≤ 0.005 ppm
Yb (Ytterbium).....	≤ 0.005 ppm
Zn (Zinc).....	≤ 0.020 ppm

Ord.No.	Packaging	Quantity	Price
1.02039.0050	Plastic bottle	50 g	inquire
1.02039.0250	Plastic bottle	250 g	inquire
1.02039.1000	Plastic bottle	1 kg	inquire

### 102037 Cesium chloride-aluminium nitrate buffer solution acc. to Schuhknecht and Schinkel for the determination of sodium, potassium and lithium by flame spectrometry (enth./cont. 50 g/l CsCl + 250 g/l Al(NO<sub>3</sub>)<sub>3</sub> \* 9 H<sub>2</sub>O)

■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O (20 °C) soluble ■ pH value 2.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LGK 10 - 13

■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
 Content of Aluminiumnitrat-nonahydrat  
 (potentiometric)..... 247.5 - 252.5 g/l  
 Content of Cesiumchlorid (potentiometric).....  
 ..... 49.5 - 50.5 g/l

Li (Lithium)..... < 1 mg/l  
 K (Potassium)..... < 1 mg/l  
 Na (Sodium)..... < 5 mg/l

Ord.No.	Packaging	Quantity	Price
1.02037.1000	Plastic bottle	1 l	inquire

### 116755 Cesium chloride-lanthanum chloride buffersolution acc. to Schinkel for atomic absorption spectroscopy 10 g/l CsCl + 100 g/l La

■ Spec. density 1.178 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O (25 °C) soluble ■ pH value < 1 (H<sub>2</sub>O,  
 25 °C) (undiluted)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 Assay Lanthan (potentiometric)..... 95.2 - 105.2 g/l  
 Cs (Cesium)..... 7.50 - 8.28 g/l

Ca (Calcium).....	≤ 5.0 mg/l
Cd (Cadmium).....	≤ 0.2 mg/l
Co (Cobalt).....	≤ 1.0 mg/l
Cr (Chromium).....	≤ 1.0 mg/l
Cu (Copper).....	≤ 0.2 mg/l
Fe (Iron).....	≤ 1.0 mg/l
potassium.....	≤ 1.0 mg/l
Li (Lithium).....	≤ 0.2 mg/l
Mg (Magnesium).....	≤ 1.0 mg/l

Mn (Manganese)..... ≤ 0.2 mg/l  
 Na (Sodium)..... ≤ 2.0 mg/l  
 Ni (Nickel)..... ≤ 1.0 mg/l  
 Sr (Strontium)..... ≤ 1.0 mg/l  
 Zn (Zinc)..... ≤ 2.0 mg/l

Ord.No.	Packaging	Quantity	Price
1.16755.1000	Plastic bottle	1 l	inquire

### 102856 Cesium nitrate 99+

CsNO<sub>3</sub>  
 Caesium  
 ■ CAS-No. 7789-18-6 ■ EC-No. 232-146-8  
 ■ Spec. density 3.68 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O 150 g/l (20 °C) ■ M = 194.91 g/mol  
 ■ pH value 5.0 - 7.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 414 °C ■ Bulk density 1500 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Oxidising solid, Category 3,  
 H272, P262

■ LD50 oral rat 2390 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2834 29 80 ■ Disposal 14  
 ■ ADR-RID UN 1451 Caesiumnitrat, 5.1, III  
 ■ IMDG-Code UN 1451 CAESIUM NITRATE, 5.1, III  
 ■ IATA-DGR UN 1451 CAESIUM NITRATE, 5.1, III

Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.001 %

**Specification**  
 Assay (acidimetric after ion exchange)..... ≥ 99 %  
 Chloride (Cl)..... ≤ 0.002 %

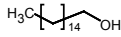
Ord.No.	Packaging	Quantity	Price
1.02856.0025	Glass bottle	25 g	inquire
1.02856.1000	Plastic bottle	1 kg	inquire

Cetane → page 44

Cetats → Hexadecyltrimethylammonium-p-  
 toluenesulfonate page 947

CETRIMIDE agar → page 106

## 818704 Cetyl alcohol for synthesis

C<sub>16</sub>H<sub>34</sub>OCH<sub>3</sub>(CH<sub>2</sub>)<sub>15</sub>OH

1-Hexadecanol

- CAS-No. 36653-82-4 ■ EC-No. 253-149-0
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 0.82 g/cm<sup>3</sup> (50 °C)
- Flash point 155 °C DIN 51758 ■ Solub. in H<sub>2</sub>O < 0.0001 g/l (25 °C) ■ M = 242.44 g/mol

- pH value (H<sub>2</sub>O) not applicable
- Melting point 46 - 52 °C
- Bulk density 410 - 450 kg/m<sup>3</sup>
- Boiling point 305 - 330 °C (1013 hPa)
- Ignition temp. 235 °C DIN 51794
- WGK nwg
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2905 17 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 95.0 % (a/a)  
 Melting range (lower value)..... ≥ 47 °C  
 Melting range (upper value)..... ≤ 52 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18704.0100	Plastic bottle	100 g	inquire
8.18704.1000	Plastic bottle	1 kg	inquire

Cetylamine → Hexadecylamine page 947

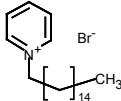
Cetyl bromide → 1-Bromohexadecane page 502

Cetyl chloride → 1-Chlorohexadecane page 615

Cetyl iodide → 1-Iodohexadecane page 1010

Cetyl mercaptan → 1-Hexadecanethiol page 946

## 818188 N-Cetylpyridinium bromide monohydrate for synthesis

C<sub>21</sub>H<sub>38</sub>BrN \* H<sub>2</sub>O

N-Hexadecylpyridinium bromide

- CAS-No. 202869-92-9 ■ EC-No. 205-428-3
- Solub. in H<sub>2</sub>O 5 g/l (20 °C) ■ M = 402.46 g/mol
- pH value 6 - 8 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 63 - 66 °C ■ Bulk density 350 kg/m<sup>3</sup>

- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338, P304 + P340, P309 + P310
- LGK 6.1A
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester

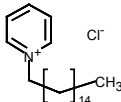
Stoff, n.a.g.(N-CETYLPIRIDINIUMBROMID), 6.1, II  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-CETYLPIRIDINIUMBROMID), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-CETYLPIRIDINIUMBROMID), 6.1, II

## Specification

Assay (argentometric, calc. on anhydrous substance)..... ≥ 98.0 %  
 Water (K. F.)..... 4.0 - 5.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18188.0250	Plastic bottle	250 g	inquire

## 840008 1-Cetylpyridinium chloride monohydrate for synthesis

C<sub>21</sub>H<sub>38</sub>ClN \* H<sub>2</sub>O

N-Hexadecylpyridinium chloride, 1-Hexadecylpyridinium chloride monohydrate

- CAS-No. 6004-24-6 ■ EC-No. 204-593-9
- Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 358.01 g/mol
- pH value 5.0 - 5.4 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 217 °C ■ Bulk density 370 kg/m<sup>3</sup>
- WGK 3

- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 2, Inhalation, H330; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 6.1A
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-CETYLPIRIDINIUMCHLORID), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

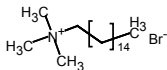
N.O.S.(N-CETYLPIRIDINIUM CHLORIDE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-CETYLPIRIDINIUM CHLORIDE), 6.1, II

## Specification

Assay (argentometric, calc. on anhydrous substance)..... ≥ 96.0 % (m)  
 Water (K. F.)..... 4.5 - 5.5 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.40008.0025	Glass bottle	25 g	inquire
8.40008.0100	Glass bottle	100 g	inquire

## 102342 N-Cetyl-N,N,N-trimethylammonium bromide GR for analysis

C<sub>19</sub>H<sub>42</sub>BrNC<sub>16</sub>H<sub>33</sub>N(CH<sub>3</sub>)<sub>3</sub>Br

- CAS-No. 57-09-0 ■ EC-No. 200-311-3
- Solub. in H<sub>2</sub>O 0.192 g/l (20 °C) ■ M = 364.45 g/mol
- pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 250 - 256 °C
- Bulk density 390 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400;

- Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 410 mg/kg
- LGK 10 - 13
- HS-No. 2923 90 00
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(HEXADECYLTRIMETHYLAMMONIUMBROMID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(HEXADECYLTRIMETHYLAMMONIUMBROMIDE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(HEXADECYLTRIMETHYLAMMONIUMBROMIDE), 9, III
- Standard for the determination of cationic

tensides.

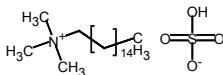
## Specification

Assay (potentiometrical; calc. on anhydrous substance)..... ≥ 99.0 %  
 Identity..... IR-spectrum conforms  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.001 %  
 Cetyltrimethylamine (TLC)..... ≤ 0.5 %  
 Sulfated ash..... ≤ 0.1 %  
 Water (according to Karl Fischer)..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.02342.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
1.02342.1000	Plastic bottle	1 kg	inquire

Cetyltrimethylammonium chloride solution → Hexadecyltrimethylammonium chloride page 947

## 118313 Cetyl trimethylammonium hydrogen sulfate for ion pair chromatography LiChropur®

C<sub>19</sub>H<sub>43</sub>NO<sub>4</sub>S

- CAS-No. 68214-07-3 ■ EC-No. 269-286-4
- M = 381.61 g/mol
- WGK 3

- HS-No. 2923 90 00 ■ Disposal 3

## Specification

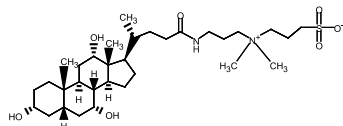
Assay (acidimetric; calculated on dried substance)..... ≥ 99%  
 Identity (IR-spectrum)..... passes test  
 pH-value (10 %; water)..... ≤ 2  
 UV-transmission (200 nm; 0.005 mol/l; 1 cm; water)..... ≥ 70 %

UV-transmission (220 nm; 0.005 mol/l; 1 cm; water)..... ≥ 90 %  
 UV-transmission (250 nm; 0.005 mol/l; 1 cm; water)..... ≥ 98 %  
 Loss on drying (80 °C, vacuum)..... ≤ 2%

Ord.No.	Packaging	Quantity	Price
1.18313.0025	Glass bottle	25 g	inquire

**111662 CHAPS (3-[(3-Cholamidopropyl)-dimethylammonio]-propane-sulfonate) for**

biochemistry



C<sub>32</sub>H<sub>58</sub>N<sub>2</sub>O<sub>7</sub>S  
3-[(3-Cholamidopropyl)dimethylammonio]propane sulfonate)  
■ CAS-No. 75621-03-3

■ M = 614.88 g/mol ■ pH value 6 (100 g/l, H<sub>2</sub>O)  
■ Melting point 116 °C  
■ WGK 3  
■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
■ HS-No. 2924 29 98 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
■ IATA-DGR No Dangerous Good  
Zwitterionic detergent capable of solubilizing membrane proteins, combining the advantages of polar-, sulfobetaine containing detergents and

hydrophobic bile salt detergents. (MC: 6 x 10<sup>2-23</sup> mol/l (25°C).

**Specification**

Assay (ex N) ..... ≥ 99 %  
Identity (IR-spectrum) ..... passes test  
Absorbance A (280 nm; 1 %; 1 cm; water) .. ≤ 0.1  
Absorbance A (260 nm; 1 %; 1 cm; water) .. ≤ 0.1

Ord.No.	Packaging	Quantity	Price
1.11662.0001	Fibre case	1 g	inquire
1.11662.0010	Glass bottle	10 g	inquire

**Charcoal activated**

C  
■ CAS-No. 7440-44-0 ■ EC-No. 231-153-3  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 12.01 g/mol  
■ Melting point 3550 °C  
■ Bulk density 150 - 440 kg/m<sup>3</sup>

■ WGK nwg  
■ LGK 10 - 13  
■ HS-No. 3802 10 00  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR UN 1362 CARBON, ACTIVATED, 4.2, III  
For the decolorization of liquids

**102184 Charcoal activated powder extra pure food grade****Specification**

Identity..... conforms  
Substances soluble in nitric acid..... ≤ 5 %  
Chloride (Cl)..... ≤ 200 ppm  
Cyano compounds (CN)..... passes test  
As (Arsenic)..... ≤ 5 ppm  
Fe (Iron)..... ≤ 500 ppm  
Pb (Lead)..... ≤ 20 ppm

Zn (Zinc)..... ≤ 100 ppm  
Polycyclic aromates..... passes test  
Tar products..... passes test  
n-Hexane adsorption..... ≥ 30 %  
Residue on ignition (600 °C)..... ≤ 2 %  
Loss on drying..... ≤ 10 %  
Corresponds to the german ZVerkV

Ord.No.	Packaging	Quantity	Price
1.02184.1000	Fibre case	1 kg	inquire
1.02184.5000	Fibre carton	5 kg	inquire
1.02184.9020	Fibre carton	20 kg	inquire

**102514 Charcoal activated granular about 1.5 mm extra pure food grade****Specification**

Identity..... conforms  
Substances soluble in nitric acid..... ≤ 5 %  
Chloride (Cl)..... ≤ 500 ppm  
Cyano compounds (CN)..... passes test  
As (Arsenic)..... ≤ 5 ppm  
Fe (Iron)..... ≤ 500 ppm  
Pb (Lead)..... ≤ 20 ppm

Zn (Zinc)..... ≤ 100 ppm  
Polycyclic aromates..... passes test  
Tar products..... passes test  
n-Hexane adsorption..... ≥ 30 %  
Residue on ignition (600 °C)..... ≤ 6 %  
Loss on drying..... ≤ 10 %  
Corresponds to the german ZVerkV

Ord.No.	Packaging	Quantity	Price
1.02514.1000	Plastic bag	1 kg	inquire
1.02514.5000	Fibre carton	5 kg	inquire
1.02514.9025	Fibre carton	25 kg	inquire

**102183 Charcoal activated pure****Specification**

Identity..... conforms  
Substances soluble in nitric acid..... ≤ 10 %  
Fe (Iron)..... ≤ 1000 ppm  
Zn (Zinc)..... ≤ 200 ppm

n-Hexane adsorption..... ≥ 30 %  
Residue on ignition (600 °C)..... ≤ 10 %  
Loss on drying..... ≤ 10 %

Ord.No.	Packaging	Quantity	Price
1.02183.1000	Fibre case	1 kg	inquire
1.02183.9020	Fibre carton	20 kg	inquire

**102186 Charcoal activated for analysis****Specification**

Particle size (<.100.µm)..... about 90 %

Ord.No.	Packaging	Quantity	Price
1.02186.0250	Metal can	250 g	inquire
1.02186.1000	Metal can	1 kg	inquire
1.02186.9020	Fibre carton	20 kg	inquire

**102216 Charcoal activated for the determination of AOX****Specification**

Iodine number..... ≥ 1050 mg/g  
Chloride (Cl)..... ≤ 0.0015 %  
Particle size (50 - 150 µm)..... ≥ 80 %

Specific surface area (BET)..... about 800m<sup>2</sup>/g

Ord.No.	Packaging	Quantity	Price
1.02216.0010	Glass bottle	10 g	inquire

**102005 Charcoal activated for the determination of AOX (shaking method)****Specification**

Iodine number..... ≥ 1050 mg/g  
Chloride (Cl)..... ≤ 0.0015 %  
Particle size (< 150 µm)..... ≥ 70%

Specific surface area (BET)..... about 850m<sup>2</sup>/g

Ord.No.	Packaging	Quantity	Price
1.02005.0010	Glass bottle	10 g	inquire

**109631 Charcoal activated for gas chromatography 0.3-0.5 mm (35-50 mesh ASTM)****Specification**

Resolution..... 7.0 - 11.0  
Bulk density..... 0.4 - 0.5 g/cm<sup>3</sup>  
Zn (Zinc)..... ≤ 0.002 %

Particle size (0.3 - 0.5 mm)..... ≥ 70.0 %

Ord.No.	Packaging	Quantity	Price
1.09631.0100	Glass bottle	100 g	inquire
1.09631.0500	Glass bottle	500 g	inquire

**109624 Charcoal activated** for gas chromatography 0.5–1 mm (18–35 mesh ASTM)

<b>Specification</b>	Particle size (0.5 – 1.0 mm).....	≥ 70.0 %
Resolution .....	4.5 – 11.0	
Bulk density .....	0.4 – 0.5 g/cm <sup>3</sup>	
Zn (Zinc).....	≤ 0.002 %	

Ord.No.	Packaging	Quantity	Price
1.09624.0100	Glass bottle	100 g	inquire
1.09624.0500	Glass bottle	500 g	inquire

**102204 Charcoal wood powder**

<b>C</b>	<ul style="list-style-type: none"> <li>■ CAS-No. 7440-44-0 ■ EC-No. 231-153-3</li> <li>■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 12.01 g/mol ■ Melting point 3550 °C</li> <li>■ Bulk density 410 kg/m<sup>3</sup></li> <li>■ WGK nwg</li> <li>■ LGK 4.2</li> <li>■ HS-No. 4402 90 00</li> </ul>	<ul style="list-style-type: none"> <li>■ ADR-RID UN 1361 Kohle, 4.2, III ■ IMDG-Code UN 1361 CARBON, 4.2, III</li> <li>■ IATA-DGR UN 1361 CARBON, 4.2, manufactured from beech wood</li> </ul>	Carbonization..... conforms
<b>Specification</b>	Residue on ignition (600 °C).....	≤ 7 %	
	Particle size (< 0.15 mm).....	about 99%	

Ord.No.	Packaging	Quantity	Price
1.02204.1000	Plastic bag	1 kg	inquire
1.02204.9025	Fibre carton	25 kg	inquire

Check Set → page 91

Chelatometry → Complexometry

Chelex® → Ion exchanger

Chemical laboratory auxiliaries → Ion exchanger, Molecular sieve, Heating bath media, Greases, Absorption agents, Clarifying and Filter Materials, Drying agents

Chemical oxygen demand → COD

Chemizorb® → Chemizorb® Granules page 591

**101568 Chemizorb® Granules** Absorbent for spilled liquids

<ul style="list-style-type: none"> <li>■ CAS-No. 68855-54-9 ■ EC-No. 272-489-0</li> <li>■ Solub. in H<sub>2</sub>O &lt; 0.001 g/l (20 °C) ■ pH value 10 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 300 kg/m<sup>3</sup></li> <li>■ WGK nwg</li> <li>■ GHS: Warning, Specific target organ toxicity - repeated exposure, Category 2, Inhalation, H373</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3802 90 00 ■ Disposal 3</li> </ul>	<b>Specification</b>	pH-value (10 %; water).....	4.0 – 9.0
		Bulk density.....	about 50g/100 ml
		Sieve analysis (> 3.15 mm).....	about 10%
		Sieve analysis (> 1.00 mm).....	about 95%
		Water absorption capacity.....	about 80%

Ord.No.	Packaging	Quantity	Price
1.01568.1000	Plastic bottle	1 kg	inquire
1.01568.5000	Bucket, plastic	5 kg	inquire
1.01568.9020	Paper sack	20 kg	inquire
1.01568.9021	Plastic drum	20 kg	inquire

**101591 Chemizorb® HF** Absorbent and neutralizer for spilled hydrofluoric acid, with indicator

<ul style="list-style-type: none"> <li>■ Vapour pressure &lt; 20 hPa (20.0 °C)</li> <li>■ Bulk density 180 kg/m<sup>3</sup></li> <li>■ WGK 1</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3824 90 97</li> </ul>	<b>Specification</b>	Identity.....	passes test
		Capacity (for acid).....	≥ 60 %

Ord.No.	Packaging	Quantity	Price
1.01591.1000	Plastic bottle	1 kg	inquire

**112576 Chemizorb® Hg** Reagents and accessories for absorption of mercury

<ul style="list-style-type: none"> <li>■ GHS: Warning, P260, P273, P280, P302 + P352, P305 + P351 + P338</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3824 90 97</li> <li>■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ZINKPULVER STABILISIERT), 9, III</li> <li>■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC POWDER STABILIZED), 9, III, Marine Pollutant: P,</li> </ul>	Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 15 (Powdered metals)	<ul style="list-style-type: none"> <li>■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC POWDER STABILIZED), 9, III</li> </ul>	<ul style="list-style-type: none"> <li>■ Kit with 500 g reagent 1 and 100 ml reagent 2 as well as all auxiliaries required for the absorption of mercury (area covered about 1 m<sup>2</sup>)</li> </ul>
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<b>Specification</b>	Identity.....	passes test
	Citric acid solution.....	about 20 %

Ord.No.	Packaging	Quantity	Price
1.12576.0001	Plastic case	1 set	inquire

**101569 Chemizorb® Hg** Reagents refill pack for Cat. No. 1.12576.0001

<ul style="list-style-type: none"> <li>■ GHS: Warning, P260, P273, P280, P302 + P352, P305 + P351 + P338</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3824 90 97</li> <li>■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ZINKPULVER STABILISIERT), 9, III</li> <li>■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC POWDER STABILIZED), 9, III</li> </ul>	HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC POWDER STABILIZED), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds))	<ul style="list-style-type: none"> <li>■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC POWDER STABILIZED), 9, III</li> </ul>	Contents: 500 g reagent 1 and 100 ml reagent 2
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<b>Specification</b>	Identity.....	passes test
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Ord.No.	Packaging	Quantity	Price
1.01569.0001	Plastic can	1 set	inquire

**101595 Chemizorb® H<sup>+</sup>** Absorbent and neutralizer for spilled acids, with indicator

<ul style="list-style-type: none"> <li>■ pH value 9.9 (50 g/l, H<sub>2</sub>O, 20 °C)</li> <li>■ Bulk density 180 kg/m<sup>3</sup></li> <li>■ WGK 1</li> <li>■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P305 + P351 + P338</li> </ul>	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3824 90 97 ■ Disposal 14</li> </ul>	<b>Specification</b>	Assay (CO <sub>2</sub> ).....	10 – 16 %
			pH-value (5 %, aqueous slurry).....	9.5 – 11.0
			Application test.....	passes test

Loss on drying (160 °C).....	≤ 30.0 %
Bulk density.....	90 – 130 g/100 ml

Ord.No.	Packaging	Quantity	Price
1.01595.2000	Plastic bottle	2 kg	inquire
1.01595.9010	Bucket, plastic	10 kg	inquire

**101596 Chemizorb® OH<sup>-</sup>** Absorbent and neutralizer for spilled alkalis, with indicator

<ul style="list-style-type: none"> <li>■ Spec. density (20 °C) no data available ■ Solub. in H<sub>2</sub>O (20 °C) no data available ■ pH value (H<sub>2</sub>O, 20 °C) not applicable ■ Bulk density 0.4 g/cm<sup>3</sup></li> <li>■ WGK 1</li> <li>■ LGK 10 - 13</li> </ul>	<ul style="list-style-type: none"> <li>■ HS-No. 3824 90 97 ■ Disposal 14</li> </ul>	<b>Specification</b>	Identity.....	passes test
			Bulk density.....	30 – 70 g/100 ml

capacity (for caustic solution)..... ≥ 75 %

Ord.No.	Packaging	Quantity	Price
1.01596.1000	Plastic bottle	1 kg	inquire





## 102051 Chemizorb® Powder Absorbent for spilled liquids

Absorbents for liquid spillages, Spillages, absorbents for, Hazardous liquid spillages, absorbents for, Absorbant for spilled liquids  
 ■ CAS-No. 61790-53-2 ■ EC-No. 231-545-4  
 ■ Spec. density 2.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 9 - 10 (100 g/l, H<sub>2</sub>O, 25 °C) (slurry) ■ Bulk density 120 kg/m<sup>3</sup>  
 ■ WGK nwg

■ GHS: P260  
 ■ LGK 10 - 13  
 ■ HS-No. 2512 00 00 ■ Disposal 14

## Specification

Identity..... passes test  
 pH-value (10 %; water)..... 9 - 10  
 Bulk density..... about 18g/100 ml

Particle size (< 0.1 mm)..... ≥ 85 %  
 Water absorption capacity..... about 200%

Ord.No.	Packaging	Quantity	Price
1.02051.0500	Plastic bottle	500 g	inquire
1.02051.9025	Fibre carton	25 kg	inquire

CHES → 2-(Cyclohexylamino)ethanesulfonic acid  
 page 674

China-blue lactose agar → page 99

Chinazolines → Heterocycles

Chinoxalines → Heterocycles

ChiraDex® → page 28

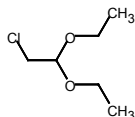
ChiraDex® (5 µm) LiChroCART® 250-4 → page 28

CHIRADEX HR LICHROCART 250-4 HPLC  
 CARTRIDGE → page 28

ChiraDex® LiChroCART® 4-4 → page 28

Chiralica® → page

## 841820 Chloroacetaldehyde diethyl acetal for synthesis



C<sub>6</sub>H<sub>13</sub>ClO<sub>2</sub>

■ CAS-No. 621-62-5 ■ EC-No. 210-695-4  
 ■ Vapour pressure 6 hPa (20 °C)  
 ■ Spec. density 1.018 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.40 % (V) ■ Flash point 29 °C ■ Solub. in H<sub>2</sub>O 1.8 g/l (20 °C) ■ M = 152.62 g/mol  
 ■ Melting point -45 °C ■ Boiling point 157 °C

(1013 hPa) ■ Ignition temp. 205 °C

■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2911 00 00 ■ Disposal 3  
 ■ ADR-RID UN 1989 Aldehyde, n.a.g.(CHLORACETALDEHYDDIETHYLACETAL), 3, III  
 ■ IMDG-Code UN 1989 ALDEHYDES,

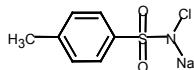
N.O.S.(CHLOROACETALDEHYDE DIETHYL ACETAL), 3, III  
 ■ IATA-DGR UN 1989 ALDEHYDES, N.O.S.(CHLOROACETALDEHYDE DIETHYL ACETAL), 3, III

## Specification

Assay (GC, area%)..... ≥ 96.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41820.0100	Glass bottle	100 ml	inquire

## Chloramine T trihydrate



C<sub>7</sub>H<sub>7</sub>ClNaNO<sub>2</sub> · 3 H<sub>2</sub>O

CH<sub>3</sub>C<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>NCINa · 3 H<sub>2</sub>O

Tosylchloramide sodium, N-Chloro-4-toluenesulfonamide sodium salt, Chlorine bleaching solution

■ CAS-No. 7080-50-4 ■ EC-No. 204-854-7  
 ■ Flash point 192 °C ■ Solub. in H<sub>2</sub>O 150 g/l (25 °C) ■ M = 281.69 g/mol ■ pH value 8 - 10

(50 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 540 - 680 kg/m<sup>3</sup>

■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334, P280, P301 + P330 + P331, P305 + P351 + P338, P304 + P340, P309 + P310  
 ■ LC50 rat > 0.275 mg/l  
 ■ LD50 oral rat 935 mg/kg  
 ■ EC-Index-No. 616-010-00-9 ■ LGK 6.1A ■ Store at +2°C to +8°C.

■ HS-No. 2935 00 90 ■ Disposal 22  
 ■ ADR-RID UN 2928 Giftiger organischer fester Stoff, ätzend, n.a.g.(N-CHLOR-4-TOLUOLSULFONSAEUREAMID NATRIUMSALZ), 6.1 (8), II ■ IMDG-Code UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.(N-CHLORO-4-TOLUENESULFONAMIDE SODIUM SALT), 6.1 (8), II  
 ■ IATA-DGR UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.(N-CHLORO-4-TOLUENESULFONAMIDE SODIUM SALT), 6.1 (8), II  
 Chlorination reagent for the determination of halogens and bromate.

## 818705 Chloramine T trihydrate for synthesis

## Specification

Assay (iodometric)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18705.0005	Glass bottle	5 g	inquire
8.18705.0250	Plastic bottle	250 g	inquire
8.18705.1000	Plastic bottle	1 kg	inquire
8.18705.5000	Plastic bottle	5 kg	inquire

## 102424 Chloramine T trihydrate extra pure Ph Eur, BP

## Specification

Assay (iodometric)..... 98.0 - 103.0 %  
 Identity (IR-spectrum)..... passes test  
 Appearance of solution..... passes test  
 pH-value (5 %; water)..... 8.0 - 10.0  
 Matter insoluble in ethanol..... ≤ 2 %

ortho compounds..... passes test  
 Residual solvents (Ph. Eur./ICH)..... excluded by manufacturing process  
 Corresponds to Ph Eur, BP

Ord.No.	Packaging	Quantity	Price
1.02424.1000	Plastic bottle	1 kg	inquire
1.02424.5000	Plastic bottle	5 kg	inquire
1.02424.9050	Fibre carton	50 kg	inquire

## 102426 Chloramine T trihydrate GR for analysis ACS, Reag. Ph Eur

## Specification

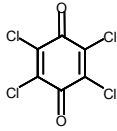
Assay (iodometric)..... 99.0 - 103.0 %  
 Identity (IR-spectrum)..... passes test  
 Appearance of solution..... passes test  
 pH-value (5 %; water)..... 8.0 - 10.0

Bromide (Br)..... passes test  
 Matter insoluble in ethanol..... ≤ 1.5 %  
 ortho compounds..... passes test  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.02426.0250	Plastic bottle	250 g	inquire
1.02426.1000	Plastic bottle	1 kg	inquire



## 802361 p-Chloranil for synthesis

C<sub>6</sub>Cl<sub>4</sub>O<sub>2</sub>

Tetrachloro-p-benzoquinone

■ CAS-No. 118-75-2 ■ EC-No. 204-274-4  
 ■ Vapour pressure 1 hPa (71 °C)  
 ■ Spec. density 0.425 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 245.87 g/mol ■ pH value 3.5 - 4.5 (100 g/l, H<sub>2</sub>O,

20 °C) (slurry)

■ Melting point 290 - 293 °C (sublimed)  
 ■ Bulk density 800 kg/m<sup>3</sup> ■ Ignition temp. >400 °C  
 ■ WGK 2  
 ■ GHS: Warning, Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat 2.5 mg/l  
 ■ LD50 oral rat 4000 mg/kg  
 ■ EC-Index-No. 602-066-00-1 ■ LGK 10 - 13  
 ■ HS-No. 2914 70 00 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(TETRACHLOR-P-BENZOCHINON), 9, III

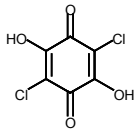
■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TETRACHLORO-P-BENZOQUINONE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TETRACHLORO-P-BENZOQUINONE), 9, III

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02361.0005	Glass bottle	5 g	inquire
8.02361.0250	Glass bottle	250 g	inquire

## 841528 Chloranilic acid for synthesis

C<sub>6</sub>H<sub>2</sub>Cl<sub>2</sub>O<sub>4</sub>

2,5-Dichloro-3,6-dihydroxy-p-benzoquinone

■ CAS-No. 87-88-7 ■ EC-No. 201-780-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 208.98 g/mol ■ Melting point 283 - 284 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13

■ HS-No. 2914 70 00 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41528.0050	Plastic bottle	50 g	inquire

## Chlorate / Perchlorate

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
432	101738	Barium perchlorate	1089	105874	Magnesium perchlorate hydrate	1430	106420	Sodium chlorate
168	109086	Barium perchlorate solution	173	105875	Magnesium perchlorate hydrate	1449	106564	Sodium perchlorate monohydrate
960	108159	Holmium perchlorate standard solution	1346	104944	Potassium chlorate			
1089	105873	Magnesium perchlorate hydrate	1361	105076	Potassium perchlorate			

## Chloride

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
369	845019	Aluminium chloride	921	804079	Germanium(IV) chloride	1346	104936	Potassium chloride
369	801081	Aluminium chloride	932	104220	Guanidinium chloride	1347	104817	Potassium chloride solution
164	101143	Ammonium chloride	963	843816	Hydrazinium dichloride	1347	104818	Potassium chloride solution
410	101145	Ammonium chloride	166	104619	Hydroxylammonium chloride	1406	807632	Rhodium(III) chloride trihydrate (38% Rh)
422	107838	Antimony(III) chloride	1007	804772	Iodine trichloride	1408	107615	Rubidium chloride
422	814656	Antimony(III) chloride	1038	845124	Iron(III) chloride	1408	119247	Ruthenium(III) chloride hydrate
422	807837	Antimony(V) chloride	1038	803945	Iron(III) chloride	1415	107722	Semicarbazide hydrochloride
164	101716	Barium chloride	1038	103943	Iron(III) chloride hexahydrate	1420	807706	Silicon tetrachloride
431	101717	Barium chloride dihydrate	1038	105512	Iron(III) chloride solution (10% Fe)	1421	119203	Silver chloride
431	101719	Barium chloride dihydrate				165	106406	Sodium chloride
474	112403	Bismuth(III) chloride	1038	103861	Iron(II) chloride tetrahydrate	1430	106404	Sodium chloride
562	102379	Calcium chloride	166	112219	Lanthanum(III) chloride heptahydrate 98%	168	102406	Sodium chloride
562	102391	Calcium chloride	1074	807383	Lead(II) chloride	1502	107865	Strontium chloride hexahydrate
562	102392	Calcium chloride	1081	105679	Lithium chloride	166	107857	Strontium chloride hexahydrate
562	102378	Calcium chloride	165	105677	Lithium chloride monohydrate	1516	807997	Sulfuryl chloride
173	102083	Calcium chloride	1086	814733	Magnesium chloride	1518	112352	Tantalum(V) chloride
562	102382	Calcium chloride dihydrate	1087	105833	Magnesium chloride hexahydrate	1546	108150	Tetraphenylarsonium chloride monohydrate
165	102039	Cesium chloride				1551	808154	Thionyl chloride
588	102041	Cesium chloride	1095	805930	Manganese(II) chloride	1557	818150	Tin(II) chloride
588	102038	Cesium chloride	1095	105934	Manganese(II) chloride dihydrate	1557	107810	Tin(IV) chloride
40	109871	Chloride standard				1558	107815	Tin(II) chloride dihydrate
640	802482	Chromium(II) chloride	1095	105927	Manganese(II) chloride tetrahydrate	167	107814	Tin(II) chloride dihydrate
640	818090	Chromium(III) chloride				1559	812382	Titanium(IV) chloride
648	802540	Cobalt(II) chloride anhydrous	1104	104425	Mercury(I) chloride	1559	110789	Titanium(III) chloride solution about 15%
648	102539	Cobalt(II) chloride hexahydrate	1104	104417	Mercury(II) chloride	1560	808308	Titanium(III) chloride solution about 30%
653	102739	Copper(I) chloride	1104	104419	Mercury(II) chloride	1627	112393	Vanadium(III) chloride
653	818247	Copper(II) chloride	1104	104419	Mercury(II) chloride	1641	108816	Zinc chloride
653	102733	Copper(II) chloride dihydrate	1206	106717	Nickel(II) chloride hexahydrate	1643	808913	Zirconium(IV) chloride
294	815016	Deuterium chloride 20% solution in D <sub>2</sub> O	1209	112285	Niobium(V) chloride	1643	108917	Zirconium(IV) oxide chloride octahydrate
294	815017	Deuterium chloride 20% solution in D <sub>2</sub> O	1259	807110	Palladium(II) chloride (59% Pd)			
294	815018	Deuterium chloride 38% solution in D <sub>2</sub> O	1306	107253	Phenylhydrazinium chloride			
			1322	822340	Phosphorus pentachloride			
			1324	822339	Phosphoryl chloride			
			1335	807347	Platinum(IV) chloride (57.5% Pt)			
			1335	824566	Platinum(II) chloride (73% Pt)			
			165	104938	Potassium chloride			

# Chlori

Chloride Cell Test → page 55

Chloride standard for aqueous matrices → page 40

Chloride standard for aqueous matrices ready for use → page 40

Chloride Test → page 54

Chloride Test Refill pack → page 55

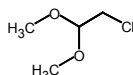
## Chlorine / chloride, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
722	109676	2',7'-Dichlorofluorescein	798	103067	N,N-Dimethyl-1,4-phenylenediammonium dichloride	172	103092	Dithizone
749	103121	N,N-Diethyl-1,4-phenylenediammonium sulfate	815	103087	1,5-Diphenylcarbazone			

Chlorine and pH Test → page 58	Chlorine Dioxide Test Refill pack → page 58	Chlorine reagent Cl <sub>2</sub> -3 (liquid) → page 57
Chlorine and pH Test Refill pack Reagent pH-1 → page 58	Chlorine iodide → Iodine monochloride page 1006	Chlorine Test → page 56
Chlorine and pH Test Refill pack Reagents for chlorine (Cl <sub>2</sub> -1, Cl <sub>2</sub> -2, Cl <sub>2</sub> -3) → page 58	Chlorine Powder Packs for photometers of other manufacturers for 10-ml samples → page 57	Chlorine Test in freshwater and seawater → page 55
Chlorine bleaching solution → page 592	Chlorine Powder Packs for photometers of other manufacturers for 25-ml samples → page 57	Chlorine Test Refill pack → page 56
Chlorine Cell Test → page 56	Chlorine reagent Cl <sub>2</sub> -1 (liquid) → page 57	
Chlorine Dioxide Test → page 58	Chlorine reagent Cl <sub>2</sub> -2 (liquid) → page 57	

## 802678 Chloroacetaldehyde dimethyl acetal for synthesis



C<sub>4</sub>H<sub>9</sub>ClO<sub>2</sub>

ClCH<sub>2</sub>CH(OCH<sub>3</sub>)<sub>2</sub>

1-Chloro-2,2-dimethoxyethane

- CAS-No. 97-97-2 ■ EC-No. 202-624-0
- Refractive index 1.4149 (20 °C, 589 nm)
- Vapour pressure 9 hPa (20 °C)
- Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.3 % (V) ■ Flash point 28 °C (External MSDS)
- Solub. in H<sub>2</sub>O 52 g/l (20 °C) ■ M = 124.56 g/mol
- pH value 3.4 (10 g/l, H<sub>2</sub>O, 20 °C)

- Melting point < -73 °C
- Boiling point 128 - 130 °C (1013 hPa)
- Ignition temp. 360 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Chronic aquatic toxicity, Category 3, H412, P210, P273
- LD50 oral rat 726 mg/kg
- LGK 3
- HS-No. 2911 00 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(CHLOROACETALDEHYDDIMETHYLACETAL), 3,

III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(CHLOROACETALDEHYDE DIMETHYL ACETAL), 3, III

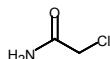
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CHLOROACETALDEHYDE DIMETHYL ACETAL), 3, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,093 - 1,095  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02678.0250	Glass bottle	250 ml	inquire

## 2-Chloroacetamide



C<sub>2</sub>H<sub>4</sub>ClNO

ClCH<sub>2</sub>CONH<sub>2</sub>

- CAS-No. 79-07-2 ■ EC-No. 201-174-2
- Vapour pressure 0.0026 hPa (20 °C)
- Spec. density (20 °C) no data available
- Flash point 170 °C ■ Solub. in H<sub>2</sub>O 100 g/l

- (20 °C) ■ M = 93.51 g/mol ■ pH value 3.8 - 4.1 (40 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. (20 °C) Air, no data available ■ Melting point 115 - 118 °C
- Bulk density 760 kg/m<sup>3</sup> ■ Boiling point >220 °C
- WGK 2
- GHS: Danger, Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317, P281, P302 + P352, P309 + P310
- LD50 oral rat 138 mg/kg ■ LD50 dermal rat >

2000 mg/kg

■ EC-Index-No. 616-036-00-0 ■ LGK 6.1C

■ HS-No. 2924 19 00 ■ Disposal 3

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(CHLORACETAMID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(CHLOROACETAMIDE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(CHLOROACETAMIDE), 6.1, III

## 802412 2-Chloroacetamide for synthesis

### Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 116 °C  
 Melting range (upper value) ..... ≤ 120 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02412.0100	Plastic bottle	100 g	inquire
8.02412.1000	Plastic bottle	1 kg	inquire

## 845148 2-Chloroacetamide for pharma synthesis, non-GMP

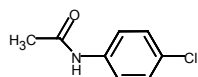
### Specification

Colour (visual) ..... white  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Methanol (GC, area%) ..... lot specific result  
 Melting range (lower value) ..... ≥ 116 °C

Melting range (upper value) ..... ≤ 119 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45148.0100	Plastic bottle	100 g	inquire
8.45148.1000	Plastic bottle	1 kg	inquire
8.45148.2500	Plastic bottle	2.5 kg	inquire

## 841480 4-Chloroacetanilide for synthesis



C<sub>8</sub>H<sub>8</sub>ClNO

N-(4-chlorophenyl)-acetamide

- CAS-No. 539-03-7 ■ EC-No. 208-707-8
- Spec. density 1.385 g/cm<sup>3</sup> (22 °C) ■ Solub. in

- H<sub>2</sub>O 0.95 g/l (65 °C) (experimental)
- M = 169.61 g/mol ■ Melting point 179 - 180 °C
- Boiling point 333 °C (1013 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

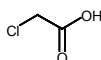
Melting range (upper value) ..... ≤ 180 °C  
 Identity (IR) ..... conforms

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 177 °C

Ord.No.	Packaging	Quantity	Price
8.41480.0050	Glass bottle	50 g	inquire
8.41480.0250	Glass bottle	250 g	inquire

## 800412 Chloroacetic acid for synthesis

C<sub>2</sub>H<sub>3</sub>ClO<sub>2</sub>ClCH<sub>2</sub>COOH*Monochloroacetic acid*

■ CAS-No. 79-11-8 ■ EC-No. 201-178-4

■ Vapour pressure 1 hPa (20 °C)

■ Spec. density 1.32 g/cm<sup>3</sup> (40 °C) ■ Explosive limit 8.0 % (V) ■ Flash point 126 °C ■ Solub. in H<sub>2</sub>O 4210 g/l (20 °C) ■ M = 94.49 g/mol■ pH value < 1 (800 g/l, H<sub>2</sub>O, 20 °C)■ Melting point 62 °C ■ Bulk density 800 kg/m<sup>3</sup>

■ Boiling point 189 °C (1013 hPa)

■ Ignition temp. 460 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

■ LC50 rat 180 mg/m<sup>3</sup>

■ LD50 oral rat 90.4 mg/kg ■ LD50 dermal rabbit 250 mg/kg

■ EC-Index-No. 607-003-00-1 ■ LGK 6.1A

■ HS-No. 2915 40 00 ■ Disposal 9

■ ADR-RID UN 1751 Chloroessigsäure, fest, 6.1 (8), II ■ IMDG-Code UN 1751 CHLOROACETIC ACID, SOLID, 6.1 (8), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1751 CHLOROACETIC ACID, SOLID, 6.1 (8), II

**Specification**

Assay (acidimetric)..... ≥ 99.0 % (m)

Melting range (lower value)..... ≥ 60 °C

Melting range (upper value)..... ≤ 65 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00412.0100	Plastic bottle	100 g	inquire
8.00412.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.00412.2500	Plastic bottle	2.5 kg	inquire
8.00412.9050	Fibre carton	50 kg	inquire

Chloroacetic acid diethylamide → 2-Chloro-N,N-diethylacetamide page 607

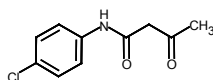
Chloroacetic acid ethyl ester → Ethyl chloroacetate page 855

Chloroacetic acid methyl ester → Methyl chloroacetate page 1142

Chloroacetic acid sodium salt → Sodium chloroacetate page 1431

Chloroacetic acid tert-butyl ester → tert-Butyl chloroacetate page 543

## 843968 4'-Chloroacetacetanilide for synthesis

C<sub>10</sub>H<sub>10</sub>ClNO<sub>2</sub>

■ CAS-No. 101-92-8 ■ EC-No. 202-989-6

■ Spec. density 1.44 g/cm<sup>3</sup> (20 °C)

■ Flash point 175 °C ■ M = 211.65 g/mol

■ Melting point 131 - 134 °C

■ WGK 1

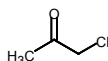
■ LGK 10 - 13

■ HS-No. 2924 29 98 ■ Disposal 3

Ord.No.	Packaging	Quantity	Price
8.43968.0050	Glass bottle	50 g	inquire
8.43968.0250	Glass bottle	250 g	inquire

4-Chloroacetacetate ethyl ester → Ethyl 4-chloroacetate page 856

## 802603 Chloroacetone (stabilised) for synthesis

C<sub>3</sub>H<sub>5</sub>ClOCH<sub>3</sub>COCH<sub>2</sub>Cl*1-Chloro-2-propanone*

■ CAS-No. 78-95-5 ■ EC-No. 201-161-1

■ Refractive index 1.435 (20 °C, 589 nm) ■ Vapour pressure 42 hPa (20 °C) ■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.4 % (V)■ Flash point 36 °C ■ Solub. in H<sub>2</sub>O 100 g/l (20 °C)■ M = 92.52 g/mol ■ pH value 4.3 (124 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -44 °C

■ Boiling point 119 °C (1013 hPa)

■ Ignition temp. 610 °C

■ WGK 3

■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

■ LC50 rat 0.6 - 1.4 mg/l

■ LD50 oral rat 100 mg/kg ■ LD50 dermal rabbit 141 mg/kg

■ LGK 3 ■ Store at +2°C to +8°C.

■ HS-No. 2914 70 00 ■ Disposal 9

■ ADR-RID UN 1695 Chloracetone, stabilisiert, 6.1 (3, 8), I ■ IMDG-Code UN 1695 CHLOROACETONE, STABILIZED, 6.1 (3, 8), I, Marine Pollutant: P ■ IATA-DGR UN 1695 CHLOROACETONE, STABILIZED, 6.1 (3, 8),

**Specification**

Assay (GC, area%)..... ≥ 95.0 Area %

Density (d 20 °C / 4 °C)..... 1,149 - 1,153

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02603.0005	Glass bottle	5 ml	inquire
8.02603.0250	Glass bottle	250 ml	inquire
8.02603.1000	Glass bottle	1 l	inquire

## 802604 Chloroacetonitrile for synthesis

C<sub>2</sub>H<sub>2</sub>ClNClCH<sub>2</sub>CN*Chloroethane nitrile*

■ CAS-No. 107-14-2 ■ EC-No. 203-467-0

■ Refractive index 1.4225 (20 °C, 589 nm)

■ Vapour pressure 1.3 hPa (30 °C)

■ Spec. density 1.20 g/cm<sup>3</sup> (20 °C)■ Flash point 54 °C ■ Solub. in H<sub>2</sub>O 100 g/l (experimental) ■ M = 75.49 g/mol

■ Boiling point 123 - 124 °C

■ WGK 3

■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P302 + P352, P304 + P340, P309 + P310

■ LD50 oral rat 220 mg/kg ■ LD50 dermal rabbit 85 mg/kg

■ EC-Index-No. 608-008-00-1 ■ LGK 3

■ HS-No. 2926 90 95 ■ Disposal 9

■ ADR-RID UN 2668 Chloroacetonitril, 6.1 (3), I

■ IMDG-Code UN 2668 CHLOROACETONITRILE, 6.1

(3), I

■ IATA-DGR UN 2668 CHLOROACETONITRILE, 6.1 (3),

**Specification**

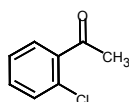
Assay (GC, area%)..... ≥ 99.0 Area %

Density (d 20 °C / 4 °C)..... 1,196 - 1,197

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02604.0100	Glass bottle	100 ml	inquire
8.02604.0250	Glass bottle	250 ml	inquire

## 841072 2'-Chloroacetophenone for synthesis

C<sub>8</sub>H<sub>7</sub>ClO*1-(2-Chlorophenyl)ethanone*

■ CAS-No. 2142-68-9 ■ EC-No. 218-397-6

■ Spec. density 1.189 g/cm<sup>3</sup> (20 °C)

■ Flash point 88 °C ■ M = 154.59 g/mol

■ pH value 5 (500 g/l, H<sub>2</sub>O)

■ Boiling point 228 - 229 °C

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338

■ LD50 oral rat 1820 mg/kg

■ LGK 6.1B

■ HS-No. 2914 70 00 ■ Disposal 3

■ ADR-RID UN 3416 Chloracetophenon, flüssig, 6.1, II ■ IMDG-Code UN 3416

CHLOROACETOPHENONE, LIQUID, 6.1, II

■ IATA-DGR UN 3416 CHLOROACETOPHENONE, LIQUID, 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)

Density (d 20 °C / 4 °C)..... 1.188 - 1.192

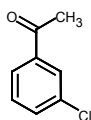
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41072.0050	Glass bottle	50 ml	inquire



# Chloro

## 841795 3'-Chloroacetophenone for synthesis



C<sub>8</sub>H<sub>7</sub>ClO

- CAS-No. 99-02-5 ■ EC-No. 202-721-8
- Spec. density 1.194 g/cm<sup>3</sup> (20 °C)
- Flash point 105 °C ■ M = 154.59 g/mol
- Boiling point 227 - 229 °C (1013 hPa)

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10
- HS-No. 2914 70 00 ■ Disposal 3
- ADR-RID UN 3416 Chloracetophenon, flüssig, 6.1, II ■ IMDG-Code UN 3416 CHLOROACETOPHENONE, LIQUID, 6.1, II
- IATA-DGR UN 3416 CHLOROACETOPHENONE,

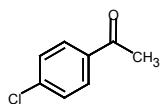
LIQUID, 6.1, II

### Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1,192 - 1,196  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41795.0005	Glass bottle	5 ml	inquire
8.41795.0025	Glass bottle	25 ml	inquire

## 802605 4'-Chloroacetophenone for synthesis



C<sub>8</sub>H<sub>7</sub>ClO

4'-ClC<sub>6</sub>H<sub>4</sub>COCH<sub>3</sub>

- 4-(Chlorophenyl)-methylketone, 4-Chloro-1-acetylbenzene, 1-(4-Chlorophenyl)-ethanone
- CAS-No. 99-91-2 ■ EC-No. 202-800-7
  - Refractive index 1.555 (20 °C, 589 nm) ■ Vapour pressure 7 hPa (90 °C) ■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Flash point 126 °C ■ Solub. in

- H<sub>2</sub>O 111 mg/l (25 °C) (slow decomposition)
- M = 154.59 g/mol ■ Melting point 18 - 20 °C
  - Boiling point 230 - 232 °C (1013 mbar)
  - WGK 1
  - GHS: Warning, Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338
  - LD50 oral rat > 2000 mg/kg
  - LGK 6.1B
  - HS-No. 2914 70 00 ■ Disposal 9
  - ADR-RID UN 3416 Chloracetophenon, flüssig, 6.1, II ■ IMDG-Code UN 3416 CHLOROACETOPHENONE, LIQUID, 6.1, II
  - IATA-DGR UN 3416 CHLOROACETOPHENONE,

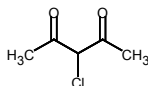
LIQUID, 6.1, II

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,191 - 1,193  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02605.0005	Glass bottle	5 ml	inquire
8.02605.0250	Glass bottle	250 ml	inquire
8.02605.1000	Glass bottle	1 l	inquire

## 818692 3-Chloroacetylacetone for synthesis



C<sub>5</sub>H<sub>7</sub>ClO<sub>2</sub>

CH<sub>3</sub>COCH(Cl)COCH<sub>3</sub>

- 3-Chloro-2,4-pentanedione
- CAS-No. 1694-29-7 ■ EC-No. 216-902-4
  - Refractive index 1.4786 (20 °C, 589 nm)
  - Vapour pressure 15 hPa (20 °C)
  - Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 % (V) ■ Flash point 56 °C ■ Solub. in H<sub>2</sub>O 7.65 g/l (20 °C) ■ M = 134.56 g/mol

- pH value 3.9 (7.65 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -15 °C ■ Boiling point 156 °C (1013 hPa) ■ Ignition temp. 485 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2914 70 00 ■ Disposal 2
- ADR-RID UN 1224 Ketone, flüssig, n.a.g.(3-CHLORACETYLACETON), 3, III ■ IMDG-Code UN

1224 KETONES, LIQUID, N.O.S.(3-CHLORACETYLACETON), 3, III

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.184 - 1.186  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18692.0100	Glass bottle	100 ml	inquire
8.18692.0500	Glass bottle	500 ml	inquire

4-Chloro-1-acetylbenzene → 4'-Chloroacetophenone page 596

## Chloroacetyl chloride



C<sub>2</sub>H<sub>2</sub>Cl<sub>2</sub>O

Chloressigsäurechlorid

- CAS-No. 79-04-9 ■ EC-No. 201-171-6
- Refractive index 1.453 (20 °C, 589 nm) ■ Vapour pressure 25.3 hPa (20 °C) ■ Spec. density 1.417 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition) ■ M = 112.94 g/mol
- Melting point -22.5 °C

- Boiling point 105 - 110 °C (1013 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin corrosion, Category 1A, H314; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 4.69 mg/l

- LD50 oral rat 120 mg/kg ■ LD50 dermal rat 662 mg/kg
- EC-Index-No. 607-080-00-1 ■ LGK 6.1B ■ Store below +15°C.
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 1752 Chloroacetylchlorid, 6.1 (8), I
- IMDG-Code UN 1752 CHLOROACETYL CHLORIDE, 6.1 (8), I, Segregation Group: 1 (Acids)
- IATA-DGR UN 1752 CHLOROACETYL CHLORIDE, 6.1 (8),

## 802411 Chloroacetyl chloride for synthesis

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,417 - 1,420  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02411.0005	Glass bottle	5 ml	inquire
8.02411.0250	Glass bottle	250 ml	inquire
8.02411.1000	Glass bottle	1 l	inquire

## 845141 Chloroacetyl chloride for pharma synthesis, non-GMP

### Specification

Colour number (Hazen)..... ≤ 30  
Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,417 - 1,420

Identity (IR)..... passes test

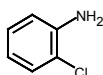
Ord.No.	Packaging	Quantity	Price
8.45141.0250	Glass bottle	250 ml	inquire
8.45141.1000	Glass bottle	1 l	inquire

5-Chloro-2-aminobenzophenone → 2-Amino-5-chlorobenzophenone page 383

4-Chloro-2-aminophenol → 2-Amino-4-chlorophenol page 383



## 802611 2-Chloroaniline for synthesis

C<sub>6</sub>H<sub>6</sub>ClN2-(Cl)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>*o*-Chloroaniline

- CAS-No. 95-51-2 ■ EC-No. 202-426-4
- Refractive index 1.5877 (20 °C, 589 nm)
- Vapour pressure 0.5 hPa (20 °C)
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.4 - 14.2 % (v/v) ■ Flash point 105 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 127.57 g/mol
- pH value (H<sub>2</sub>O, 20 °C) weakly alkaline, suspension
- Melting point -3 °C ■ Boiling point 207 - 209 °C

- (1013 hPa) ■ Ignition temp. >500 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LC50 rat 4.23 mg/l
- LD50 oral rat 1018 mg/kg ■ LD50 dermal rat 1000 mg/kg
- EC-Index-No. 612-010-00-8 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9

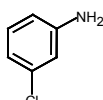
- ADR-RID UN 2019 Chloroaniline, flüssig, 6.1, II
- IMDG-Code UN 2019 CHLOROANILINES, LIQUID, 6.1, II
- IATA-DGR UN 2019 CHLOROANILINES, LIQUID, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,209 - 1,212  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02611.0100	Glass bottle	100 ml	inquire
8.02611.0500	Glass bottle	500 ml	inquire

## 802612 3-Chloroaniline for synthesis

C<sub>6</sub>H<sub>6</sub>ClN3-(Cl)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>*m*-Chloroaniline

- CAS-No. 108-42-9 ■ EC-No. 203-581-0
- Refractive index 1.5937 (20 °C, 589 nm)
- Vapour pressure 0.1 hPa (20 °C)
- Spec. density 1.22 g/cm<sup>3</sup> (20 °C)
- Flash point 124 °C ■ Solub. in H<sub>2</sub>O 6.2 g/l (20 °C) ■ M = 127.57 g/mol ■ pH value 7.3 (H<sub>2</sub>O) (saturated aqueous solution)
- Melting point -10.4 °C

- Boiling point 230.5 °C (decomposition)
- Ignition temp. 705 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LC50 rat 0.8 mg/l
- LD50 oral rat 256 mg/kg ■ LD50 dermal rat 250 mg/kg
- EC-Index-No. 612-010-00-8 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9

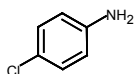
- ADR-RID UN 2019 Chloroaniline, flüssig, 6.1, II
- IMDG-Code UN 2019 CHLOROANILINES, LIQUID, 6.1, II
- IATA-DGR UN 2019 CHLOROANILINES, LIQUID, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,215 - 1,216  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02612.0005	Glass bottle	5 ml	inquire
8.02612.0250	Glass bottle	250 ml	inquire
8.02612.1000	Glass bottle	1 l	inquire

## 802613 4-Chloroaniline for synthesis

C<sub>6</sub>H<sub>6</sub>ClNClC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>*p*-Chloroaniline

- CAS-No. 106-47-8 ■ EC-No. 203-401-0
- Vapour pressure 0.07 hPa (20 °C)
- Spec. density 1.17 g/cm<sup>3</sup> (70 °C)
- Flash point 132 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 2.2 g/l (25 °C) ■ M = 127.57 g/mol
- pH value 6.9 (1 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 66 - 69 °C ■ Bulk density 790 kg/m<sup>3</sup> ■ Boiling point 232 °C (1013 hPa)

- Ignition temp. 685 °C
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LC50 rat 2.34 mg/l
- LD50 oral rat 256 mg/kg ■ LD50 dermal rabbit 360 mg/kg
- EC-Index-No. 612-137-00-9 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9

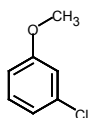
- ADR-RID UN 2018 Chloroaniline, fest, 6.1, II
- IMDG-Code UN 2018 CHLOROANILINES, SOLID, 6.1, II
- IATA-DGR UN 2018 CHLOROANILINES, SOLID, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 67 °C  
 Melting range (upper value) ..... ≤ 71 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02613.0100	Glass bottle	100 g	inquire
8.02613.0500	Glass bottle	500 gr	inquire

## 841222 3-Chloroanisole for synthesis

C<sub>7</sub>H<sub>7</sub>ClO

1-Chloro-3-methoxybenzene

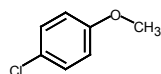
- CAS-No. 2845-89-8 ■ EC-No. 220-642-7
- Spec. density 1.172 g/cm<sup>3</sup> (20 °C)
- Flash point 73 °C ■ Solub. in H<sub>2</sub>O 235 mg/l (25 °C) ■ M = 142.58 g/mol ■ Boiling point 193 °C (1013 hPa)
- WGK 3
- LGK 10
- HS-No. 2909 30 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.170 - 1.174  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41222.0050	Glass bottle	50 ml	inquire

## 820274 4-Chloroanisole for synthesis

C<sub>7</sub>H<sub>7</sub>ClO4-(Cl)C<sub>6</sub>H<sub>4</sub>OCH<sub>3</sub>

- CAS-No. 623-12-1 ■ EC-No. 210-772-2
- Refractive index 1.5358 (20 °C, 589 nm)

- Spec. density 1.17 g/cm<sup>3</sup> (20 °C)
- Flash point 75 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 142.58 g/mol
- Boiling point 198 - 202 °C
- WGK 3
- LGK 10
- HS-No. 2909 30 90 ■ Disposal 2

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.171 - 1.173  
 Identity (IR) ..... passes test

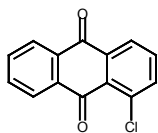
Ord.No.	Packaging	Quantity	Price
8.20274.0100	Glass bottle	100 ml	inquire

4-Chloroanthranilic acid → 2-Amino-4-chlorobenzoic acid page 382

5-Chloroanthranilic acid → 2-Amino-5-chlorobenzoic acid page 382

# Chloro

## 821723 1-Chloroanthraquinone for synthesis



- CAS-No. 82-44-0 ■ EC-No. 201-421-4
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 242.66 g/mol
- Melting point 158 - 161 °C
- WGK 3
- LD50 oral rat 15100 mg/kg
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 158 °C  
 Melting range (upper value) ..... ≤ 161 °C  
 Identity (IR) ..... passes test

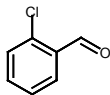
C<sub>14</sub>H<sub>7</sub>ClO<sub>2</sub>

### Specification

Ord.No.	Packaging	Quantity	Price
8.21723.0250	Glass bottle	250 g	inquire

tetra-Chloroauric(III) acid → Tetrachloroauric(III) acid trihydrate 99.5% page 1526

## 2-Chlorobenzaldehyde



- (20 °C) ■ M = 140.56 g/mol ■ pH value 2.9 (H<sub>2</sub>O) (saturated aqueous solution)
- Melting point 10 - 11.5 °C
- Boiling point 208 °C ■ Ignition temp. 397 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat > 1.203 mg/l
- LD50 oral rat 2160 mg/kg
- EC-Index-No. 605-011-00-X ■ LGK 8 A

- HS-No. 2913 00 00 ■ Disposal 2
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2-CHLORBENZALDEHYD), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-CHLOROBENZALDEHYDE), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-CHLOROBENZALDEHYDE), 8, III

C<sub>7</sub>H<sub>5</sub>ClO

- CAS-No. 89-98-5 ■ EC-No. 201-956-3
- Refractive index 1.5658 (20 °C, 589 nm)
- Vapour pressure 1.7 hPa (50 °C)
- Spec. density 1.25 g/cm<sup>3</sup> (20 °C)
- Flash point 87 °C ■ Solub. in H<sub>2</sub>O 1.12 g/l

## 820276 2-Chlorobenzaldehyde for synthesis

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,248 - 1,250  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20276.0250	Glass bottle	250 ml	inquire
8.20276.1000	Glass bottle	1 l	inquire

## 845095 2-Chlorobenzaldehyde for pharma synthesis, non-GMP

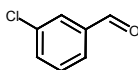
### Specification

Colour (visual) ..... yellow  
 Appearance of substance (visual) ..... clear  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,248 - 1,250

Free acid ..... ≤ 1,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45095.0250	Glass bottle	250 ml	inquire
8.45095.1000	Glass bottle	1 l	inquire

## 802452 3-Chlorobenzaldehyde for synthesis



- Flash point 88 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 140.57 g/mol
- Melting point 17 - 18 °C ■ Boiling point 214 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 2913 00 00 ■ Disposal 2

### Specification

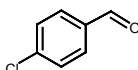
Assay (GC, area%) ..... ≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,234 - 1,240  
 Identity (IR) ..... conforms

C<sub>7</sub>H<sub>5</sub>ClO

- 3-(Cl)C<sub>6</sub>H<sub>4</sub>CHO
- CAS-No. 587-04-2 ■ EC-No. 209-596-9
- Refractive index 1.5645 (20 °C, 589 nm)
- Spec. density 1.24 g/cm<sup>3</sup> (20 °C)

Ord.No.	Packaging	Quantity	Price
8.02452.0010	Glass bottle	10 ml	inquire

## 802453 4-Chlorobenzaldehyde for synthesis



- H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P260, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 840 mg/kg ■ LD50 dermal rat 5000 mg/kg
- LGK 10 - 13
- HS-No. 2913 00 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(4-CHLORBENZALDEHYD), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-CHLOROBENZALDEHYDE), 9, III, Marine Pollutant: P

- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-CHLOROBENZALDEHYDE), 9, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 45 °C  
 Melting range (upper value) ..... ≤ 48 °C  
 Identity (IR) ..... conforms

C<sub>7</sub>H<sub>5</sub>ClO

- CAS-No. 104-88-1 ■ EC-No. 203-247-4
- Vapour pressure 0.36 hPa (25 °C)
- Spec. density 1.19 g/cm<sup>3</sup> (60 °C)
- Flash point 88 °C ■ Solub. in H<sub>2</sub>O 935 mg/l (20 °C) ■ M = 140.57 g/mol ■ Melting point 46 °C
- Boiling point 214 °C (1013 hPa)
- Ignition temp. 302 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral,

Ord.No.	Packaging	Quantity	Price
8.02453.0005	Glass bottle	5 g	inquire
8.02453.0250	Glass bottle	250 g	inquire
8.02453.1000	Glass bottle	1 kg	inquire



## Chlorobenzene

C<sub>6</sub>H<sub>5</sub>Cl

Phenyl chloride

- CAS-No. 108-90-7 ■ EC-No. 203-628-5
- Refractive index 1.5248 (20 °C, 589 nm)
- Vapour pressure 12 hPa (20 °C)
- Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 5.6 (25 °C) ■ El. dipole moment 1.55

- (20 °C) ■ Explosive limit 1.3 - 11 % (V)
- Flash point 27 °C ■ Solub. in H<sub>2</sub>O 0.4 g/l (20 °C)
- M = 112.56 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Saturation conc. 54 g/m<sup>3</sup> (20 °C) Air ■ Melting point -45 °C
- Boiling point 132 °C (1013 hPa)
- Ignition temp. 590 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Chronic aquatic toxicity, Category 2, H411,

- P210, P273, P304 + P340
- LC50 rat 13.9 mg/l
- LD50 oral rat 1100 mg/kg
- EC-Index-No. 602-033-00-1 ■ LGK 3
- HS-No. 2903 91 00 ■ Disposal 3
- ADR-RID UN 1134 Chlorbenzen, 3, III ■ IMDG-Code UN 1134 CHLOROBENZENE, 3, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)
- IATA-DGR UN 1134 CHLOROBENZENE, 3, III



## 801791 Chlorobenzene for synthesis

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,105 - 1,107  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01791.0100	Glass bottle	100 ml	inquire
8.01791.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.01791.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.01791.9025	Steel barrel	25 l	inquire

## 814506 Chlorobenzene special quality for synthesis

## Specification

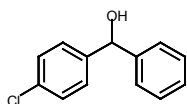
Assay (GC, area%) ..... ≥ 99,5 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,105 - 1,107  
 Water (K. F.) ..... ≤ 0,03 % (m)  
 Free acid ..... ≤ 0,0002 meq/ml

Free alkali ..... ≤ 0,0002 meq/ml  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14506.1000	Glass bottle	1 l	inquire
8.14506.2500	Glass bottle	2.5 l	inquire

o-Chlorobenzene → page 316

## 818501 4-Chlorobenzhydryl for synthesis

C<sub>13</sub>H<sub>11</sub>ClO4-(Cl)-C<sub>6</sub>H<sub>4</sub>-CH(OH)-C<sub>6</sub>H<sub>5</sub>

4-Chloro-α-phenylbenzyl alcohol

- CAS-No. 119-56-2 ■ EC-No. 204-333-4
- Solub. in H<sub>2</sub>O 71 mg/l (25 °C) ■ M = 218.68 g/mol ■ Melting point 58 - 60 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

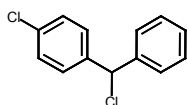
## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 58 °C  
 Melting range (upper value) ..... ≤ 60 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18501.0010	Plastic bottle	10 g	inquire

## 820286 4-Chlorobenzhydryl chloride for synthesis

C<sub>13</sub>H<sub>10</sub>Cl<sub>2</sub>4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CHClC<sub>6</sub>H<sub>5</sub>

Chloro(p-chlorophenyl) phenylmethane, α,4-Dichlorodiphenylmethane

- CAS-No. 134-83-8 ■ EC-No. 205-158-6
- Spec. density 1.24 g/cm<sup>3</sup> (20 °C)
- Flash point 113 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 237.12 g/mol
- pH value (H<sub>2</sub>O) acidic
- Boiling point 159 - 160 °C (3 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 2
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(4-CHLORBENZ HYDRYLCHLORID), 8, II
- IMDG-Code UN 1760 CORROSIVE LIQUID,

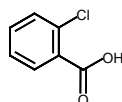
N.O.S.(4-CHLORO BENZHYDRYL CHLORIDE), 8, II  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID,  
 N.O.S.(4-CHLORO BENZHYDRYL CHLORIDE), 8, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.242 - 1.245  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20286.0100	Glass bottle	100 ml	inquire

## 800463 2-Chlorobenzoic acid for synthesis

C<sub>7</sub>H<sub>5</sub>ClO<sub>2</sub>2-(Cl)C<sub>6</sub>H<sub>4</sub>COOH

- CAS-No. 118-91-2 ■ EC-No. 204-285-4
- Vapour pressure 0.001 hPa (25 °C)
- Spec. density 1.544 g/cm<sup>3</sup> (20 °C)
- Flash point 173 °C ■ Solub. in H<sub>2</sub>O 2.1 g/l

- (25 °C) ■ M = 156.57 g/mol ■ pH value 3.4 (0.2 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 139 - 142 °C
- Bulk density 600 kg/m<sup>3</sup>
- Boiling point 284 - 286 °C (1013 hPa)
- Ignition temp. 530 °C
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 2465 mg/kg
- LGK 10 - 13

- HS-No. 2916 39 90 ■ Disposal 4

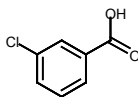
## Specification

Assay (acidimetric) ..... ≥ 98.0 % (m)  
 Melting range (lower value) ..... ≥ 139 °C  
 Melting range (upper value) ..... ≤ 142 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00463.0100	Plastic bottle	100 g	inquire
8.00463.0500	Plastic bottle	500 g	inquire

# Chloro

## 800473 3-Chlorobenzoic acid for synthesis



$C_7H_5ClO_2$   
 3-(Cl) $C_6H_4COOH$   
 ■ CAS-No. 535-80-8 ■ EC-No. 208-618-4  
 ■ Spec. density 1.496 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 150 °C ■ Solub. in H<sub>2</sub>O 0.45 g/l

(20 °C) ■ M = 156.57 g/mol  
 ■ Melting point 153 - 156 °C  
 ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ Boiling point 274 - 276 °C  
 ■ Ignition temp. >500 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LGK 10 - 13

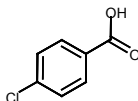
■ HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (acidimetric)..... ≥ 98,0 %(m)  
 Melting range (lower value)..... ≥ 154 °C  
 Melting range (upper value)..... ≤ 157 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00473.0025	Plastic bottle	25 g	inquire
8.00473.0100	Plastic bottle	100 g	inquire

## 800476 4-Chlorobenzoic acid for synthesis



$C_7H_5ClO_2$   
 4-(Cl) $C_6H_4COOH$   
 ■ CAS-No. 74-11-3 ■ EC-No. 200-805-9  
 ■ Spec. density 1.54 g/cm<sup>3</sup> (24 °C)  
 ■ Flash point 238 °C ■ Solub. in H<sub>2</sub>O 0.08 g/l

(20 °C) ■ M = 156.57 g/mol ■ pH value 4.3  
 (0.08 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 237 - 240 °C  
 ■ Bulk density 350 kg/m<sup>3</sup>  
 ■ Boiling point 274 - 276 °C (1013 hPa)  
 ■ Ignition temp. 545 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,  
 H302  
 ■ LD50 oral rat 1170 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (acidimetric)..... ≥ 98,0 %(m)  
 Melting range (lower value)..... ≥ 237 °C  
 Melting range (upper value)..... ≤ 240 °C  
 Identity (IR)..... conforms

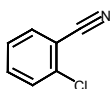
Ord.No.	Packaging	Quantity	Price
8.00476.0005	Glass bottle	5 g	inquire
8.00476.0250	Plastic bottle	250 g	inquire

2-Chlorobenzoic acid chloride → 2-Chlorobenzoyl chloride page 602

4-Chlorobenzoic acid chloride → 4-Chlorobenzoyl chloride page 603

2-Chlorobenzoic acid methyl ester → Methyl 2-chlorobenzoate page 1142

## 802696 2-Chlorobenzonitrile for synthesis



$C_7H_4ClN$   
 2-(Cl) $C_6H_4CN$   
 ■ CAS-No. 873-32-5 ■ EC-No. 212-836-5  
 ■ Vapour pressure 0.06 hPa (20 °C)  
 ■ Spec. density 1.18 g/cm<sup>3</sup> (50 °C)  
 ■ Flash point 122 °C ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C)  
 ■ M = 137.56 g/mol ■ Melting point 41 - 44 °C

■ Boiling point 231 - 233 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4,  
 Dermal, H312; Acute toxicity, Category 4, Oral,  
 H302; Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LD50 oral rat 435 mg/kg  
 ■ EC-Index-No. 608-013-00-9 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(2-  
 CHLORBENZONITRIL), 6.1, III ■ IMDG-Code UN  
 3439 NITRILES, TOXIC, SOLID, N.O.S.(2-

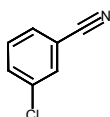
CHLORBENZONITRILE), 6.1, III  
 ■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,  
 N.O.S.(2-CHLOROBENZONITRILE), 6.1, III

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 41 °C  
 Melting range (upper value)..... ≤ 44 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02696.0250	Glass bottle	250 g	inquire

## 818500 3-Chlorobenzonitrile for synthesis



$C_7H_4ClN$   
 3-(Cl) $C_6H_4CN$   
 ■ CAS-No. 766-84-7 ■ EC-No. 212-172-6  
 ■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 97 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 137.56 g/mol  
 ■ Melting point 38 - 41 °C  
 ■ Boiling point 93 - 95 °C (14 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Eye irritation, Category 2, H319,  
 P260, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(3-  
 CHLORBENZONITRIL), 6.1, III ■ IMDG-Code UN  
 3439 NITRILES, TOXIC, SOLID, N.O.S.(3-

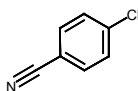
CHLORBENZONITRILE), 6.1, III  
 ■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,  
 N.O.S.(3-CHLOROBENZONITRILE), 6.1, III

### Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 38 °C  
 Melting range (upper value)..... ≤ 41 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18500.0010	Glass bottle	10 g	inquire

## 802698 4-Chlorobenzonitrile for synthesis



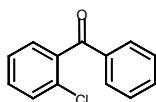
$C_7H_4ClN$   
 4-(Cl) $C_6H_4CN$   
 ■ CAS-No. 623-03-0 ■ EC-No. 210-765-4  
 ■ Flash point 108 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 137.56 g/mol  
 ■ Melting point 90 - 93 °C  
 ■ Boiling point 222 - 224 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,  
 H302  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 90 °C  
 Melting range (upper value)..... ≤ 93 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02698.0025	Plastic bottle	25 g	inquire
8.02698.0100	Plastic bottle	100 g	inquire

## 814059 2-Chlorobenzophenone for synthesis



$C_{13}H_9ClO$   
 2-(Cl) $C_6H_4COC_6H_5$   
 ■ CAS-No. 5162-03-8 ■ EC-No. 225-936-9

■ Flash point 112 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 216.66 g/mol  
 ■ Melting point 45 - 47 °C ■ Boiling point 330 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 70 00 ■ Disposal 3

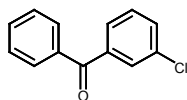
Melting range (lower value)..... ≥ 44 °C  
 Melting range (upper value)..... ≤ 47 °C  
 Identity (IR)..... conforms

### Specification

Assay (GC, area%)..... ≥ 99,0 Area %

Ord.No.	Packaging	Quantity	Price
8.14059.0025	Plastic bottle	25 g	inquire

## 816116 3-Chlorobenzophenone for synthesis



C<sub>13</sub>H<sub>9</sub>ClO  
 ■ CAS-No. 1016-78-0 ■ EC-No. 213-809-0

- M = 216.67 g/mol ■ Melting point 82 - 84 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

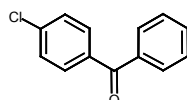
**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 81 °C

Melting range (upper value) ..... ≤ 84 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16116.0005	Glass bottle	5 g	inquire

## 802610 4-Chlorobenzophenone for synthesis



C<sub>13</sub>H<sub>9</sub>ClO  
 4-(Cl)C<sub>6</sub>H<sub>4</sub>COC<sub>6</sub>H<sub>5</sub>  
 ■ CAS-No. 134-85-0 ■ EC-No. 205-160-7

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 216.66 g/mol
- Melting point 73 - 75 °C
- Boiling point 330 - 332 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

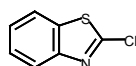
**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %

Melting range (lower value) ..... ≥ 73 °C  
 Melting range (upper value) ..... ≤ 75 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02610.0100	Plastic bottle	100 g	inquire

## 820279 2-Chlorobenzothiazole for synthesis



C<sub>7</sub>H<sub>4</sub>ClNS  
 ■ CAS-No. 615-20-3 ■ EC-No. 210-415-0  
 ■ Refractive index 1.6398 (20 °C, 589 nm)  
 ■ Spec. density 1.37 g/cm<sup>3</sup> (20 °C)

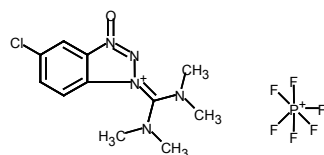
- Flash point >112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble
- M = 169.62 g/mol
- Melting point 21 - 24 °C
- Boiling point 140 - 142 °C (40 hPa)
- WGK 3
- LGK 10
- HS-No. 2934 20 80 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 21 °C  
 Melting range (upper value) ..... ≤ 24 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20279.0005	Glass bottle	5 ml	inquire

## 816122 O-(1H-6-Chlorobenzotriazol-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate for synthesis



C<sub>11</sub>H<sub>15</sub>ClF<sub>6</sub>N<sub>5</sub>OP  
 HCTU  
 ■ CAS-No. 330645-87-9  
 ■ M = 413.69 g/mol ■ Melting point >185 °C  
 ■ WGK 3

- GHS: Danger, Flammable solid, Category 1, H228, P210
- LGK 4.1B
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(O-(1H-6-CHLORBENZOTRIAZOL--1-YL)-1,1,3,3-TETRAMETHYLURONIUM HEXAFLUORPHAT), 4.1, II ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(O-(1H-6-CHLORBENZOTRIAZOL--1-YL)-1,1,3,3-TETRAMETHYLURONIUM HEXAFLUOROPHOSPHATE), 4.1, II

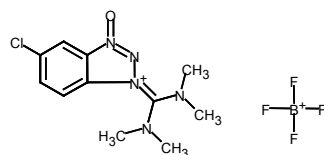
■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(O-(1H-6-CHLORBENZOTRIAZOL--1-YL)-1,1,3,3-TETRAMETHYLURONIUM HEXAFLUOROPHOSPHATE), 4.1, II

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16122.0025	Glass bottle	25 g	inquire

## 816123 O-(1H-6-Chlorobenzotriazol-1-yl)-1,1,3,3-tetramethyluronium tetrafluoroborate for synthesis



C<sub>11</sub>H<sub>15</sub>BClF<sub>4</sub>N<sub>5</sub>O  
 TCTU  
 ■ CAS-No. 330641-16-2  
 ■ M = 355.53 g/mol ■ Melting point >185 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable solid, Category 1,

- H228; Acute toxicity, Category 3, Oral, H301, P210, P309 + P310
- LD50 oral rat > 200 mg/kg
- LGK 4.1B
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 2926 Entzündbarer organischer fester Stoff, giftig, n.a.g.(O-(1H-6-CHLORBENZOTRIAZOL--1-YL)-1,1,3,3-TETRAMETHYLURONIUM TETRAFLUORBORAT), 4.1 (6.1), II ■ IMDG-Code UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.(O-(1H-6-CHLORBENZOTRIAZOL--1-YL)-1,1,3,3-TETRAMETHYLURONIUM TETRAFLUORBORATE), 4.1 (6.1), II

■ IATA-DGR UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.(O-(1H-6-CHLORBENZOTRIAZOL--1-YL)-1,1,3,3-TETRAMETHYLURONIUM TETRAFLUORBORATE), 4.1 (6.1), II

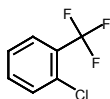
**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16123.0025	Glass bottle	25 g	inquire



## 802615 2-Chlorobenzotrifluoride for synthesis



$C_7H_4ClF_3$   
 2-(Cl)C<sub>6</sub>H<sub>4</sub>CF<sub>3</sub>  
*o*-Chlorobenzylidene trifluoride, *o*-Chloro- $\alpha,\alpha,\alpha$ -trifluorotoluene, 1-Chloro-2-(trifluoromethyl)-benzene  
 ■ CAS-No. 88-16-4 ■ EC-No. 201-805-1  
 ■ Refractive index 1.455 (20 °C, 589 nm) ■ Vapour pressure 5.2 hPa (20 °C) ■ Spec. density 1.37 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 % (V)  
 ■ Flash point 57.5 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 180.56 g/mol ■ Melting point -5 °C  
 ■ Boiling point 150 - 152 °C  
 ■ Ignition temp. 650 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P262, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 1600 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2903 99 90 ■ Disposal 3

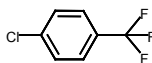
■ ADR-RID UN 2234 Chlorobenzotrifluoride, 3, III  
 ■ IMDG-Code UN 2234  
 CHLOROBENZOTRIFLUORIDES, 3, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
 ■ IATA-DGR UN 2234  
 CHLOROBENZOTRIFLUORIDES, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,368 - 1,371  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02615.0100	Glass bottle	100 ml	inquire

## 841737 4-Chlorobenzotrifluoride for synthesis



$C_7H_4ClF_3$   
 Cl(C<sub>6</sub>H<sub>4</sub>)CF<sub>3</sub>  
 ■ CAS-No. 98-56-6 ■ EC-No. 202-681-1  
 ■ Vapour pressure 10.2 hPa (25 °C)  
 ■ Spec. density 1.341 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 43 °C ■ Solub. in H<sub>2</sub>O 56 mg/l (25 °C) ■ M = 180.55 g/mol ■ Melting point -36 °C ■ Boiling point 136 - 138 °C

■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 13000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 2234 Chlorobenzotrifluoride, 3, III  
 ■ IMDG-Code UN 2234

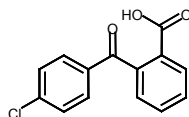
CHLOROBENZOTRIFLUORIDES, 3, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
 ■ IATA-DGR UN 2234  
 CHLOROBENZOTRIFLUORIDES, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,339 - 1,343  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41737.0100	Glass bottle	100 ml	inquire

## 842251 2-(4-Chlorobenzoyl) benzoic acid for synthesis



$C_{14}H_9ClO_3$   
 ■ CAS-No. 85-56-3 ■ EC-No. 201-615-9  
 ■ Flash point >300 °C ■ Solub. in H<sub>2</sub>O 0.28 g/l

(20 °C) ■ M = 260.7 g/mol ■ pH value 3 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 148 - 151 °C  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ Ignition temp. >600 °C DIN 51794  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1500 mg/kg  
 ■ LGK 10 - 13

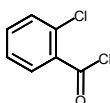
■ HS-No. 2918 30 00 ■ Disposal 3

**Specification**

Assay (acidimetric) ..... ≥ 99,0 %  
 Melting range (lower value) ..... ≥ 148 °C  
 Melting range (upper value) ..... ≤ 151 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42251.0025	Glass bottle	25 g	inquire

## 821989 2-Chlorobenzoyl chloride for synthesis



$C_7H_4Cl_2O$   
 2-(Cl)C<sub>6</sub>H<sub>4</sub>COCl  
 2-Chlorobenzoyl chloride  
 ■ CAS-No. 609-65-4 ■ EC-No. 210-194-0  
 ■ Refractive index 1.5718 (20 °C, 589 nm)  
 ■ Vapour pressure 0.1 hPa (20 °C)  
 ■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 9.4 % (V) ■ Flash point 124 °C  
 ■ Kin. viscosity 1.89 mm<sup>2</sup>/s (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 175.01 g/mol  
 ■ pH value (H<sub>2</sub>O) acidic ■ Melting point -4 °C  
 ■ Boiling point 225 °C (1013 hPa)  
 ■ Ignition temp. 600 °C  
 ■ WGK 1  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 3250 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2-CHLORBENZOYLCHLORID),

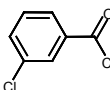
8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-CHLOROBENZOYL CHLORIDE), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-CHLOROBENZOYL CHLORIDE), 8, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,375 - 1,378  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21989.0250	Glass bottle	250 ml	inquire

## 841821 3-Chlorobenzoyl chloride for synthesis



$C_7H_4Cl_2O$   
 ■ CAS-No. 618-46-2 ■ EC-No. 210-552-6  
 ■ Spec. density 1.004 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 110 °C ■ M = 175.01 g/mol  
 ■ Boiling point 223 - 225 °C  
 ■ WGK 1

■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(3-CHLORBENZOYLCHLORID), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3-CHLOROBENZOYL CHLORIDE), 8, III, Segregation Group: 1 (Acids)

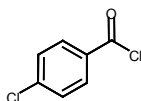
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3-CHLOROBENZOYL CHLORIDE), 8, III

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,002 - 1,006  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41821.0050	Glass bottle	50 ml	inquire

## 802618 4-Chlorobenzoyl chloride for synthesis

C<sub>7</sub>H<sub>5</sub>Cl<sub>2</sub>O4-(Cl)C<sub>6</sub>H<sub>4</sub>COCl

4-Chlorobenzoic acid chloride

- CAS-No. 122-01-0 ■ EC-No. 204-515-3
- Refractive index 1.578 (20 °C, 589 nm) ■ Vapour pressure 0.06 hPa (20 °C) ■ Spec. density 1.36 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 15 % (V)
- Flash point 110 °C DIN 51758
- Kin. viscosity 1.93 mm<sup>2</sup>/s (20 °C) ■ Solub. in

- H<sub>2</sub>O (20 °C) (decomposition) ■ M = 175.01 g/mol
- Melting point 14 - 15 °C ■ Boiling point 228 °C (1013 hPa) ■ Ignition temp. 595 °C DIN 51794
- WGK 1
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 3200 mg/kg
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(4-CHLORBENZOYLCHLORID), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID,

ACIDIC, ORGANIC, N.O.S.(4-CHLOROBENZOYLCHLORIDE), 8, III, Segregation Group: 1 (Acids)

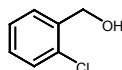
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-CHLOROBENZOYLCHLORIDE), 8, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,361 - 1,364  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02618.0250	Glass bottle	250 ml	inquire

## 818594 2-Chlorobenzyl alcohol for synthesis

C<sub>7</sub>H<sub>7</sub>ClO2-(Cl)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH

■ CAS-No. 17849-38-6 ■ EC-No. 241-801-7

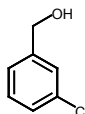
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 142.58 g/mol ■ Melting point 68 - 71 °C
- Boiling point 229 - 231 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Melting range (lower value) ..... ≥ 68 °C  
Melting range (upper value) ..... ≤ 71 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18594.0025	Plastic bottle	25 g	inquire

## 840095 3-Chlorobenzyl alcohol for synthesis

C<sub>7</sub>H<sub>7</sub>ClO

■ CAS-No. 873-63-2 ■ EC-No. 212-847-5

- Refractive index 1.5521 (25 °C)
- Spec. density 1.22 g/cm<sup>3</sup> ■ Flash point 110 °C
- M = 142.58 g/mol ■ Boiling point 237 °C
- WGK 2
- LGK 10
- HS-No. 2906 29 00 ■ Disposal 3

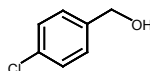
**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 1,220 - 1,225  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40095.0005	Glass bottle	5 ml	inquire
8.40095.0025	Glass bottle	25 ml	inquire

## 818186 4-Chlorobenzyl alcohol for synthesis

C<sub>7</sub>H<sub>7</sub>ClO4-(Cl)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH

■ CAS-No. 873-76-7 ■ EC-No. 212-852-2

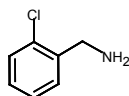
- Flash point 70 °C ■ Solub. in H<sub>2</sub>O 2.5 g/l (20 °C)
- M = 142.59 g/mol ■ Melting point 67 - 70 °C
- Boiling point 234 °C (1013 hPa)
- WGK 2
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Melting range (lower value) ..... ≥ 69 °C  
Melting range (upper value) ..... ≤ 72 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18186.0050	Glass bottle	50 g	inquire

## 821725 2-Chlorobenzylamine for synthesis

C<sub>7</sub>H<sub>8</sub>ClN2-(Cl)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>NH<sub>2</sub>

1-Aminomethyl-2-chlorobenzene

- CAS-No. 89-97-4 ■ EC-No. 201-955-8
- Refractive index 1.5882 (25 °C, 589 nm)
- Spec. density 1.17 g/cm<sup>3</sup> (20 °C)
- Flash point 88 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 141.6 g/mol

- Boiling point 227 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 8A
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-CHLORBENZYLAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-CHLOROBENZYLAMINE), 8, III, Segregation Group: 18 (Alkalis)

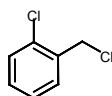
■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-CHLOROBENZYLAMINE), 8, III

**Specification**

Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.168 - 1.172  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21725.0025	Glass bottle	25 ml	inquire

## 820457 2-Chlorobenzyl chloride for synthesis

C<sub>7</sub>H<sub>6</sub>Cl<sub>2</sub>2-(Cl)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>Cl

OCBC

- CAS-No. 611-19-8 ■ EC-No. 210-258-8
- Refractive index 1.5591 (20 °C, 589 nm)
- Vapour pressure 1.3 hPa (48.5 °C)
- Spec. density 1.27 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 7.8 % (V) ■ Flash point 109 °C
- Kin. viscosity 1.95 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble, Hydrolysis

- M = 161.03 g/mol ■ Melting point < -20 °C
- Boiling point 213 °C (1013 hPa)
- Ignition temp. >600 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P304 + P340
- LC50 rat 2.8 mg/l
- LD50 oral rat 570 mg/kg
- LGK 10

■ HS-No. 2903 99 90 ■ Disposal 2

■ ADR-RID UN 2235 Chlorbenzylchloride, flüssig, 6.1, III ■ IMDG-Code UN 2235 CHLORBENZYL CHLORIDES, LIQUID, 6.1, III, Marine Pollutant: P

■ IATA-DGR UN 2235 CHLOROBENZYL CHLORIDES, LIQUID, 6.1, III

**Specification**

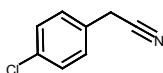
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.272 - 1.274  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20457.0250	Glass bottle	250 ml	inquire
8.20457.1000	Glass bottle	1 l	inquire



# Chloro

## 802620 4-Chlorobenzyl cyanide for synthesis



$C_8H_6ClN$   
4-(Cl) $C_6H_4CH_2CN$   
*4-Chlorophenylacetonitrile*  
■ CAS-No. 140-53-4 ■ EC-No. 205-418-9  
■ Refractive index 1.539 (30 °C, 589 nm) ■ Vapour pressure 0.133 hPa (20 °C) ■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Flash point 133 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (20 °C) ■ M = 151.59 g/mol  
■ Melting point 25 - 28 °C ■ Boiling point 265 °C

(1013 hPa) ■ Ignition temp. >500 °C  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 50 mg/kg  
■ LGK 6.1A  
■ HS-No. 2926 90 95 ■ Disposal 9  
■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(4-CHLOROBENZYL CYANID), 6.1, II ■ IMDG-Code UN

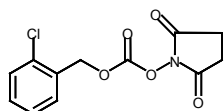
3439 NITRILES, TOXIC, SOLID, N.O.S.(4-CHLOROBENZYL CYANIDE), 6.1, II  
■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(4-CHLOROBENZYL CYANIDE), 6.1, II

**Specification**  
Assay (GC, area%) ..... ≥ 97,0 Area %  
Melting range (lower value) ..... ≥ 25 °C  
Melting range (upper value) ..... ≤ 28 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02620.0250	Glass bottle	250 ml	inquire

o-Chlorobenzylidene trifluoride → 2-Chlorobenzotrifluoride page 602

## 840049 O-(2-Chlorobenzoyloxycarbonyl)-N-hydroxysuccinimide for synthesis



$C_{12}H_{10}ClNO_5$   
■ CAS-No. 65853-65-8

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 283.67 g/mol  
■ Melting point 101 - 105 °C  
■ WGK 2  
■ GHS: Warning, Skin sensitisation, Category 1, H317, P280, P302 + P352  
■ LD50 oral rat > 2000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2929 90 00 ■ Disposal 3

**Specification**  
Assay (HPLC, area%) ..... ≥ 94,0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40049.0010	Glass bottle	10 g	inquire
8.40049.0050	Glass bottle	50 g	inquire

1-Chloro-3-bromo-2-methylpropane → 1-Bromo-3-chloro-2-methylpropane page 496

1-Chloro-3-bromopropane → 1-Bromo-3-chloropropane page 299

## 1-Chlorobutane



$C_4H_9Cl$   
 $CH_3(CH_2)_3Cl$   
*n-Butyl chloride*  
■ CAS-No. 109-69-3 ■ EC-No. 203-696-6  
■ Vapour pressure 110 hPa (20 °C)  
■ Spec. density 0.886 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 10.1 % (V) ■ Flash point -17 °C ■ Solub.

in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 92.57 g/mol  
■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -123 °C ■ Boiling point 79 °C (1013 hPa)  
■ Ignition temp. 280 °C  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
■ LC50 rat > 30.8 mg/l  
■ LD50 oral rat 2200 mg/kg

■ EC-Index-No. 602-059-00-3 ■ LGK 3  
■ HS-No. 2903 19 80 ■ Disposal 2  
■ ADR-RID UN 1127 Chlorbutane, 3, II ■ IMDG-Code UN 1127 CHLOROBUTANES, 3, II, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
■ IATA-DGR UN 1127 CHLOROBUTANES, 3, II

## 801640 1-Chlorobutane for synthesis

**Specification**  
Assay (GC, area%) ..... ≥ 99 %  
Density (d 20 °C/ 4 °C) ..... 0.885 - 0.887  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.01640.0100	Glass bottle	100 ml	inquire
8.01640.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.01640.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

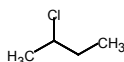
## 101692 1-Chlorobutane for liquid chromatography LiChrosolv®

**Specification**  
Purity (GC) ..... ≥ 99.8 %  
Identity (IR) ..... conforms  
Evaporation residue ..... ≤ 2.0 mg/l  
Water ..... ≤ 0.01 %  
Acidity ..... ≤ 0.0002 meq/g

Alkalinity ..... ≤ 0.0002 meq/g  
Transmission (at 227 nm) ..... ≥ 60 %  
Transmission (at 232 nm) ..... ≥ 80 %  
Transmission (from 250 nm) ..... ≥ 98 %  
Filtered by 0.2 µm filter

Ord.No.	Packaging	Quantity	Price
1.01692.1000	Glass bottle	1 l	inquire

## 820281 2-Chlorobutane for synthesis



$C_4H_9Cl$   
 $CH_3CH_2CHClCH_3$   
*sec-Butyl chloride*  
■ CAS-No. 78-86-4 ■ EC-No. 201-151-7  
■ Refractive index 1.395 (20 °C, 589 nm) ■ Vapour pressure 160 hPa (20 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.0 - 8.8 % (V)  
■ Flash point -10 °C ■ Solub. in H<sub>2</sub>O 1.0 g/l (25 °C)  
■ M = 92.56 g/mol ■ pH value 7 (H<sub>2</sub>O,

20 °C) Aqueous solution ■ Melting point -132 °C  
■ Boiling point 65 °C (1013 hPa)  
■ Ignition temp. 460 °C  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P223  
■ LD50 oral rat 17400 mg/kg  
■ LD50 dermal rabbit 17400 mg/kg  
■ LGK 3  
■ HS-No. 2903 19 80 ■ Disposal 2  
■ ADR-RID UN 1127 Chlorbutane, 3, II ■ IMDG-Code UN 1127 CHLOROBUTANES, 3, II, Segregation Group: 10 (Liquid halogenated

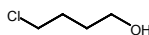
hydrocarbons)  
■ IATA-DGR UN 1127 CHLOROBUTANES, 3, II

**Specification**  
Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.872 - 0.874  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20281.0100	Glass bottle	100 ml	inquire
8.20281.1000	Glass bottle	1 l	inquire



## 841545 4-Chloro-1-butanol for synthesis

C<sub>4</sub>H<sub>9</sub>ClO

- CAS-No. 928-51-8 ■ EC-No. 213-175-5
- Spec. density 1.090 g/cm<sup>3</sup> (20 °C)
- Flash point 36 °C ■ M = 108.56 g/mol
- Boiling point 50 - 52 °C (1.3 hPa)
- WGK 3

- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2905 59 98 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4-CHLOR-1-BUTANOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4-CHLORO-1-BUTANOL), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

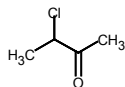
N.O.S.(4-CHLORO-1-BUTANOL), 3, III

## Specification

Assay (GC, area%) ..... ≥ 85.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41545.0025	Glass bottle	25 ml	inquire

## 821990 3-Chloro-2-butanone for synthesis

C<sub>4</sub>H<sub>7</sub>ClOCH<sub>3</sub>CHClCOCH<sub>3</sub>*3-Chloroethyl methyl ketone*

- CAS-No. 4091-39-8 ■ EC-No. 223-834-9
- Refractive index 1.4172 (20 °C, 589 nm)
- Vapour pressure 27 hPa (25 °C)
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.3 %(V) ■ Flash point 23 °C ■ Solub. in

H<sub>2</sub>O 30 g/l (20 °C) ■ M = 106.55 g/mol

- pH value 2.4 (25 g/l, H<sub>2</sub>O, 20 °C)
- Boiling point 113 - 116 °C (1013 hPa)
- Ignition temp. 460 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2914 70 00 ■ Disposal 2
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(3-CHLORBUTAN-2-ON), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-CHLORO-2-BUTANONE), 3, III

- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-CHLORO-2-BUTANONE), 3, III

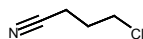
## Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,055 - 1,058  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21990.0250	Glass bottle	250 ml	inquire

4-Chlorobutyric acid chloride → 4-Chlorobutyryl chloride page 605

## 820284 4-Chlorobutyronitrile for synthesis

C<sub>4</sub>H<sub>6</sub>CINCl(CH<sub>2</sub>)<sub>3</sub>CN*γ-Chloropropyl cyanide*

- CAS-No. 628-20-6 ■ EC-No. 211-031-6
- Refractive index 1.4413 (20 °C, 589 nm)
- Spec. density 1.09 g/cm<sup>3</sup> (20 °C)
- Flash point 85 °C ■ Solub. in
- H<sub>2</sub>O (20 °C) insoluble ■ M = 103.55 g/mol
- Boiling point 195 - 197 °C (1013 hPa)

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 6.1C
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 1602 Farbstoffzwischenprodukt, flüssig, giftig, n.a.g.(4-CHLORBUTYRONITRIL), 6.1, III ■ IMDG-Code UN 1602 DYE INTERMEDIATE,

LIQUID, TOXIC, N.O.S.(CHLOROBUTYRONITRILE), 6.1, III

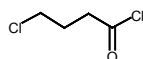
- IATA-DGR UN 1602 DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.(CHLOROBUTYRONITRILE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20284.0100	Glass bottle	100 ml	inquire

## 802590 4-Chlorobutyryl chloride for synthesis

C<sub>4</sub>H<sub>6</sub>Cl<sub>2</sub>OCl(CH<sub>2</sub>)<sub>3</sub>COCl*4-Chlorobutyric acid chloride*

- CAS-No. 4635-59-0 ■ EC-No. 225-059-1
- Refractive index 1.4609 (20 °C, 589 nm)
- Vapour pressure 4 hPa (20 °C)
- Spec. density 1.26 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 11.7 %(V) ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)
- M = 140.99 g/mol ■ pH value (H<sub>2</sub>O) acidic
- Melting point -49 - -47 °C
- Boiling point 173 - 174 °C (1013 hPa)

- Ignition temp. 440 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 2, Inhalation, H330; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.65 mg/l
- LD50 oral rat 1350 mg/kg
- LGK 6.1A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 2927 Giftiger organischer flüssiger Stoff, ätzend, n.a.g.(4-CHLORBUTTERSAEURECHLORID), 6.1 (8), II ■ IMDG-Code UN 2927 TOXIC LIQUID, CORROSIVE,

ORGANIC, N.O.S.(4-CHLOROBUTYRYL CHLORIDE), 6.1 (8), II, Segregation Group: 1 (Acids)

- IATA-DGR UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(4-CHLOROBUTYRYL CHLORIDE), 6.1 (8), II

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,255 - 1,257  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02590.0250	Glass bottle	250 ml	inquire
8.02590.1000	Glass bottle	1 l	inquire

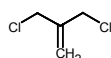
Chloro calcium → page 173

N-(Chlorocarbonyl)morpholine → 4-Morpholine-carbonylchloride page 1192

Chloro(chloromethyl) dimethylsilane →

Chloromethyldimethylchlorosilane page 618

## 843875 3-Chloro-2-chloromethyl-1-propene for synthesis

C<sub>4</sub>H<sub>6</sub>Cl<sub>2</sub>

- CAS-No. 1871-57-4 ■ EC-No. 217-489-3
- Spec. density 1.08 g/cm<sup>3</sup> (20 °C)
- Flash point 36 °C ■ M = 125.00 g/mol
- Melting point 14 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 2, Inhalation, H330; Skin

irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P309 + P310, P304 + P340, P302 + P352, P305 + P351 + P338

- LD50 oral rat 150 mg/kg
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2903 29 00 ■ Disposal 9
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(3-CHLOR-2-(CHLOROMETHYL)PROPEN), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(3-CHLORO-2-(CHLOROMETHYL)

PROPENE), 6.1 (3), II

- IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(3-CHLORO-2-(CHLOROMETHYL)PROPENE), 6.1 (3), II

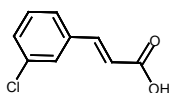
## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.838 - 1.843  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43875.0025	Glass bottle	25 ml	inquire
8.43875.0100	Glass bottle	100 ml	inquire

# Chloro

## 841324 3-Chlorocinnamic acid for synthesis



- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

Melting range (lower value).....  $\geq 162$  °C  
 Melting range (upper value).....  $\leq 165$  °C  
 Identity (IR)..... passes test

$C_9H_7ClO_2$

- CAS-No. 14473-90-6 ■ EC-No. 238-466-4
- M = 182.6 g/mol ■ Melting point 163 - 165 °C

**Specification**  
 Assay (acidimetric).....  $\geq 98.0$  %

Ord.No.	Packaging	Quantity	Price
8.41324.0010	Plastic bottle	10 g	inquire

4-Chloro-m-cresol → 4-Chloro-3-methylphenol page 619

## 820287 Chlorocyclohexane for synthesis



- Melting point -44 °C
- Boiling point 141 - 143 °C (1013 hPa)
- Ignition temp. 290 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 2, H411, P210, P262
- LD50 oral rat 3000 mg/kg
- LGK 3
- HS-No. 2903 89 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(CHLORCYCLOHEXAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(CYCLOHEXYLCHLORIDE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CYCLOHEXYLCHLORIDE), 3, III

**Specification**  
 Assay (GC, area%).....  $\geq 98.0$  % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.996 - 0.999  
 Identity (IR)..... passes test

$C_6H_{11}Cl$

Cyclohexyl chloride

- CAS-No. 542-18-7 ■ EC-No. 208-806-6
- Refractive index 1.4626 (20 °C, 589 nm)
- Vapour pressure 7 hPa (20 °C)
- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 7.5 % (V) ■ Flash point 34 °C ■ Solub. in H<sub>2</sub>O 0.40 g/l (20 °C) ■ M = 118.6 g/mol

Ord.No.	Packaging	Quantity	Price
8.20287.0250	Glass bottle	250 ml	inquire
8.20287.1000	Glass bottle	1 l	inquire

## 841582 Chlorocyclopentane for synthesis



- Ignition temp. 380 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P223, P262
- LD50 oral rat > 2000 mg/kg
- LGK 3
- HS-No. 2903 89 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(CHLORCYCLOPENTAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(CYCLOPENTYL CHLORIDE), 3, II

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CYCLOPENTYL CHLORIDE), 3, II

**Specification**  
 Assay (GC, area%).....  $\geq 98.0$  % (a/a)  
 Identity (IR)..... passes test

$C_5H_9Cl$

Cyclopentyl chloride

- CAS-No. 930-28-9 ■ EC-No. 213-212-5
- Vapour pressure 28 hPa (20 °C)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point 16 °C ■ Solub. in H<sub>2</sub>O 0.8 g/l (20 °C)
- M = 104.57 g/mol ■ Melting point -94 °C
- Boiling point 113 - 114 °C (1013 hPa)

Ord.No.	Packaging	Quantity	Price
8.41582.0100	Glass bottle	100 ml	inquire

## 803212 1-Chlorodecane for synthesis



- Flash point 102 °C ■ Solub. in H<sub>2</sub>O 0.01 g/l (20 °C) ■ M = 176.73 g/mol ■ Melting point -34 °C ■ Boiling point 222 - 224 °C
  - Ignition temp. 200 °C
  - WGK 2
  - LD50 oral rat 45300 mg/kg
  - LD50 dermal rabbit 5660 mg/kg
  - LGK 10
  - HS-No. 2903 19 80 ■ Disposal 3
- Specification**

Assay (GC, area%).....  $\geq 98.0$  Area %  
 Density (d 20 °C/ 4 °C)..... 0.867 - 0.870  
 Identity (IR)..... conforms

$C_{10}H_{21}Cl$

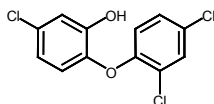
$CH_3(CH_2)_9Cl$

Decyl chloride

- CAS-No. 1002-69-3 ■ EC-No. 213-691-0
- Refractive index 1.4362 (20 °C, 589 nm)
- Vapour pressure 14.1 hPa (99 °C)
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C)

Ord.No.	Packaging	Quantity	Price
8.03212.0005	Glass bottle	5 ml	inquire
8.03212.0250	Glass bottle	250 ml	inquire

## 816100 5-Chloro-2-(2,4-dichlorophenoxy)phenol for synthesis



- toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 3700 mg/kg ■ LD50 dermal rabbit 9300 mg/kg
  - EC-Index-No. 604-070-00-9 ■ LGK 10 - 13
  - HS-No. 2909 50 00
  - ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(TRICLOSAN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TRICLOSANE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TRICLOSANE), 9, III

**Specification**  
 Assay (GC, area%).....  $\geq 99.0$  Area %  
 Melting range (lower value).....  $\geq 55$  °C  
 Melting range (upper value).....  $\leq 58$  °C  
 Identity (IR)..... passes test

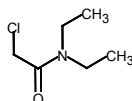
$C_{12}H_7Cl_3O_2$

- CAS-No. 3380-34-5 ■ EC-No. 222-182-2
- Solub. in H<sub>2</sub>O 0.01 g/l (20 °C) ■ M = 289.55 g/mol ■ Melting point 55 - 60 °C

- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Acute aquatic

Ord.No.	Packaging	Quantity	Price
8.16100.0025	Glass bottle	25 g	inquire

## 820399 2-Chloro-N,N-diethylacetamide for synthesis

C<sub>6</sub>H<sub>12</sub>ClNOClCH<sub>2</sub>CON(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>

Chloroacetic acid diethylamide

- CAS-No. 2315-36-8 ■ EC-No. 219-019-2
- Refractive index 1.469 (21 °C, 589 nm)
- Spec. density 1.09 g/cm<sup>3</sup> (20 °C)
- Flash point 113 °C ■ Solub. in H<sub>2</sub>O 85.5 g/l (25 °C) ■ M = 149.61 g/mol
- Boiling point 114 - 116 °C (23 hPa)

- WGK 2
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.315 mg/l
- LD50 oral rat 500 mg/kg ■ LD50 dermal rat 980 mg/kg
- LGK 6.1A
- HS-No. 2924 19 00 ■ Disposal 9

- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-CHLORDIETHYLACETAT), 6, 1, II
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-CHLORO-DIETHYLACETAMIDE), 6, 1, II
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-CHLORO-DIETHYLACETAMIDE), 6, 1, II

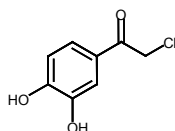
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.087 - 1.092  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20399.0025	Glass bottle	25 ml	inquire

Chlorodifluoroacetic acid sodium salt → Sodium chlorodifluoroacetate page 1431

## 841527 2-Chloro-3',4'-dihydroxyacetophenone for synthesis

C<sub>8</sub>H<sub>7</sub>ClO<sub>3</sub>

3,4-Dihydroxyphenacyl chloride

- CAS-No. 99-40-1 ■ EC-No. 202-754-8
- M = 186.59 g/mol ■ Melting point 168 - 173 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 95.0 % (a/a)  
 Melting range (lower value) ..... ≥ 168 °C  
 Melting range (upper value) ..... ≤ 173 °C  
 Identity (IR) ..... passes test

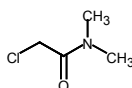
Ord.No.	Packaging	Quantity	Price
8.41527.0005	Glass bottle	5 g	inquire

4-Chloro-1,3-dihydroxybenzene → 4-Chlororesorcinol page 634

5-Chloro-2,4-dihydropyrimidine → 5-Chlorouracil page 638

1-Chloro-2,2-dimethoxyethane → Chloroacetaldehyde dimethyl acetal page 594

## 820290 2-Chloro-N,N-dimethylacetamide for synthesis

C<sub>4</sub>H<sub>8</sub>ClNOClCH<sub>2</sub>CON(CH<sub>3</sub>)<sub>2</sub>

N,N-Dimethyl-2-chloroacetamide

- CAS-No. 2675-89-0 ■ EC-No. 220-224-4

- Spec. density 1.18 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 121.56 g/mol
- Boiling point 98 - 100 °C (15 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 2

## Specification

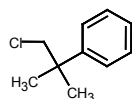
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.180 - 1.186  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20290.0025	Glass bottle	25 ml	inquire

2-Chloro-1-dimethylaminopropane hydrochloride → N-(2-Chloropropyl)-N,N-dimethylammonium chloride page 633

3-Chloro-1-dimethylaminopropane hydrochloride → N-(3-Chloropropyl)-N,N-dimethylammonium chloride page 633

## 818622 (2-Chloro-1,1-dimethylethyl)benzene for synthesis

C<sub>10</sub>H<sub>13</sub>ClC<sub>6</sub>H<sub>5</sub>C(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>Cl

1-Chloro-2-methyl-2-phenylpropane, 2-(Chloromethyl)-2-phenylpropane, Neophyl chloride

- CAS-No. 515-40-2 ■ EC-No. 208-197-7

- Refractive index 1.5245 (20 °C, 589 nm)
- Vapour pressure 0.08 hPa (20 °C)
- Spec. density 1.04 g/cm<sup>3</sup> (20 °C)
- Flash point 92 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 168.67 g/mol
- Melting point < -60 °C ■ Boiling point 222 °C (1013 hPa) ■ Ignition temp. 458 °C
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352

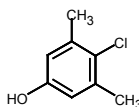
- LD50 oral rat 3228 mg/kg
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.041 - 1.043  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18622.0100	Glass bottle	100 ml	inquire

## 818734 4-Chloro-3,5-dimethylphenol for synthesis

C<sub>8</sub>H<sub>9</sub>ClO4-(Cl)-3,5-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>2</sub>OH

p-Chloro-m-xyleneol

- CAS-No. 88-04-0 ■ EC-No. 201-793-8
- Spec. density 0.67 g/cm<sup>3</sup> ■ Flash point 132 °C
- Solub. in H<sub>2</sub>O 250 mg/l (20 °C) ■ M = 156.61 g/mol ■ pH value 7 (0.2 g/l, H<sub>2</sub>O)
- Melting point 114 - 116 °C

- Boiling point 246 °C (1013 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352, P305 + P351 + P338
- LC50 rat 6.29 mg/l
- LD50 oral rat 3830 mg/kg
- EC-Index-No. 604-038-00-4 ■ LGK 10 - 13
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(4-CHLOR-3,5-DIMETHYLPHENOL), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-CHLORO-3,5-DIMETHYLPHENOL), 9, III, Marine Pollutant: P

- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-CHLORO-3,5-DIMETHYLPHENOL), 9, III

## Specification

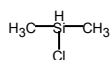
Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 112 °C  
 Melting range (upper value) ..... ≤ 117 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18734.0250	Glass bottle	250 g	inquire

3-Chlorodimethylpropylamine hydrochloride → N-(3-Chloropropyl)-N,N-dimethylammonium chloride page 633

# Chloro

## 814104 Chlorodimethylsilane for synthesis



$C_2H_7ClSi$   
 $(CH_3)_2SiH(Cl)$   
*Dimethylchlorosilane, Dimethylsilyl chloride, DMSC*  
 ■ CAS-No. 1066-35-9 ■ EC-No. 213-912-0  
 ■ Refractive index 1.382 (20 °C, 589 nm) ■ Vapour pressure 582 hPa (20 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.0 - 20.0 % (V)  
 ■ Flash point -28 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 94.61 g/mol

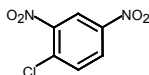
■ Melting point -111 °C ■ Boiling point 35 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2931 90 90 ■ Disposal 24  
 ■ ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(CHLORODIMETHYLSILAN), 3 (8), I

■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CHLORODIMETHYLSILANE), 3 (8), I  
 ■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CHLORODIMETHYLSILANE), 3 (8), I

**Specification**  
 Assay (GC, area%) ..... ≥ 90,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14104.0050	Glass bottle	50 ml	inquire

## 1-Chloro-2,4-dinitrobenzene



$C_6H_3ClN_2O_4$   
*4-Chloro-1,3-dinitrobenzene, 1,3-Dinitro-4-chlorobenzene, 2,4-Dinitro-1-chlorobenzene*  
 ■ CAS-No. 97-00-7 ■ EC-No. 202-551-4  
 ■ Vapour pressure 1 hPa (106 °C)  
 ■ Spec. density 1.7 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 22 % (V) ■ Flash point 194 °C ■ Solub. in H<sub>2</sub>O 0.36 g/l (20 °C) ■ M = 202.55 g/mol

■ Melting point 48 - 52 °C ■ Bulk density 760 kg/m<sup>3</sup> ■ Boiling point 315 °C (1013 hPa)  
 ■ Ignition temp. 464 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P280, P273, P304 + P340, P302 + P352, P309 + P310

■ LD50 oral rat 640 mg/kg ■ LD50 dermal rabbit 130 mg/kg  
 ■ EC-Index-No. 610-003-00-4 ■ LGK 6.1A  
 ■ HS-No. 2904 90 95 ■ Disposal 9  
 ■ ADR-RID UN 3441 Chlordinitrobenzene, fest, 6.1, II ■ IMDG-Code UN 3441 CHLORODINITROBENZENES, SOLID, 6.1, II, Marine Pollutant: P  
 ■ IATA-DGR UN 3441 CHLORODINITROBENZENES, SOLID, 6.1, II  
 Reagent for nicotinic acid, nicotinic acid amide and other pyridine compounds.

## 820291 1-Chloro-2,4-dinitrobenzene for synthesis

**Specification**  
 Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 48 °C  
 Melting range (upper value) ..... ≤ 50 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20291.0100	Glass bottle	100 g	inquire

## 102427 1-Chloro-2,4-dinitrobenzene GR for analysis

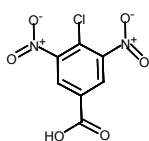
**Specification**  
 Purity (HPLC) ..... ≥ 99% (a/a)  
 Identity (IR-spectrum) ..... passes test  
 Melting point ..... 49 - 52 °C

Heavy metals (as Pb) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Sulfated ash ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.02427.0025	Plastic bottle	25 g	inquire

4-Chloro-1,3-dinitrobenzene → page 608

## 816145 4-Chloro-3,5-dinitrobenzoic acid for synthesis



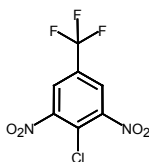
$C_7H_3ClN_2O_6$

■ CAS-No. 118-97-8 ■ EC-No. 204-290-1  
 ■ M = 246.56 g/mol  
 ■ Melting point 161.6 - 162.5 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 4.1A  
 ■ HS-No. 2916 39 90 ■ Disposal 3

Assay (HPLC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 160 °C  
 Melting range (upper value) ..... ≤ 164 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16145.0025	Plastic bottle	25 g	inquire
8.16145.0100	Plastic bottle	100 g	inquire

## 841812 4-Chloro-3,5-dinitrobenzotrifluoride for synthesis



$C_7H_2ClF_3N_2O_4$   
 ■ CAS-No. 393-75-9 ■ EC-No. 206-889-3  
 ■ Vapour pressure 0.46 hPa (20 °C)  
 ■ Spec. density 1.6 g/cm<sup>3</sup> ■ Flash point 126 °C  
 ■ Solub. in H<sub>2</sub>O 0.05 g/l (25 °C) ■ M = 270.55 g/mol  
 ■ Melting point 55 - 58 °C

■ Boiling point >250 °C ■ Ignition temp. >560 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 930 mg/kg ■ LD50 dermal rabbit 161 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2904 90 95 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-CHLOR-3,5-DINITROBENZOTRIFLUORID), 6.1, II ■ IMDG-

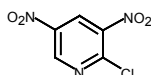
Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-CHLORO-3,5-DINITROBENZOTRIFLUORIDE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-CHLORO-3,5-DINITROBENZOTRIFLUORIDE), 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 55 °C  
 Melting range (upper value) ..... ≤ 58 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41812.0005	Glass bottle	5 g	inquire



## 814134 2-Chloro-3,5-dinitropyridine for synthesis

C<sub>5</sub>H<sub>2</sub>ClN<sub>3</sub>O<sub>4</sub>

- CAS-No. 2578-45-2 ■ EC-No. 219-937-3
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 203.54 g/mol
- Melting point 62 - 65 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Oral, H300; Skin irritation, Category 2, H315; Eye

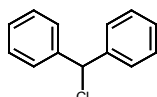
- irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 50 mg/kg
- LGK 6.1A
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-CHLOR-3,5-DINITROPYRIDIN), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-CHLORO-3,5-DINITROPYRIDINE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-CHLORO-3,5-DINITROPYRIDINE), 6.1, II

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 62 °C  
 Melting range (upper value)..... ≤ 65 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14134.0001	Glass bottle	1 g	inquire

## 801561 Chlorodiphenylmethane for synthesis

C<sub>13</sub>H<sub>11</sub>ClClCH(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>

Benzhydryl

chloride, Diphenylchloromethane, Diphenylmethyl chloride

- CAS-No. 90-99-3 ■ EC-No. 202-031-7
- Refractive index 1.5971 (19 °C, 589 nm)
- Vapour pressure 0.05 hPa (60 °C)

- Spec. density 1.14 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 202.68 g/mol
- Melting point 17 - 18 °C
- Boiling point 138 - 140 °C (4 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1760 Ätzender flüssiger Stoff,

n.a.g.(CHLORDIPHENYLMETHAN), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(DIPHENYLMETHYL CHLORIDE), 8, II

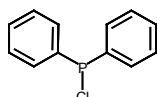
■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(DIPHENYLMETHYL CHLORIDE), 8, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,139 - 1,141  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01561.0250	Glass bottle	250 ml	inquire

## 810158 Chlorodiphenylphosphine for synthesis

C<sub>12</sub>H<sub>10</sub>ClPClP(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>

Diphenylchlorophosphine

■ CAS-No. 1079-66-9 ■ EC-No. 214-093-2

■ Refractive index 1.6338 (20 °C, 589 nm)

■ Vapour pressure 1.3 hPa (20 °C)

■ Spec. density 1.20 g/cm<sup>3</sup> (20 °C)

■ Flash point 138 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 220.63 g/mol

- Melting point 14 - 16 °C ■ Boiling point 320 °C (1013 hPa) ■ Ignition temp. 320 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 316 mg/kg
- LGK 8A
- HS-No. 2931 90 90 ■ Disposal 24
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(CHLORDIPHENYLPHOSPHIN), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC,

N.O.S.(DIPHENYLCHLOROPHOSPHINE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DIPHENYLCHLOROPHOSPHINE), 8, II

## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,192 - 1,196  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.10158.0025	Glass bottle	25 ml	inquire
8.10158.0101	Glass bottle	100 ml	inquire

Chlorodiphenylphosphine oxide → Diphenylphosphinic chloride page 819

## 805340 1-Chlorododecane for synthesis

C<sub>12</sub>H<sub>25</sub>ClCH<sub>3</sub>(CH<sub>2</sub>)<sub>11</sub>Cl

■ CAS-No. 112-52-7 ■ EC-No. 203-981-5

■ Vapour pressure &lt; 0.1 hPa (20 °C)

■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C)■ Flash point 130 °C ■ Solub. in H<sub>2</sub>O < 0.007 g/l

- (25 °C) ■ M = 204.78 g/mol ■ Melting point -9 °C
- Boiling point 124 °C (13 hPa)
- Ignition temp. 190 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352
- LD50 oral rat 17300 mg/kg
- LGK 10 - 13
- HS-No. 2903 19 80

## Specification

Assay (GC, area%)..... ≥ 95 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.864 - 0.867  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.05340.0100	Glass bottle	100 ml	inquire
8.05340.1000	Glass bottle	1 l	inquire

1-Chloro-2,3-epoxypropane → Epichlorohydrine page 836

## 821987 Chloroethane for synthesis

C<sub>2</sub>H<sub>5</sub>Cl

■ CAS-No. 75-00-3 ■ EC-No. 200-830-5

■ Vapour pressure 1342 hPa (20 °C)

■ Spec. density 0.92 g/cm<sup>3</sup> (6 °C) ■ Explosive limit 3.6 - 14.8 % (V) ■ Flash point -43 °C ■ Solub. in H<sub>2</sub>O 5.8 g/l (20 °C) (slow decomposition)

■ M = 64.51 g/mol ■ Melting point -142 °C

■ Boiling point 12 °C (1013 hPa)

- Ignition temp. 510 °C
- WGK 2
- GHS: Danger, Flammable gases, Category 1, H220; Gases under pressure, H280; Carcinogenicity, Category 2, H351; Chronic aquatic toxicity, Category 3, H412, P210, P281, P273, P308 + P313
- LC50 rat > 50 mg/l
- EC-Index-No. 602-009-00-0 ■ LGK 2A ■ Store below +15°C.
- HS-No. 2903 11 00

■ ADR-RID UN 2037 Gefässe, klein, mit Gas, 2.1, ■ IMDG-Code UN 2037 RECEPTACLES, SMALL, CONTAINING GAS, 2.1, ■ IATA-DGR UN 2037 RECEPTACLES, SMALL, CONTAINING GAS, 2.1,

## Specification

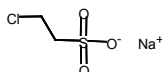
Assay (GC, area%)..... ≥ 99.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.21987.0100	Glass ampoule	100 ml	inquire

Chloroethane nitrile → Chloroacetonitrile page 595

# Chloro

## 814501 2-Chloroethanesulfonic acid sodium salt monohydrate for synthesis



C<sub>2</sub>H<sub>4</sub>ClNaO<sub>3</sub>S\*H<sub>2</sub>O  
ClCH<sub>2</sub>CH<sub>2</sub>SO<sub>3</sub>Na\*H<sub>2</sub>O  
■ CAS-No. 15484-44-3 ■ EC-No. 239-508-4

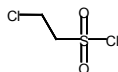
■ Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ M = 184.57 g/mol  
■ Melting point 292 - 294 °C  
■ WGK 1  
■ LGK 10 - 13  
■ HS-No. 2904 90 95 ■ Disposal 3  
**Specification**  
Assay (acidimetric, calc. on anhydrous substance) ..

..... ≥ 98,0 %(m)  
Water (K. F.)..... 9,0 - 11,0 %(m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14501.0010	Glass bottle	10 g	inquire
8.14501.0050	Glass bottle	50 g	inquire

2-Chloroethanesulfonic chloride → 2-Chloroethanesulfonyl chloride page 610

## 841045 2-Chloroethanesulfonyl chloride for synthesis



C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub>S  
2-Chloroethanesulfonic chloride  
■ CAS-No. 1622-32-8 ■ EC-No. 216-594-1  
■ Spec. density 1.56 g/cm<sup>3</sup> (20 °C)  
■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 163.01 g/mol  
■ pH value (H<sub>2</sub>O, 20 °C) strongly acid  
■ Boiling point 198 - 204 °C (1013 hPa)  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Oral,

H301; Acute toxicity, Category 1, Inhalation, H330; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LC50 rat 0.4 mg/l  
■ LD50 oral rat 240 mg/kg  
■ LGK 6.1B  
■ HS-No. 2904 90 95 ■ Disposal 11  
■ ADR-RID UN 2927 Giftiger organischer flüssiger Stoff, ätzend, n.a.g.(2-CHLOROETHANSULFONYLCHLORID), 6.1 (8), II  
■ IMDG-Code UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(2-CHLOROETHANSULFONYL

CHLORIDE), 6.1 (8), II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(2-CHLOROETHANSULFONYL CHLORIDE), 6.1 (8), II  
**Specification**  
Assay (argentometric)..... ≥ 98,0 %  
Density (d 20 °C/ 4 °C)..... 1.548 - 1.556  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41045.0025	Glass btl. pl.coat.	25 ml	inquire

## 800945 2-Chloroethanol for synthesis



C<sub>2</sub>H<sub>5</sub>ClO  
Ethylene chlorohydrin  
■ CAS-No. 107-07-3 ■ EC-No. 203-459-7  
■ Vapour pressure 6.6 hPa (20 °C)  
■ Spec. density 1.20 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5 - 16 %(V) ■ Flash point 55 °C  
■ Kin. viscosity 3.43 mm<sup>2</sup>/s (23 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 80.51 g/mol  
■ pH value 6 - 7 (500 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point -63 °C ■ Boiling point 129 °C (1013 hPa) ■ Ignition temp. 425 °C  
■ WGK 3

■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300, P210, P280, P302 + P352, P304 + P340, P309 + P310  
■ LC50 rat 0.11 mg/l  
■ LD50 oral rat 60 mg/kg ■ LD50 dermal rat 68 mg/kg  
■ EC-Index-No. 603-028-00-7 ■ LGK 3  
■ HS-No. 2905 59 98 ■ Disposal 9  
■ ADR-RID UN 1135 Ethylenchlorohydrin, 6.1 (3), I  
■ IMDG-Code UN 1135 ETHYLENE CHLOROXYDRIN, 6.1 (3), I  
■ IATA-DGR UN 1135 ETHYLENE CHLOROXYDRIN,

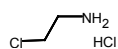
6.1 (3),  
**Specification**  
Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,201 - 1,203  
Water (according to Karl Fischer)..... ≤ 0,10 %(m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00945.0100	Glass bottle	100 ml	inquire
8.00945.0500	Glass bottle	500 ml	inquire
8.00945.1000	Glass bottle	1 lt	inquire

1-Chloro-4-ethenyl-bezene → 4-Chlorostyrene page 635

2-Chloroethylamine hydrochloride → 2-Chloroethylammonium chloride page 610

## 820265 2-Chloroethylammonium chloride for synthesis



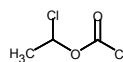
C<sub>2</sub>H<sub>7</sub>Cl<sub>2</sub>N  
ClCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> \* HCl  
2-Chloroethylamine hydrochloride, B-Aminoethyl chloride hydrochloride  
■ CAS-No. 870-24-6 ■ EC-No. 212-793-2  
■ Solub. in H<sub>2</sub>O 5666 g/l (20 °C) ■ M = 115.99 g/mol  
■ pH value 2 - 3 (5666 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 143 - 146 °C  
■ Bulk density 750 - 850 kg/m<sup>3</sup>  
■ WGK 3

■ GHS: Danger, Germ cell mutagenicity, Category 2, H341; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat > 2000 mg/kg  
■ LGK 8A  
■ HS-No. 2921 19 99 ■ Disposal 3  
■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2-CHLOROETHYLAMMONIUMCHLORID), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-CHLOROETHYLAMMONIUM CHLORIDE), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-CHLOROETHYLAMMONIUM CHLORIDE), 8, III  
**Specification**  
Assay (argentometric)..... ≥ 99,0 %(m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20265.0100	Plastic bottle	100 g	inquire
8.20265.0250	Plastic bottle	250 g	inquire

## 843963 1-Chloroethyl chloroformate for synthesis



C<sub>3</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub>  
■ CAS-No. 50893-53-3 ■ EC-No. 256-834-2  
■ Spec. density 1.325 g/cm<sup>3</sup> (25 °C)  
■ Flash point 40.5 °C ■ M = 142.96 g/mol  
■ Melting point -65 °C  
■ Boiling point 118 - 119 °C (1013 hPa)  
■ WGK 3  
■ GHS: Danger, Flammable liquid, Category 3,

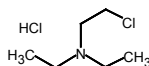
H226; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Inhalation, H331; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 470 mg/kg  
■ LGK 3 ■ Store at +2°C to +8°C.  
■ HS-No. 2915 90 70 ■ Disposal 3  
■ ADR-RID UN 2742 Chlorformiate, giftig, ätzend, entzündbar, n.a.g.(1-CHLOROETHYLCHLORFORMIAT), 6.1 (3, 8), II ■ IMDG-Code UN 2742 CHLOROFORMATES, TOXIC, CORROSIVE,

FLAMMABLE, N.O.S.(1-CHLOROETHYLCHLOROFORMATE), 6.1 (3, 8), II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2742 CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.(1-CHLOROETHYLCHLOROFORMATE), 6.1 (3, 8), II

Ord.No.	Packaging	Quantity	Price
8.43963.0010	Glass bottle	10 ml	inquire
8.43963.0025	Glass bottle	25 ml	inquire



## 803285 N-(2-Chloroethyl)-N,N-diethylammonium chloride for synthesis

C<sub>6</sub>H<sub>15</sub>Cl<sub>2</sub>NClCH<sub>2</sub>CH<sub>2</sub>(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>N<sup>+</sup> Cl<sup>-</sup>

- N,N*-Diethyl-*N*-2-chloroethylammonium chloride, 2-Chloroethylamine hydrochloride, 2-Diethylamino-ethylchloride hydrochloride
- CAS-No. 869-24-9 ■ EC-No. 212-786-4
  - Solub. in H<sub>2</sub>O 2000 g/l (20 °C) ■ M = 172.1 g/mol ■ pH value 5 (100 g/l, H<sub>2</sub>O, 20 °C)
  - Melting point 208 - 211 °C
  - Bulk density 500 kg/m<sup>3</sup> ■ Ignition temp. 305 °C
  - WGK 3
  - GHS: Danger, Acute toxicity, Category 2,

Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

- LC50 rat 0.1 mg/l
- LD50 oral rat 24 mg/kg ■ LD50 dermal rabbit 125 mg/kg
- LGK 6.1A
- HS-No. 2921 19 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-(2-CHLOROETHYL)-N,N-DIETHYLAMMONIUMCHLORID), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-(2-CHLOROETHYL)N,N-DIETHYL AMMONIUM

CHLORIDE), 6.1, II

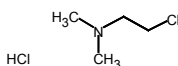
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-(2-CHLOROETHYL)N,N-DIETHYL AMMONIUM CHLORIDE), 6.1, II

**Specification**

Assay (argentometric).....≥ 98,0 % (m)  
Melting range (lower value).....≥ 208 °C  
Melting range (upper value).....≤ 211 °C  
Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.03285.0005	Glass bottle	5 g	inquire
8.03285.0250	Plastic bottle	250 g	inquire
8.03285.1000	Plastic bottle	1 kg	inquire

## 802448 N-(2-Chloroethyl)-N,N-dimethylammonium chloride for synthesis

C<sub>4</sub>H<sub>11</sub>Cl<sub>2</sub>NClCH<sub>2</sub>CH<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>N<sup>+</sup> Cl<sup>-</sup>

- Dimethylaminoethyl chloride hydrochloride, N,N*-Dimethyl-*N*-2-chloroethylammonium chloride
- CAS-No. 4584-46-7 ■ EC-No. 224-970-1
  - Solub. in H<sub>2</sub>O 2000 g/l (20 °C) ■ M = 144.04 g/mol ■ Melting point 205 - 208 °C
  - Ignition temp. 220 °C
  - WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P260, P262, P280, P302 + P352, P309 + P310

- LD50 oral rat 238 mg/kg ■ LD50 dermal rabbit 290 mg/kg
- LGK 6.1A
- HS-No. 2921 19 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-(2-CHLOROETHYL)-N,N-DIMETHYLAMMONIUMCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-(2-CHLOROETHYL)N,N-DIMETHYLAMMONIUM CHLORIDE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-(2-CHLOROETHYL)N,N-DIMETHYLAMMONIUM CHLORIDE), 6.1, III

**Specification**

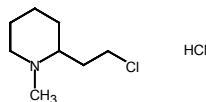
Assay (argentometric).....≥ 98,0 %  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.02448.0005	Glass bottle	5 g	inquire
8.02448.0250	Plastic bottle	250 g	inquire
8.02448.1000	Plastic bottle	1 kg	inquire

Chloroethyl methyl ether → 2-Methoxyethyl chloride page 1120

1-Chloroethyl methyl ketone → 3-Chloro-2-butanone page 605

## 814738 2-(2-Chloroethyl)-1-methylpiperidine hydrochloride for synthesis

C<sub>8</sub>H<sub>17</sub>Cl<sub>2</sub>NC<sub>8</sub>H<sub>16</sub>ClN<sup>+</sup>Cl<sup>-</sup>

- CAS-No. 58878-37-8 ■ EC-No. 261-480-7
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 198.14 g/mol
- pH value 5.9 (H<sub>2</sub>O, 20 °C)

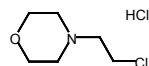
- Melting point 133 - 137 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (argentometric).....≥ 98,0 %  
Melting range (lower value).....≥ 133 °C  
Melting range (upper value).....≤ 137 °C  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.14738.0010	Plastic bottle	10 g	inquire
8.14738.0050	Plastic bottle	50 g	inquire

## 841417 N-(2-Chloroethyl)-morpholinium chloride for synthesis

C<sub>6</sub>H<sub>13</sub>Cl<sub>2</sub>NO

- CAS-No. 3647-69-6 ■ EC-No. 222-881-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 186.08 g/mol ■ pH value 4.5 - 5 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 182 - 184 °C (decomposition)
- Ignition temp. 365 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Skin sensitisation,

Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310

- LD50 oral rat 96 mg/kg ■ LD50 dermal rat 1502 mg/kg
- LGK 6.1C
- HS-No. 2934 99 90 ■ Disposal 9
- ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(N-(2-CHLOROETHYL)-MORPHOLINIUMCHLORID), 8 (6.1), III ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(4-(2-CHLOROETHYL)MORPHOLINE HYDROCHLORIDE), 8 (6.1), III

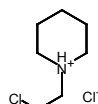
■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(4-(2-CHLOROETHYL)MORPHOLINE HYDROCHLORIDE), 8 (6.1), III

**Specification**

Assay (argentometric).....≥ 99,0 %  
Melting range (lower value).....≥ 182 °C  
Melting range (upper value).....≤ 186 °C  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41417.0100	Glass bottle	100 g	inquire

## 807508 N-(2-Chloroethyl)-piperidine hydrochloride for synthesis

C<sub>7</sub>H<sub>15</sub>Cl<sub>2</sub>N

- 2-Piperidinoethyl chloride hydrochloride, N-(2-Chloroethyl)-piperidinium chloride*
- CAS-No. 2008-75-5 ■ EC-No. 217-920-5
  - Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 184.1 g/mol
  - Melting point 234 - 237 °C
  - Ignition temp. >350 °C

- WGK 2
- GHS: Danger, Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 17 mg/kg
- LGK 6.1A
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2928 Giftiger organischer fester Stoff, ätzend, n.a.g.(N-(2-CHLOROETHYL)-PIPERIDIINIUMCHLORID), 6.1 (8), II ■ IMDG-Code UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.(N-(2-CHLOROETHYL)-PIPERIDINE

HYDROCHLORIDE), 6.1 (8), II

■ IATA-DGR UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.(N-(2-CHLOROETHYL)-PIPERIDINE HYDROCHLORIDE), 6.1 (8), II

**Specification**

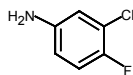
Assay (argentometric).....≥ 98,0 % (m)  
Melting range (lower value).....≥ 228 °C  
Melting range (upper value).....≤ 234 °C  
Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.07508.0100	Plastic bottle	100 g	inquire

# Chloro

Chlorofluoroaniline → 3-Chloro-4-fluoroaniline page 612

## 818752 3-Chloro-4-fluoroaniline for synthesis



$C_6H_5ClFN$   
3-(Cl),4-(F) $C_6H_3NH_2$   
*chlorofluoroaniline, CFA*  
■ CAS-No. 367-21-5 ■ EC-No. 206-682-8  
■ Vapour pressure 0.01 hPa (20 °C)  
■ Spec. density 1.59 g/cm<sup>3</sup> ■ Flash point 114 °C  
■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 145.56 g/mol

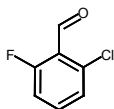
- pH value 7 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 41 - 44 °C
- Bulk density 1000 kg/m<sup>3</sup> ■ Boiling point 230 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 506 mg/kg
- LGK 10 - 13
- HS-No. 2921 42 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 41 °C  
Melting range (upper value)..... ≤ 44 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18752.0025	Plastic bottle	25 g	inquire
8.18752.0100	Plastic bottle	100 g	inquire

## 841635 2-Chloro-6-fluorobenzaldehyde for synthesis



$C_7H_4ClFO$   
■ CAS-No. 387-45-1 ■ EC-No. 206-860-5  
■ Flash point 101 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 158.55 g/mol
- Melting point 36 - 38 °C
- Boiling point 91 - 93 °C (13.3 hPa)
- Ignition temp. 325 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

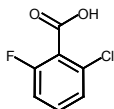
- HS-No. 2913 00 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 34 °C  
Melting range (upper value)..... ≤ 36 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41635.0025	Glass bottle	25 g	inquire

## 841200 2-Chloro-6-fluorobenzoic acid for synthesis



$C_7H_4ClFO_2$   
■ CAS-No. 434-75-3 ■ EC-No. 207-105-2  
■ M = 174.55 g/mol ■ Melting point 156 - 159 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

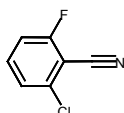
### Specification

Assay (acidimetric)..... ≥ 98,0 %

Melting range (lower value)..... ≥ 156 °C  
Melting range (upper value)..... ≤ 159 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41200.0025	Glass bottle	25 g	inquire

## 841488 2-Chloro-6-fluorobenzonitrile for synthesis



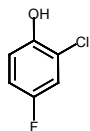
$C_7H_3ClFN$   
■ CAS-No. 668-45-1 ■ EC-No. 211-571-2  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 155.55 g/mol  
■ Melting point 56 - 59 °C  
■ Boiling point 104 °C (14.7 hPa)

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(2-CHLOR-6-FLUORBENZONITRIL), 6.1, II ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(2-CHLORO-6-FLUORBENZONITRILE), 6.1, II
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,

N.O.S.(2-CHLORO-6-FLUORBENZONITRILE), 6.1, II  
**Specification**  
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 56 °C  
Melting range (upper value)..... ≤ 59 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41488.0010	Glass bottle	10 g	inquire

## 841128 2-Chloro-4-fluorophenol for synthesis



$C_6H_4ClFO$   
■ CAS-No. 1996-41-4 ■ EC-No. 217-876-7

- Spec. density 1.345 g/cm<sup>3</sup> (20 °C)
- Flash point 75 °C ■ M = 146.54 g/mol
- Melting point 23 °C ■ Boiling point 171 - 172 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

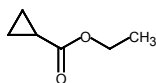
- HS-No. 2908 19 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41128.0005	Glass bottle	5 ml	inquire

## 814741 2-Chloro-6-fluorophenyl acetic acid for synthesis



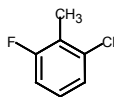
$C_8H_6ClFO_2$   
■ CAS-No. 37777-76-7 ■ EC-No. 253-661-4  
■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (70 °C) soluble ■ M = 188.58 g/mol  
■ Melting point 120 - 123 °C

- WGK 3
  - GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
  - LGK 10 - 13
  - HS-No. 2916 39 90 ■ Disposal 3
- Specification**  
Assay (HPLC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 120 °C  
Melting range (upper value)..... ≤ 123 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14741.0010	Plastic bottle	10 g	inquire

## 841708 2-Chloro-6-fluorotoluene for synthesis

C<sub>7</sub>H<sub>6</sub>ClF

- CAS-No. 443-83-4 ■ EC-No. 207-141-9
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- Flash point 46 °C ■ M = 144.57 g/mol
- Boiling point 154 - 156 °C

- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P262
- LGK 3
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-CHLOR-6-FLUOROTOLUEN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-CHLORO-6-FLUOROTOLUENE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(2-CHLORO-6-FLUOROTOLUENE), 3, III

## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,198 - 1,202  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41708.0050	Glass bottle	50 ml	inquire

## Chloroform

CHCl<sub>3</sub>

TCM, Trichloromethane, Methane trichloride, Methyl trichloride

- CAS-No. 67-66-3 ■ EC-No. 200-663-8
- Refractive index 1.45 ■ Vapour pressure 211 hPa (20 °C) ■ Spec. density 1.48 g/cm<sup>3</sup> (20 °C)
- Dielectricity constant 4.8 (20 °C) ■ El. dipole moment 1.01 (20 °C) ■ Solub. in H<sub>2</sub>O 8 g/l (20 °C)

- M = 119.38 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Saturation conc. 1027 g/m<sup>3</sup> (20 °C) Air
- Melting point -63 °C ■ Boiling point 61 °C (1013 hPa) ■ Evaporation number 2.5
- Ignition temp. 982 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Carcinogenicity, Category 2, H351; Specific target organ toxicity - repeated exposure, Category 2, H373, P281, P302 + P352, P308 + P313
- LC50 rat 47.7 mg/l

- LD50 oral rat 695 mg/kg ■ LD50 dermal rabbit > 3980 mg/kg
- EC-Index-No. 602-006-00-4 ■ LGK 6.1 D
- Store below +30°C.
- HS-No. 2903 13 00 ■ Disposal 2
- ADR-RID UN 1888 Chloroform, 6.1, III ■ IMDG-Code UN 1888 CHLOROFORM, 6.1, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)
- IATA-DGR UN 1888 CHLOROFORM, 6.1, III

## 822265 Chloroform EMPLURA®

## Specification

Purity (GC)..... ≥ 99,0 %  
 Identity (IR)..... conforms  
 Density (d 20 °C/ 4 °C)..... 1.474 - 1.479  
 Evaporation residue..... ≤ 0.0010 %  
 Water..... ≤ 0.10 %

Stabilized with 0,7 - 1,0% Ethanol

Ord.No.	Packaging	Quantity	Price
8.22265.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.22265.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.22265.9025	Steel barrel	25 l	inquire

## 107024 Chloroform for analysis EMPARTA® ACS

## Specification

Purity (GC)..... 99,0 - 99,4 %  
 Assay (according to ACS)..... ≥ 99,8 %  
 Identity (IR)..... conforms  
 Appearance..... clear  
 Colour..... ≤ 10 Hazen  
 Acid and chloride..... conforms  
 Free chlorine..... ≤ 0.00003 %

Carbonyl compounds (as CO)..... ≤ 0.005 %  
 Readily carbonizable substances..... conforms  
 Aldehydes and ketones (as C<sub>3</sub>H<sub>6</sub>O)..... ≤ 0.001 %  
 Suitability for determination with dithizone..... conforms  
 Pb (Lead)..... ≤ 0.000005 %  
 Evaporation residue..... ≤ 0.001 %

Water..... ≤ 0.01 %  
 Stabilized with 0,6-1,0% Ethanol

Ord.No.	Packaging	Quantity	Price
1.07024.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.07024.4000	Glass bottle	4 l	inquire

## 102445 Chloroform for analysis EMSURE® ACS,ISO,Reag. Ph Eur

## Specification

Purity (GC)..... 99,0 - 99,4 %  
 Assay (according to ACS)..... ≥ 99,8 %  
 Identity (IR)..... conforms  
 Appearance..... clear  
 Colour..... ≤ 10 Hazen  
 Free acid (as HCl)..... ≤ 0.0002 %  
 Density (d 20 °C/20 °C)..... 1.475 - 1.481  
 Boiling point..... 60 - 62 °C  
 Acid and chloride..... conforms  
 Chloride (Cl)..... ≤ 0.00002 %  
 Free chlorine..... ≤ 0.00003 %  
 Carbonyl compounds (as CO)..... ≤ 0.005 %  
 Readily carbonizable substances..... conforms  
 Ethanol (GC)..... 0.6 - 1.0 %  
 Dichloromethane (GC)..... ≤ 0.01 %  
 Carbon tetrachloride (GC)..... ≤ 0.01 %  
 Tetrachloroethylene (GC)..... ≤ 0.01 %  
 Trichloroethylene (GC)..... ≤ 0.01 %

Related substances (GC)..... ≤ 0.7 %  
 Aldehydes and ketones (as C<sub>3</sub>H<sub>6</sub>O)..... ≤ 0.001 %  
 Suitability for determination with dithizone..... conforms  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.000002 %  
 Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00001 %  
 Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000002 %  
 Mo (Molybdenum)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.000005 %

Sn (Tin)..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %  
 Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.01 %  
 Stabilized with 0,6-1,0% Ethanol

Ord.No.	Packaging	Quantity	Price
1.02445.0250	Glass bottle	250 ml	inquire
1.02445.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02445.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.02445.4000	Glass bottle	4 l	inquire
1.02445.6010	Drum stainl. st.	10 l	inquire
1.02445.6025	Drum stainl. st.	25 l	inquire
1.02445.9190	Steel barrel	190 l	inquire

## 102442 Chloroform GR for analysis (for determinations with dithizone)

## Specification

Purity (GC)..... 99,0 - 99,4 %  
 Identity (IR)..... conforms  
 Free acid (as HCl)..... ≤ 0.001 %  
 Chloride (Cl)..... ≤ 0.0001 %  
 Free chlorine (Cl)..... conforms  
 Carbonyl compounds (as CO)..... ≤ 0.005 %  
 Matter discoloured by H<sub>2</sub>SO<sub>4</sub>..... ≤ 10 Hazen  
 Ethanol (GC)..... 0.6 - 1.0 %  
 Dichloromethane (GC)..... ≤ 0.01 %  
 Carbon tetrachloride (GC)..... ≤ 0.01 %  
 Tetrachloroethylene (GC)..... ≤ 0.01 %  
 Trichloroethylene (GC)..... ≤ 0.01 %  
 Evaporation residue..... ≤ 0.001 %

Water..... ≤ 0.01 %  
 Suitability for determination with dithizone..... conforms  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.000002 %  
 Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00001 %  
 Mg (Magnesium)..... ≤ 0.00001 %

Mn (Manganese)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.00001 %  
 Sn (Tin)..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %  
 Stabilized with 0.6 - 1.0% ethanol.

Ord.No.	Packaging	Quantity	Price
1.02442.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02442.2500	Glass bottle	2.5 l	inquire

# Chloro

## 102395 Chloroform dried (max. 0.003% H<sub>2</sub>O) SeccoSolv®

<b>Specification</b>	Alkalinity..... ≤ 0.0002 meq/g
Purity (GC)..... ≥ 99.9 %	Evaporation residue..... ≤ 10 mg/l
Identity (IR)..... conforms	Water..... ≤ 0.003 %
Colour..... ≤ 10 Hazen	Stabilized with 2-methyl-2-butene and methanol.
Acidity..... ≤ 0.0005 meq/g	

Ord.No.	Packaging	Quantity	Price
1.02395.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

## 102432 Chloroform for gas chromatography ECD and FID SupraSolv®

<b>Specification</b>	individual signals (lindane standard)..... ≤ 3 pg/ml
Purity (GC)..... ≥ 99.8 %	GC/FID (retention range n-undecane - n-tetracontane
Identity (IR)..... conforms	individual signals (n- tetradecane standard).....
Evaporation residue..... ≤ 5.0 mg/l	..... ≤ 3 ng/ml
Water..... ≤ 0.01 %	Stabilized with ethanol
Colour..... ≤ 10 Hazen	suitable for residue analysis
GC/ECD (retention range 1,2,4-trichlorobenzene to decachlorobiphenyle	

Ord.No.	Packaging	Quantity	Price
1.02432.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02432.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 102447 Chloroform for spectroscopy Uvasol®

<b>Specification</b>	Transmission (at 250 nm)..... ≥ 50 %
Purity (GC)..... ≥ 99.0 %	Transmission (at 255 nm)..... ≥ 60 %
Evaporation residue..... ≤ 0.0002 %	Transmission (at 260 nm)..... ≥ 85 %
Water..... ≤ 0.01 %	Transmission (from 270 nm)..... ≥ 98 %
Colour..... ≤ 10 Hazen	Absorbance (at 245 nm)..... ≤ 0.82
Acidity..... ≤ 0.0002 meq/g	Absorbance (at 250 nm)..... ≤ 0.30
Alkalinity..... ≤ 0.0002 meq/g	Absorbance (at 255 nm)..... ≤ 0.22
Fluorescence (as quinine at 254 nm)..... ≤ 1.0 ppb	Absorbance (at 260 nm)..... ≤ 0.07
Fluorescence (as quinine at 365 nm)..... ≤ 1.0 ppb	Absorbance (from 270 nm)..... ≤ 0.01
Transmission (at 245 nm)..... ≥ 15 %	

The product is stabilized with about 1% ethanol. Meet the requirements of "Specific use spectroscopy" according ACS

Ord.No.	Packaging	Quantity	Price
1.02447.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.02447.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 102444 Chloroform for liquid chromatography LiChrosolv®

<b>Specification</b>	Transmission (at 260 nm)..... ≥ 85 %
Purity (GC)..... ≥ 99.8 %	Transmission (from 300 nm)..... ≥ 98 %
Identity (IR)..... conforms	Stabilized with 2-methyl-2-butene and methanol.
Evaporation residue..... ≤ 5.0 mg/l	For additional instructions see actual safety data sheet (SDS) chapter 7. The purpose is only for high pressure liquid chromatography. Filtered by 0.2 µm filter.
Water..... ≤ 0.01 %	
Acidity..... ≤ 0.0002 meq/g	
Alkalinity..... ≤ 0.0002 meq/g	
Transmission (at 255 nm)..... ≥ 70 %	

Ord.No.	Packaging	Quantity	Price
1.02444.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02444.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.02444.4000	Glass bottle	4 l	inquire

## Chloroform-D1



CCl<sub>3</sub>D  
CDCl<sub>3</sub>  
Deuteriochloroform  
■ CAS-No. 865-49-6 ■ EC-No. 212-742-4  
■ Vapour pressure 211 hPa (20 °C)

■ Spec. density 1.50 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 8.2 g/l (20 °C) ■ M = 120.38 g/mol  
■ Melting point -64.1 °C ■ Boiling point 60 °C (1013 hPa)  
■ WGK 3  
■ GHS: Warning, Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Skin irritation, Category 2,

H315, P302 + P352, P314  
■ LC50 rat 47.7 mg/l  
■ LD50 oral rat 695 mg/kg  
■ LGK 6.1 D ■ Store at +2°C to +8°C.  
■ HS-No. 2845 90 10 ■ Disposal 3  
■ ADR-RID UN 1888 Chloroform, 6.1, III ■ IMDG-Code UN 1888 CHLOROFORM, 6.1, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
■ IATA-DGR UN 1888 CHLOROFORM, 6.1, III



## 103296 Chloroform-D1 0.03 vol.% TMS, deuteration degree min. 99.8% for NMR spectroscopy (stabilized with silver) MagniSolv™

<b>Specification</b>	Performance test (NMR-spectrum)..... passes test
Deuteration degree..... ≥ 99.8 %	
Water (NMR, H <sub>2</sub> O)..... ≤ 0.01 %	
Tetramethylsilane (NMR-spectrum) ..... 0.03%	

Ord.No.	Packaging	Quantity	Price
1.03296.0025	Glass bottle	25 ml	inquire
1.03296.0100	Glass bottle	100 ml	inquire
1.03296.0500	Glass bottle	500 ml	inquire

## 113359 Chloroform-D1 with TMS (1 vol.%), deuteration degree min. 99.5 % for NMR spectroscopy (stabilized with silver) MagniSolv™

<b>Specification</b>	Performance test (NMR-spectrum)..... passes test
Deuteration degree..... ≥ 99.50 %	
Water (NMR, H <sub>2</sub> O)..... ≤ 0.020 %	
Tetramethylsilane (NMR-spectrum) ..... ≤ 1.0 % (v/v)	

Ord.No.	Packaging	Quantity	Price
1.13359.0025	Glass bottle	25 ml	inquire
1.13359.0100	Glass bottle	100 ml	inquire

## 102446 Chloroform-D1 deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™

<b>Specification</b>	
Deuteration degree..... ≥ 99.96 %	
Water (NMR, H <sub>2</sub> O)..... ≤ 0.005 %	
Performance test (NMR-spectrum)..... passes test	

Ord.No.	Packaging	Quantity	Price
1.02446.0009	Glass ampoule	10x0.75 ml	inquire
1.02446.0010	Glass ampoule	10 ml	inquire
1.02446.0025	Glass bottle	25 ml	inquire
1.02446.0100	Glass bottle	100 ml	inquire

## 103420 Chloroform-D1 deuteration degree min. 99.8% for NMR spectroscopy (stabilized with silver) MagniSolv™

<b>Specification</b>	
Deuteration degree..... ≥ 99.80 %	
Water (NMR, H <sub>2</sub> O)..... ≤ 0.010 %	
Performance test (NMR-spectrum)..... passes test	

Ord.No.	Packaging	Quantity	Price
1.03420.0025	Glass bottle	25 ml	inquire
1.03420.0100	Glass bottle	100 ml	inquire
1.03420.0500	Glass bottle	500 ml	inquire



## 102450 Chloroform-D1 deuteration degree min. 99.8% for NMR spectroscopy MagniSolv™

## Specification

Deuteration degree.....	≥ 99.80 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.010 %
Performance test (NMR-spectrum).....	passes test

Ord.No.	Packaging	Quantity	Price
1.02450.0025	Glass bottle	25 ml	inquire
1.02450.0100	Glass bottle	100 ml	inquire
1.02450.0500	Glass bottle	500 ml	inquire

Chloroformic acid butyl ester → Butyl chloroformate page 544

Chloroformic acid cholesteryl ester → Cholesteryl chloroformate page 640

Chloroformic acid 9-fluorenylmethyl ester → (9-Fluorenylmethyl) chloroformate page 895

Chloroformic acid isobutyl ester → Isobutyl chloroformate page 1043

Chloroformic acid methyl ester → Methyl chloroformate page 1142

Chloroformic acid 4-nitrophenyl ester → 4-Nitrophenyl chloroformate page 1227

Chloroformic acid phenyl ester → Phenyl chloroformate page 1299

Chloroformic acid trichloromethyl ester → Trichloromethyl chloroformate page 1580

Chloroformylformic acid ethyl ester → Ethyl chloroformylformate page 856

Chloroglyoxylic acid ethyl ester → Ethyl chloroformylformate page 856

Chloroglyoxylic acid methyl ester → Methyl chloroglyoxylate page 1143

## 814288 1-Chloroheptane for synthesis



C<sub>7</sub>H<sub>15</sub>Cl

CH<sub>3</sub>(CH<sub>2</sub>)<sub>6</sub>Cl

*n*-Heptyl chloride

■ CAS-No. 629-06-1 ■ EC-No. 211-070-9

■ Refractive index 1.4257 (20 °C, 589 nm)

■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C)

■ Flash point 45 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 134.64 g/mol

■ Melting point -69 - -65 °C

■ Boiling point 160 - 161 °C (1013 hPa)

■ Ignition temp. 220 °C

■ WGK 3

■ GHS: Warning, Flammable liquid, Category 3,

H226, P210, P262

■ LGK 3

■ HS-No. 2903 19 80 ■ Disposal 3

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(1-CHLOROHEPTAN), 3, III ■ IMDG-Code UN

1993 FLAMMABLE LIQUID,

N.O.S.(CHLOROHEPTANE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(CHLOROHEPTANE), 3, III

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C)..... 0,874 - 0,877

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14288.0250	Glass bottle	250 ml	inquire

## 802339 1-Chlorohexadecane for synthesis



C<sub>16</sub>H<sub>33</sub>Cl

CH<sub>3</sub>(CH<sub>2</sub>)<sub>15</sub>Cl

*Cetyl chloride, n*-Hexadecyl chloride

■ CAS-No. 4860-03-1 ■ EC-No. 225-461-7

■ Refractive index 1.4501 (20 °C, 589 nm)

■ Vapour pressure < 0.01 hPa (20 °C)

■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C)

■ Flash point 136 °C DIN 51758 ■ Solub. in

H<sub>2</sub>O < 0.02 g/l (20 °C) ■ M = 260.88 g/mol

■ Melting point 7.8 °C ■ Boiling point 181 °C

(13 hPa) ■ Ignition temp. 220 °C DIN 51794

■ WGK 3

■ LD50 oral rat > 10000 mg/kg

■ LGK 10

■ HS-No. 2903 19 80 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 96,0 Area %

Density (d 20 °C/ 4 °C)..... 0,863 - 0,864

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02339.0250	Glass bottle	250 ml	inquire
8.02339.1000	Glass bottle	1 l	inquire

## 818497 1-Chlorohexane for synthesis



C<sub>6</sub>H<sub>13</sub>Cl

*Hexyl chloride*

■ CAS-No. 544-10-5 ■ EC-No. 208-859-5

■ Refractive index 1.4194 (20 °C, 589 nm)

■ Vapour pressure 53 hPa (55 °C)

■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.0 - 9.6 % (V) ■ Flash point 27 °C ■ Solub. in

H<sub>2</sub>O 0.26 g/l (20 °C) ■ M = 120.62 g/mol

■ Melting point -94 °C

■ Boiling point 132 - 136 °C (1013 hPa)

■ Ignition temp. 225 °C

■ WGK 1

■ GHS: Warning, Flammable liquid, Category 3,

H226, P262, P210

■ LD50 oral rat 7000 mg/kg

■ LGK 3

■ HS-No. 2903 19 80 ■ Disposal 3

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(1-CHLORHEXAN), 3, III ■ IMDG-Code UN

1993 FLAMMABLE LIQUID, N.O.S.(1-CHLORO

HEXANE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(1-CHLORO HEXANE), 3, III

## Specification

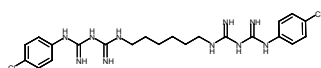
Assay (GC, area%)..... ≥ 99,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 0,877 - 0,878

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18497.0005	Glass bottle	5 ml	inquire
8.18497.0250	Glass bottle	250 ml	inquire

## 843969 Chlorohexidine for synthesis



C<sub>22</sub>H<sub>30</sub>Cl<sub>2</sub>N<sub>10</sub>

■ CAS-No. 55-56-1 ■ EC-No. 200-238-7

■ Solub. in H<sub>2</sub>O 0.8 g/l (20 °C) ■ M = 505.45 g/mol

■ Melting point 134 - 136 °C

■ WGK 3

■ GHS: Danger, Serious eye damage, Category 1,

H318; Chronic aquatic toxicity, Category 2, H411, P273, P280, P305 + P351 + P338, P313

■ LD50 oral rat 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2925 29 00 ■ Disposal 3

■ ADR-RID UN 3077 Umweltgefährdender Stoff,

fest, n.a.g.(CHLOROHEXIDIN), 9, III ■ IMDG-

Code UN 3077 ENVIRONMENTALLY HAZARDOUS

SUBSTANCE, SOLID, N.O.S.(CHLORHEXIDINE), 9, III,

Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID,

N.O.S.(CHLORHEXIDINE), 9, III

Ord.No.	Packaging	Quantity	Price
8.43969.0050	Glass bottle	50 g	inquire
8.43969.0250	Glass bottle	250 g	inquire

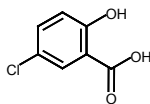
α-Chlorohydrine → 3-Chloro- 1,2-propanediol page 630

5-Chloro-2-hydroxyaniline → 2-Amino-4-chlorophenol page 383

2-Chloro-1-hydroxybenzene → 2-Chlorophenol page 627

4-Chloro-1-hydroxybenzene → 4-Chlorophenol page 627

## 820341 5-Chloro-2-hydroxybenzoic acid for synthesis



$C_7H_5ClO_3$   
5-(Cl)-2-(OH) $C_6H_3COOH$   
5-Chlorosalicylic acid  
■ CAS-No. 321-14-2 ■ EC-No. 206-283-9  
■ Solub. in  $H_2O$  1 g/l (20 °C) ■ M = 172.57 g/mol  
■ pH value 2.5 ( $H_2O$ , 20 °C) (aqueous suspension)  
■ Melting point 171 - 175 °C  
■ Bulk density 500 - 600 kg/m<sup>3</sup>

■ Ignition temp. >500 °C  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P260, P262, P309 + P310  
■ LD50 oral rat 250 mg/kg  
■ LGK 6.1C  
■ HS-No. 2918 29 00 ■ Disposal 4  
■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(5-CHLOR-2-HYDROXYBENZOESAEURE), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(5-CHLORO-2-HYDROXYBENZOIC ACID), 6.1, III  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(5-CHLORO-2-HYDROXYBENZOIC ACID), 6.1, III

## Specification

Assay (acidimetric)..... ≥ 98.0 %  
Melting range (lower value)..... ≥ 171 °C  
Melting range (upper value)..... ≤ 175 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20341.0250	Plastic bottle	250 g	inquire
8.20341.1000	Plastic bottle	1 kg	inquire

5-Chloro-8-hydroxyquinoline → 5-Chloro-8-quinolinol page 634

2-Chloro-5-hydroxytoluene → 4-Chloro-3-methylphenol page 619

## 841395 2-Chloro-1-iodobenzene for synthesis



$C_6H_4ClI$   
■ CAS-No. 615-41-8 ■ EC-No. 210-423-4  
■ Spec. density 1.954 g/cm<sup>3</sup> (20 °C)  
■ Flash point 111 °C ■ Solub. in  $H_2O$  0.069 g/l

(25 °C) ■ M = 238.45 g/mol ■ Melting point 1 °C  
■ Boiling point 234 - 235 °C (1013 hPa)  
■ WGK 2  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2903 99 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.950 - 1.956  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41395.0005	Glass bottle	5 ml	inquire

## 843934 Chloriodomethane for synthesis



$CH_2ClI$   
■ CAS-No. 593-71-5 ■ EC-No. 209-804-8  
■ Refractive index 1.5822 ■ Spec. density 2.416 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  1.520 g/l  
■ M = 176.38 g/mol ■ Boiling point 108 - 109 °C (1013 hPa)  
■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2903 19 80 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
■ IATA-DGR No Dangerous Good

## Specification

Colour (visual)..... almost colorless to reddish

Appearance of substance (visual)..... liquid  
Assay (GC, area%)..... ≥ 98.0 Area %  
Density (d 20 °C/ 4 °C)..... 2,425 - 2,435  
Evaporation residue..... ≤ 0,02 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.43934.0005	Glass bottle	5 ml	inquire
8.43934.0025	Glass bottle	25 ml	inquire

## 841565 1-Chloro-3-iodopropane (stabilised) for synthesis



$C_3H_6ClI$   
Trimethylene chloriodide  
■ CAS-No. 6940-76-7 ■ EC-No. 230-088-8  
■ Vapour pressure 3 hPa (20 °C)  
■ Spec. density 1.904 g/cm<sup>3</sup> (20 °C)  
■ Flash point 110 °C ■ Solub. in  $H_2O$  (20 °C) practically insoluble ■ M = 204.43 g/mol

mol ■ Boiling point 170 - 172 °C (1013 hPa)  
■ WGK 3  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2903 79 90 ■ Disposal 3

## Specification

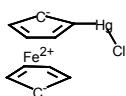
Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.936 - 1.940  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41565.0005	Glass bottle	5 ml	inquire

3-Chloroisobutylene → 3-Chloro-2-methyl-1-propene page 620

Chloromalonic acid diethyl ester → Diethyl chloromalonnate page 741

## 814400 Chloromercuriferrocene for synthesis



$C_{10}H_9ClFeHg$   
■ CAS-No. 1273-75-2  
■ Solub. in  $H_2O$  (20 °C) insoluble ■ M = 421.07 g/mol  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral,

H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
■ EC-Index-No. 080-004-00-7 ■ LGK 6.1A  
■ HS-No. 2852 10 00 ■ Disposal 20  
■ ADR-RID UN 2025 Quecksilberverbindung, fest, n.a.g.(CHLORMERCURIFERROCEN), 6.1, II ■ IMDG-Code UN 2025 MERCURY COMPOUND, SOLID, N.O.S.(CHLORMERCURIFERROCENE), 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and

mercury compounds)  
■ IATA-DGR UN 2025 MERCURY COMPOUND, SOLID, N.O.S.(CHLORMERCURIFERROCENE), 6.1, II

## Specification

Assay (ex Hg)..... ≥ 99.0 % (m)  
Melting range (lower value)..... ≥ 195 °C  
Melting range (upper value)..... ≤ 200 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14400.0001	Glass bottle	1 g	inquire



## 814837 Chloromethanesulfonyl chloride for synthesis

CH<sub>2</sub>Cl<sub>2</sub>O<sub>2</sub>S

- CAS-No. 3518-65-8 ■ EC-No. 222-526-1
- Spec. density 1.65 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ M = 148.99 g/mol
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280,

- P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 372 mg/kg
- LGK 8A
- HS-No. 2904 90 95 ■ Disposal 11
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(CHLORMETHANSULFONYLCHLORID), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(CHLORMETHANSULFONYLCHLORIDE), 8 (6.1), II
- IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC,

N.O.S.(CHLORMETHANSULFONYL CHLORIDE), 8 (6.1), II

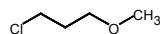
**Specification**

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14837.0005	Glass bottle	5 ml	inquire
8.14837.0010	Glass bottle	10 ml	inquire

1-Chloro-3-methoxybenzene → 3-Chloroanisole page 597

## 843833 1-Chloro-3-methoxypropane for synthesis

C<sub>4</sub>H<sub>9</sub>ClO

- CAS-No. 36215-07-3 ■ EC-No. 252-919-3
- Vapour pressure 25 hPa (20 °C)
- Spec. density 0.999 g/cm<sup>3</sup> (20 °C)
- Flash point 18 °C ■ Solub. in H<sub>2</sub>O 8 g/l (25 °C) (calculated) ■ M = 108.57 g/mol
- pH value 2.9 (100 g/l, H<sub>2</sub>O, 24 °C)
- Melting point < -70 °C ■ Boiling point 111 °C

- Ignition temp. 205 °C DIN 51794
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P260
- LD50 oral rat > 2000 mg/kg
- LGK 3
- HS-No. 2909 19 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-CHLOR-3-METHOXYPROPAN), 3, II
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-CHLORO-3-METHOXYPROPANE), 3, II

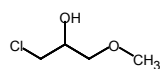
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-CHLORO-3-METHOXYPROPANE), 3, II

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.997 - 1.001  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43833.0025	Glass bottle	25 ml	inquire

## 814513 3-Chloro-1-methoxy-2-propanol for synthesis

C<sub>4</sub>H<sub>9</sub>ClO<sub>2</sub>

- CAS-No. 4151-97-7 ■ EC-No. 223-982-4
- Spec. density 1.16 g/cm<sup>3</sup> (20 °C)
- Flash point 72 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 124.56 g/mol ■ pH value 5.6 (50 g/l, H<sub>2</sub>O,

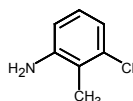
- 20 °C) ■ Boiling point 171 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 340 mg/kg
- LGK 10 - 13
- HS-No. 2909 49 80 ■ Disposal 3

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,162 - 1,165  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14513.0025	Glass bottle	25 ml	inquire

α-Chloro-4-methoxytoluene → 4-Methoxybenzyl chloride page 1118

## 802643 3-Chloro-2-methylaniline for synthesis

C<sub>7</sub>H<sub>8</sub>ClN

- 3-(Cl)-2-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>
- 6-Chloro-2-toluidine, 3-Chloro-o-toluidine, 2-Amino-6-chlorotoluene
- CAS-No. 87-60-5 ■ EC-No. 201-756-6
- Refractive index 1.588 (20 °C, 589 nm) ■ Vapour pressure 0.016 hPa (20 °C)
- Spec. density 1.188 g/cm<sup>3</sup> (20 °C)

- Flash point 113 °C ■ Solub. in H<sub>2</sub>O 4.5 g/l (20 °C) ■ M = 141.59 g/mol ■ Melting point 2 °C
- Boiling point 245 °C (1013 hPa)
- Ignition temp. 565 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P262, P302 + P352, P305 + P351 + P338
- LD50 oral rat 574 mg/kg
- LGK 10
- HS-No. 2921 43 00 ■ Disposal 2
- ADR-RID UN 3429 Chlortoluidine, flüssig, 6.1, III

■ IMDG-Code UN 3429 CHLOROTOLUIDINES, LIQUID, 6.1, III

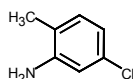
■ IATA-DGR UN 3429 CHLOROTOLUIDINES, LIQUID, 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,188 - 1,189  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02643.0250	Glass bottle	250 ml	inquire

## 802641 5-Chloro-2-methylaniline for synthesis

C<sub>7</sub>H<sub>8</sub>ClN

- 5-(Cl)-2-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>
- 4-Chloro-2-toluidine, 5-Chloro-o-toluidine, 2-Amino-4-chlorotoluene
- CAS-No. 95-79-4 ■ EC-No. 202-452-6
- Refractive index 1.584 (20 °C, 589 nm) ■ Vapour pressure 0.45 hPa (50 °C) ■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C) ■ Flash point 160 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 141.59 g/mol

- Melting point 22 °C ■ Boiling point 237 °C (1013 hPa) ■ Ignition temp. >540 °C
- WGK 2
- GHS: Warning, Carcinogenicity, Category 2, H351; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Acute toxicity, Category 4, Oral, H302, P281, P302 + P352, P305 + P351 + P338, P308 + P313
- LD50 oral rat 464 mg/kg
- LGK 10
- HS-No. 2921 43 00 ■ Disposal 2
- ADR-RID UN 3429 Chlortoluidine, flüssig, 6.1, III
- IMDG-Code UN 3429 CHLOROTOLUIDINES,

LIQUID, 6.1, III

■ IATA-DGR UN 3429 CHLOROTOLUIDINES, LIQUID, 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 25 °C  
 Melting range (upper value)..... ≤ 28 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02641.0250	Glass bottle	250 ml	inquire

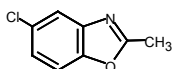
3-Chloromethylanisole → 3-Methoxybenzyl chloride page 1118

4-Chloromethylanisole → 4-Methoxybenzyl chloride page 1118

3-Chloromethylbenzotrifluoride → 3-(Trifluoromethyl)-benzyl chloride page 1595

# Chloro

## 814608 5-Chloro-2-methylbenzoxazole for synthesis



$C_8H_6ClNO$   
 ■ CAS-No. 19219-99-9 ■ EC-No. 242-888-4  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ M = 167.59 g/mol  
 ■ Melting point 53 - 58 °C

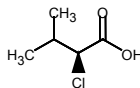
■ Boiling point 88 - 89 °C (7 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 53 °C  
 Melting range (upper value)..... ≤ 58 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14608.0005	Glass bottle	5 g	inquire

1-Chloro-2-methyl-3-bromopropane → 1-Bromo-3-chloro-2-methylpropane page 496

## 814612 (S)-2-Chloro-3-methylbutyric acid for synthesis



$C_5H_9ClO_2$   
 ■ CAS-No. 26782-74-1  
 ■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C)  
 ■ M = 136.57 g/mol ■ Boiling point 103 °C  
 (13.3 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,

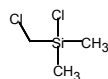
P280, P301 + P330 + P331, P305 + P351 + P338,  
 P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2915 90 70 ■ Disposal 4  
 ■ ADR-RID UN 3265 Ätzender saurer organischer  
 flüssiger Stoff, n.a.g.(2-CHLOR-3-  
 METHYLBUTTERSÄURE), 8, III ■ IMDG-Code UN  
 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC,  
 N.O.S.(2-CHLORO-3-METHYLBUTYRIC ACID), 8, III,  
 Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC,  
 ORGANIC, N.O.S.(2-CHLORO-3-METHYLBUTYRIC

ACID), 8, III  
**Specification**  
 Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,135 - 1,145  
 Spec. rotation [ $\alpha$ °/D (undiluted)..... -1,50 - -1,25 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14612.0001	Glass bottle	1 ml	inquire

(Chloromethyl)cyclopropane → Cyclopropyl methyl chloride page 680

## 814053 Chloromethyldimethylchlorosilane for synthesis



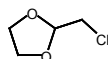
$C_3H_6Cl_2Si$   
 $ClCH_2(CH_3)_2SiCl$   
 Chloro(chloromethyl) dimethylsilane, CMDMCS  
 ■ CAS-No. 1719-57-9 ■ EC-No. 217-006-6  
 ■ Refractive index 1.436 (20 °C, 589 nm)  
 ■ Spec. density 1.08 - 1.09 g/cm<sup>3</sup> (20 °C)  
 ■ Explosive limit 1.4 - 51.5 % (V)  
 ■ Flash point 22 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 143.08 g/mol  
 ■ Boiling point 115 °C ■ Ignition temp. 355 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2,  
 H225; Specific target organ toxicity - single  
 exposure, Category 3, H335; Skin corrosion,  
 Category 1B, H314, P210, P280, P301 + P330 +  
 P331, P304 + P340, P305 + P351 + P338, P309 +  
 P310  
 ■ LGK 3  
 ■ HS-No. 2931 90 90 ■ Disposal 24  
 ■ ADR-RID UN 2985 Chlorsilane, entzündbar,

ätzend, n.a.g., 3 (8), II ■ IMDG-Code UN 2985  
 CHLOROSILANES, FLAMMABLE, CORROSIVE,  
 N.O.S., 3 (8), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2985 CHLOROSILANES,  
 FLAMMABLE, CORROSIVE, N.O.S., 3 (8), II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14053.0010	Glass bottle	10 ml	inquire

## 843831 2-Chloromethyl-1,3-dioxolane for synthesis



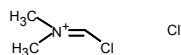
$C_4H_7ClO_2$   
 ■ CAS-No. 2568-30-1 ■ EC-No. 219-908-5

■ Spec. density 1.247 g/cm<sup>3</sup> ■ M = 122.55 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 99 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.245 - 1.249  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43831.0025	Glass bottle	25 ml	inquire
8.43831.0100	Glass bottle	100 ml	inquire

## 814654 N-Chloromethylen-N,N-dimethyl ammonium chloride for synthesis



$C_3H_7Cl_2N$   
 ■ CAS-No. 3724-43-4  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ M = 128 g/mol  
 ■ Melting point 116 - 127 °C  
 ■ WGK 2  
 ■ GHS: Danger, Reproductive toxicity, Category  
 1B, H360D; Acute toxicity, Category 4, Oral, H302;  
 Skin corrosion, Category 1A, H314, P201, P280,  
 P301 + P330 + P331, P305 + P351 + P338, P309

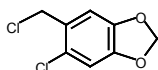
+ P310  
 ■ EC-Index-No. 612-250-00-3 ■ LGK 6.1A ■ Store  
 at +2°C to +8°C.  
 ■ HS-No. 2925 29 00 ■ Disposal 22  
 ■ ADR-RID UN 3261 Ätzender saurer organischer  
 fester Stoff, n.a.g.(N-CHLORMETHYLEN-N,N-  
 DIEMETHYLAMMONIUMCHLORID), 8, II ■ IMDG-  
 Code UN 3261 CORROSIVE SOLID, ACIDIC,  
 ORGANIC, N.O.S.(N-CHLOROMETHYLEN-N,N-  
 METHYLLAMMONIUMCHLORIDE), 8, II,  
 Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

ORGANIC, N.O.S.(N-CHLOROMETHYLEN-N,N-  
 DIMETHYLAMMONIUMCHLORIDE), 8, II  
**Specification**  
 Assay (argentometric)..... ≥ 95,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14654.0005	Glass bottle	5 g	inquire
8.14654.0025	Glass bottle	25 g	inquire

Chloromethylene → page 297

## 814877 6-Chloro-3,4-methylenedioxybenzyl chloride for synthesis



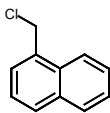
$C_8H_6Cl_2O_2$   
 6-Chloropiperonyl chloride  
 ■ CAS-No. 23468-31-7 ■ EC-No. 245-678-0  
 ■ M = 205.04 g/mol  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,  
 P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2932 99 00 ■ Disposal 3  
 ■ ADR-RID UN 1759 Ätzender fester Stoff,  
 n.a.g.(6-CHLOR-3,4-  
 METHYLEN-DIOXYBENZYLCHLORID), 8, II ■ IMDG-  
 Code UN 1759 CORROSIVE SOLID, N.O.S.(6-  
 CHLORO-3,4-METHYLEN-DIOXYBENZYL  
 CHLORIDE), 8, II  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(6-  
 CHLORO-3,4-METHYLEN-DIOXYBENZYL

CHLORIDE), 8, II  
**Specification**  
 Assay (GC, area%)..... ≥ 95,0 % (a/a)  
 Melting range (lower value)..... ≥ 62 °C  
 Melting range (upper value)..... ≤ 66 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14877.0010	Glass bottle	10 g	inquire

## 802360 1-(Chloromethyl)naphthalene for synthesis

C<sub>11</sub>H<sub>9</sub>Cl

- CAS-No. 86-52-2 ■ EC-No. 201-678-2
- Refractive index 1.638 (20 °C, 589 nm)
- Spec. density 1.18 g/cm<sup>3</sup> (20 °C)
- Flash point 132 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 176.64 g/mol
- Melting point 32 °C ■ Boiling point 291 - 292 °C (1013 hPa) ■ Ignition temp. 587 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 890 mg/kg ■ LD50 dermal rabbit 2000 mg/kg
- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(1-(CHLORMETHYL)-NAPHTHALIN), 8, II
- IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(1-(CHLORMETHYL)NAPHTHALENE), 8, II

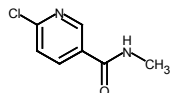
- IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(1-(CHLORMETHYL)NAPHTHALENE), 8, II

## Specification

Assay (HPLC, area%) ..... ≥ 95,0 Area %  
 2-(Chloromethyl)-naphthalene (HPLC, area%) ..... ≤ 3,0 Area %  
 Melting range (lower value) ..... ≥ 27 °C  
 Melting range (upper value) ..... ≤ 30 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02360.0100	Glass bottle	100 ml	inquire

## 843924 6-Chloro-N-methyl nicotinamide for synthesis

C<sub>7</sub>H<sub>7</sub>ClN<sub>2</sub>O

- CAS-No. 54189-82-1
- M = 170.60 g/mol ■ Melting point 154 - 156 °C
- WGK 3

- LGK 10 - 13
- HS-No. 2933 99 99 ■ Disposal 3

## Specification

Colour (visual) ..... white to off white  
 Appearance of substance (visual) ..... powder  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 153 °C  
 Melting range (upper value) ..... ≤ 157 °C

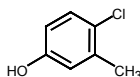
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43924.0005	Glass bottle	5 g	inquire
8.43924.0025	Plastic bottle	25 g	inquire

2-Chloromethyl oxirane → Epichlorohydrine page 836

2-(Chloromethyl)oxolane → Tetrahydrofurfuryl chloride page 1534

## 802295 4-Chloro-3-methylphenol for synthesis

C<sub>7</sub>H<sub>7</sub>ClO4-(Cl)-3-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>OH

4-Chloro-m-cresol, 2-Chloro-5-hydroxytoluene

- CAS-No. 59-50-7 ■ EC-No. 200-431-6
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.37 g/cm<sup>3</sup> (20 °C)
- Flash point 118 °C ■ Solub. in H<sub>2</sub>O 3.9 g/l (20 °C) ■ M = 142.58 g/mol ■ pH value 6.5 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 63 - 65 °C
- Bulk density 800 kg/m<sup>3</sup>
- Boiling point 235 - 239 °C (1013 hPa)
- Ignition temp. 590 °C

- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P280, P273, P302 + P352, P305 + P351 + P338, P313
- LC50 rat > 704 mg/m<sup>3</sup>
- LD50 oral rat 1830 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- EC-Index-No. 604-014-00-3 ■ LGK 6.1A
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 3437 Chlorocresole, fest, 6.1, II
- IMDG-Code UN 3437 CHLOROCRESOLS, SOLID, 6.1, II
- IATA-DGR UN 3437 CHLOROCRESOLS, SOLID,

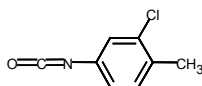
6.1, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 64 °C  
 Melting range (upper value) ..... ≤ 67 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02295.0005	Glass bottle	5 g	inquire
8.02295.0250	Plastic bottle	250 g	inquire
8.02295.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.02295.9050	Plastic drum	50 kg	inquire

## 840102 3-Chloro-4-methyl-phenyl isocyanate for synthesis

C<sub>8</sub>H<sub>6</sub>ClNO

3-Chloro-p-tolyl isocyanate

- CAS-No. 28479-22-3 ■ EC-No. 249-050-7
- Vapour pressure 0.2 hPa (20 °C)
- Spec. density 1.229 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C DIN 51758 ■ M = 167.59 g/mol ■ Saturation conc. 1.39 mg/l (20 °C)
- Melting point 23.5 °C ■ Boiling point 225 °C

- Ignition temp. 635 °C DIN 51794
- WGK 1
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310, P342 + P311
- LC50 rat 0.071 mg/l
- LD50 oral rat > 5000 mg/kg
- LGK 6.1A
- HS-No. 2929 10 00 ■ Disposal 11
- ADR-RID UN 3428 3-Chlor-4-

methylphenylisocyanat, fest, 6.1, II ■ IMDG-Code UN 3428 3-CHLORO-4-METHYLPHENYL ISOCYANATE, SOLID, 6.1, II

■ IATA-DGR UN 3428 3-CHLORO-4-METHYLPHENYL ISOCYANATE, SOLID, 6.1, II

## Specification

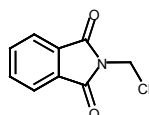
Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40102.0010	Glass bottle	10 g	inquire

1-Chloro-2-methyl-2-phenylpropane → (2-Chloro-1,1-dimethylethyl)benzene page 607

2-(Chloromethyl)-2-phenylpropane → (2-Chloro-1,1-dimethylethyl)benzene page 607

## 841454 N-Chloromethyl phthalimide for synthesis

C<sub>9</sub>H<sub>6</sub>ClNO<sub>2</sub>

- CAS-No. 17564-64-6 ■ EC-No. 241-541-4
- M = 195.6 g/mol ■ Melting point 130 - 134 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2925 19 95 ■ Disposal 3

## Specification

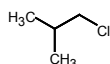
Assay (GC, area%) ..... ≥ 96.0 % (a/a)

Melting range (lower value) ..... ≥ 130 °C  
 Melting range (upper value) ..... ≤ 134 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41454.0010	Plastic bottle	10 g	inquire

# Chloro

## 820314 1-Chloro-2-methylpropane for synthesis



C<sub>4</sub>H<sub>9</sub>Cl  
(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>Cl  
*Isobutyl chloride*  
 ■ CAS-No. 513-36-0 ■ EC-No. 208-157-9  
 ■ Refractive index 1.3975 (20 °C, 589 nm)  
 ■ Vapour pressure 161 hPa (20 °C)  
 ■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.0 - 8.8 % (V) ■ Flash point -17 °C ■ Solub.

in H<sub>2</sub>O 28 mg/l (20 °C) ■ M = 92.56 g/mol  
 ■ Melting point -131 °C ■ Boiling point 69 °C (1013 hPa) ■ Ignition temp. 395 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P223, P262  
 ■ LGK 3  
 ■ HS-No. 2903 19 80 ■ Disposal 3  
 ■ ADR-RID UN 1127 Chlorbutane, 3, II ■ IMDG-Code UN 1127 CHLOROBUTANES, 3, II, Segregation Group: 10 (Liquid halogenated hydrocarbons)

■ IATA-DGR UN 1127 CHLOROBUTANES, 3, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.876 - 0.878  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20314.0050	Glass bottle	50 ml	inquire
8.20314.0250	Glass bottle	250 ml	inquire

## 801550 2-Chloro-2-methylpropane for synthesis



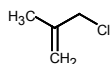
C<sub>4</sub>H<sub>9</sub>Cl  
*tert-Butyl chloride*  
 ■ CAS-No. 507-20-0 ■ EC-No. 208-066-4  
 ■ Refractive index 1.3848 (20 °C, 589 nm)  
 ■ Vapour pressure 350 hPa (20 °C)  
 ■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 10.1 % (V) ■ Flash point -27 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble, (slow decomposition)  
 ■ M = 92.57 g/mol ■ pH value (H<sub>2</sub>O) not

applicable ■ Melting point -28 °C  
 ■ Boiling point 51 °C (1013 hPa)  
 ■ Ignition temp. 540 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
 ■ LD50 oral rat 2425 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2903 19 80 ■ Disposal 2  
 ■ ADR-RID UN 1127 Chlorbutane, 3, II ■ IMDG-Code UN 1127 CHLOROBUTANES, 3, II, Segregation Group: 10 (Liquid halogenated

hydrocarbons)  
 ■ IATA-DGR UN 1127 CHLOROBUTANES, 3, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 0.842 - 0.844  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.01550.0100	Glass bottle	100 ml	inquire
8.01550.1000	Glass bottle	1 l	inquire

## 805905 3-Chloro-2-methyl-1-propene for synthesis



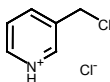
C<sub>4</sub>H<sub>7</sub>Cl  
ClCH<sub>2</sub>C(CH<sub>3</sub>)=CH<sub>2</sub>  
*β-Methylallyl chloride, 3-Chloroisobutylene*  
 ■ CAS-No. 563-47-3 ■ EC-No. 209-251-2  
 ■ Refractive index 1.4272 (20 °C, 589 nm)  
 ■ Vapour pressure 140 hPa (20 °C)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 - 10.4 % (V) ■ Flash point -18 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 90.55 g/mol  
 ■ Melting point -80 °C ■ Boiling point 72 - 74 °C  
 ■ Ignition temp. 540 °C

■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P210, P280, P273, P301 + P330 + P331, P305 + P351 + P338, P302 + P352, P309 + P310  
 ■ LD50 oral rat 215 mg/kg ■ LD50 dermal rat > 10000 mg/kg  
 ■ EC-Index-No. 602-032-00-6 ■ LGK 3  
 ■ HS-No. 2903 29 00 ■ Disposal 2  
 ■ ADR-RID UN 2554 Methylallylchlorid, 3, II  
 ■ IMDG-Code UN 2554 METHYLALLYL CHLORIDE,

3, II, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
 ■ IATA-DGR UN 2554 METHYLALLYL CHLORIDE, 3, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,925 - 0,927  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05905.0100	Glass bottle	100 ml	inquire
8.05905.0500	Glass bottle	500 ml	inquire

## 841714 3-(Chloromethyl)-pyridinium chloride for synthesis



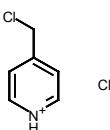
C<sub>6</sub>H<sub>7</sub>Cl<sub>2</sub>N  
 ■ CAS-No. 6959-48-4 ■ EC-No. 230-150-4  
 ■ M = 164.03 g/mol ■ Melting point 143 - 146 °C  
 ■ WGK 2  
 ■ GHS: Danger, Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P260, P280,

P281, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 316 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2933 39 99 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(3-(CHLORMETHYL)-PYRIDINIUMCHLORID), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-(CHLORMETHYL)PYRIDINE HYDROCHLORIDE), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-(CHLORMETHYL)PYRIDINE HYDROCHLORIDE), 8, III  
**Specification**  
 Assay (argentometric) ..... ≥ 97,0 % (m)  
 Melting range (lower value) ..... ≥ 137 °C  
 Melting range (upper value) ..... ≤ 142 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41714.0005	Glass bottle	5 g	inquire

## 807037 4-(Chloromethyl)-pyridinium chloride for synthesis



C<sub>6</sub>H<sub>7</sub>Cl<sub>2</sub>N  
 4-(ClCH<sub>2</sub>)C<sub>5</sub>H<sub>4</sub>N<sup>+</sup> HCl

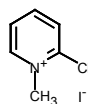
*4-Picolylchloride hydrochloride*  
 ■ CAS-No. 1822-51-1 ■ EC-No. 217-350-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 164.03 g/mol  
 ■ Melting point 160 - 163 °C  
 ■ Boiling point 171 - 173 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3  
**Specification**  
 Assay (argentometric) ..... ≥ 98,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07037.0005	Glass bottle	5 g	inquire



## 818172 2-Chloro-1-methylpyridinium iodide for synthesis



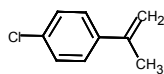
C<sub>6</sub>H<sub>7</sub>ClIN  
2-(Cl)-1-(CH<sub>3</sub>)C<sub>5</sub>H<sub>3</sub>NiHI

- CAS-No. 14338-32-0 ■ EC-No. 238-288-7
  - Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 255.49 g/mol
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2933 39 99 ■ Disposal 3
- Specification**

Assay (argentometric)..... ≥ 99,0 % (m)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18172.0025	Glass bottle	25 g	inquire

## 841822 4-Chloro-α-methylstyrene for synthesis



C<sub>9</sub>H<sub>9</sub>Cl  
4-Isopropenylchlorobenzene  
■ CAS-No. 1712-70-5 ■ EC-No. 216-984-1

- Spec. density 1.072 g/cm<sup>3</sup> (20 °C)
- Flash point 73 °C ■ M = 152.62 g/mol
- WGK 3
- LGK 10
- HS-No. 2903 99 90 ■ Disposal 3

**Specification**

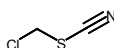
Assay (GC, area%)..... ≥ 96,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1,070 - 1,074  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41822.0010	Glass bottle	10 ml	inquire

2-(Chloromethyl)tetrahydrofuran → Tetrahydrofurfuryl chloride page 1534

## 818853 Chloromethyl thiocyanate for synthesis



C<sub>2</sub>H<sub>2</sub>CINS  
ClCH<sub>2</sub>SCN  
*Thiocyanic acid chloromethyl ester*  
■ CAS-No. 3268-79-9 ■ EC-No. 221-883-0  
■ Refractive index 1.5154 (20 °C, 589 nm)  
■ Spec. density 1.37 g/cm<sup>3</sup> (20 °C)  
■ Flash point 84 °C ■ Solub. in

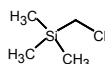
- H<sub>2</sub>O (20 °C) (decomposition) ■ M = 107.55 g/mol
- Boiling point 185 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,364 - 1,366  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18853.0010	Glass bottle	10 ml	inquire

## 818557 (Chloromethyl)trimethylsilane for synthesis



C<sub>4</sub>H<sub>11</sub>ClSi  
(CH<sub>3</sub>)<sub>3</sub>SiCH<sub>2</sub>Cl  
*Trimethylsilylchloromethane*  
■ CAS-No. 2344-80-1 ■ EC-No. 219-058-5  
■ Refractive index 1.418 (20 °C, 589 nm)  
■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C)  
■ Flash point 3 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
■ M = 122.66 g/mol ■ Boiling point 97 - 98 °C  
■ WGK 3

- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H335, P210, P262, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 2985 Chlorsilane, entzündbar, ätzend, n.a.g., 3 (8), II ■ IMDG-Code UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S., 3 (8), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2985 CHLOROSILANES,

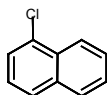
FLAMMABLE, CORROSIVE, N.O.S., 3 (8), II

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0,882 - 0,884  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18557.0025	Glass bottle	25 ml	inquire
8.18557.0100	Glass bottle	100 ml	inquire

## 820315 1-Chloronaphthalene for synthesis



C<sub>10</sub>H<sub>7</sub>Cl  
*α-Naphthyl chloride*  
■ CAS-No. 90-13-1 ■ EC-No. 201-967-3  
■ Vapour pressure 0.05 hPa (20 °C)  
■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C)  
■ Flash point 115 °C ■ Solub. in H<sub>2</sub>O 0.009 g/l (20 °C) ■ M = 162.61 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C) (undiluted) ■ Melting point -6 °C  
■ Boiling point 259 °C (1013 hPa)  
■ Ignition temp. >500 °C

- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273
- LC50 rat > 5.7 mg/l
- LD50 oral rat 1540 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 2
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1-CHLORNAPHTHALIN), 9, III
- IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-CHLORNAPHTHALINE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3082 ENVIRONMENTALLY

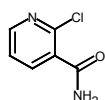
HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-CHLORNAPHTHALINE), 9, III

**Specification**

Assay (GC, area%)..... 85,0 - 88,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,188 - 1,195  
2-Chloronaphthalene (GC, area%).12,0 - 15,0 Area %  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20315.0100	Glass bottle	100 ml	inquire
8.20315.1000	Glass bottle	1 l	inquire

## 843939 2-Chloronicotinamide for synthesis



C<sub>6</sub>H<sub>5</sub>ClN<sub>2</sub>O  
■ CAS-No. 10366-35-5 ■ EC-No. 233-808-9  
■ M = 156.57 g/mol ■ Melting point 164 - 167 °C  
■ WGK 3  
■ GHS: Warning, Skin irritation, Category 2, H315;

- Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

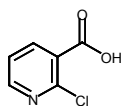
Colour (visual)..... white to pale yellow  
Appearance of substance (visual)..... powder  
Assay (HPLC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 163 °C

Melting range (upper value)..... ≤ 167 °C  
Water (K. F.)..... ≤ 0,30 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.43939.0005	Glass bottle	5 g	inquire
8.43939.0025	Plastic bottle	25 g	inquire

# Chloro

## 2-Chloronicotinic acid



C<sub>6</sub>H<sub>4</sub>ClNO<sub>2</sub>  
**2-Chloropyridine-3-carboxylic acid**  
 ■ CAS-No. 2942-59-8 ■ EC-No. 220-937-0  
 ■ M = 157.55 g/mol  
 ■ Melting point 181 °C (decomposition)  
 ■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

### 841232 2-Chloronicotinic acid for synthesis

**Specification**  
 Assay (acidimetric)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 178 °C  
 Melting range (upper value)..... ≤ 181 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41232.0050	Plastic bottle	50 g	inquire

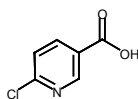
### 843937 2-Chloronicotinic acid for synthesis

**Specification**  
 Colour (visual)..... white  
 Appearance of substance (visual)..... powder  
 Assay (acidimetric)..... ≥ 99,0 %(m)  
 Water (K. F.)..... ≤ 0,30 %(m)

Chloride..... ≤ 0,30 %(m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.43937.0025	Plastic bottle	25 g	inquire
8.43937.0100	Plastic bottle	100 g	inquire

## 843935 6-Chloronicotinic acid for synthesis



C<sub>6</sub>H<sub>4</sub>ClNO<sub>2</sub>  
**6-Chloro-3-pyridinecarboxylic acid**  
 ■ CAS-No. 5326-23-8 ■ EC-No. 226-201-5  
 ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 157.55 g/mol  
 ■ Melting point 188 - 189 °C (decomposition)  
 ■ WGK 2

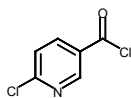
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

Assay (acidimetric)..... ≥ 98,0 %(m)  
 Water (K. F.)..... ≤ 0,50 %(m)  
 Chloride..... ≤ 1,0 %(m)  
 Identity (IR)..... conforms

**Specification**  
 Colour (visual)..... white to beige  
 Appearance of substance (visual)..... powder

Ord.No.	Packaging	Quantity	Price
8.43935.0025	Plastic bottle	25 g	inquire
8.43935.0100	Plastic bottle	100 g	inquire

## 843909 6-Chloronicotinic acid chloride for synthesis



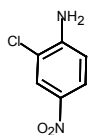
C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>NO  
 ■ CAS-No. 58757-38-3  
 ■ Flash point 110 °C ■ M = 176.00 g/mol  
 ■ Melting point 48 - 51 °C  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2933 39 99 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(6-CHLORNICOTINSAEURECHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(6-CHLORNICOTINIC ACID CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(6-CHLORNICOTINIC ACID

CHLORIDE), 8, II  
**Specification**  
 Assay (morpholine method)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 47 °C  
 Melting range (upper value)..... ≤ 51 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43909.0005	Glass bottle	5 g	inquire
8.43909.0025	Plastic bottle	25 g	inquire

## 802624 2-Chloro-4-nitroaniline for synthesis



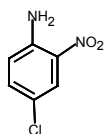
C<sub>6</sub>H<sub>5</sub>ClN<sub>2</sub>O<sub>2</sub>  
**2-(Cl)-4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>**  
**4-Amino-3-chloronitrobenzene**  
 ■ CAS-No. 121-87-9 ■ EC-No. 204-502-2  
 ■ Flash point 205 °C ■ Solub. in H<sub>2</sub>O 0.23 g/l

(20 °C) ■ M = 172.57 g/mol ■ pH value 7 (0.23 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 104 - 107 °C  
 ■ Bulk density 850 kg/m<sup>3</sup> ■ Boiling point 320 °C (1013 hPa) decomposes ■ Ignition temp. 522 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273  
 ■ LD50 oral rat 6430 mg/kg  
 ■ EC-Index-No. 610-009-00-7 ■ LGK 10 - 13  
 ■ HS-No. 2921 42 00 ■ Disposal 9  
 ■ ADR-RID UN 2237 Chlornitroaniline, 6.1, III

■ IMDG-Code UN 2237 CHLORONITROANILINES, 6.1, III, Marine Pollutant: P  
 ■ IATA-DGR UN 2237 CHLORONITROANILINES, 6.1, III  
**Specification**  
 Assay (HPLC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 105 °C  
 Melting range (upper value)..... ≤ 108 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02624.0250	Glass bottle	250 g	inquire

## 802625 4-Chloro-2-nitroaniline for synthesis



C<sub>6</sub>H<sub>5</sub>ClN<sub>2</sub>O<sub>2</sub>  
**2-Amino-5-chloronitrobenzene**  
 ■ CAS-No. 89-63-4 ■ EC-No. 201-925-4  
 ■ Spec. density 1.37 g/cm<sup>3</sup> (20 °C) (anhydrous substance) ■ Flash point 191 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) (anhydrous substance)  
 ■ M = 172.57 g/mol ■ pH value 7 (0.5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 116 - 119 °C (anhydrous

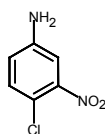
substance) ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ Boiling point ≥ 290 °C (1013 hPa) (decomposition)  
 ■ Ignition temp. 518 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 610-006-00-0 ■ LGK 6.1A

■ HS-No. 2921 42 00 ■ Disposal 9  
 ■ ADR-RID UN 2237 Chlornitroaniline, 6.1, III  
 ■ IMDG-Code UN 2237 CHLORONITROANILINES, 6.1, III, Marine Pollutant: P  
 ■ IATA-DGR UN 2237 CHLORONITROANILINES, 6.1, III  
**Specification**  
 Assay (HPLC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 116 °C  
 Melting range (upper value)..... ≤ 119 °C  
 Water (K. F.)..... ≤ 17,0 %(m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02625.0250	Glass bottle	250 g	inquire



## 841312 4-Chloro-3-nitroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>ClN<sub>2</sub>O<sub>2</sub>

5-Amino-2-chloronitrobenzene

■ CAS-No. 635-22-3 ■ EC-No. 211-231-3

■ M = 172.57 g/mol ■ Melting point 102 - 105 °C

■ WGK 3

- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 400 mg/kg
- EC-Index-No. 610-006-00-0 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 2237 Chlornitroaniline, 6.1, III
- IMDG-Code UN 2237 CHLORONITROANILINES,

6.1, III, Marine Pollutant: P

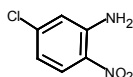
- IATA-DGR UN 2237 CHLORONITROANILINES, 6.1, III

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Melting range (lower value) ..... ≥ 102 °C  
 Melting range (upper value) ..... ≤ 105 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41312.0100	Plastic bottle	100 g	inquire

## 818355 5-Chloro-2-nitroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>ClN<sub>2</sub>O<sub>2</sub>2-(NO<sub>2</sub>)-5-(Cl)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>

■ CAS-No. 1635-61-6 ■ EC-No. 216-661-5

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 172.57 g/mol

■ Melting point 123 - 126 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1,

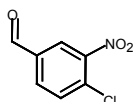
- Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310
- EC-Index-No. 610-006-00-0 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 2237 Chlornitroaniline, 6.1, III
- IMDG-Code UN 2237 CHLORONITROANILINES, 6.1, III, Marine Pollutant: P
- IATA-DGR UN 2237 CHLORONITROANILINES, 6.1, III

**Specification**

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 123 °C  
 Melting range (upper value) ..... ≤ 126 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18355.0010	Glass bottle	10 g	inquire
8.18355.0050	Plastic bottle	50 g	inquire

## 814046 4-Chloro-3-nitrobenzaldehyde for synthesis

C<sub>7</sub>H<sub>4</sub>ClNO<sub>3</sub>4-(Cl)3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>CHO

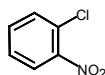
- CAS-No. 16588-34-4 ■ EC-No. 240-645-7
- Solub. in H<sub>2</sub>O 4 g/l (98 °C) ■ M = 185.56 g/mol
- Melting point 57 - 60 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2913 00 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 97.0 Area %  
 Melting range (lower value) ..... ≥ 57 °C  
 Melting range (upper value) ..... ≤ 60 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14046.0010	Glass bottle	10 g	inquire

## 806232 1-Chloro-2-nitrobenzene for synthesis

C<sub>6</sub>H<sub>4</sub>ClNO<sub>2</sub>

1-Nitro-2-chlorobenzene

■ CAS-No. 88-73-3 ■ EC-No. 201-854-9

■ Vapour pressure 0.43 hPa (50 °C)

■ Spec. density 1.37 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.15 - 13.1 % (V) ■ Flash point 128 °C■ Solub. in H<sub>2</sub>O 0.59 g/l (20 °C) ■ M = 157.55 g/mol■ pH value 6 (0.4 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 31 - 33 °C ■ Boiling point 243 °C (1013 hPa) ■ Ignition temp. 470 °C

- WGK 2
- GHS: Danger, Carcinogenicity, Category 2, H351; Acute toxicity, Category 3, Inhalation, H331; Chronic aquatic toxicity, Category 2, H411; Acute toxicity, Category 3, Dermal, H311; Reproductive toxicity, Category 2, H361F; Acute toxicity, Category 3, Oral, H301, P273, P280, P281, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 251 mg/kg ■ LD50 dermal rabbit 450 mg/kg
- LGK 6.1A
- HS-No. 2904 90 95 ■ Disposal 9
- ADR-RID UN 1578 Chlornitrobenzene, fest, 6.1, II ■ IMDG-Code UN 1578

CHLORONITROBENZENES, SOLID, 6.1, II

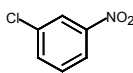
- IATA-DGR UN 1578 CHLORONITROBENZENES, SOLID, 6.1, II

**Specification**

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Melting range (lower value) ..... ≥ 31 °C  
 Melting range (upper value) ..... ≤ 33 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06232.0101	Glass bottle	100 g	inquire
8.06232.1001	Glass bottle	1 kg	inquire

## 818664 1-Chloro-3-nitrobenzene for synthesis

C<sub>6</sub>H<sub>4</sub>ClNO<sub>2</sub>1-(Cl)C<sub>6</sub>H<sub>4</sub>-3-(NO<sub>2</sub>)

MNCB

■ CAS-No. 121-73-3 ■ EC-No. 204-496-1

■ Vapour pressure 16 hPa (25 °C)

■ Spec. density 1.34 g/cm<sup>3</sup> (20 °C)■ Flash point 124 °C ■ Solub. in H<sub>2</sub>O 0.26 g/l

(20 °C) ■ M = 157.55 g/mol ■ pH value 7 (0.26 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 43 - 46 °C

- Boiling point 242 - 244 °C (1013 hPa)
- Ignition temp. 500 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P273, P280, P302 + P352, P309 + P310
- LD50 oral rat 400 mg/kg ■ LD50 dermal rat 890 mg/kg
- LGK 6.1A
- HS-No. 2904 90 95 ■ Disposal 3
- ADR-RID UN 1578 Chlornitrobenzene, fest, 6.1, II ■ IMDG-Code UN 1578

CHLORONITROBENZENES, SOLID, 6.1, II

- IATA-DGR UN 1578 CHLORONITROBENZENES, SOLID, 6.1, II

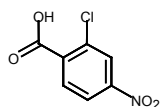
**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 43 °C  
 Melting range (upper value) ..... ≤ 46 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18664.0250	Glass bottle	250 g	inquire
8.18664.1000	Glass bottle	1 kg	inquire

# Chloro

## 800478 2-Chloro-4-nitrobenzoic acid for synthesis



C<sub>7</sub>H<sub>4</sub>ClNO<sub>4</sub>  
 2-(Cl)-4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>COOH  
 ■ CAS-No. 99-60-5 ■ EC-No. 202-771-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

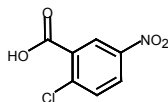
■ M = 201.56 g/mol ■ Melting point 138 - 142 °C  
 ■ Bulk density 700 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 138 °C  
 Melting range (upper value)..... ≤ 142 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00478.0100	Plastic bottle	100 g	inquire
8.00478.0250	Plastic bottle	250 g	inquire

## 821998 2-Chloro-5-nitrobenzoic acid for synthesis



C<sub>7</sub>H<sub>4</sub>ClNO<sub>4</sub>  
 2-(Cl)-5-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>COOH  
 ■ CAS-No. 2516-96-3 ■ EC-No. 219-739-7  
 ■ Spec. density 0.4 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 100 °C ■ Solub. in H<sub>2</sub>O 3.6 g/l

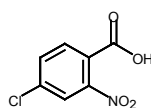
(15 °C) ■ M = 201.56 g/mol  
 ■ Melting point 164 - 167 °C  
 ■ Bulk density 470 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 164 °C  
 Melting range (upper value)..... ≤ 167 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21998.0250	Plastic bottle	250 g	inquire

## 818482 4-Chloro-2-nitrobenzoic acid for synthesis



C<sub>7</sub>H<sub>4</sub>ClNO<sub>4</sub>  
 4-(Cl)-2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>COOH  
 ■ CAS-No. 6280-88-2 ■ EC-No. 228-483-5  
 ■ Flash point > 100 °C ■ Solub. in H<sub>2</sub>O 5.3 g/l

(15 °C) ■ M = 201.56 g/mol  
 ■ Melting point 139 - 142 °C  
 ■ Bulk density 880 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 3000 mg/kg  
 ■ LGK 10 - 13

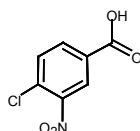
■ HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (acidimetric)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 139 °C  
 Melting range (upper value)..... ≤ 142 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18482.0025	Plastic bottle	25 g	inquire

## 800479 4-Chloro-3-nitrobenzoic acid for synthesis



C<sub>7</sub>H<sub>4</sub>ClNO<sub>4</sub>  
 4-(Cl)-3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>COOH  
 ■ CAS-No. 96-99-1 ■ EC-No. 202-550-9  
 ■ Spec. density 1.645 g/cm<sup>3</sup> (20 °C) ■ Solub. in

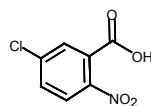
H<sub>2</sub>O (20 °C) insoluble ■ M = 201.56 g/mol  
 ■ Melting point 180 - 183 °C  
 ■ Bulk density 350 kg/m<sup>3</sup> ■ Ignition temp. 340 °C  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 3150 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 180 °C  
 Melting range (upper value)..... ≤ 183 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00479.0005	Glass bottle	5 g	inquire
8.00479.0250	Plastic bottle	250 g	inquire

## 818539 5-Chloro-2-nitrobenzoic acid for synthesis



C<sub>7</sub>H<sub>4</sub>ClNO<sub>4</sub>  
 5-(Cl)-2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>COOH  
 ■ CAS-No. 2516-95-2 ■ EC-No. 219-738-1  
 ■ Flash point > 100 °C ■ Solub. in H<sub>2</sub>O 9.67 g/l

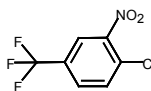
(25 °C) ■ M = 201.56 g/mol  
 ■ Melting point 136 - 140 °C  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 136 °C  
 Melting range (upper value)..... ≤ 140 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18539.0025	Plastic bottle	25 g	inquire
8.18539.0100	Plastic bottle	100 g	inquire

## 841024 4-Chloro-3-nitrobenzotrifluoride for synthesis



C<sub>7</sub>H<sub>3</sub>ClF<sub>3</sub>NO<sub>2</sub>  
 2-Chloro-5-(trifluoromethyl)nitrobenzene, CMNT  
 ■ CAS-No. 121-17-5 ■ EC-No. 204-451-6  
 ■ Spec. density 1.535 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 101 °C ■ M = 225.55 g/mol  
 ■ Melting point -3 °C ■ Boiling point 108 - 109 °C

(13 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P302 + P352  
 ■ LD50 oral rat 1075 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2904 90 95 ■ Disposal 3  
 ■ ADR-RID UN 2307 3-Nitro-4-chlorobenzotrifluorid, 6.1, II ■ IMDG-Code UN 2307 3-NITRO-4-CHLOROBENZOTRIFLUORIDE, 6.1, II,

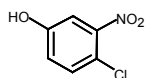
Marine Pollutant: P  
 ■ IATA-DGR UN 2307 3-NITRO-4-CHLOROBENZOTRIFLUORIDE, 6.1, II

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 1.533 - 1.538  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41024.0100	Glass bottle	100 ml	inquire

## 814581 4-Chloro-3-nitrophenol for synthesis

C<sub>6</sub>H<sub>4</sub>ClNO<sub>3</sub>

- CAS-No. 610-78-6
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 173.55 g/mol ■ Melting point 125 - 128 °C

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2908 99 00 ■ Disposal 3

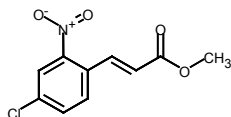
**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 125 °C

Melting range (upper value) ..... ≤ 128 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14581.0005	Glass bottle	5 g	inquire
8.14581.0025	Glass bottle	25 g	inquire

## 815109 3-(4-Chloro-2-nitrophenyl) methyl acrylate for synthesis

C<sub>10</sub>H<sub>8</sub>ClNO<sub>4</sub>

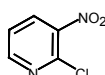
- CAS-No. 150869-41-3
- M = 241.63 g/mol ■ Melting point 82 - 84 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 96,0 Area %  
Melting range (lower value)..... ≥ 82 °C  
Melting range (upper value)..... ≤ 84 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.15109.0025	Plastic bottle	25 g	inquire

## 841273 2-Chloro-3-nitropyridine for synthesis

C<sub>5</sub>H<sub>3</sub>ClN<sub>2</sub>O<sub>2</sub>

- CAS-No. 5470-18-8 ■ EC-No. 226-799-8
- Flash point 185 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 158.54 g/mol
- Melting point 100 - 103 °C
- Ignition temp. 485 °C

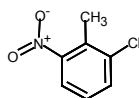
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 1550 mg/kg
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Melting range (lower value)..... ≥ 100 °C  
Melting range (upper value)..... ≤ 103 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41273.0005	Plastic bottle	5 g	inquire

## 815110 2-Chloro-6-nitrotoluene for synthesis

C<sub>7</sub>H<sub>6</sub>ClNO<sub>2</sub>

- CAS-No. 83-42-1 ■ EC-No. 201-475-9
- Vapour pressure 0.4 hPa (50 °C)
- Flash point 125 °C ■ Solub. in H<sub>2</sub>O 0.092 g/l (20 °C) ■ M = 171.58 g/mol
- Melting point 35 - 37 °C ■ Boiling point 238 °C (1013 hPa) ■ Ignition temp. 435 °C

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411; Eye irritation, Category 2, H319, P273, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2904 90 95 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2-CHLOR-6-NITROTOLUOL), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-CHLORO-6-NITROTOLUENE), 9, III, Marine Pollutant: P

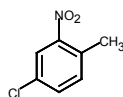
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-CHLORO-6-NITROTOLUENE), 9, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 35 °C  
Melting range (upper value)..... ≤ 37 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.15110.0250	Glass bottle	250 g	inquire

## 843966 4-Chloro-2-nitrotoluene for synthesis

C<sub>7</sub>H<sub>6</sub>ClNO<sub>2</sub>

- CAS-No. 89-59-8 ■ EC-No. 201-921-2
- Flash point 120 °C ■ M = 171.58 g/mol
- Melting point 34 - 38 °C
- Boiling point 239 - 240 °C (1013 hPa)
- Ignition temp. 410 °C
- WGK 2

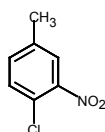
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 6.1C
- HS-No. 2904 90 95 ■ Disposal 3
- ADR-RID UN 3457 Chlornitrotoluene, fest, 6.1, III ■ IMDG-Code UN 3457 CHLORONITROTOLUENES, SOLID, 6.1, III, Marine Pollutant: P
- IATA-DGR UN 3457 CHLORONITROTOLUENES, SOLID, 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Melting range (lower value)..... ≥ 34 °C  
Melting range (upper value)..... ≤ 38 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43966.0050	Glass bottle	50 g	inquire
8.43966.0250	Glass bottle	250 g	inquire

## 841578 4-Chloro-3-nitrotoluene for synthesis

C<sub>7</sub>H<sub>6</sub>ClNO<sub>2</sub>

- CAS-No. 89-60-1 ■ EC-No. 201-922-8
- Spec. density 1.295 g/cm<sup>3</sup> (20 °C)
- Flash point 129 °C ■ M = 171.58 g/mol
- Melting point 7 °C ■ Boiling point 260 - 262 °C

- (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10
- HS-No. 2904 90 95 ■ Disposal 3
- ADR-RID UN 2433 Chlornitrotoluene, flüssig, 6.1, III ■ IMDG-Code UN 2433

CHLORONITROTOLUENES, LIQUID, 6.1, III, Marine Pollutant: P

■ IATA-DGR UN 2433 CHLORONITROTOLUENES, LIQUID, 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.304 - 1.308  
Identity (IR)..... passes test

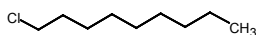
Ord.No.	Packaging	Quantity	Price
8.41578.0025	Glass bottle	25 ml	inquire

α-Chloro-2-nitrotoluene → 2-Nitrobenzyl chloride  
page 1221

2-Chloro-N,N-dimethylpropylamine hydrochloride  
→ N-(2-Chloropropyl)-N,N-dimethylammonium  
chloride page 633

# Chloro

## 820318 1-Chlorononane for synthesis



C<sub>9</sub>H<sub>19</sub>Cl  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>8</sub>Cl  
*Nonyl chloride*  
■ CAS-No. 2473-01-0 ■ EC-No. 219-595-5  
■ Refractive index 1.436 (20 °C, 589 nm) ■ Vapour pressure 0.25 hPa (137 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C)

■ Flash point 78 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 162.7 g/mol  
■ Boiling point 203 - 205 °C  
■ WGK 3  
■ LGK 10  
■ HS-No. 2903 19 80 ■ Disposal 3

**Specification**  
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (20/4 °C) ..... 0.870 - 0.872

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20318.0025	Glass bottle	25 ml	inquire
8.20318.0100	Glass bottle	100 ml	inquire
8.20318.0250	Glass bottle	250 ml	inquire

## 822000 1-Chlorooctadecane for synthesis



C<sub>18</sub>H<sub>37</sub>Cl  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>17</sub>Cl  
*Stearyl chloride, Octadecyl chloride*  
■ CAS-No. 3386-33-2 ■ EC-No. 222-207-7  
■ Refractive index 1.452 (20 °C, 589 nm) ■ Vapour pressure 0.25 hPa (137 °C) ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)

cm<sup>3</sup> (20 °C) ■ Flash point 184 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 288.94 g/mol  
■ Melting point 20 - 23 °C  
■ Boiling point 165 - 166 °C (3 hPa)  
■ Ignition temp. 320 °C  
■ WGK 1  
■ LGK 10  
■ HS-No. 2903 19 80 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Melting range (lower value) ..... ≥ 20 °C  
Melting range (upper value) ..... ≤ 23 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22000.0100	Glass bottle	100 ml	inquire

## 806903 1-Chlorooctane for synthesis



C<sub>8</sub>H<sub>17</sub>Cl  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>Cl  
*Octyl chloride*  
■ CAS-No. 111-85-3 ■ EC-No. 203-915-5  
■ Refractive index 1.431 (20 °C, 589 nm) ■ Vapour pressure 1.5 hPa (20 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Flash point 68 °C ■ Solub. in H<sub>2</sub>O 0.02 g/l (20 °C) ■ M = 148.67 g/mol  
■ Melting point -58 °C  
■ Boiling point 181 - 183 °C (1013 hPa)  
■ Ignition temp. 230 °C

■ WGK 2  
■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273  
■ LD50 oral rat > 20000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2903 19 80 ■ Disposal 3  
■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1-CHLOROCTAN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-CHLOROCTANE), 9, III, Marine Pollutant: P  
■ IATA-DGR UN 3082 ENVIRONMENTALLY

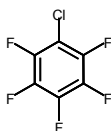
HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-CHLOROCTANE), 9, III

**Specification**  
Assay (GC, area%) ..... ≥ 98.0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,871 - 0,874  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06903.0100	Glass bottle	100 ml	inquire
8.06903.0500	Glass bottle	500 ml	inquire

Chloro(p-chlorophenyl) phenylmethane → 4-Chlorobenzhydryl chloride page 599

## 841390 Chloropentafluorobenzene for synthesis



C<sub>6</sub>ClF<sub>5</sub>  
■ CAS-No. 344-07-0 ■ EC-No. 206-450-6

■ Vapour pressure 23.7 hPa (25 °C)  
■ Spec. density 1.569 g/cm<sup>3</sup> (20 °C)  
■ M = 202.51 g/mol ■ Boiling point 116 - 118 °C  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331, P304 + P340, P309 + P310  
■ LC50 rat 4.840 mg/l  
■ LD50 oral rat > 5000 g/kg  
■ LGK 10 - 13

■ HS-No. 2903 99 90 ■ Disposal 3  
**Specification**  
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.638 - 1.644  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41390.0010	Glass bottle	10 ml	inquire

## 820320 1-Chloropentane for synthesis



C<sub>5</sub>H<sub>11</sub>Cl  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>Cl  
*Pentyl chloride, Amyl chloride*  
■ CAS-No. 543-59-9 ■ EC-No. 208-846-4  
■ Refractive index 1.4115 (20 °C, 589 nm)  
■ Vapour pressure 32 hPa (20 °C)  
■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 8.6 % (V) ■ Flash point 3 °C ■ Solub. in H<sub>2</sub>O 197 mg/l (25 °C) ■ M = 106.59 g/mol  
■ Melting point -99 °C ■ Boiling point 108 °C

■ Ignition temp. 220 °C  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P302 + P352  
■ EC-Index-No. 602-022-00-1 ■ LGK 3  
■ HS-No. 2903 19 80 ■ Disposal 3  
■ ADR-RID UN 1107 Amylchloride, 3, II ■ IMDG-Code UN 1107 AMYL CHLORIDES, 3, II, Segregation Group: 10 (Liquid halogenated)

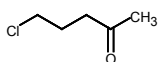
hydrocarbons)  
■ IATA-DGR UN 1107 AMYL CHLORIDE, 3, II  
**Specification**  
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.880 - 0.882  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20320.0050	Glass bottle	50 ml	inquire
8.20320.0250	Glass bottle	250 ml	inquire

3-Chloro-2,4-pentanedione → 3-Chloroacetylacetone page 596

5-Chloropentanoic → 5-Chlorovaleric acid page 638

## 841726 5-Chloro-2-pentanone for synthesis



C<sub>5</sub>H<sub>9</sub>ClO  
■ CAS-No. 5891-21-4 ■ EC-No. 227-565-8  
■ Spec. density 1.053 g/cm<sup>3</sup> (20 °C)  
■ Flash point 73 °C ■ M = 120.57 g/mol

■ Boiling point 172 °C (1013 hPa) decomposes  
■ Ignition temp. 440 °C  
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
■ LD50 oral rat 804 mg/kg  
■ LGK 10 - 13 ■ Store below +15 °C.  
■ HS-No. 2914 70 00 ■ Disposal 3

**Specification**  
Assay (GC, area%) ..... ≥ 96,0 Area %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41726.0025	Glass bottle	25 ml	inquire
8.41726.0100	Glass bottle	100 ml	inquire



**802253 2-Chlorophenol** for synthesisC<sub>6</sub>H<sub>5</sub>ClO2-(Cl)C<sub>6</sub>H<sub>4</sub>OH

2-Chloro-1-hydroxybenzene

- CAS-No. 95-57-8 ■ EC-No. 202-433-2
- Refractive index 1.5579 (20 °C, 589 nm)
- Vapour pressure 13.3 hPa (50 °C)
- Spec. density 1.26 g/cm<sup>3</sup> (20 °C)
- Flash point 72 °C ■ Solub. in H<sub>2</sub>O 28.5 g/l (20 °C) ■ M = 128.55 g/mol ■ Melting point 7 °C

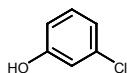
- Boiling point 174 °C (1013 hPa)
- Ignition temp. 550 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352
- LC50 rat 2.05 mg/l
- LD50 oral rat 670 mg/kg
- EC-Index-No. 604-008-00-0 ■ LGK 10
- HS-No. 2908 19 00 ■ Disposal 2
- ADR-RID UN 2021 Chlorphenole, flüssig, 6.1, III

- IMDG-Code UN 2021 CHLOROPHENOLS, LIQUID, 6.1, III
- IATA-DGR UN 2021 CHLOROPHENOLS, LIQUID, 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/4 °C)..... 1,262 - 1,265  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02253.0100	Glass bottle	100 ml	inquire
8.02253.0500	Glass bottle	500 ml	inquire

**820321 3-Chlorophenol** for synthesisC<sub>6</sub>H<sub>5</sub>ClO3-(Cl)C<sub>6</sub>H<sub>4</sub>OH

3-Chloro-1-hydroxybenzene

- CAS-No. 108-43-0 ■ EC-No. 203-582-6
- Vapour pressure 1 hPa (44 °C)
- Spec. density 1.27 g/cm<sup>3</sup> (45 °C)
- Flash point 97 °C ■ Solub. in H<sub>2</sub>O 27.7 g/l (20 °C) ■ M = 128.55 g/mol ■ pH value 3.5 (27.7 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 31 - 34 °C
- Boiling point 216.8 °C (1013 hPa)

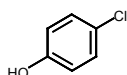
- Ignition temp. >600 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352
- LD50 oral rat 570 mg/kg
- EC-Index-No. 604-008-00-0 ■ LGK 10 - 13
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 2020 Chlorphenole, fest, 6.1, III
- IMDG-Code UN 2020 CHLOROPHENOLS, SOLID, 6.1, III

- IATA-DGR UN 2020 CHLOROPHENOLS, SOLID, 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 28 °C  
Melting range (upper value)..... ≤ 35 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20321.0010	Glass bottle	10 g	inquire
8.20321.0050	Glass bottle	50 g	inquire
8.20321.0250	Glass bottle	250 g	inquire

**802254 4-Chlorophenol** for synthesisC<sub>6</sub>H<sub>5</sub>ClO4-(Cl)C<sub>6</sub>H<sub>4</sub>OH

4-Chloro-1-hydroxybenzene

- CAS-No. 106-48-9 ■ EC-No. 203-402-6
- Vapour pressure 0.15 hPa (20 °C)
- Spec. density 1.26 g/cm<sup>3</sup> (45 °C)
- Flash point 121 °C ■ Solub. in H<sub>2</sub>O 27 g/l (20 °C)
- M = 128.55 g/mol ■ Melting point 41 - 44 °C
- Boiling point 220 °C (1013 hPa)

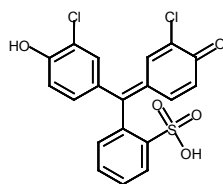
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352
- LD50 oral rat 261 mg/kg
- EC-Index-No. 604-008-00-0 ■ LGK 10
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 2020 Chlorphenole, fest, 6.1, III
- IMDG-Code UN 2020 CHLOROPHENOLS, SOLID, 6.1, III
- IATA-DGR UN 2020 CHLOROPHENOLS, SOLID, 6.1, III

6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 41 °C  
Melting range (upper value)..... ≤ 44 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02254.0100	Glass bottle	100 g	inquire
8.02254.0500	Glass bottle	500 g	inquire
8.02254.1000	Glass bottle	1 kg	inquire

**103024 Chlorophenol red** indicatorC<sub>19</sub>H<sub>12</sub>Cl<sub>2</sub>O<sub>5</sub>S

3,3'-Dichlorophenolsulfonphthalein

■ CAS-No. 4430-20-0 ■ EC-No. 224-619-2

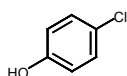
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 423.26 g/mol ■ Melting point 261 °C ■ Bulk density 720 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3
- Use as pH indicator: 0.1 g in 100 ml ethanol

**Specification**

Identity (UV/VIS-Spectrum)..... passes test  
Transition range..pH 4.8 - pH 6.4 Brownishyellow - red-violet  
Absorption maximum λ 1 (buffer pH 4.8)..... 432 -

436 nm  
Absorption maximum λ 2 (buffer pH 6.4).....  
..... 574 - 576 nm  
Spec. Absorptivity A 1%/1cm  
- (λ1max; 0.001 %; buffer pH 4.8; calculated on dried substance) .....450 - 600  
- (λ2max; 0.001 %; buffer pH 6.4; calculated on dried substance) ..... 1000 - 1300  
Loss on drying (110 °C)..... ≤ 15 %

Ord.No.	Packaging	Quantity	Price
1.03024.0010	Glass bottle	10 g	inquire

**103085 4-Chlorophenol solution 725 mg/l** for AOX determination acc. to DIN 38409-H 14

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 5 (H<sub>2</sub>O,

- 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 2908 19 00 ■ Disposal 28

**Specification**

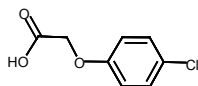
Assay (according to weighing protocol)..... 725mg/l

Assay Cl (according to weighing protocol).....  
.....200mg/l  
Assay (AOX)..... conforms

Ord.No.	Packaging	Quantity	Price
1.03085.0100	Glass bottle	100 ml	inquire

# Chloro

## 841619 4-Chlorophenoxyacetic acid for synthesis



$C_8H_7ClO_3$   
4-CPA  
■ CAS-No. 122-88-3 ■ EC-No. 204-581-3

- Solub. in H<sub>2</sub>O 957 mg/l (25 °C) ■ M = 186.59 g/mol ■ Melting point 157 - 160 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 850 mg/kg
- EC-Index-No. 607-073-00-3 ■ LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

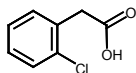
### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 157 °C  
Melting range (upper value) ..... ≤ 160 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41619.0100	Plastic bottle	100 g	inquire

5-Chloro-2-phenoxyaniline → 2-Amino-4-chloro-diphenyl ether page 383

## 814003 2-Chlorophenylacetic acid for synthesis



$C_8H_7ClO_2$   
2-(Cl)-C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>COOH  
OCPA  
■ CAS-No. 2444-36-2 ■ EC-No. 219-482-0

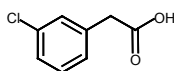
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 170.59 g/mol ■ Melting point 93 - 96 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (HPLC, area%) ..... ≥ 99,0 Area %  
Melting range (lower value) ..... ≥ 93 °C  
Melting range (upper value) ..... ≤ 96 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14003.0010	Glass bottle	10 g	inquire

## 841450 3-Chlorophenylacetic acid for synthesis



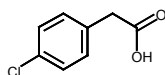
$C_8H_7ClO_2$   
■ CAS-No. 1878-65-5 ■ EC-No. 217-520-0  
■ M = 170.59 g/mol ■ Melting point 78 - 79 °C  
■ WGK 3  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 +

- P352, P305 + P351 + P338
- LGK 10 - 13
  - HS-No. 2916 39 90 ■ Disposal 3
  - ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(3-CHLORPHENYLESSIGSAEURE), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3-CHLOROPHENYLACETIC ACID), 6.1, III
  - IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3-CHLOROPHENYLACETIC ACID), 6.1, III

Assay (acidimetric) ..... ≥ 98,0 %  
Melting range (lower value) ..... ≥ 77 °C  
Melting range (upper value) ..... ≤ 79 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41450.0010	Glass bottle	10 g	inquire

## 814259 4-Chlorophenylacetic acid for synthesis



$C_8H_7ClO_2$   
4-(Cl)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>COOH  
■ CAS-No. 1878-66-6 ■ EC-No. 217-521-6  
■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
■ M = 170.59 g/mol ■ pH value 2.5 - 3 (100 g/l),

- H<sub>2</sub>O, 20 °C) suspension
- Melting point 101 - 104 °C
  - Bulk density 500 kg/m<sup>3</sup>
  - WGK 3
  - GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338
  - LGK 10 - 13
  - HS-No. 2916 39 90 ■ Disposal 3

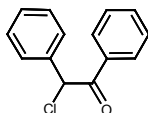
### Specification

Assay (HPLC, area%) ..... ≥ 96,0 Area %  
Melting range (lower value) ..... ≥ 101 °C  
Melting range (upper value) ..... ≤ 104 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14259.0050	Plastic bottle	50 g	inquire

4-Chlorophenylacetonitrile → 4-Chlorobenzyl cyanide page 604

## 841176 2-Chloro-2-phenylacetophenone for synthesis



$C_{14}H_{11}ClO$   
Desyl chloride  
■ CAS-No. 447-31-4 ■ EC-No. 207-181-7  
■ M = 230.69 g/mol ■ Melting point 67 - 68 °C  
■ WGK 3

- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2914 70 00 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(2-CHLOR-2-PHENYLACETOPHENON), 8, II
- IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(2-CHLORO-2-PHENYLACETOPHENONE), 8, II
- IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(2-

CHLORO-2-PHENYLACETOPHENONE), 8, II

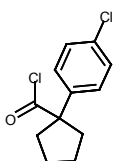
### Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
Melting range (lower value) ..... ≥ 66 °C  
Melting range (upper value) ..... ≤ 69 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41176.0025	Plastic bottle	25 g	inquire

4-Chloro-α-phenylbenzyl alcohol → 4-Chlorobenzhydrol page 599

## 841803 1-(4-Chlorophenyl)-1-cyclopentanecarboxylic acid chloride for synthesis



$C_{12}H_{12}Cl_2O$   
■ CAS-No. 71501-44-5 ■ EC-No. 275-573-5  
■ Spec. density 1.243 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 243.13 g/mol

- Boiling point >290 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(1-(4-CHLORPHENYL)-1-CYCLOPENTANECARBONYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1-(4-CHLOROPHENYL)-1-

CYCLOPENTANECARBOXYLIC ACID CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1-(4-CHLOROPHENYL)-1-CYCLOPENTANECARBOXYLIC ACID CHLORIDE), 8, II

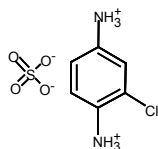
### Specification

Assay (morpholine method) ..... ≥ 97,0 %  
Density (d 20 °C / 4 °C) ..... 1,240 - 1,245  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41803.0011	Glass bottle	10 ml	inquire



## 820325 2-Chloro-1,4-phenylenediammonium sulfate for synthesis



$C_6H_9ClN_2O_4S$   
 2-(Cl)-4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub> \* H<sub>2</sub>SO<sub>4</sub>  
 ■ CAS-No. 61702-44-1 ■ EC-No. 262-915-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 240.66 g/mol ■ Melting point 250 °C  
 ■ Ignition temp. 290 °C  
 ■ WGK 2  
 ■ LD50 oral rat 2280 mg/kg

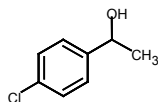
■ LGK 10 - 13  
 ■ HS-No. 2921 51 19 ■ Disposal 3

**Specification**

Assay (acidimetric after ion exchange) ..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20325.0100	Glass bottle	100 g	inquire

## 814834 1-(4-Chlorophenyl) ethanol for synthesis



$C_8H_9ClO$   
 ■ CAS-No. 3391-10-4 ■ EC-No. 222-223-4

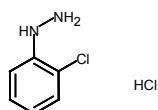
■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 156.61 g/mol  
 ■ Boiling point 80 - 82 °C (1.33 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2906 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,168 - 1,172  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14834.0005	Glass bottle	5 ml	inquire

## 841213 2-Chlorophenyldiazine hydrochloride for synthesis



$C_6H_8Cl_2N_2$   
 $C_6H_7ClN_2 \cdot HCl$   
 ■ CAS-No. 41052-75-9 ■ EC-No. 255-194-1  
 ■ M = 179.05 g/mol ■ Melting point 197 - 198 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B,

H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2928 00 90 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-CHLORPHENYLHYDRAZINIUMCHLORID), 6.1, III

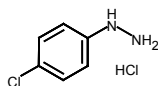
■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-CHLOROPHENYLHYDRAZINE HYDROCHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-CHLOROPHENYLHYDRAZINE HYDROCHLORIDE), 6.1, III

**Specification**

Assay (argentometric) ..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41213.0005	Plastic bottle	5 g	inquire

## 841601 4-Chlorophenyldiazine hydrochloride for synthesis



$C_6H_8Cl_2N_2$   
 $C_6H_7ClN_2 \cdot HCl$   
 ■ CAS-No. 1073-70-7 ■ EC-No. 214-030-9  
 ■ M = 179.04 g/mol  
 ■ Melting point 227 °C (decomposition)  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B,

H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2928 00 90 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-CHLORPHENYLHYDRAZINIUMCHLORID), 6.1, III

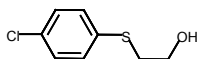
■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-CHLOROPHENYLHYDRAZINE HYDROCHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-CHLOROPHENYLHYDRAZINE HYDROCHLORIDE), 6.1, III

**Specification**

Assay (argentometric) ..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41601.0005	Plastic bottle	5 g	inquire

## 814889 4-Chlorophenyl-2-hydroxyethyl sulfide for synthesis



$C_8H_9ClOS$   
 ■ CAS-No. 13457-98-2 ■ EC-No. 236-657-7  
 ■ Spec. density 1.278 g/cm<sup>3</sup> (20 °C)  
 ■ M = 188.68 g/mol ■ Boiling point 140 °C  
 ■ WGK 3

■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(4-CHLORPHENYL-2-HYDROXYETHYLSULFID), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(4-CHLOROPHENYL-2-HYDROXYETHYL SULPHIDE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

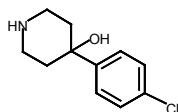
N.O.S.(4-CHLOROPHENYL-2-HYDROXYETHYL SULPHIDE), 6.1, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14889.0005	Glass bottle	5 ml	inquire

## 814665 4-(4-Chlorophenyl)-4-hydroxypiperidine for synthesis



$C_{11}H_{14}ClNO$   
 ■ CAS-No. 39512-49-7 ■ EC-No. 254-479-8  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 340 mg/l (20 °C) ■ M = 211.69 g/mol ■ pH value 10 (H<sub>2</sub>O),

20 °C) (saturated solution)  
 ■ Melting point 138 - 142 °C  
 ■ Ignition temp. 400 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 357 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 138 °C  
 Melting range (upper value) ..... ≤ 142 °C  
 Identity (IR)..... passes test

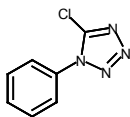
Ord.No.	Packaging	Quantity	Price
8.14665.0001	Glass bottle	1 g	inquire
8.14665.0005	Glass bottle	5 g	inquire

4-(Chlorophenyl)-methylketone → 4'-Chloroacetophenone page 596

1-Chloro-3-phenylpropane → 3-Phenylpropyl chloride page 1313

# Chloro

## 802314 5-Chloro-1-phenyltetrazole for synthesis



C<sub>7</sub>H<sub>5</sub>ClN<sub>4</sub>

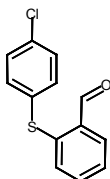
- CAS-No. 14210-25-4 ■ EC-No. 238-065-4
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 180.60 g/mol
- Melting point 121 - 123 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

### Specification

Assay (ex Cl) ..... ≥ 99,0 % (m)  
 Melting range (lower value) ..... ≥ 121 °C  
 Melting range (upper value) ..... ≤ 123 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02314.0010	Glass bottle	10 g	inquire

## 841881 2-(4-Chlorophenylthio)benzaldehyde for synthesis



- C<sub>13</sub>H<sub>9</sub>ClOS
- CAS-No. 107572-07-6
  - M = 248.72 g/mol
  - Melting point 73.8 - 75.4 °C
  - Boiling point 102 - 104 °C (18.6 hPa)
  - WGK 3
  - LGK 10 - 13 ■ Store below +15 °C.
  - HS-No. 2930 90 99 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 71 °C  
 Melting range (upper value) ..... ≤ 74 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41881.0001	Glass bottle	1 g	inquire

Chlorophosphoric acid diphenyl ester → Diphenyl phosphorochloridate page 819

6-Chloropiperonyl chloride → 6-Chloro-3,4-methylenedioxybenzyl chloride page 618

Chloroplatinic acid → Hexachloroplatinic(IV) acid hexahydrate (~40% Pt) page 945

## 802809 2-Chloropropane for synthesis



C<sub>3</sub>H<sub>7</sub>Cl  
(CH<sub>3</sub>)<sub>2</sub>CHCl

*Isopropyl chloride*

- CAS-No. 75-29-6 ■ EC-No. 200-858-8
- Refractive index 1.3778 (20 °C, 589 nm)
- Vapour pressure 580 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.8 - 10.7 % (V) ■ Flash point -36 °C
- Solub. in H<sub>2</sub>O 3.1 g/l (20 °C) ■ M = 78.54 g/mol
- pH value 7 (H<sub>2</sub>O) (undiluted) ■ Melting point -

- 117 °C ■ Boiling point 36 °C (1013 hPa)
- Ignition temp. 590 °C
  - WGK 1
  - GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P302 + P352
  - LD50 oral rat > 2000 mg/kg
  - LD50 dermal rabbit > 2000 mg/kg
  - EC-Index-No. 602-018-00-X ■ LGK 3
  - HS-No. 2903 19 80 ■ Disposal 2
  - ADR-RID UN 2356 2-Chloropropan, 3, I ■ IMDG-Code UN 2356 2-CHLOROPROPANE, 3, I,

Segregation Group: 10 (Liquid halogenated hydrocarbons)

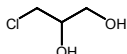
■ IATA-DGR UN 2356 2-CHLOROPROPANE, 3, I

### Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,858 - 0,862  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02809.0100	Glass bottle	100 ml	inquire
8.02809.1000	Glass bottle	1 l	inquire
8.02809.2500	Glass bottle	2.5 l	inquire

## 802637 3-Chloro- 1,2-propanediol for synthesis



C<sub>3</sub>H<sub>7</sub>ClO<sub>2</sub>

ClCH<sub>2</sub>CH(OH)CH<sub>2</sub>OH

*Glycerol α-chlorohydrin, α-Chlorohydrine*

- CAS-No. 96-24-2 ■ EC-No. 202-492-4
- Refractive index 1.4375 (20 °C, 589 nm)
- Vapour pressure 0.01 hPa (20 °C)
- Spec. density 1.32 g/cm<sup>3</sup> (20 °C)
- Flash point 135 °C ■ Solub. in H<sub>2</sub>O (20 °C) miscible ■ M = 110.54 g/mol
- pH value 3 - 6 (500 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -40 °C ■ Boiling point 213 °C (1013 hPa)

- WGK 3
- GHS: Danger, Reproductive toxicity, Category 1B, H360F; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 1, H372; Eye irritation, Category 2, H319, P201, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.4 mg/l
- LD50 oral rat 26 mg/kg ■ LD50 dermal rat 1057 mg/kg
- LGK 6.1A
- HS-No. 2905 59 98 ■ Disposal 9
- ADR-RID UN 2689 Glycerol-α-

monochlorhydrin, 6.1, III ■ IMDG-Code UN 2689 GLYCEROL ALPHA-MONOCHLOROXYDRIN, 6.1, III

■ IATA-DGR UN 2689 GLYCEROL ALPHA-MONOCHLOROXYDRIN, 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,320 - 1,322  
 Water (K. F.) ..... ≤ 0,20 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02637.0005	Glass bottle	5 ml	inquire
8.02637.0250	Glass bottle	250 ml	inquire
8.02637.1000	Glass bottle	1 l	inquire

## 802638 3-Chloro-1-propanol for synthesis



C<sub>3</sub>H<sub>7</sub>ClO

Cl(CH<sub>2</sub>)<sub>2</sub>OH

- CAS-No. 627-30-5 ■ EC-No. 210-992-9
- Vapour pressure 1.5 hPa (20 °C)
- Spec. density 1.13 g/cm<sup>3</sup> (20 °C)
- Flash point 73 °C ■ Solub. in H<sub>2</sub>O 50 g/l (20 °C) (slow decomposition) ■ M = 94.54 g/mol
- pH value 3 - 4 (100 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. (20 °C) Air, no data available
- Melting point -20 °C ■ Boiling point 161 °C

- (1013 hPa) (decomposition)
- WGK 1
  - GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H336; Eye irritation, Category 2, H319, P305 + P351 + P338
  - LD50 oral rat 1675 mg/kg ■ LD50 dermal rat 3453 mg/kg
  - LGK 6.1C
  - HS-No. 2905 59 98 ■ Disposal 3
  - ADR-RID UN 2849 3-Chloropropan-1-ol, 6.1, III
  - IMDG-Code UN 2849 3-CHLOROPROPANOL-1,

6.1, III

■ IATA-DGR UN 2849 3-CHLOROPROPANOL-1, 6.1, III

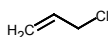
### Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,129 - 1,133  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02638.0100	Glass bottle	100 ml	inquire
8.02638.0250	Glass bottle	250 ml	inquire

1-Chloro-2-propanone → Chloroacetone page 595

## 800257 3-Chloro-1-propene (stabilised with propylene oxide) for synthesis

C<sub>3</sub>H<sub>5</sub>ClClCH<sub>2</sub>CH=CH<sub>2</sub>

Allyl chloride, 3-Chloropropylene

- CAS-No. 107-05-1 ■ EC-No. 203-457-6
- Vapour pressure 400 hPa (20 °C)
- Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.3 - 11.2 % (V) ■ Flash point -27 °C ■ Solub. in H<sub>2</sub>O 3.6 g/l (20 °C) ■ M = 76.52 g/mol
- pH value (H<sub>2</sub>O) not applicable
- Saturation conc. 1.229 g/m<sup>3</sup> (20 °C)
- Melting point -136 °C ■ Boiling point 45 °C (1013 hPa) ■ Ignition temp. 390 °C
- WGK 2

- GHS: Danger, Flammable liquid, Category 2, H225; Acute aquatic toxicity, Category 1, H400; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 2, H351; Specific target organ toxicity - single exposure, Category 3, H335; Specific target organ toxicity - repeated exposure, Category 2, H373, P210, P233, P240, P281, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313
- LC50 rat 5.5 mg/l
- LD50 oral rat 450 mg/kg ■ LD50 dermal rat 540 mg/kg

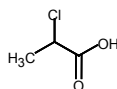
- EC-Index-No. 602-029-00-X ■ LGK 3
- HS-No. 2903 29 00 ■ Disposal 9
- ADR-RID UN 1100 Allylchlorid, 3 (6.1), I
- IMDG-Code UN 1100 ALLYL CHLORIDE, 3 (6.1), I, Marine Pollutant: P, Segregation Group: 10 (Liquid halogenated hydrocarbons)
- IATA-DGR UN 1100 ALLYL CHLORIDE, 3 (6.1), I

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,935 - 0,938  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00257.0100	Glass bottle	100 ml	inquire
8.00257.1000	Glass bottle	1 l	inquire

## 802810 2-Chloropropionic acid for synthesis

C<sub>3</sub>H<sub>5</sub>ClO<sub>2</sub>CH<sub>3</sub>CHClCOOH

α-Chloropropionic Acid

- CAS-No. 598-78-7 ■ EC-No. 209-952-3
- Refractive index 1.4345 (20 °C, 589 nm)
- Vapour pressure 4 hPa (60 °C)
- Spec. density 1.27 g/cm<sup>3</sup> (20 °C)
- Flash point 107 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 108.52 g/mol

- pH value < 1 (200 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -12 °C
- Boiling point 185 - 186 °C (1013 hPa)
- Ignition temp. 550 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 500 mg/kg
- EC-Index-No. 607-139-00-1 ■ LGK 8A
- HS-No. 2915 90 70 ■ Disposal 4
- ADR-RID UN 2511 alpha-Chlorpropionsäure, 8, III ■ IMDG-Code UN 2511 2-CHLOROPROPIONIC

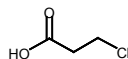
ACID, 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2511 2-CHLOROPROPIONIC ACID, 8, III

## Specification

Assay (GC, area%) ..... ≥ 93.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.260 - 1.270  
 2,2-Dichloropropionic acid (GC, area%) 3.0 - 7.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.02810.0100	Glass bottle	100 ml	inquire
8.02810.0500	Glass bottle	500 ml	inquire

## 820330 3-Chloropropionic acid for synthesis

C<sub>3</sub>H<sub>5</sub>ClO<sub>2</sub>ClCH<sub>2</sub>CH<sub>2</sub>COOH

CAS-No. 107-94-8 ■ EC-No. 203-534-4

- Spec. density 1.26 g/cm<sup>3</sup> (20 °C)
- Flash point 122 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 108.52 g/mol
- pH value < 1 (200 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 37 - 40 °C
- Boiling point 100 - 103 °C (16 hPa)

- Ignition temp. 200 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1000 mg/kg
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 4
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(3-CHLORPROPIONSÄURE), 8, II
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-CHLORO PROPIONIC ACID), 8,

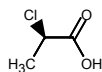
II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-CHLORO PROPIONIC ACID), 8, II

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Water (K. F.) ..... ≤ 3.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20330.0250	Glass bottle	250 g	inquire

## 814498 (R)-(+)-2-Chloropropionic acid for synthesis

C<sub>3</sub>H<sub>5</sub>ClO<sub>2</sub>

CAS-No. 7474-05-7 ■ EC-No. 209-952-3

- Refractive index 1.4335 (25 °C, 589 nm)
- Spec. density 1.25 g/cm<sup>3</sup> (20 °C)
- Flash point 101 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 108.52 g/mol
- Melting point -12 °C ■ Boiling point 185 °C (1013 hPa) ■ Ignition temp. 550 °C

- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 500 mg/kg
- EC-Index-No. 607-139-00-1 ■ LGK 8A
- HS-No. 2915 90 70 ■ Disposal 4
- ADR-RID UN 2511 alpha-Chlorpropionsäure, 8, III ■ IMDG-Code UN 2511 2-CHLOROPROPIONIC ACID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2511 2-CHLOROPROPIONIC ACID,

8, III  
 Specification  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,257 - 1,258  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)..... 12,0 - 14,0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14498.0001	Glass bottle	1 ml	inquire
8.14498.0005	Glass bottle	5 ml	inquire

α-Chloropropionic Acid → 2-Chloropropionic acid  
 page 631

2-Chloropropionic acid chloride → 2-Chloropropionyl chloride page 632

3-Chloropropionic acid chloride → 3-Chloropropionyl chloride page 632

2-Chloropropionic acid ethyl ester → Ethyl 2-chloropropionate page 856

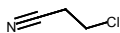
3-Chloropropionic acid ethyl ester → Ethyl 3-chloropropionate page 856

2-Chloropropionic acid methyl ester → Methyl 2-chloropropionate page 1143

3-Chloropropionic acid nitrile → 3-Chloropropionitrile page 632

# Chloro

## 802794 3-Chloropropionitrile for synthesis



C<sub>3</sub>H<sub>4</sub>ClN  
ClCH<sub>2</sub>CH<sub>2</sub>CN  
**3-Chloropropionic acid nitrile**  
 ■ CAS-No. 542-76-7 ■ EC-No. 208-827-0  
 ■ Refractive index 1.4379 (20 °C, 589 nm)  
 ■ Vapour pressure 8 hPa (50 °C)  
 ■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 76 °C ■ Solub. in H<sub>2</sub>O 45 g/l (20 °C)  
 ■ M = 89.52 g/mol ■ Melting point -52 °C  
 ■ Boiling point 174 - 176 °C (1013 hPa)

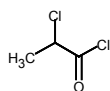
■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 10 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2926 90 95 ■ Disposal 9  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(3-CHLORPROPIONITRIL), 6,1, II ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(3-CHLORPROPIONITRILE), 6,1, II

■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(3-CHLORPROPIONITRILE), 6,1, II

**Specification**  
 Assay (GC, area%)..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,143 - 1,146  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02794.0250	Glass bottle	250 ml	inquire

## 820333 2-Chloropropionyl chloride for synthesis



C<sub>3</sub>H<sub>4</sub>Cl<sub>2</sub>O  
CH<sub>3</sub>CHClCOCl  
**2-Chloropropionic acid chloride**  
 ■ CAS-No. 7623-09-8 ■ EC-No. 231-540-7  
 ■ Refractive index 1.44 (20 °C, 589 nm) ■ Vapour pressure 25 hPa (20 °C) ■ Spec. density 1.28 g/cm<sup>3</sup> (20 °C) ■ Flash point 34.5 °C DIN 51755 Part 1  
 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 126.97 g/mol ■ Melting point -71 °C

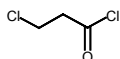
■ Boiling point 109 - 111 °C (1013 hPa)  
 ■ Ignition temp. 510 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 642 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(2-CHLORPROPIONSAEURECHLORID), 8 (3), I ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE,

N.O.S.(2-CHLORPROPIONYLCHLORIDE), 8 (3), I  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(2-CHLORPROPIONYLCHLORIDE), 8 (3), I

**Specification**  
 Assay (GC, area%)..... ≥ 95,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.287 - 1.291  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20333.0100	Glass bottle	100 ml	inquire

## 802680 3-Chloropropionyl chloride for synthesis



C<sub>3</sub>H<sub>4</sub>Cl<sub>2</sub>O  
ClCH<sub>2</sub>CH<sub>2</sub>COCl  
**3-Chloropropionic acid chloride**  
 ■ CAS-No. 625-36-5 ■ EC-No. 210-890-4  
 ■ Vapour pressure 10 hPa (20 °C)  
 ■ Spec. density 1.32 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 8.8 - 20.2 % (V) ■ Flash point 49 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 126.97 g/mol ■ pH value < 7 (H<sub>2</sub>O)  
 ■ Melting point -32 °C ■ Boiling point 44 - 55 °C (27 hPa) ■ Ignition temp. 460 °C

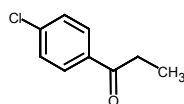
■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat < 0.25 mg/l  
 ■ LD50 oral rat 1130 mg/kg  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 3493 Beim Einatmen giftiger flüssiger Stoff, ätzend, entzündbar, N.A.G.(3-CHLORPROPIONSAEURECHLORID), 6,1 (3, 8), I  
 ■ IMDG-Code UN 3493 TOXIC BY INHALATION

LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(3-CHLOROPROPYL CHLORIDE), 6.1 (8, 3), I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3493 TOXIC BY INHALATION LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(3-CHLOROPROPYL CHLORIDE), 6,1 (3, 8),

**Specification**  
 Assay (GC, area%)..... ≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,318 - 1,323  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02680.0250	Glass bottle	250 ml	inquire
8.02680.1000	Glass bottle	1 l	inquire

## 820334 4'-Chloropropiophenone for synthesis



C<sub>9</sub>H<sub>9</sub>ClO  
4-(Cl)C<sub>6</sub>H<sub>4</sub>COCH<sub>2</sub>CH<sub>3</sub>  
**1-(4-Chlorophenyl)-1-propanone**  
 ■ CAS-No. 6285-05-8 ■ EC-No. 228-511-6

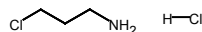
■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 168.62 g/mol  
 ■ Melting point 32 - 35 °C  
 ■ Boiling point 95 - 97 °C (1 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 70 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 97.0 % (a/a)

Melting range (lower value)..... ≥ 32 °C  
 Melting range (upper value) ..... ≤ 35 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20334.0025	Glass bottle	25 g	inquire
8.20334.0100	Glass bottle	100 g	inquire

## 840039 3-Chloropropylamine hydrochloride for synthesis



C<sub>3</sub>H<sub>9</sub>Cl<sub>2</sub>N  
C<sub>3</sub>H<sub>8</sub>ClN\*HCl  
**1-Amino-3-chloropropane hydrochloride**  
 ■ CAS-No. 6276-54-6 ■ EC-No. 228-474-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 130.02 g/

mol ■ Melting point 148 - 151 °C  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 19 99 ■ Disposal 3

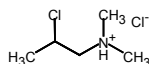
**Specification**  
 Assay (argentometric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40039.0100	Plastic bottle	100 g	inquire

γ-Chloropropyl cyanide → 4-Chlorobutyronitrile page 605



## 803240 N-(2-Chloropropyl)-N,N-dimethylammonium chloride for synthesis

C<sub>5</sub>H<sub>13</sub>Cl<sub>2</sub>N(CH<sub>3</sub>CHClCH<sub>2</sub>)(CH<sub>3</sub>)<sub>2</sub>N<sup>+</sup> \* HCl

2-Chloro-1-dimethylaminopropane hydrochloride, 2-DMPC, 2-Chloro-N,N-dimethylpropylamine hydrochloride, 1-

Dimethylaminoisopropyl chloride hydrochloride

- CAS-No. 4584-49-0 ■ EC-No. 224-971-7
- Flash point 220 °C ■ Solub. in H<sub>2</sub>O 2000 g/l (20 °C) ■ M = 158.07 g/mol ■ pH value 5 - 6 (500 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 188 - 191 °C
- Bulk density 350 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P260, P262

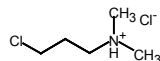
- LD50 oral rat 386 mg/kg
- LGK 10 - 13
- HS-No. 2921 19 99 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.03240.0250	Plastic bottle	250 g	inquire

## 803241 N-(3-Chloropropyl)-N,N-dimethylammonium chloride for synthesis

C<sub>5</sub>H<sub>13</sub>Cl<sub>2</sub>NCl(CH<sub>2</sub>)<sub>3</sub>(CH<sub>3</sub>)<sub>2</sub>N<sup>+</sup> \* HCl

3-Dimethylaminoisopropyl chloride hydrochloride, 3-DMPC, 3-Chlorodimethylpropylamine hydrochloride, 3-Chloro-1-dimethylaminopropane hydrochloride

- CAS-No. 5407-04-5 ■ EC-No. 226-467-2
- Solub. in H<sub>2</sub>O 2000 g/l (20 °C) ■ M = 158.07 g/mol ■ pH value 5 - 6 (500 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 138 - 141 °C
- Ignition temp. >350 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P262, P273
- LD50 oral rat 417 mg/kg

- LGK 10 - 13
- HS-No. 2921 19 99 ■ Disposal 3

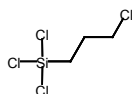
## Specification

Assay (argentometric)..... ≥ 98.0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03241.0250	Plastic bottle	250 g	inquire

3-Chloropropylene → 3-Chloro-1-propene page 631

## 842016 (3-Chloropropyl)trichlorosilane for synthesis

C<sub>3</sub>H<sub>6</sub>Cl<sub>4</sub>Si

■ CAS-No. 2550-06-3 ■ EC-No. 219-844-8

■ Spec. density 1.360 g/cm<sup>3</sup> (20 °C)■ Flash point 80 °C ■ Solub. in H<sub>2</sub>O (20 °C) Risk of

violent reaction. ■ M = 211.98 g/mol

■ Boiling point 81 °C (27 hPa)

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2931 90 90 ■ Disposal 24
- ADR-RID UN 2987 Chlorsilane, ätzend, n.a.g., 8, II ■ IMDG-Code UN 2987 CHLOROSILANES, CORROSIVE, N.O.S., 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2987 CHLOROSILANES,

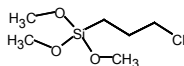
CORROSIVE, N.O.S., 8, II

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1,358 - 1,362  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42016.0005	Glass bottle	5 ml	inquire
8.42016.0025	Glass bottle	25 ml	inquire

## 818816 3-(Chloropropyl)-trimethoxysilane for synthesis

C<sub>6</sub>H<sub>15</sub>ClO<sub>3</sub>SiCl(CH<sub>2</sub>)<sub>3</sub>Si(OCH<sub>3</sub>)<sub>3</sub>

CPTMO

■ CAS-No. 2530-87-2 ■ EC-No. 219-787-9

■ Refractive index 1.4242 (25 °C, 589 nm)

■ Vapour pressure &lt; 5 hPa (20 °C)

- Spec. density 1.082 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 44 % (V) ■ Flash point 78 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 198.72 g/mol
- Melting point -50 °C
- Boiling point 195 - 197 °C (1013 hPa)
- Ignition temp. 220 °C
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit 3062 mg/kg
- LGK 10 - 13

- HS-No. 2931 90 90 ■ Disposal 2

## Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,081 - 1,085  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18816.0250	Glass bottle	250 ml	inquire

## 841849 2-Chloropyrazine for synthesis

C<sub>4</sub>H<sub>3</sub>ClN<sub>2</sub>

■ CAS-No. 14508-49-7 ■ EC-No. 238-517-0

■ Spec. density 1.30 g/cm<sup>3</sup> (20 °C)

■ Flash point 57 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 114.53 g/mol

■ Boiling point 153 - 154 °C

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-CHLORPYRAZIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-CHLOROPYRAZINE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-CHLOROPYRAZINE), 3, III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1,300 - 1,304  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41849.0005	Glass bottle	5 ml	inquire
8.41849.0025	Glass bottle	25 ml	inquire

## 820336 2-Chloropyridine for synthesis

C<sub>5</sub>H<sub>4</sub>ClN2-(Cl)C<sub>5</sub>H<sub>4</sub>N

■ CAS-No. 109-09-1 ■ EC-No. 203-646-3

■ Vapour pressure 2.2 hPa (20 °C)

■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C)■ Flash point 64 °C ■ Solub. in H<sub>2</sub>O 27 g/l (20 °C)■ M = 113.54 g/mol ■ pH value 6 - 7 (27 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point -46 °C

■ Boiling point 166 °C (950 hPa)

- Ignition temp. 585 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 80 mg/kg ■ LD50 dermal rabbit 64 mg/kg

- LGK 6.1A
- HS-No. 2933 39 99
- ADR-RID UN 2822 2-Chlorpyridin, 6.1, II
- IMDG-Code UN 2822 2-CHLOROPYRIDINE, 6.1, II
- IATA-DGR UN 2822 2-CHLOROPYRIDINE, 6.1, II

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.209 - 1.210  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20336.0100	Glass bottle	100 ml	inquire

## 820337 3-Chloropyridine for synthesis



C<sub>5</sub>H<sub>4</sub>ClN  
3-(Cl)C<sub>5</sub>H<sub>4</sub>N  
■ CAS-No. 626-60-8 ■ EC-No. 210-955-7  
■ Refractive index 1.5304 (20 °C, 589 nm)  
■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C)  
■ Flash point 53 °C ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C)  
■ M = 113.54 g/mol ■ pH value >7 (H<sub>2</sub>O, 20 °C)  
■ Boiling point 148 °C (991 hPa)

■ Ignition temp. 610 °C  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 841 mg/kg  
■ LGK 3  
■ HS-No. 2933 39 99 ■ Disposal 2  
■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(3-CHLOROPYRIDIN), 8 (3), II  
■ IMDG-Code UN 2920 CORROSIVE LIQUID,

FLAMMABLE, N.O.S.(3-CHLOROPYRIDINE), 8 (3), II  
■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(3-CHLOROPYRIDINE), 8 (3), II

## Specification

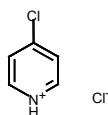
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.208 - 1.209  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20337.0010	Glass bottle	10 ml	inquire

2-Chloropyridine-3-carboxylic acid → page 622

4-Chloropyridine hydrochloride → 4-Chloropyridinium chloride page 634

## 820338 4-Chloropyridinium chloride for synthesis



C<sub>5</sub>H<sub>4</sub>Cl<sub>2</sub>N  
4-(Cl)C<sub>5</sub>H<sub>4</sub>N \* HCl  
4-Chloropyridine hydrochloride  
■ CAS-No. 7379-35-3 ■ EC-No. 230-946-1

■ Flash point 198 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 150 g/mol  
■ pH value 2.0 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 204 - 207 °C (sublimed)  
■ Bulk density 550 kg/m<sup>3</sup> ■ Ignition temp. 525 °C  
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P262, P305 + P351 + P338  
■ LD50 oral rat 566 mg/kg

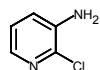
■ LGK 10 - 13  
■ HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 99.0 %  
Melting range (lower value)..... ≥ 204 °C  
Melting range (upper value)..... ≤ 207 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20338.0010	Glass bottle	10 g	inquire

## 843940 2-Chloro-3-pyridylamine for synthesis



C<sub>5</sub>H<sub>5</sub>ClN<sub>2</sub>  
3-(NH<sub>2</sub>)-2-(Cl)C<sub>5</sub>H<sub>4</sub>N  
2-Chloro-3-pyridylamine  
■ CAS-No. 6298-19-7 ■ EC-No. 228-572-9  
■ Flash point 185 °C ■ Solub. in H<sub>2</sub>O 30 g/l (20 °C)  
■ M = 128.56 g/mol ■ pH value 7 (30 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point 77 - 80 °C  
■ Bulk density 700 kg/m<sup>3</sup>  
■ Boiling point 130 - 134 °C (17 hPa)  
■ Ignition temp. 685 °C  
■ WGK 3  
■ GHS: P262  
■ LGK 10 - 13  
■ HS-No. 2933 39 99 ■ Disposal 3

## Specification

Colour (visual)..... pale yellow to pink

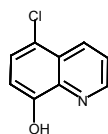
Appearance of substance (visual)..... powder  
Assay (HClO<sub>4</sub>)..... ≥ 98.0 % (m)  
Melting range (lower value)..... ≥ 77 °C  
Melting range (upper value)..... ≤ 81 °C  
Water (K. F.)..... ≤ 0,50 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.43940.0025	Glass bottle	25 g	inquire
8.43940.0100	Glass bottle	100 g	inquire

2-Chloro-3-pyridylamine → 3-Amino-2-chloropyridine page 384

5-Chloro-2-pyridylamine → 2-Amino-5-chloropyridine page 384

## 821994 5-Chloro-8-quinolinol for synthesis



C<sub>9</sub>H<sub>6</sub>ClNO  
■ CAS-No. 130-16-5 ■ EC-No. 204-978-1

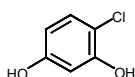
■ Solub. in H<sub>2</sub>O 0.019 g/l (25 °C) (experimental)  
■ M = 179.61 g/mol ■ Melting point 125 °C  
■ WGK 3  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2933 49 90

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99.0 %  
Melting range (lower value)..... ≥ 121 °C  
Melting range (upper value)..... ≤ 124 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21994.0100	Glass bottle	100 g	inquire

## 818706 4-Chlororesorcinol for synthesis



C<sub>6</sub>H<sub>5</sub>ClO<sub>2</sub>  
ClC<sub>6</sub>H<sub>3</sub>(OH)<sub>2</sub>  
4-Chloro-1,3-dihydroxybenzene  
■ CAS-No. 95-88-5 ■ EC-No. 202-462-0  
■ Vapour pressure 0.0015 hPa (calculated)  
■ Flash point 148 °C ■ Solub. in H<sub>2</sub>O 1000 g/l

(25 °C) ■ M = 144.55 g/mol ■ pH value 5.6 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 104 - 108 °C  
■ Bulk density 340 kg/m<sup>3</sup> ■ Boiling point 147 °C (24 hPa)  
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P260, P302 + P352, P305 + P351 + P338  
■ LD50 oral rat 369 mg/kg

■ LGK 10 - 13  
■ HS-No. 2908 19 00

## Specification

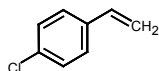
Assay (GC, area%)..... ≥ 95.0 % (a/a)  
Melting range (lower value)..... ≥ 105 °C  
Melting range (upper value)..... ≤ 110 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18706.0100	Glass bottle	100 g	inquire

5-Chlorosalicylic acid → 5-Chloro-2-hydroxybenzoic acid page 616



## 802458 4-Chlorostyrene (stabilised with 4-tert-butylpyrocatechol) for synthesis



C<sub>8</sub>H<sub>7</sub>Cl  
1-Chloro-4-ethenyl-bezene  
■ CAS-No. 1073-67-2 ■ EC-No. 214-028-8  
■ Refractive index 1.5645 (20 °C, 589 nm)  
■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C)

■ Flash point 68 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 138.59 g/mol  
■ Boiling point 192 °C  
■ WGK 2  
■ LD50 oral rat 5200 mg/kg  
■ LGK 10 ■ Store at +2°C to +8°C.  
■ HS-No. 2903 99 90 ■ Disposal 2  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

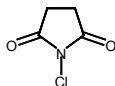
■ IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,085 - 1,090  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02458.0010	Glass bottle	10 ml	inquire

## N-Chlorosuccinimide



C<sub>4</sub>H<sub>4</sub>ClNO<sub>2</sub>  
NCS, Succinchlorimide  
■ CAS-No. 128-09-6 ■ EC-No. 204-878-8  
■ Spec. density 1.65 g/cm<sup>3</sup> (20 °C)  
■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O 14 g/l

(20 °C) ■ M = 133.53 g/mol ■ pH value (20 g/l, H<sub>2</sub>O) acidic ■ Melting point 146 - 151 °C  
■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 216.5 °C  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 1000 mg/kg  
■ LGK 8A ■ Store at +2°C to +8°C.

■ HS-No. 2929 90 00 ■ Disposal 3  
■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(N-CHLORSUCCINIMID), 8, II  
■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(N-CHLORO-SUCCINIMIDE), 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(N-CHLORO-SUCCINIMIDE), 8, II



## 802811 N-Chlorosuccinimide for synthesis

## Specification

Assay (iodometric) ..... ≥ 98,0 %(m)  
Melting range (lower value) ..... ≥ 146 °C  
Melting range (upper value) ..... ≤ 151 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02811.0005	Glass bottle	5 g	inquire
8.02811.0250	Plastic bottle	250 g	inquire

## 845027 N-Chlorosuccinimide for pharma synthesis, non-GMP

## Specification

Colour (visual) ..... white  
Appearance of substance (visual) ..... powder  
Assay (iodometric) ..... ≥ 98,0 %(m)  
Melting range (lower value) ..... ≥ 146 °C

Melting range (upper value) ..... ≤ 151 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45027.0250	Plastic bottle	250 g	inquire
8.45027.1000	Plastic bottle	1 kg	inquire

## Chlorosulfonic acid

HClO<sub>3</sub>S  
Sulfuric chlorohydrin, Chlorosulfuric acid  
■ CAS-No. 7790-94-5 ■ EC-No. 232-234-6  
■ Vapour pressure 3.08 hPa (20 °C)  
■ Spec. density 1.75 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) explosion decomposition  
■ M = 116.53 g/mol ■ pH value < 1 (H<sub>2</sub>O, 20 °C) Aqueous solution, (rigorous decomposition)  
■ Melting point -80 °C ■ Boiling point 152 °C

(1013 hPa) (decomposition)  
■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LC50 rat 4779 mg/m<sup>3</sup>  
■ LD50 oral rat 50 mg/kg  
■ EC-Index-No. 016-017-00-1 ■ LGK 8B

■ HS-No. 2806 20 00 ■ Disposal 11  
■ ADR-RID UN 1754 Chlorsulfonsäure, 8, I  
■ IMDG-Code UN 1754 CHLOROSULPHONIC ACID, 8, I, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1754 CHLOROSULPHONIC ACID, 8,



## 800220 Chlorosulfonic acid for synthesis

## Specification

Assay (acidimetric) ..... ≥ 97,0 %  
Density (d 20 °C/ 4 °C) ..... 1,740 - 1,760  
Free SO<sub>3</sub> ..... ≤ 1,0 %  
Free HCl ..... ≤ 1,0 %

Free Sulfuric acid ..... ≤ 1,0 %

Ord.No.	Packaging	Quantity	Price
8.00220.0250	Glass bottle	250 ml	inquire
8.00220.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 845127 Chlorosulfonic acid for pharma synthesis, non-GMP

## Specification

Colour (visual) ..... colourless  
Appearance of substance (visual) ..... clear  
Assay (acidimetric) ..... ≥ 98,0 %  
Density (d 20 °C/ 4 °C) ..... 1,740 - 1,760

Free SO<sub>3</sub> ..... ≤ 1,0 %  
Free HCl ..... ≤ 1,0 %  
Free Sulfuric acid ..... ≤ 1,0 %

Ord.No.	Packaging	Quantity	Price
8.45127.0250	Glass bottle	250 ml	inquire
8.45127.1000	Glass bottle	1 l	inquire

## 818882 Chlorosulfonyl isocyanate for synthesis



CClNO<sub>3</sub>S  
ClSO<sub>2</sub>NCO  
■ CAS-No. 1189-71-5 ■ EC-No. 214-715-2  
■ Vapour pressure 25.6 hPa (20 °C)  
■ Spec. density 1.63 g/cm<sup>3</sup> (20 °C)  
■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) decomposes, Risk of violent reaction.  
■ M = 141.53 g/mol ■ Melting point -44 °C  
■ Boiling point 106 °C (1013 hPa)  
■ WGK 2

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P260, P280, P301 + P330 + P331, P302 + P352, P304 + P341, P305 + P351 + P338, P309 + P310, P342 + P311  
■ LD50 oral rat 640 mg/kg  
■ LGK 8A  
■ HS-No. 2853 00 90  
■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(CHLORSULFONYLISOCYANAT), 8, I ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CHLOROSULFONYL

ISOCYANATE), 8, I, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CHLOROSULFONYL ISOCYANATE), 8, I

## Specification

Assay (argentometric) ..... ≥ 98,0 %(m)  
Density (d 20 °C/ 4 °C) ..... 1,631 - 1,634  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18882.0050	Glass bottle	50 ml	inquire
8.18882.0250	Glass bottle	250 ml	inquire



# Chloro

## 805869 1-Chlorotetradecane for synthesis



C<sub>14</sub>H<sub>29</sub>Cl  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>13</sub>Cl  
*Tetradecyl chloride, Myristyl chloride*  
 ■ CAS-No. 2425-54-9 ■ EC-No. 219-368-0  
 ■ Refractive index 1.446 (20 °C, 589 nm)

■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 130 °C ■ Solub. in H<sub>2</sub>O < 0.01 g/l (20 °C) ■ M = 232.84 g/mol ■ Boiling point 295 °C (1013 hPa) ■ Ignition temp. 230 °C  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2903 19 80 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,863 - 0,865  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05869.0005	Glass bottle	5 ml	inquire
8.05869.0250	Glass bottle	250 ml	inquire

Chlorothioformic acid O-phenyl ester → O-Phenyl chlorothioformate page 1299

## 841746 2-Chlorothiophene for synthesis



C<sub>4</sub>H<sub>3</sub>ClS  
 ■ CAS-No. 96-43-5 ■ EC-No. 202-505-3  
 ■ Vapour pressure 29 hPa (33 °C)  
 ■ Spec. density 1.285 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 22 °C ■ M = 118.58 g/mol  
 ■ Melting point -70 °C ■ Boiling point 128 °C

(1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P262  
 ■ LGK 3  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-CHLOROTHIOPHEN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-CHLOROTHIOPHEN), 3, II

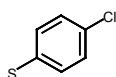
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-CHLOROTHIOPHEN), 3, II

### Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,282 - 1,286  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41746.0025	Glass bottle	25 ml	inquire

## 820344 4-Chlorothiophenol for synthesis



C<sub>6</sub>H<sub>5</sub>ClS  
 4-(Cl)C<sub>6</sub>H<sub>4</sub>SH  
 ■ CAS-No. 106-54-7 ■ EC-No. 203-408-9  
 ■ Vapour pressure 32 hPa (100 °C)  
 ■ Spec. density 1.37 g/cm<sup>3</sup> (23 °C)  
 ■ Flash point 81 °C DIN 51758 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 144.61 g/mol  
 ■ Melting point 49 - 51 °C  
 ■ Boiling point 205 - 207 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 794 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(4-CHLOROTHIOPHENOL), 8, III ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(4-CHLOROTHIOPHENOL), 8, III

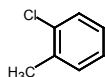
■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(4-CHLOROTHIOPHENOL), 8, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 49 °C  
 Melting range (upper value) ..... ≤ 52 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20344.0025	Glass bottle	25 g	inquire
8.20344.0100	Glass bottle	100 g	inquire

## 802651 2-Chlorotoluene for synthesis



C<sub>7</sub>H<sub>7</sub>Cl  
 2-(Cl)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>  
 ■ CAS-No. 95-49-8 ■ EC-No. 202-424-3  
 ■ Refractive index 1.525 (20 °C, 589 nm) ■ Vapour pressure 3.5 hPa (20 °C) ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 12.6 % (V)  
 ■ Flash point 49 °C ■ Solub. in H<sub>2</sub>O 0.047 g/l (20 °C) ■ M = 126.59 g/mol ■ Melting point -

36 °C ■ Boiling point 157 - 159 °C (1013 hPa)  
 ■ Ignition temp. >600 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Chronic aquatic toxicity, Category 2, H411, P273, P262  
 ■ LD50 oral rat 3900 mg/kg  
 ■ EC-Index-No. 602-040-00-X ■ LGK 3  
 ■ HS-No. 2903 99 90 ■ Disposal 2  
 ■ ADR-RID UN 2238 Chlortoluene, 3, III ■ IMDG-Code UN 2238 CHLOROTOLUENES, 3, III, Marine Pollutant: P, Segregation Group: 10 (Liquid

halogenated hydrocarbons)

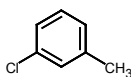
■ IATA-DGR UN 2238 CHLOROTOLUENES, 3, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,081 - 1,083  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02651.0100	Glass bottle	100 ml	inquire
8.02651.1000	Glass bottle	1 l	inquire

## 802652 3-Chlorotoluene for synthesis



C<sub>7</sub>H<sub>7</sub>Cl  
 3-(Cl)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>  
*3-Chlor-1-methylbenzene*  
 ■ CAS-No. 108-41-8 ■ EC-No. 203-580-5  
 ■ Refractive index 1.5218 (20 °C, 589 nm)  
 ■ Vapour pressure 3.6 hPa (20 °C)  
 ■ Spec. density 1.072 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 8.3 % (V) ■ Flash point 50 °C ■ Solub. in H<sub>2</sub>O 0.04 g/l (20 °C) ■ M = 126.58 g/mol

■ Melting point -48 °C  
 ■ Boiling point 160 - 162 °C (1013 hPa)  
 ■ Ignition temp. >550 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Chronic aquatic toxicity, Category 2, H411, P210, P273  
 ■ EC-Index-No. 602-040-00-X ■ LGK 3  
 ■ HS-No. 2903 99 90 ■ Disposal 2  
 ■ ADR-RID UN 2238 Chlortoluene, 3, III ■ IMDG-Code UN 2238 CHLOROTOLUENES, 3, III, Marine Pollutant: P, Segregation Group: 10 (Liquid

halogenated hydrocarbons)

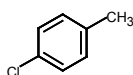
■ IATA-DGR UN 2238 CHLOROTOLUENES, 3, III

### Specification

Assay (GC, area%) ..... ≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,070 - 1,072  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02652.0100	Glass bottle	100 ml	inquire
8.02652.0500	Glass bottle	500 ml	inquire

## 802653 4-Chlorotoluene for synthesis



$C_7H_7Cl$   
4-(Cl) $C_6H_4CH_3$   
■ CAS-No. 106-43-4 ■ EC-No. 203-397-0  
■ Refractive index 1.52 (20 °C, 589 nm) ■ Vapour pressure 3.6 hPa (20 °C) ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 12.2 % (V)  
■ Flash point 51 °C ■ Solub. in H<sub>2</sub>O 0.040 g/l (20 °C) ■ M = 126.59 g/mol ■ pH value 7.4 (H<sub>2</sub>O) (saturated aqueous solution)

■ Melting point 6 - 8 °C  
■ Boiling point 161 - 163 °C (1013 hPa)  
■ Ignition temp. 595 °C  
■ WGK 2  
■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Chronic aquatic toxicity, Category 2, H411, P262, P273  
■ LD50 oral rat 2100 mg/kg ■ LD50 dermal rat > 5000 mg/kg  
■ EC-Index-No. 602-040-00-X ■ LGK 3  
■ HS-No. 2903 99 90 ■ Disposal 2  
■ ADR-RID UN 2238 Chlortoluene, 3, III ■ IMDG-

Code UN 2238 CHLOROTOLUENES, 3, III, Marine Pollutant: P, Segregation Group: 10 (Liquid halogenated hydrocarbons)

■ IATA-DGR UN 2238 CHLOROTOLUENES, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,069 - 1,070  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02653.0005	Glass bottle	5 ml	inquire
8.02653.0250	Glass bottle	250 ml	inquire

α-Chlorotoluene → page 449

N-Chloro-4-toluenesulfonamide sodium salt → page 592

3-Chloro-o-toluidine → 3-Chloro-2-methylaniline page 617

4-Chloro-2-toluidine → 5-Chloro-2-methylaniline page 617

5-Chloro-o-toluidine → 5-Chloro-2-methylaniline page 617

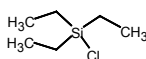
6-Chloro-2-toluidine → 3-Chloro-2-methylaniline page 617

3-Chloro-p-tolyl isocyanate → 3-Chloro-4-methylphenyl isocyanate page 619

Chlorotributylstannane → Tributyltin chloride page 1576

Chlorotributyltin → Tributyltin chloride page 1576  
2-Chlorotriethylamine hydrochloride → N-(2-Chloroethyl)-N,N-diethylammonium chloride page 611

## 821139 Chlorotriethylsilane for synthesis



$C_6H_{15}ClSi$   
( $C_2H_5$ )<sub>3</sub>SiCl  
*Triethylchlorosilane, Triethylsilyl chloride*  
■ CAS-No. 994-30-9 ■ EC-No. 213-615-6  
■ Refractive index 1.432 (20 °C, 589 nm)  
■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C)  
■ Flash point 30 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
■ M = 150.72 g/mol ■ Boiling point 144 - 145 °C

(1013 hPa)  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LGK 3  
■ HS-No. 2931 90 90 ■ Disposal 24  
■ ADR-RID UN 2985 Chlorsilane, entzündbar, ätzend, n.a.g., 3 (8), II ■ IMDG-Code UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S., 3 (8), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S., 3 (8), II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.897 - 0.900  
Identity (IR) ..... passes test

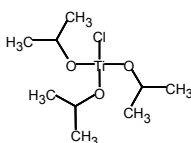
Ord.No.	Packaging	Quantity	Price
8.21139.0010	Glass bottle	10 ml	inquire
8.21139.0050	Glass bottle	50 ml	inquire

1-Chloro-2-(trifluoromethyl)-benzene → 2-Chlorobenzotrifluoride page 602

2-Chloro-5-(trifluoromethyl)nitrobenzene → 4-Chloro-3-nitrobenzotrifluoride page 624

o-Chloro-α,α,α-trifluorotoluene → 2-Chlorobenzotrifluoride page 602

## 818268 Chlorotriisopropyl orthotitanate (solution 1 mol/l in n-hexane) for synthesis



■ Vapour pressure 160 hPa (20 °C)  
■ Spec. density 0.77 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 7.4 % (V) ■ Flash point -22 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
■ Boiling point 68 - 70 °C (1013 hPa)

■ Ignition temp. 240 °C  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - single exposure, Category 3, ; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P233, P240, P273, P281, P301 + P310, P302 + P352, P304 + P340, P305 + P351 + P338, P308 +

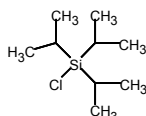
P313, P331  
■ LGK 3  
■ HS-No. 3824 90 97 ■ Disposal 3  
■ ADR-RID UN 1208 Hexane, 3, II ■ IMDG-Code UN 1208 HEXANES, 3, II  
■ IATA-DGR UN 1208 HEXANES, 3, II

**Specification**

Assay (argentometric) ..... 0.9 - 1.1 mol/l  
Density (d 20 °C/ 4 °C) ..... 0.766 - 0.768

Ord.No.	Packaging	Quantity	Price
8.18268.0100	Glass bottle	100 ml	inquire

## 814509 Chlorotriisopropylsilane for synthesis



$C_9H_{21}ClSi$   
■ CAS-No. 13154-24-0  
■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C)  
■ Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 192.8 g/mol

■ Boiling point 198 °C (983 hPa)  
■ WGK 3  
■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8A  
■ HS-No. 2931 90 90 ■ Disposal 24  
■ ADR-RID UN 2987 Chlorsilane, ätzend, n.a.g., 8, II ■ IMDG-Code UN 2987 CHLOROSILANES, CORROSIVE, N.O.S., 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2987 CHLOROSILANES, CORROSIVE, N.O.S., 8, II

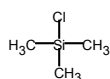
**Specification**

Assay (GC, area%) ..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,907 - 0,909  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14509.0005	Glass bottle	5 ml	inquire
8.14509.0050	Glass bottle	50 ml	inquire

# Chloro

## Chlorotrimethylsilane



C<sub>3</sub>H<sub>9</sub>ClSi  
(CH<sub>3</sub>)<sub>3</sub>SiCl  
*Trimethylchlorosilane, Trimethylsilyl chloride, TMCS*  
■ CAS-No. 75-77-4 ■ EC-No. 200-900-5  
■ Vapour pressure 250 hPa (20 °C)  
■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 46 % (V) ■ Flash point -20 °C ■ Solub.

in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
■ M = 108.64 g/mol ■ Melting point -58 °C  
■ Boiling point 57 °C (1013 hPa)  
■ Ignition temp. 420 °C  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1A, H314, P210, P233, P240, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LC50 rat 12.9 mg/l

■ LD50 oral rat 4868 mg/kg ■ LD50 dermal rabbit 1530 mg/kg  
■ LGK 3  
■ HS-No. 2931 90 90 ■ Disposal 24  
■ ADR-RID UN 1298 Trimethylchlorosilan, 3 (8), II  
■ IMDG-Code UN 1298 TRIMETHYLCHLOROSILANE, 3 (8), II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1298 TRIMETHYLCHLOROSILANE, 3 (8), II



### 818737 Chlorotrimethylsilane for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,858 - 0,861  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18737.0100	Glass bottle	100 ml	inquire
8.18737.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire

### 102333 Chlorotrimethylsilane for gas chromatography

#### Specification

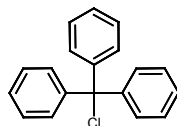
Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.02333.0100	Glass bottle	100 ml	inquire
1.02333.0250	Glass bottle	250 ml	inquire

Chlorotrimethylstannane → Trimethyltin chloride  
page 1609

Chlorotrimethyltin → Trimethyltin chloride page  
1609

## 808348 Chlorotriphenylmethane for synthesis



C<sub>19</sub>H<sub>15</sub>Cl  
ClC(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>  
*Triphenylchloromethane, Triphenylmethyl chloride, Trityl chloride*  
■ CAS-No. 76-83-5 ■ EC-No. 200-986-4  
■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)

■ M = 278.78 g/mol ■ Melting point 109 - 112 °C  
■ Boiling point 230 - 235 °C (27 hPa)  
■ WGK 2  
■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat > 5000 mg/kg  
■ LGK 8A  
■ HS-No. 2903 99 90 ■ Disposal 3  
■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(CHLOROTRIPHENYLMETHAN), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID,

N.O.S.(CHLOROTRIPHENYLMETHANE), 8, II  
■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(CHLOROTRIPHENYLMETHANE), 8, II

#### Specification

Assay (ex Cl) ..... ≥ 98,0 % (m)  
Melting range (lower value) ..... ≥ 110 °C  
Melting range (upper value) ..... ≤ 114 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08348.0250	Glass bottle	250 g	inquire
8.08348.1000	Glass bottle	1 kg	inquire

Chlorotriphenylstannane → Triphenyltin chloride  
page 1614

Chlorotripropyltin → Tripropyltin chloride page 1614

Chlorotris(triphenylphosphine)rhodium(I) →

Tris(triphenylphosphine)rhodium(I) chloride (11% Rh) page 1617

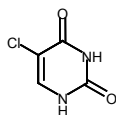
2-Chlorotriptyl chloride → page 280

Chlorotriphenyltin → Triphenyltin chloride page  
1614

Chlorotripropylstannane → Tripropyltin chloride  
page 1614

2-Chlorotriptyl chloride resin (100-200 mesh), 1%  
DVB → page 265

## 841136 5-Chlorouracil for synthesis



C<sub>4</sub>H<sub>3</sub>ClN<sub>2</sub>O<sub>2</sub>

*5-Chloro-2,4-dihydropyrimidine*  
■ CAS-No. 1820-81-1 ■ EC-No. 217-339-7  
■ M = 146.53 g/mol ■ Melting point >300 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2933 59 95 ■ Disposal 3

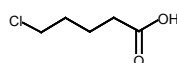
#### Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41136.0005	Plastic bottle	5 g	inquire

5-Chlorovalerianic acid nitrile → 5-Chlorovaleronitrile page 639

## 802812 5-Chlorovaleric acid for synthesis



C<sub>5</sub>H<sub>9</sub>ClO<sub>2</sub>  
Cl(CH<sub>2</sub>)<sub>4</sub>COOH  
*5-Chloropentanoic acid*  
■ CAS-No. 1119-46-6 ■ EC-No. 214-279-3  
■ Refractive index 1.4555 (20 °C, 589 nm)  
■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 136.57 g/mol

■ pH value 2.5 (100 g/l, H<sub>2</sub>O, 20 °C) (as an emulsion) ■ Melting point 17 - 19 °C  
■ Boiling point 138 - 140 °C (13 hPa)  
■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8A  
■ HS-No. 2915 90 70 ■ Disposal 4  
■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(5-CHLORVALERIANSAEURE), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID,

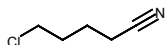
ACIDIC, ORGANIC, N.O.S.(5-CHLORVALERIANIC ACID), 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(5-CHLORVALERIANIC ACID), 8, III

#### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,168 - 1,170  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02812.0025	Glass bottle	25 ml	inquire

## 841309 5-Chlorovaleronitrile for synthesis

C<sub>5</sub>H<sub>8</sub>ClN

5-Chlorovalerianic acid nitrile, 5-Chloropentanitrile

- CAS-No. 6280-87-1 ■ EC-No. 228-481-4
- Spec. density 1.447 g/cm<sup>3</sup> (20 °C)
- Flash point 98 °C ■ M = 117.57 g/mol
- Boiling point 92 - 93 °C (13.3 hPa)
- WGK 3

- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(5-CHLORVALERONITRIL), 6,1, II ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(5-CHLORVALERONITRILE), 6,1, II
- IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC,

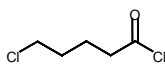
N.O.S.(5-CHLORVALERONITRILE), 6,1, II

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.054 - 1.059  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41309.0005	Glass bottle	5 ml	inquire

## 843138 5-Chlorovaleryl chloride for synthesis

C<sub>5</sub>H<sub>8</sub>Cl<sub>2</sub>O

- CAS-No. 1575-61-7 ■ EC-No. 216-403-1
- Vapour pressure 0.4 hPa (20 °C)
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.0 - 10.2 % (V) ■ Flash point 107 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 155.02 g/mol
- pH value < 7 (H<sub>2</sub>O, 20 °C) ■ Melting point - 58 °C ■ Boiling point 80 °C (15 hPa)
- Ignition temp. 250 °C DIN 51794

- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 500 - 2000 mg/kg
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(5-CHLORVALERIANSAEURECHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(5-CHLORVALERYL CHLORIDE),

8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(5-CHLORVALERYL CHLORIDE), 8, II

**Specification**

Assay (morpholine method) ..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C) ..... 1.205 - 1.207  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43138.0010	Glass bottle	10 ml	inquire

α-Chloro-m-xylene → 3-Methylbenzyl chloride  
page 1136α-Chloro-o-xylene → 2-Methylbenzyl chloride  
page 1136α-Chloro-p-xylene → 4-Methylbenzyl chloride  
page 1136

p-Chloro-m-xyleneol → 4-Chloro-3,5-dimethylphenol page 607

## 818841 1-Chloropropane for synthesis

C<sub>3</sub>H<sub>7</sub>Cl

Propyl chloride

- CAS-No. 540-54-5 ■ EC-No. 208-749-7
- Refractive index 1.388 (20 °C, 589 nm) ■ Vapour pressure 373 hPa (20 °C) ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.6 - 11.1 % (V)
- Flash point -18 °C ■ Solub. in H<sub>2</sub>O 2.7 g/l (20 °C)
- M = 78.54 g/mol ■ Melting point -122 °C
- Boiling point 45 - 47 °C ■ Ignition temp. 520 °C
- WGK 1

- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P233, P302 + P352
- LD50 oral rat > 2000 mg/kg
- EC-Index-No. 602-018-00-X ■ LGK 3 ■ Store below +15°C.
- HS-No. 2903 19 80 ■ Disposal 2
- ADR-RID UN 1278 1-Chloropropan, 3, II ■ IMDG-Code UN 1278 1-CHLOROPROPANE, 3, II, Segregation Group: 10 (Liquid halogenated

hydrocarbons)

- IATA-DGR UN 1278 1-CHLOROPROPANE, 3, II

**Specification**

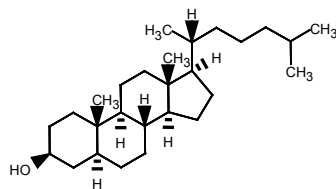
Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,889 - 0,893  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18841.0050	Glass bottle	50 ml	inquire
8.18841.0100	Glass bottle	100 ml	inquire
8.18841.0500	Glass bottle	500 ml	inquire

3-Chloropropene → 3-Chloro-1-propene page 631

Cholera medium → page 105

## 841513 5α-Cholestan-3β-ol for synthesis

C<sub>27</sub>H<sub>48</sub>O

Dihydrocholesterol

- CAS-No. 80-97-7 ■ EC-No. 201-315-8
- M = 388.67 g/mol ■ Melting point 130 - 143 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2906 13 10 ■ Disposal 3

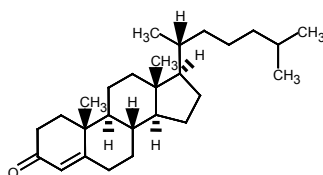
**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 139 °C  
 Melting range (upper value) ..... ≤ 143 °C  
 Spec. rotation [α<sup>20</sup>/D (c=1 in chloroform) ..... 22.0 - 25.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41513.0005	Plastic bottle	5 g	inquire

## 841471 4-Cholesten-3-one for synthesis

C<sub>27</sub>H<sub>44</sub>O

- CAS-No. 601-57-0 ■ EC-No. 210-005-1
- M = 384.64 g/mol ■ Melting point 81 - 82 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 29 00 ■ Disposal 3

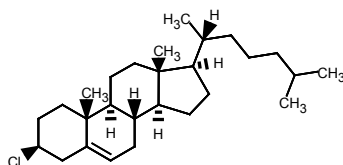
**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 79 °C  
 Melting range (upper value) ..... ≤ 82 °C  
 Spec. rotation [α<sup>20</sup>/D (c=1 in chloroform) ..... 88.0 - 93.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41471.0005	Plastic bottle	5 g	inquire

## 841733 Cholesteryl chloride for synthesis

C<sub>27</sub>H<sub>45</sub>Cl

- CAS-No. 910-31-6 ■ EC-No. 213-004-4
- M = 405.1 g/mol ■ Melting point 96 - 97 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2903 89 90 ■ Disposal 3

**Specification**

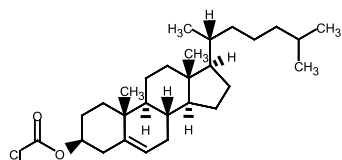
Melting range (lower value) ..... ≥ 94 °C  
 Melting range (upper value) ..... ≤ 96 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41733.0010	Plastic bottle	10 g	inquire



# Choles

## 841499 Cholesteryl chloroformate for synthesis



C<sub>28</sub>H<sub>45</sub>ClO<sub>2</sub>

Chloroformic acid cholesteryl ester

■ CAS-No. 7144-08-3 ■ EC-No. 230-447-9

■ M = 449.11 g/mol ■ Melting point 117 - 119 °C

■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2915 90 70 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(CHOLESTERYLCHLORFORMIAT), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CHOLESTERYL CHLOROFORMATE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CHOLESTERYL CHLOROFORMATE), 8, II

### Specification

Melting range (lower value)..... ≥ 116 °C  
 Melting range (upper value) ..... ≤ 119 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=5 in Chloroform)... -29.5 - -27.5 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41499.0025	Glass bottle	25 g	inquire

## Chromate / Dichromate

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
173	107512	Lead(II) chromate	166	104865	Potassium dichromate	1349	108158	Potassium dichromate standard solutions in sulfuric acid (0.01N)
1348	104864	Potassium dichromate	169	109928	Potassium dichromate solution	1349	104858	Potassium dichromate tablets

Chromate Cell Test → page 59	Chromate Test → page 58	Chrome black T → Eriochrome black T (C.I. 14645) page 172
Chromate, determination → page 58	Chromate Test Refill pack → page 59	Chrome yellow → Lead(II) chromate page 173
Chromate standard for aqueous matrices ready for use → page 40	Chromatography solvents → LiChrosolv® and Prepsolv®	Chromic anhydride → page 641

## 112097 Chromium powder 99+

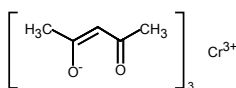
Cr  
 ■ CAS-No. 7440-47-3 ■ EC-No. 231-157-5  
 ■ Spec. density 7.20 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 51.99 g/mol  
 ■ pH value (H<sub>2</sub>O) not applicable  
 ■ Melting point 1890 °C ■ Boiling point 2670 °C

(1013 hPa)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 8112 21 90 ■ Disposal 27  
**Specification**

Assay (oxidimetric) ..... ≥ 99.0 %  
 Particle size (< 0.315 mm)..... ≥ 99%

Ord.No.	Packaging	Quantity	Price
1.12097.0500	Plastic bottle	500 g	inquire

## 802485 Chromium(III) acetylacetonate for synthesis



C<sub>15</sub>H<sub>21</sub>CrO<sub>6</sub>

Tris(acetylacetonato)chromium(III), Tris(2,4-pentanedionato)chromium(III)

■ CAS-No. 21679-31-2 ■ EC-No. 244-526-0

■ Solub. in H<sub>2</sub>O 11 g/l (20 °C) ■ M = 349.33 g/mol  
 ■ pH value 6 (1 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 213 - 216 °C  
 ■ Bulk density 450 kg/m<sup>3</sup>  
 ■ Boiling point 339 - 341 °C  
 ■ WGK 2  
 ■ LD50 oral rat 3360 mg/kg ■ LD50 dermal rabbit 6350 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2914 19 90 ■ Disposal 14

### Specification

Assay (ex Cr)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.02485.0100	Plastic bottle	100 g	inquire

Chromiumcarbonyl → Chromium hexacarbonyl page 641

## 802482 Chromium(II) chloride for synthesis

Cl<sub>2</sub>Cr  
 CrCl<sub>2</sub>  
 Chromium dichloride  
 ■ CAS-No. 10049-05-5 ■ EC-No. 233-163-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 122.9 g/mol  
 ■ Melting point 823 - 825 °C  
 ■ Boiling point 1300 °C

■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1870 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 14

### Specification

Assay (oxidimetric) ..... 89,0 - 93,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.02482.0010	Glass bottle	10 g	inquire

## 818090 Chromium(III) chloride anhydrous for synthesis

Cl<sub>3</sub>Cr  
 CrCl<sub>3</sub>  
 Chromium trichloride  
 ■ CAS-No. 10025-73-7 ■ EC-No. 233-038-3  
 ■ Spec. density 2.87 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 158.35 g/mol  
 ■ Melting point 1152 °C

■ Boiling point 1300 °C decomposes  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
 ■ LD50 oral rat 440 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 14

### Specification

Assay (iodometric) ..... ≥ 98,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.18090.0002	Glass bottle	2 g	inquire
8.18090.0025	Glass bottle	25 g	inquire

## Chromium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
172	102498	Chromotropic acid disodium salt dihydrate	815	103091	1,5-Diphenylcarbazide	995	107098	8-Hydroxyquinoline

Chromium dichloride → Chromium(II) chloride page 640



**822196 Chromium hexacarbonyl** for synthesisCr<sub>6</sub>CrO<sub>6</sub>Cr(CO)<sub>6</sub>*Chromiumcarbonyl*

- CAS-No. 13007-92-6 ■ EC-No. 235-852-4
- Vapour pressure 0.35 hPa (20 °C)
- Spec. density 1.77 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 220.06 g/mol
- Melting point 149 - 150 °C
- Boiling point 151 °C (1013 hPa)
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B,

- H350i; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P308 + P313
- LD50 oral rat 230 mg/kg
- EC-Index-No. 024-017-00-8 ■ LGK 6.1A
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 3466 Metallcarbonyl, fest, n.a.g.(CHROMCARBONYL), 6.1, III ■ IMDG-Code UN 3466 METAL CARBONYLS, SOLID, N.O.S.(CHROMIUM CARBONYL), 6.1, III

- IATA-DGR UN 3466 METAL CARBONYLS, SOLID, N.O.S.(CHROMIUM CARBONYL), 6.1, III

**Specification**

- Assay (ex Cr) ..... ≥ 98.0 % (m)
- Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22196.0010	Glass bottle	10 g	inquire
8.22196.0025	Glass bottle	25 g	inquire

**102481 Chromium(III) nitrate nonahydrate** for analysis EMSURE®CrN<sub>3</sub>O<sub>9</sub> \* 9H<sub>2</sub>OCr(NO<sub>3</sub>)<sub>3</sub> \* 9H<sub>2</sub>O*Chromic Nitrate*

- CAS-No. 7789-02-8 ■ EC-No. 236-921-1
- Solub. in H<sub>2</sub>O 810 g/l (20 °C) ■ M = 400.15 g/mol ■ pH value 2 - 3 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 36 - 37 °C ■ Bulk density 710 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Oxidising solid, Category 3, H272; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 +

P351 + P338

- LD50 oral rat 3250 mg/kg
- LGK 5.1B
- HS-No. 2834 29 80 ■ Disposal 14
- ADR-RID UN 2720 Chromnitrat, 5.1, III ■ IMDG-Code UN 2720 CHROMIUM NITRATE, 5.1, III
- IATA-DGR UN 2720 CHROMIUM NITRATE, 5.1, III

**Specification**

- Assay (iodometric) ..... ≥ 98.0 %
- pH-value (5 %; water) ..... 2.0 - 3.0
- Chloride (Cl) ..... ≤ 0.002 %

- Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %
- Cu (Copper) ..... ≤ 0.001 %
- Fe (Iron) ..... ≤ 0.01 %
- NH<sub>4</sub> (Ammonium) ..... ≤ 0.002 %
- Substances not precipitated by ammonia (as sulphates) ..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.02481.0250	Plastic bottle	250 g	inquire

**Chromium(VI) oxide**CrO<sub>3</sub>*Chromic anhydride, Chromium trioxide*

- CAS-No. 1333-82-0 ■ EC-No. 215-607-8
- Spec. density 2.7 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1854 g/l (20 °C) ■ M = 99.99 g/mol
- pH value < 1 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 197 °C ■ Bulk density 900 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Oxidising solid, Category 1, H271; Carcinogenicity, Category 1A, H350; Germ cell mutagenicity, Category 1B, H340; Reproductive toxicity, Category 2, H361f; Acute toxicity,

- Category 2, Inhalation, H330; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin corrosion, Category 1A, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.217 mg/l

- LD50 oral rat 50 mg/kg ■ LD50 dermal rat 55 mg/kg
- EC-Index-No. 024-001-00-0 ■ LGK 5.1B
- HS-No. 2819 10 00 ■ Disposal 22
- ADR-RID UN 1463 Chromtrioxid, wasserfrei, 5.1 (6.1, 8), II ■ IMDG-Code UN 1463 CHROMIUM TRIOXIDE, ANHYDROUS, 5.1 (6.1, 8), II
- IATA-DGR UN 1463 CHROMIUM TRIOXIDE, ANHYDROUS, 5.1 (6.1, 8), II
- Strong oxidizing agent for preparative and analytical chemistry.

**822266 Chromium(VI) oxide** for synthesis**Specification**

- Assay (iodometric) ..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
8.22266.0100	Glass bottle	100 g	inquire
8.22266.1000	Glass bottle	1 kg	inquire
8.22266.2500	Glass bottle	2.5 kg	inquire

**100227 Chromium(VI) oxide** extra pure**Specification**

- Assay (iodometric) ..... ≥ 99.0 %
- Identity ..... passes test
- Alcali chromates ..... passes test

- Chromium(III)oxide ..... passes test
- Sulphate (SO<sub>4</sub>) ..... ≤ 0.05 %
- Loss on drying (105 °C) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.00227.2500	Glass bottle	2.5 kg	inquire

**100229 Chromium(VI) oxide** for analysis EMSURE®**Specification**

- Assay (iodometric) ..... ≥ 99.0 %
- Chloride (Cl) ..... ≤ 0.005 %
- Sulphate (SO<sub>4</sub>) ..... ≤ 0.02 %
- Total nitrogen (N) ..... ≤ 0.005 %

- Fe (Iron) ..... ≤ 0.01 %
- K (Potassium) ..... ≤ 0.005 %
- Na (Sodium) ..... ≤ 0.2 %
- Substances precipitated by ammonia ..... ≤ 0.02 %

- Loss on drying (105 °C) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.00229.0250	Glass bottle	250 g	inquire

**101036 Chromium(III) potassium sulfate dodecahydrate** for analysis EMSURE® ACS,Reag. Ph EurCrK<sub>2</sub>O<sub>8</sub>S<sub>2</sub> \* 12 H<sub>2</sub>OKCr(SO<sub>4</sub>)<sub>2</sub> \* 12H<sub>2</sub>O*Potassium chromium(III) sulfate, Alum chrome*

- CAS-No. 7788-99-0 ■ EC-No. 233-401-6
- Spec. density 1.83 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 250 g/l (25 °C) ■ M = 499.41 g/mol
- pH value 3 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 89 °C
- Bulk density 800 - 1000 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315;

- Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2833 30 00 ■ Disposal 14

**Specification**

- Assay (iodometric) ..... 99.0 - 102.0 %
- Identity ..... passes test
- Insoluble matter ..... ≤ 0.01 %
- Chloride (Cl) ..... ≤ 0.002 %
- Heavy metals (as Pb) ..... ≤ 0.01 %

- Al (Aluminium) ..... ≤ 0.005 %
- Cu (Copper) ..... ≤ 0.001 %
- Fe (Iron) ..... ≤ 0.010 %
- NH<sub>4</sub> (Ammonium) ..... ≤ 0.010 %
- Pb (Lead) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.01036.0250	Plastic bottle	250 g	inquire

109948 Chromium standard 1000 mg Cr, (CrCl<sub>3</sub> in 4.2% HCl) Titrisol®

- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28

- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III
  - IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III
- Specification**  
content (Cr)..... 1000 mg / Ampoule

Determination method: ICP - OES. (traceable to NIST - SRM 3112a) Accuracy of the method: +/- 5 mg

Ord.No.	Packaging	Quantity	Price
1.09948.0001	Plastic ampoule	1 amp	inquire

Chromium standard for aqueous matrices →

Chromium standard page 642

Chromium standard for aqueous matrices ready for use → page 1467

Chromium trichloride → Chromium(III) chloride page 640

Chromium trioxide → page 641

Chromocult® → page 98

Chromocult® medium → page 98

Chromolith™ → page 33

Chromolith® CapRod® RP-8 endcapped 50-0.1 trap capillary column → page 32

Chromolith® CapRod® RP-8 endcapped 150-0.1 capillary column → page 32

Chromolith® CapRod® RP-18 endcapped 50-0.1 trap capillary column → page 33

Chromolith® CapRod® RP-18 endcapped 50-0.2 trap capillary column → page 33

Chromolith® CapRod® RP-18 endcapped 150-0.05 capillary column → page 33

Chromolith® CapRod® RP-18 endcapped 150-0.1 capillary column → page 33

Chromolith® CapRod® RP-18 endcapped 150-0.2 capillary column → page 33

Chromolith® CapRod® RP-18 endcapped 300-0.1 capillary column → page 33

Chromolith® CapRod® RP-18 endcapped HR 150-0.1 capillary column → page 33

Chromolith® CapRod® RP-18 endcapped HR 150-0.2 capillary column → page 33

Chromolith® column coupler for 10-32 female ports → page 35

Chromolith® FastGradient RP-18 endcapped 50-2 HPLC column → page 33

Chromolith® FastGradient RP-18 endcapped 50-3 HPLC column → page 33

Chromolith® Flash NH2 25-4.6 HPLC column → page 33

Chromolith® Flash RP-18 endcapped 25-2 HPLC column → page 34

Chromolith® Flash RP-18 endcapped 25-3 HPLC column → page 33

Chromolith® HighResolution RP-18 endcapped 5-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder) → page 33

Chromolith® HighResolution RP-18 endcapped 5-4.6 guard cartridges (3 pieces) → page 33

Chromolith® HighResolution RP-18 endcapped 25-4.6 HPLC column → page 33

Chromolith® HighResolution RP-18 endcapped 50-4.6 HPLC column → page 33

Chromolith® HighResolution RP-18 endcapped 100-4.6 HPLC column → page 33

Chromolith® NH2 5-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder) → page 33

Chromolith® NH2 5-4.6 guard cartridges (3 pieces) → page 33

Chromolith® Performance NH2 100-4.6 HPLC column → page 33

Chromolith® Performance RP-8 endcapped 100-4.6 HPLC column → page 33

Chromolith® Performance RP-18 endcapped 100-2 HPLC column → page 33

Chromolith® Performance RP-18 endcapped 100-3 HPLC column → page 33

Chromolith® Performance RP-18 endcapped 100-4.6 HPLC column → page 33

Chromolith® Performance RP-18 endcapped 100-4.6 HPLC columns Validation Kit (3 columns from 3 different batches) → page 33

Chromolith® Performance Si 100-4.6 HPLC column → page 33

Chromolith® Prep column coupler → page 35

Chromolith® Prep end cap set → page 35

Chromolith® Prep frit set → page 35

Chromolith® Prep RP-18 endcapped 10-25 guard cartridge → page 34

Chromolith® Prep RP-18 endcapped 100-25 column → page 34

Chromolith® Prep sealing set → page 35

Chromolith® Prep Si 10-25 guard cartridge → page 34

Chromolith® Prep Si 100-25 column → page 34

Chromolith® Prep tool set → page 35

Chromolith® RP-8 endcapped 5-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder) → page 33

Chromolith® RP-8 endcapped 5-4.6 guard cartridges (3 pieces) → page 33

Chromolith® RP-18 endcapped 5-2 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder) → page 34

Chromolith® RP-18 endcapped 5-3 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder) → page 34

Chromolith® RP-18 endcapped 5-3 guard cartridges (3 pieces) → page 35

Chromolith® RP-18 endcapped 5-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder) → page 34

Chromolith® RP-18 endcapped 5-4.6 guard cartridges (3 pieces) → page 34

Chromolith® RP-18 endcapped 10-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder) → page 34

Chromolith® RP-18 endcapped 10-4.6 guard cartridges (3 pieces) → page 34

Chromolith® RP-18 endcapped 10-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder) → page 34

Chromolith® RP-18 endcapped 10-4.6 guard cartridges (3 pieces) → page 34

Chromolith® SemiPrep 10-10 guard cartridge holder → page 34

Chromolith® SemiPrep RP-18 endcapped 10-10 guard cartridges (3 pieces) → page 34

Chromolith® SemiPrep RP-18 endcapped 100-10 column → page 34

Chromolith® SemiPrep Si 10-10 guard cartridges (3 pieces) → page 34

Chromolith® SemiPrep Si 100-10 column → page 34

Chromolith® Si 5-4.6 guard cartridge kit (3 guard cartridges and 1 guard cartridge holder) → page 33

Chromolith® Si 5-4.6 guard cartridges (3 pieces) → page 33

Chromolith® SpeedROD NH2 50-4.6 HPLC column → page 34

Chromolith® SpeedROD RP-18 endcapped 50-4.6 HPLC column → page 34

Chromolith® DIOL 5-4.6 guard cartridges (3 pieces) → page 33

Chromolith® DIOL 25-4.6 HPLC column → page 34

Chromolith® DIOL 50-4.6 HPLC column → page 34

Chromolith® DIOL 100-4.6 HPLC column → page 34

## 102499 Chromosulfuric acid for cleaning glass vessels

*Dichromate-sulfuric acid mixture*

- Spec. density 1.84 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1A, H350; Germ cell mutagenicity, Category 1B, H340; Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1A, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Specific target organ toxicity -

single exposure, Category 3, H335; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P201, P273, P280, P302 + P352, P305 + P351 + P338, P309 + P310

- LGK 6.1 D
- HS-No. 3824 90 97 ■ Disposal 22
- ADR-RID UN 2240 Chromschwefelsäure, 8, I
- IMDG-Code UN 2240 CHROMOSULPHURIC ACID, 8, I, Segregation Group: 1 (Acids)
- IATA-DGR UN 2240 CHROMOSULPHURIC ACID,

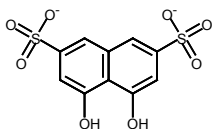
8, I

**Specification**

Assay (H<sub>2</sub>SO<sub>4</sub>)..... ≥ 92 %  
Assay (CrO<sub>3</sub>)..... ≥ 1.3 %

Ord.No.	Packaging	Quantity	Price
1.02499.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02499.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 102498 Chromotropic acid disodium salt dihydrate for analysis ACS,Reag. Ph Eur



$\text{C}_{10}\text{H}_6\text{Na}_2\text{O}_8\text{S}_2 \cdot 2 \text{H}_2\text{O}$

4,5-Dihydroxy-2,7-naphthalene disulfonic acid sodium salt

■ CAS-No. 5808-22-0 ■ EC-No. 204-972-9

- Solub. in  $\text{H}_2\text{O}$  170 g/l (20 °C) ■ M = 400.30 g/mol ■ pH value 3.6 (10 g/l,  $\text{H}_2\text{O}$ , 20 °C)
- Melting point >300 °C ■ Bulk density 780 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2908 99 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Appearance ..... greyish white to brownish white

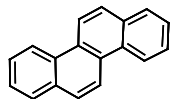
powder

Assay (acidimetric, calc. on anhydrous substance) ..  
..... ≥ 98.5 %  
Identity (IR-spectrum) ..... passes test  
Appearance of solution (5 %; water) ..... passes test  
Water (according to Karl Fischer) ..... 8.5 - 9.5 %  
Sensitivity (of formaldehyde) ..... passes test  
Sensitivity (of nitrate) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.02498.0025	Glass bottle	25 g	inquire

Chrysazin → 1,8-Dihydroxyanthraquinone page 760

## 841690 Chrysenes for synthesis



$\text{C}_{18}\text{H}_{12}$

- CAS-No. 218-01-9 ■ EC-No. 205-923-4
- Spec. density 1.274 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  < 0.0001 g/l (25 °C) ■ M = 228.29 g/mol
- Melting point 256 - 258 °C
- Boiling point 448 °C
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B,

H350; Germ cell mutagenicity, Category 2, H341; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P281, P273, P308 + P313

- EC-Index-No. 601-048-00-0 ■ LGK 6.1A
- HS-No. 2902 90 00 ■ Disposal 9
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(CHRYSENE), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CHRYSENE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CHRYSENE), 9, III

**Specification**

Assay (HPLC, area%) ..... ≥ 95.0 Area %  
Melting range (lower value) ..... ≥ 252 °C  
Melting range (upper value) ..... ≤ 256 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41690.0001	Glass bottle	1 g	inquire

## 102307 α-Chymotrypsin (from bovine pancreas) cryst. lyophilized 350 U/mg for biochemistry EC 3.4.21.1

- CAS-No. 9004-07-3 ■ EC-No. 232-671-2
- Solub. in  $\text{H}_2\text{O}$  (20 °C) soluble ■ pH value 3 - 5 (10 g/l,  $\text{H}_2\text{O}$ )
- WGK 1
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334, P304 + P341, P305 + P351 + P338, P302 + P352, P342 + P311
- LD50 oral rat > 4000 mg/kg

- EC-Index-No. 647-011-00-2 ■ LGK 10 - 13
  - Store at +2°C to +8°C.
  - HS-No. 3507 90 90 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- Catalysed reaction: Hydrolysis of peptides, amides and esters preferentially at the carboxyl groups of hydrophobic amino acids. Splitting of peptides and proteins, e.g. for sequence analysis.

**Specification**

Appearance (description) ..... lyophilisate  
Appearance (colour) ..... slightly yellowish  
Activity (ATEE, pH 8.0, 25 °C) ..... ≥ 350 U/mg  
Spec. activity (calc. on protein) ..... ca. 400U/mg

Ord.No.	Packaging	Quantity	Price
1.02307.0001	Glass bottle	1 g	inquire
1.02307.0005	Glass bottle	5 g	inquire

(C.I. 42053) for microbiology Certistain® → page 189

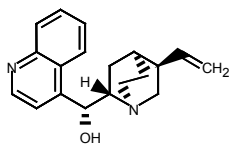
(C.I. 45005) for microscopy Certistain® → page 190

C.I.N. agar → page 105

Cincheromeric acid → Pyridine-3,4-dicarboxylic acid page 1387

(8α,9R)-Cinchonan-9-ol → (-)-Cinchonidine page 643

## 818453 (-)-Cinchonidine for resolution of racemates for synthesis



$\text{C}_{19}\text{H}_{22}\text{N}_2\text{O}$

■ CAS-No. 485-71-2 ■ EC-No. 207-622-3

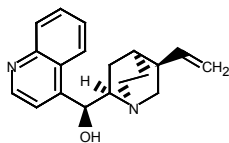
- Solub. in  $\text{H}_2\text{O}$  0.25 g/l (20 °C) ■ M = 294.39 g/mol ■ pH value 9 (0.2 g/l,  $\text{H}_2\text{O}$ , 20 °C)
- Melting point 199 - 202 °C
- Bulk density 155 kg/m<sup>3</sup>
- WGK 1
- GHS: P260
- LGK 10 - 13
- HS-No. 2939 20 00

**Specification**

Assay ( $\text{HClO}_4$ ) ..... ≥ 99.0 %  
Melting range (lower value) ..... ≥ 200 °C  
Melting range (upper value) ..... ≤ 204 °C  
Spec. rotation [ $\alpha^20/\text{D}$  (c=5 in ethanol) ..... -108.0 - -104.0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18453.0025	Glass bottle	25 g	inquire

## 802506 (+)-Cinchonine for resolution of racemates for synthesis



$\text{C}_{19}\text{H}_{22}\text{N}_2\text{O}$

■ CAS-No. 118-10-5 ■ EC-No. 204-234-6

■ Solub. in  $\text{H}_2\text{O}$  0.25 g/l (20 °C) ■ M = 294.40 g/mol

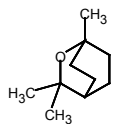
- pH value 9.0 (0.25 g/l,  $\text{H}_2\text{O}$ , 20 °C) (as aqueous solution) ■ Melting point 258 - 264 °C
- Bulk density 130 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317, P260, P280, P302 + P352
- LGK 10 - 13
- HS-No. 2939 20 00 ■ Disposal 3

**Specification**

Assay ( $\text{HClO}_4$ ) ..... ≥ 99.0 % (m)  
Spec. rotation [ $\alpha^20/\text{D}$  (c=0.5 in methanol) ..... 218.0 - 222.0 °  
Identity (IR) ..... conforms  
Contains about 15 % Dihydrocinchonine.

Ord.No.	Packaging	Quantity	Price
8.02506.0025	Plastic bottle	25 g	inquire
8.02506.0100	Plastic bottle	100 g	inquire

## 843788 1,8-Cineole for synthesis



C<sub>10</sub>H<sub>18</sub>O  
 1,3,3-Trimethyl-2-oxabicyclo(2,2,2)-octane  
 ■ CAS-No. 470-82-6 ■ EC-No. 207-431-5  
 ■ Spec. density 0.925 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 49 °C ■ Solub. in H<sub>2</sub>O 3.5 g/l (21 °C)  
 ■ M = 154.25 g/mol ■ Melting point 1.5 °C

■ Boiling point 174 - 177 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LD50 oral rat 2480 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2932 99 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,3,3-TRIMETHYL-2-OXABICYCLO(2,2,2)-OCTAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,3,3-TRIMETHYL-2-OXABICYCLO(2,2,2)-OCTANE), 3, III

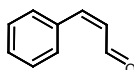
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,3,3-TRIMETHYL-2-OXABICYCLO(2,2,2)-OCTANE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.923 - 0.928  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43788.0100	Glass bottle	100 ml	inquire
8.43788.0500	Glass bottle	500 ml	inquire

## 802505 trans-Cinnamaldehyde for synthesis



C<sub>9</sub>H<sub>8</sub>O  
 C<sub>6</sub>H<sub>5</sub>CH=CHCHO  
 trans-Cinnamic aldehyde, trans-3-Phenyl-2-propenal  
 ■ CAS-No. 104-55-2 ■ EC-No. 203-213-9  
 ■ Refractive index 1.6219 (20 °C, 589 nm)  
 ■ Vapour pressure < 0.1 hPa (20 °C)

■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 138 °C ■ Solub. in H<sub>2</sub>O 1.1 g/l (20 °C) ■ M = 132.16 g/mol ■ Melting point -8 °C  
 ■ Boiling point 127 °C (21 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352  
 ■ LD50 oral rat 2220 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13

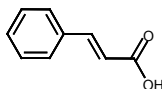
■ HS-No. 2912 29 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,048 - 1,051  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02505.0005	Glass bottle	5 ml	inquire
8.02505.0250	Glass bottle	250 ml	inquire
8.02505.1000	Glass bottle	1 l	inquire

## 800235 Cinnamic acid for synthesis



C<sub>9</sub>H<sub>8</sub>O<sub>2</sub>  
 C<sub>6</sub>H<sub>5</sub>CH=CHCOOH  
 ■ CAS-No. 140-10-3 ■ EC-No. 205-398-1  
 ■ Vapour pressure 1.3 hPa (128 °C)  
 ■ Spec. density 1.25 g/cm<sup>3</sup> (4 °C)

■ Flash point 160 °C ■ Solub. in H<sub>2</sub>O 0.4 g/l (20 °C) ■ M = 148.16 g/mol ■ pH value 3 - 4 (0.4 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 132 - 136 °C  
 ■ Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 300 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat 2500 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 4

## Specification

Assay (HPLC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 132 °C  
 Melting range (upper value) ..... ≤ 136 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00235.0005	Glass bottle	5 g	inquire
8.00235.0250	Plastic bottle	250 g	inquire
8.00235.1000	Plastic bottle	1 kg	inquire

Cinnamic acid chloride → Cinnamoyl chloride page 644

Cinnamic acid methyl ester → Methyl cinnamate page 1143

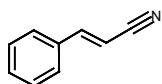
Cinnamic aldehyde → trans-Cinnamaldehyde page 644

Cinnamic acid ethyl ester → Ethyl cinnamate page 857

Cinnamic acid nitrile → Cinnamionitrile page 644

trans-Cinnamic aldehyde → trans-Cinnamaldehyde page 644

## 820349 Cinnamionitrile for synthesis



C<sub>9</sub>H<sub>7</sub>N  
 C<sub>6</sub>H<sub>5</sub>CH=CHCN  
 Cinnamic acid nitrile  
 ■ CAS-No. 1885-38-7 ■ EC-No. 217-552-5  
 ■ Refractive index 1.6022 (20 °C, 589 nm)  
 ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 110 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 129.16 g/mol  
 ■ Melting point 18 - 20 °C  
 ■ Boiling point 254 - 255 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
 ■ LD50 oral rat 275 mg/kg  
 ■ LGK 6.1 C ■ Store below +15 °C.  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(ZIMTSAEURENITRIL), 6,1, III ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID,

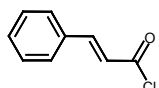
N.O.S.(CINNAMONITRILE), 6,1, III  
 ■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(CINNAMONITRILE), 6,1, III

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.028 - 1.032  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20349.0025	Glass bottle	25 ml	inquire
8.20349.0100	Glass bottle	100 ml	inquire

## 800236 Cinnamoyl chloride for synthesis



C<sub>9</sub>H<sub>7</sub>ClO  
 C<sub>6</sub>H<sub>5</sub>CH=CHCOCl  
 Cinnamic acid chloride  
 ■ CAS-No. 17082-09-6  
 ■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 166.6 g/mol

■ Melting point 32 - 35 °C  
 ■ Boiling point 251 - 258 °C  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(ZIMTSAEURECHLORID), 8, II  
 ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CINNAMOYL CHLORIDE), 8, II,

Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CINNAMOYL CHLORIDE), 8, II

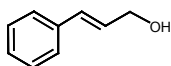
## Specification

Assay (morpholine method) ..... ≥ 98.0 % (m)  
 Melting range (lower value) ..... ≥ 32 °C  
 Melting range (upper value) ..... ≤ 35 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00236.0100	Glass bottle	100 ml	inquire



## 802504 Cinnamyl alcohol for synthesis

C<sub>9</sub>H<sub>10</sub>OC<sub>6</sub>H<sub>5</sub>CH=CHCH<sub>2</sub>OH3-Phenylallyl alcohol, *trans*-3-Phenyl-2-propen-1-ol

- CAS-No. 104-54-1 ■ EC-No. 203-212-3
- Vapour pressure 1.33 hPa (114 °C)
- Spec. density 1.04 g/cm<sup>3</sup> (25 °C)

- Flash point 126 °C ■ Solub. in H<sub>2</sub>O 1.8 g/l (20 °C) ■ M = 134.18 g/mol
- Melting point 31 - 34 °C ■ Boiling point 258 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352
- LD50 oral rat 2000 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13

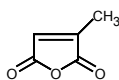
- HS-No. 2906 29 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 31 °C  
 Melting range (upper value) ..... ≤ 34 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02504.0005	Glass bottle	5 g	inquire
8.02504.0250	Plastic bottle	250 g	inquire

## 841321 Citraconic anhydride for synthesis

C<sub>5</sub>H<sub>4</sub>O<sub>3</sub>

Methylmaleic anhydride

- CAS-No. 616-02-4 ■ EC-No. 210-459-0
- Vapour pressure 1.3 hPa (47 °C)
- Spec. density 1.243 g/cm<sup>3</sup> (20 °C)
- Flash point 101 °C ■ M = 112.08 g/mol
- Melting point 7 - 8 °C
- Boiling point 213 - 214 °C (1013 hPa)

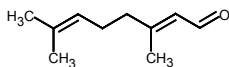
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Skin irritation, Category 2, H315, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2600 mg/kg ■ LD50 dermal rabbit 218 mg/kg
- LGK 6.1A ■ Store below +15°C.
- HS-No. 2917 19 90 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(CITRACONSAEUREANHYDRID), 6.1, III

- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(CITRACONIC ANHYDRIDE), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(CITRACONIC ANHYDRIDE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.241 - 1.246  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41321.0100	Glass bottle	100 ml	inquire

802489 Citral (mixture of *cis*- and *trans*-isomers) for synthesisC<sub>10</sub>H<sub>16</sub>O(CH<sub>3</sub>)<sub>2</sub>C=CHCH<sub>2</sub>CH<sub>2</sub>C(CH<sub>3</sub>)=CHCHO

3,7-Dimethyl-2,6-octadienal

- CAS-No. 5392-40-5 ■ EC-No. 226-394-6
- Refractive index 1.4872 (20 °C, 589 nm)
- Vapour pressure < 1 hPa (50 °C)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 4.3 - 9.9 % (V) ■ Flash point 98 °C ■ Solub. in H<sub>2</sub>O 0.42 g/l (25 °C) ■ M = 152.23 g/mol
- Melting point < -20 °C
- Boiling point 227 - 229 °C (1013 hPa)
- Ignition temp. 225 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P280, P302 + P352
- LD50 oral rat 4950 mg/kg ■ LD50 dermal rabbit 2250 mg/kg

- EC-Index-No. 605-019-00-3 ■ LGK 10 - 13
- HS-No. 2912 19 00 ■ Disposal 3

## Specification

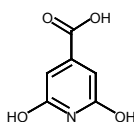
Assay isomers (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.887 - 0.889  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.02489.0005	Glass bottle	5 ml	inquire
8.02489.0250	Glass bottle	250 ml	inquire

## Citricates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
411	101154	di-Ammonium hydrogen citrate	1431	106448	tri-Sodium citrate dihydrate	1436	112264	di-Sodium hydrogen citrate 1,5-hydrate

## 814756 Citrazinic acid for synthesis

C<sub>6</sub>H<sub>5</sub>NO<sub>4</sub>

- CAS-No. 99-11-6 ■ EC-No. 202-731-2

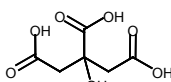
- Spec. density 0.65 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 155.11 g/mol
- pH value 3.1 - 3.5 (100 g/l, H<sub>2</sub>O) (slurry)
- Melting point >330 °C (decomposition)
- WGK 1
- LD50 oral rat > 3200 mg/kg
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14756.0100	Plastic bottle	100 g	inquire
8.14756.0500	Plastic bottle	500 g	inquire

## 818707 Citric acid anhydrous for synthesis

C<sub>6</sub>H<sub>8</sub>O<sub>7</sub>(HOOCCH<sub>2</sub>)<sub>2</sub>C(OH)COOH

2-Hydroxypropane-1,2,3-tricarboxylic acid, Hydroxytricarballic acid

- CAS-No. 77-92-9 ■ EC-No. 201-069-1
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.665 g/cm<sup>3</sup> (18 °C) ■ Solub. in H<sub>2</sub>O 1330 g/l (20 °C) ■ M = 192.12 g/mol

- pH value 1.7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 153 °C (decomposition)
- Bulk density 560 kg/m<sup>3</sup> ■ Boiling point 200 °C (1013 hPa) (decomposition)
- Ignition temp. 540 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 3000 mg/kg
- LGK 10 - 13
- HS-No. 2918 14 00
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

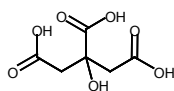
- IATA-DGR No Dangerous Good

## Specification

Assay (alkalimetric) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18707.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.18707.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire

## 100244 Citric acid monohydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

C<sub>6</sub>H<sub>8</sub>O<sub>7</sub> \* H<sub>2</sub>O

2-Hydroxypropane-1,2,3-tricarboxylic acid, Hydroxytricarballic acid

- CAS-No. 5949-29-1 ■ EC-No. 201-069-1
- Vapour pressure < 0.1 hPa (20 °C) (anhydrous substance) ■ Spec. density 1.54 g/cm<sup>3</sup> (20 °C)
- Explosive limit 8.0 % (V) ■ Solub. in H<sub>2</sub>O 1630 g/l (20 °C) ■ M = 210.14 g/mol
- Melting point 135 - 152 °C
- Bulk density 800 - 1000 kg/m<sup>3</sup>
- Ignition temp. 540 °C (anhydrous substance)
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 3000 mg/kg

- LGK 10 - 13
- HS-No. 2918 14 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

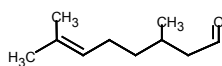
- Assay (acidimetric, calc. on anhydrous substance).....99.5 - 100.5 %
- Identity (IR-spectrum).....passes test
- Appearance.....white to almost white or colorless crystals
- Appearance of solution (200 g/l; water). clear (≤ 3 NTU) and not more intense in color than reference solution Y<sub>7</sub>, BY<sub>7</sub> or GY<sub>7</sub>
- In water insoluble matter.....≤ 50 ppm
- Chloride (Cl).....≤ 5 ppm
- Phosphate (PO<sub>4</sub>).....≤ 10 ppm
- Sulphate (SO<sub>4</sub>).....≤ 20 ppm
- Heavy metals (as Pb).....≤ 10 ppm
- Cu (Copper).....≤ 5 ppm

- Fe (Iron).....≤ 3 ppm
- Fe (Iron, acc. to Reag. Ph Eur.)...suitable to use in the limit test for iron
- Pb (Lead).....≤ 2 ppm
- Oxalates (as C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>).....≤ 50 ppm
- Readily carbonisable substance.....passes test
- Sulfated ash.....≤ 200 ppm
- Water (according to Karl Fischer).....7.5 - 8.8 %
- Corresponds to ACS, ISO 6353/2, Reag. Ph. Eur.

Ord.No.	Packaging	Quantity	Price
1.00244.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.00244.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.00244.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.00244.9026	Fibre carton	25 kg	inquire

Citric acid tributyl ester → Tributyl citrate page  
1574Citric acid triethyl ester → Triethyl citrate page  
1586

## 814575 Citronellal for synthesis

C<sub>10</sub>H<sub>18</sub>O

3,7-Dimethyl-6-octenal

- CAS-No. 106-23-0 ■ EC-No. 203-376-6
- Refractive index 1.446 (20 °C) ■ Vapour pressure 14 hPa (88 °C) ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 4.5 % (V)
- Flash point 77 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 154.25 g/mol ■ pH value 7 (H<sub>2</sub>O) ■ Boiling point 208 °C (1013 hPa) ■ Ignition temp. 202 °C

- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P262, P280, P273, P302 + P352
- LD50 oral rat 2420 mg/kg ■ LD50 dermal rabbit > 2500 mg/kg
- LGK 10
- HS-No. 2912 19 00 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(CITRONELLAL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CITRONELLAL), 9, III, Marine Pollutant: P

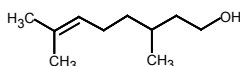
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CITRONELLAL), 9, III

**Specification**

- Assay (GC, area%).....≥ 95.0 Area %
- Density (d 20 °C/ 4 °C).....0.851 - 0.854
- Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14575.0100	Glass bottle	100 ml	inquire
8.14575.0500	Glass bottle	500 ml	inquire

## 818554 Citronellol for synthesis

C<sub>10</sub>H<sub>20</sub>O(CH<sub>3</sub>)<sub>2</sub>C=CH(CH<sub>2</sub>)<sub>2</sub>CH(CH<sub>3</sub>)(CH<sub>2</sub>)<sub>2</sub>OH

3,7-Dimethyl-6-octen-1-ol

- CAS-No. 106-22-9 ■ EC-No. 203-375-0
- Refractive index 1.4465 (20 °C, 589 nm)
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point 102 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 156.26 g/mol ■ pH value (H<sub>2</sub>O) neutral ■ Melting point < 20 °C ■ Boiling point 109 - 111 °C (13 hPa)

- Ignition temp. 240 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352
- LD50 oral rat 3450 mg/kg ■ LD50 dermal rabbit 2650 mg/kg
- LGK 10 - 13
- HS-No. 2905 22 00 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(3,7-DIMETHYL-6-OCTEN-1-OL), 9, III
- IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3,7-DIMETHYL-6-OCTEN-1-OL), 9, III, Marine

Pollutant: P

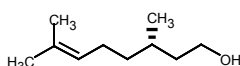
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3,7-DIMETHYL-6-OCTEN-1-OL), 9, III

**Specification**

- Assay (GC, area%).....≥ 96.0 % (a/a)
- Density (d 20 °C/ 4 °C).....0.854 - 0.856
- Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18554.0005	Glass bottle	5 ml	inquire
8.18554.0250	Glass bottle	250 ml	inquire

## 818378 (S)-(-)-β-Citronellol for synthesis

C<sub>10</sub>H<sub>20</sub>O

(S)-(-)-3,7-Dimethyl-6-octen-1-ol, β-Rhodinol

- CAS-No. 7540-51-4 ■ EC-No. 231-415-7
- Refractive index 1.4562 (20 °C, 589 nm)
- Spec. density 0.855 g/cm<sup>3</sup> (20 °C)
- Flash point 101 °C DIN 51758 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 156.27 g/mol ■ Boiling point 109 - 111 °C (13 hPa)
- Ignition temp. 240 °C
- WGK 2

- GHS: Warning, Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P262, P273, P280, P302 + P352
- LD50 oral rat 3450 mg/kg ■ LD50 dermal rabbit 2650 mg/kg
- LGK 10 - 13
- HS-No. 2905 22 00 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(3,7-DIMETHYL-6-OCTEN-1-OL), 9, III
- IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3,7-DIMETHYL-6-OCTEN-1-OL), 9, III, Marine
- Pollutant: P

- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3,7-DIMETHYL-6-OCTEN-1-OL), 9, III

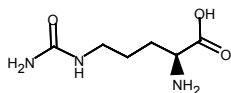
**Specification**

- Assay (GC, area%).....≥ 98.0 % (a/a)
- Density (d 20 °C/ 4 °C).....0.854 - 0.856
- Spec. rotation [α]<sub>D</sub> (undiluted).....-5.5 - -3.5 °
- Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18378.0010	Glass bottle	10 ml	inquire
8.18378.0025	Glass bottle	25 ml	inquire



## 112117 L-Citrulline for biochemistry

C<sub>6</sub>H<sub>13</sub>N<sub>3</sub>O<sub>3</sub>

■ CAS-No. 372-75-8 ■ EC-No. 206-759-6  
 ■ Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 175.18 g/mol

■ WGK nwg  
 ■ HS-No. 2924 19 00 ■ Disposal 3  
 Soluble in mineral acids, insoluble in organic solvents.

**Specification**

Assay (perchloric acid titration)..... ≥ 99%  
 Identity (IR-spectrum)..... passes test  
 Spec. rotation (α 20/D; 2 %; hydrochloric acid 1 mol/l) ..... +22.0 to +23.0°

Heavy metals (as Pb)..... ≤ 0.001 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %  
 Foreign amino acids ..... ≤ 0.3 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.12117.0050	Glass bottle	50 g	inquire
1.12117.0250	Glass bottle	250 g	inquire

## Clarification and filtration auxiliaries

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
370	115754	Aluminium oxide	590	102186	Charcoal activated	1396	107536	QUARTZ FINE GRANULAR,
9	102693	Celite® 545	922	104086	Glass wool	1413	107712	Sea sand
Clayton yellow → Titan yellow (C.I. 19540) page 1560			Cleaning agent → Chromosulfuric acid page 642			Cleaning agents → page 889		

## Cleaning agents, Extran® for apporative cleaning

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
889	107558	Extran® AP 11	890	107573	Extran® AP 14	891	107561	Extran® AP 22
890	107563	Extran® AP 12	890	107575	Extran® AP 15	891	107570	Extran® AP 41
890	107565	Extran® AP 13	890	107559	Extran® AP 21			

## Cleaning agents, Extran® for manual cleaning

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
891	107555	Extran® MA 01	891	107553	Extran® MA 02	891	107550	Extran® MA 03

## Clearing reagents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
442	801801	Benzophenone	972	818068	Hydrogen fluoride	1589	108178	Trifluoroacetic acid
482	801630	Boron tribromide	1084	814347	Lithium tetrafluoroborate	1589	808260	Trifluoroacetic acid
638	818737	Chlorotrimethylsilane	1171	820825	Methyl phenyl sulfide	309	808259	2,2,2-Trifluoroethanol
816	818061	Diphenyl diselenide	1446	806538	Sodium methylate	1591	821166	Trifluoromethanesulfonic acid
816	820989	Diphenyl disulfide	1523	818164	Tetra-n-butylammonium fluoride trihydrate	1598	841359	Triisopropylsilane
971	100338	Hydrofluoric acid 40%	1531	821083	Tetraethyl orthotitanate			
972	818856	Hydrogen bromide	1542	821897	N,N,N',N'-Tetramethylguanidine			

C.L.E.D. agar → page 99

Clelands reagent → 1,4-Dithioerythritol page 824

(2-Chloroethyl)benzene → 2-Phenylethyl chloride page 1304

N-(2-Chloroethyl)-diisopropylamine hydrochloride → 2-(Diisopropylamino)-ethylchloride hydrochloride page 766

N-(2-Chloroethyl)-piperidinium chloride → N-(2-Chloroethyl)-piperidine hydrochloride page 611

N-(4-Chlorophenyl)-acetamide → 4-Chloroacetanilide page 594

1-(2-Chlorophenyl)ethanone → 2'-Chloroacetophenone page 595

1-(4-Chlorophenyl)-ethanone → 4'-Chloroacetophenone page 596

1-(4-Chlorophenyl)-1-propanone → 4'-Chloropropiophenone page 632

(3-Chloropropyl)-benzene → 3-Phenylpropyl chloride page 1313

Clostridium differential broth → page 100

Clostridium perfringens media → page 105

Clostridium perfringens medium → page 104

CMDMCS → Chloromethylidimethylchlorosilane page 618

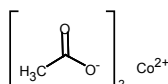
CMNT → 4-Chloro-3-nitrobenzotrifluoride page 624

Coagulase reagent → page 110

Coagulation factor IIa → Thrombin page 1556

Coal actively → see also Clarocarbon® and charcoal

## 102529 Cobalt(II) acetate tetrahydrate for analysis EMSURE® ACS

CoC<sub>4</sub>H<sub>6</sub>O<sub>4</sub> · 4 H<sub>2</sub>O(CH<sub>3</sub>COO)<sub>2</sub>Co · 4 H<sub>2</sub>O

■ CAS-No. 6147-53-1 ■ EC-No. 200-755-8  
 ■ Spec. density 1.70 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 380 g/l (25 °C) ■ M = 249.08 g/mol  
 ■ pH value 7.2 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 140 °C Elimination of water of crystallisation ■ Bulk density 850 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350i; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 1B, H360F; Respiratory sensitisation, Category 1, H334; Skin

sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P281, P273, P308 + P313, P304 + P341, P342 + P311

■ LD50 oral rat 708 mg/kg

■ EC-Index-No. 027-006-00-6 ■ LGK 6.1 D

■ HS-No. 2915 29 00 ■ Disposal 14

■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(COBALTACETAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COBALT ACETATE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COBALT ACETATE), 9, III

**Specification**

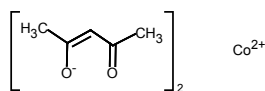
Assay (complexometric)..... 99.0 - 101.0 %  
 Insoluble matter ..... ≤ 0.01 %

pH-value (5 %; water)..... 6.0 - 8.0  
 Chloride (Cl)..... ≤ 0.001 %  
 Nitrate (NO<sub>3</sub>)..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Total nitrogen (N)..... ≤ 0.002 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Cu (Copper)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.001 %  
 K (Potassium)..... ≤ 0.01 %  
 Mg (Magnesium)..... ≤ 0.005 %  
 Na (Sodium)..... ≤ 0.01 %  
 Ni (Nickel)..... ≤ 0.02 %  
 Pb (Lead)..... ≤ 0.0005 %  
 Zn (Zinc)..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.02529.0100	Plastic bottle	100 g	inquire

# Cobalt

## 802527 Cobalt(II) acetylacetonate for synthesis



C<sub>10</sub>H<sub>14</sub>CoO<sub>4</sub>

*Bis(acetylacetonato)cobalt(II)*, *Bis(2,4-pentanedionato)cobalt(II)*

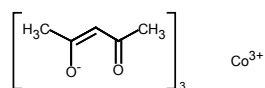
■ CAS-No. 14024-48-7 ■ EC-No. 237-855-6  
 ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 4.8 g/l (20 °C) ■ M = 257.15 g/mol

- Melting point 168 - 171 °C
  - WGK 3
  - GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P341
  - LD50 oral rat 670 mg/kg
  - LGK 10 - 13
  - HS-No. 2914 19 90 ■ Disposal 14
- Specification**

Assay (ex Co) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 168 °C  
 Melting range (upper value) ..... ≤ 172 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.02527.0025	Glass bottle	25 g	inquire
8.02527.0100	Glass bottle	100 g	inquire

## 802528 Cobalt(III) acetylacetonate for synthesis



C<sub>15</sub>H<sub>21</sub>CoO<sub>6</sub>

*Tris(acetylacetonato)cobalt(III)*, *Tris(2,4-pentanedionato)cobalt(III)*

■ CAS-No. 21679-46-9 ■ EC-No. 244-527-6

- Solub. in H<sub>2</sub>O 3 g/l (30 °C) ■ M = 356.26 g/mol
  - Melting point 196 - 202 °C
  - Bulk density 830 kg/m<sup>3</sup>
  - WGK 3
  - GHS: Danger, Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P341, P342 + P311
  - LGK 10 - 13
  - HS-No. 2914 19 90 ■ Disposal 14
- Specification**

Assay at Co ..... ≥ 98.0 % (m)  
 Melting range (lower value) ..... ≥ 196 °C  
 Melting range (upper value) ..... ≤ 202 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02528.0050	Glass bottle	50 g	inquire

## 802540 Cobalt(II) chloride anhydrous for synthesis

Cl<sub>2</sub>Co  
 CoCl<sub>2</sub>

*Cobalt dichloride*

■ CAS-No. 7646-79-9 ■ EC-No. 231-589-4  
 ■ Spec. density 3.36 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 129.83 g/mol  
 ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point 735 °C ■ Boiling point 1049 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Germ cell

mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, Inhalation, H350i; Reproductive toxicity, Category 1B, H360F; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P341, P308 + P313  
 ■ LD50 oral rat 418 mg/kg  
 ■ EC-Index-No. 027-004-00-5 ■ LGK 6.1 D  
 ■ HS-No. 2827 39 30 ■ Disposal 14  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(COBALTDICHLORID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COBALT DICHLORIDE),

9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COBALT DICHLORIDE), 9, III  
**Specification**  
 Assay (argentometric) ..... ≥ 98.0 % (m)  
 Water (K. F.) ..... ≤ 2.0 % (m)

Ord.No.	Packaging	Quantity	Price
8.02540.0010	Glass bottle	10 g	inquire
8.02540.0025	Glass bottle	25 g	inquire
8.02540.0100	Glass bottle	100 g	inquire

## 102539 Cobalt(II) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur

Cl<sub>2</sub>Co \* 6 H<sub>2</sub>O  
 CoCl<sub>2</sub> \* 6 H<sub>2</sub>O

*Cobalt dichloride*

■ CAS-No. 7791-13-1 ■ EC-No. 231-589-4  
 ■ Spec. density 1.92 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 191 g/l (100 °C) ■ M = 237.90 g/mol  
 ■ pH value 4.9 (50 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 56 °C ■ Bulk density 1250 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, Inhalation, H350i; Reproductive toxicity, Category 1B, H360F; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280,

P302 + P352, P304 + P341, P308 + P313  
 ■ LD50 oral rat 766 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ EC-Index-No. 027-004-00-5 ■ LGK 6.1 D  
 ■ HS-No. 2827 39 30 ■ Disposal 15  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(COBALTDICHLORID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COBALT DICHLORIDE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COBALT DICHLORIDE), 9, III  
**Specification**  
 Assay (complexometric) ..... 99.0 - 102.0 %  
 Insoluble matter ..... ≤ 0.010 %

Nitrate (NO<sub>3</sub>) ..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Cu (Copper) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.001 %  
 K (Potassium) ..... ≤ 0.005 %  
 Mg (Magnesium) ..... ≤ 0.002 %  
 Mn (Manganese) ..... ≤ 0.001 %  
 Na (Sodium) ..... ≤ 0.01 %  
 Ni (Nickel) ..... ≤ 0.005 %  
 Pb (Lead) ..... ≤ 0.0005 %  
 Zn (Zinc) ..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.02539.0100	Plastic bottle	100 g	inquire
1.02539.0250	Plastic bottle	250 g	inquire

## Cobalt, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
385	107293	4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one	172	103092	Dithizone	1432	106689	Sodium diethyldithiocarbamate trihydrate
791	103062	Dimethylglyoxime	172	107531	1-(2-Pyridylazo)-2-naphthol (PAN)			
791	103061	Dimethylglyoxime disodium salt octahydrate	1407	100629	Rubeanic acid			

Cobalt dichloride → Cobalt(II) chloride anhydrous page 648

## Cobalt(II) nitrate hexahydrate

CoN<sub>2</sub>O<sub>6</sub> \* 6 H<sub>2</sub>OCo(NO<sub>3</sub>)<sub>2</sub> \* 6 H<sub>2</sub>O

- CAS-No. 10026-22-9 ■ EC-No. 233-402-1
- Spec. density 1.87 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 2170 g/l (100 °C) ■ M = 291.04 g/mol
- pH value 4.0 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 57 °C ■ Bulk density 800 kg/m<sup>3</sup>
- WGK 2
- GHS: Danger, Carcinogenicity, Category 1B,

H350i; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 1B, H360F; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P280, P273, P308 + P313, P304 + P341, P302 + P352

- LD50 oral rat 691 mg/kg
- EC-Index-No. 027-009-00-2 ■ LGK 6.1 D

- HS-No. 2834 29 20 ■ Disposal 14
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(COBALTNITRAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COBALT NITRATE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COBALT NITRATE), 9, III

## 102554 Cobalt(II) nitrate hexahydrate for analysis (max. 0.001% Ni) EMSURE® ACS,Reag, Ph Eur

## Specification

Assay (complexometrically, Co(NO<sub>3</sub>)<sub>2</sub>·6H<sub>2</sub>O)... 99.0 - 102.0 %

Insoluble matter ..... ≤ 0.005 %

Chloride (Cl) ..... ≤ 0.001 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %

Ca (Calcium) ..... ≤ 0.005 %

Cu (Copper) ..... ≤ 0.001 %

Fe (Iron) ..... ≤ 0.001 %

K (Potassium) ..... ≤ 0.01 %

Mg (Magnesium) ..... ≤ 0.005 %

Mn (Manganese) ..... ≤ 0.002 %

Na (Sodium) ..... ≤ 0.05 %

NH<sub>4</sub> (Ammonium) ..... ≤ 0.05 %

Ni (Nickel) ..... ≤ 0.001 %

Pb (Lead) ..... ≤ 0.001 %

Zn (Zinc) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.02554.0050	Plastic bottle	50 g	inquire
1.02554.0250	Plastic bottle	250 g	inquire

## 102536 Cobalt(II) nitrate hexahydrate for analysis EMSURE®

## Specification

Assay (potentiometric) ..... ≥ 99.0 %

Solution in water ..... passes test

Chloride (Cl) ..... ≤ 0.005 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %

Cu (Copper) ..... ≤ 0.001 %

Fe (Iron) ..... ≤ 0.001 %

Mn (Manganese) ..... ≤ 0.005 %

Pb (Lead) ..... ≤ 0.001 %

Zn (Zinc) ..... ≤ 0.005 %

Substances not precipitated by ammonium sulfide

(as sulphate) ..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.02536.0100	Plastic bottle	100 g	inquire
1.02536.0250	Plastic bottle	250 g	inquire

## 820748 di-Cobalt octacarbonyl (protective gas: Argon) for synthesis

C<sub>8</sub>Co<sub>2</sub>O<sub>8</sub>Co<sub>2</sub>(CO)<sub>8</sub>

Octacarbonyldicobalt, Dicobaltoctacarbonyl

- CAS-No. 10210-68-1 ■ EC-No. 233-514-0
- Vapour pressure 1 hPa (20 °C)
- Spec. density 1.78 g/cm<sup>3</sup> (25 °C) ■ Flash point - 12.8 °C ■ Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C)
- M = 341.94 g/mol
- Melting point 52 - 55 °C decomposes
- Boiling point 52 °C decomposes
- WGK 3
- GHS: Danger, Pyrophoric solid, Category 1,

H250; Carcinogenicity, Category 2, H351; Skin sensitisation, Category 1, H317, P210, P260, P280, P281, P302 + P352, P309 + P310, P370 + P378

- LD50 oral rat 754 mg/kg
- LGK 4.2 ■ Store below +15°C.
- HS-No. 2931 90 90 ■ Disposal 14
- ADR-RID UN 2846 Pyrophorer organischer fester Stoff, n.a.g.(DI-COBALTOCTACARBONYL), 4.2, I
- IMDG-Code UN 2846 PYROPHORIC SOLID, ORGANIC, N.O.S.(DI-COBALT OCTACARBONYL), 4.2, I
- IATA-DGR UN 2846 PYROPHORIC SOLID,

ORGANIC, N.O.S.(DI-COBALT OCTACARBONYL), 4.2,

## Specification

Assay (Co) ..... ≥ 97.0 %

Melting range (lower value) ..... ≥ 52 °C

Melting range (upper value) ..... ≤ 55 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20748.0010	Glass ampoule	10 g	inquire

## 112211 Cobalt powder 99+



Co

■ CAS-No. 7440-48-4 ■ EC-No. 231-158-0

- Spec. density 8.9 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 58.93 g/mol
- Melting point 1493 °C
- Bulk density 850 kg/m<sup>3</sup> ■ Boiling point 2870 °C
- WGK nwg
- GHS: Danger, Respiratory sensitisation, Category

1, H334; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 4, H413, P273, P280, P304 + P341, P342 + P311, P302 + P352

- LD50 oral rat 6170 mg/kg
- EC-Index-No. 027-001-00-9 ■ LGK 10 - 13
- HS-No. 8105 20 00 ■ Disposal 27

## Specification

Assay (complexometric) ..... ≥ 99.0 % (m)

Ni (Nickel) ..... ≤ 0,1 % (m)

Particle size (d<sub>50</sub>) ..... 1 - 5 µm

Identity (elemental analysis) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.12211.0100	Plastic bottle	100 g	inquire

Cobalt(III) sodium nitrite → Sodium hexanitrocobaltate(III) page 1436

109986 Cobalt standard 1000 mg Co, (CoCl<sub>2</sub> in H<sub>2</sub>O) Titrisol®

- Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.8 (H<sub>2</sub>O, 20 °C)
- WGK 3
- GHS: Danger, Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, Inhalation, H350i; Reproductive toxicity, Category 1B, H360F; Chronic aquatic toxicity, Category 2, H411, P201, P273, P280, P302 + P352, P304 + P341, P308 + P313

■ LGK 6.1 D

- HS-No. 2827 39 30 ■ Disposal 15
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(KOBALT(II)-CHLORIDLOESUNG), 9, III
- IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(COBALT(II)-CHLORIDE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(COBALT(II)-CHLORIDE), 9, III

## Specification

content (Co) ..... 1000 mg / Ampoule

Determination method: Complexometric titration. (traceable to NIST - SRM 682) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09986.0001	Plastic ampoule	1 amp	inquire

Cobalt standard dissolved in oil → page 1492

Cobalt standard for aqueous matrices ready for use → page 1468

Cobalt standard water-soluble → Cobalt standard page 649

# Cobalt

## 102556 Cobalt(II) sulfate heptahydrate for analysis EMSURE®



Co<sub>0.5</sub>S \* 7 H<sub>2</sub>O  
 CoSO<sub>4</sub> \* 7 H<sub>2</sub>O  
 ■ CAS-No. 10026-24-1 ■ EC-No. 233-334-2  
 ■ Spec. density 1.95 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 362 g/l (20 °C) ■ M = 281.10 g/mol  
 ■ pH value 4 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 98 °C ■ Bulk density 900 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350i; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 1B, H360F; Acute toxicity, Category 4, Oral, H302; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity,

Category 1, H410, P201, P281, P308 + P313, P304 + P341, P302 + P352  
 ■ LD50 oral rat 582 mg/kg  
 ■ EC-Index-No. 027-005-00-0 ■ LGK 6.1B  
 ■ HS-No. 2833 29 30 ■ Disposal 15  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(COBALTSULFAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COBALT SULFATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COBALT SULFATE), 9, III  
**Specification**

Assay (complexometric, CoSO<sub>4</sub> 7 H<sub>2</sub>O)..... ≥ 99 %  
 Chloride (Cl)..... ≤ 0.001 %  
 Total nitrogen (N)..... ≤ 0.002 %  
 Ca (Calcium)..... ≤ 0.005 %  
 Cu (Copper)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Na (Sodium)..... ≤ 0.01 %  
 Ni (Nickel)..... ≤ 0.005 %  
 Pb (Lead)..... ≤ 0.001 %  
 Zn (Zinc)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.02556.0100	Plastic bottle	100 g	inquire
1.02556.0250	Plastic bottle	250 g	inquire

Cobalt Test → page 59  
 COD Cell Test → page 62

COD Cell Test for photometers of other manufacturers → page 60  
 COD Cell Test (Hg-free) → page 62

COD determination/Devices → Analytical Test Kits

## COD determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
412	103792	Ammonium iron(II) sulfate hexahydrate	1106	104476	Mercury(II) sulfate 80 g/l	1423	101517	Silver sulfate solution 10 g/l
563	102047	Calcium hydroxide	1106	104413	Mercury(II) sulfate solution 200 g/l	1423	101574	Silver sulfate solution 80 g/l
892	109161	Ferriin indicator solution	169	109119	Potassium dichromate solution	1512	100731	Sulfuric acid 95-97%

COD solution A → page 61  
 COD solution B → page 61

3-[[3-Cholamidopropyl]dimethylammonio]propane sulfonate) → CHAPS (3-[[3-Cholamidopropyl]-dimethylammonio]-propane-sulfonate) page 590  
 Colamine phosphoric acid → 2-Aminoethyl dihydrogen phosphate page 387

Coloration of liquids → page 62  
 Colorimeter → page 91

## Colorimeters

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
91	173630	Colorimeter	91	173606	Colorimeter	91	173603	Colorimeter
Color industry → Hygiene monitoring			Columbia agar (base) → page 100			CombiCheck 50 → page 96		
Color-matching vessel Hydrazine → page 65			Column chromatography, preparative → page 37			CombiCheck 60 → page 96		
Color Test → page 62			CombiCheck 10 → page 96			CombiCheck 70 → page 96		
Colour, determination → page 62			CombiCheck 20 → page 96			CombiCheck 80 → page 96		
Colour solution acc. to Papanicolaou → page 195			CombiCheck 30 → page 96					
Colour solutions → Standards			CombiCheck 40 → page 96					

## Combi-Titrisol®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
169	109911	Hydrochloric acid 1.000 l	170	109913	Sodium hydroxide 1.000 l	171	109912	Sulfuric acid 1.000 l
Combi vessel, 10 l → page 328			Compact Laboratories, determination → page 90			Compact Laboratory for Water Testing → page 90		
Combi vessel, 25 l → page 328			Compact Laboratory for Aquaristics → page 90					
Complexation agents → Trace element enrichment								

## Complexing

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
172	108390	Diethylenetriaminepentaacetic acid	172	108409	Ethylendiamintetraacetic acid magnesium dipotassium salt	172	104819	Ethylendinitrilotetraacetic acid dipotassium salt dihydrate
172	108407	Ethylendiamintetraacetic acid calcium disodium salt dihydrate	172	108452	Ethylendinitrilotetraacetic acid	172	108454	Ethylendinitrilotetraacetic acid disodium salt dihydrate

## Complexometry

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
172	102315	Calcein indicator	172	106161	Murexide	172	108424	Titriplex® IV
172	104595	Calconcarboxylic acid	172	101306	Naphthol green B (C.I. 10020)	171	108447	Titriplex® IV solution
172	104594	Calcon (C.I.15705)	172	107297	Phthalein purple	173	108426	Titriplex® V
172	103409	2,3-Dimercapto-1-propanol	172	107531	1-(2-Pyridylazo)-2-naphthol (PAN)	173	108435	Titriplex® VI
172	103122	3,3'-Dimethylnaphthidine				1563	109894	Titriplex® solution A
172	103170	Eriochrome black T (C.I. 14645)	172	107533	4-(2-Pyridylazo)resorcinol monosodium salt monohydrate	1563	108419	Titriplex® solution A
172	103168	Eriochrome blue-black B (C.I. 14640)	172	101922	3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate	1563	109895	Titriplex® solution B
172	108409	Ethylendiaminetetraacetic acid magnesium dipotassium salt	172	107534	Pyrogallol red	1563	108420	Titriplex® solution B
172	104819	Ethylendinitriilotetraacetic acid dipotassium salt dihydrate	172	108416	Titriplex® I	1583	108379	Triethanolamine
990	104593	Hydroxynaphthol blue	172	108417	Titriplex® II	173	108677	Xylenol orange tetrasodium salt
172	108430	Indicator buffer tablets	172	108418	Titriplex® III	171	109991	Zinc sulfate solution
172	106084	Methylthymol blue sodium salt	171	109992	Titriplex® III solution			
			171	108431	Titriplex® III solution			

COMU → page 280

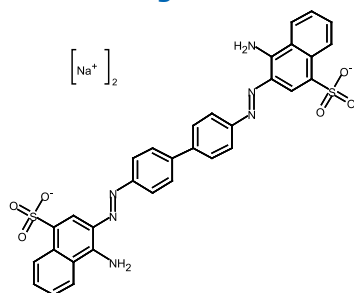
Concentration zone (TLC, HPTLC, PLC) → page 13

Condensation media → Nucleotide synthesis and Peptide synthesis

Conductivity standard → page 1494

Conductivity standards → Standards

## 101340 Congo red (C.I. 22120) indicator Reag. Ph Eur

C<sub>32</sub>H<sub>22</sub>N<sub>6</sub>Na<sub>2</sub>O<sub>6</sub>S<sub>2</sub>

- CAS-No. 573-58-0 ■ EC-No. 209-358-4
- Solub. in H<sub>2</sub>O 25 g/l (20 °C) ■ M = 696.68 g/mol
- pH value 6.7 (10 g/l, H<sub>2</sub>O, 20 °C)

Congo Red staining kit → page 202

Conical seals → page 36

Container key → page 328

Containers → Laboratory equipment, auxiliaries

DIYLBIS(AZO)) BIS (4-AMINONAPHTHALENE-1-SULFONATE)), 6.1, III

Use as pH indicator: 0.2 g in 100 ml water

**Specification**

Appearance.....Red-brown to brownishred powder, eventually with granular parts.

Appearance of solution (1.0 g/l; water)..... Almost clear to slightly turbid, red

Transition range.....pH 3.0 - pH 5.2

violet - orange-red

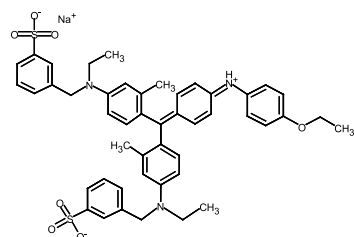
Loss on drying (110 °C).....≤ 5 %

Sensitivity test.....passes test

Ord.No.	Packaging	Quantity	Price
1.01340.0025	Glass bottle	25 g	inquire

Contaminating → Hygiene monitoring

## Coomassie® Brilliant blue

C<sub>47</sub>H<sub>48</sub>N<sub>3</sub>NaO<sub>2</sub>S<sub>2</sub>

- CAS-No. 6104-58-1 ■ EC-No. 228-058-4
- Solub. in H<sub>2</sub>O 40 g/l (20 °C) ■ M = 854.04 g/mol
- pH value 6.4 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 174 - 180 °C

- Bulk density 520 kg/m<sup>3</sup>

- WGK 2

- LD50 oral rat > 5000 mg/kg

- LGK 10 - 13

- HS-No. 3204 12 00 ■ Disposal 3

Protein stain for gel electrophoresis.

## 115444 Coomassie® Brilliant blue G 250 (C.I. 42655) for electrophoresis

**Specification**

Identity (UV/VIS-Spectrum).....passes test

Absorption maximum λ<sub>max</sub> (buffer pH 7.0).....

..... 577 - 584 nm

Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.01 g/l;

buffer pH 7.0; calc. on dried substance) .450 - 570

TLC-Test .....passes test

Loss on drying (110 °C).....≤ 8 %

Suitability for electrophoresis .....passes test

Ord.No.	Packaging	Quantity	Price
1.15444.0025	Glass bottle	25 g	inquire

## 112553 Coomassie® Brilliant blue R 250 (C.I. 42660) for electrophoresis Trademark of Imperial Chemical Industries PLC

**Specification**

Identity (UV/VIS-Spectrum).....passes test

Absorption maximum λ<sub>max</sub> (buffer pH 7.0).....

..... 554 - 563 nm

Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.025 g/l;

buffer pH 7.0; calc. on dried substance)..... ≥ 300

TLC-Test .....passes test

Loss on drying (110 °C).....≤ 5 %

Suitability for electrophoresis .....passes test

Ord.No.	Packaging	Quantity	Price
1.12553.0025	Glass bottle	25 g	inquire



# Copper

## Copper

Cu  
 ■ CAS-No. 7440-50-8 ■ EC-No. 231-159-6  
 ■ Spec. density 8.96 g/cm<sup>3</sup> (20 °C) ■ M = 63.55 g/mol  
 ■ Melting point 1083 °C  
 ■ Bulk density 1290 kg/m<sup>3</sup> ■ Boiling point 2580 °C (1013 hPa)  
 ■ WGK nwg  
 ■ GHS: P260

■ LGK 4.1B  
 ■ HS-No. 7406 10 00  
 ■ ADR-RID UN 3089 Entzündbares Metallpulver, n.a.g.(KUPFER PULVER), 4.1, III ■ IMDG-Code UN 3089 METAL POWDER, FLAMMABLE, N.O.S.(COPPER POWDER), 4.1, III, Segregation Group: 7 (Heavy metals and their salts (including

their organometallic compounds)), 15 (Powdered metals)  
 ■ IATA-DGR UN 3089 METAL POWDER, FLAMMABLE, N.O.S., 4.1, III  
 Electrode material, reducing agent for the determination of nitrates as NH<sub>3</sub>, chlorates as chlorides, Beilstein test, for the detection of mercury.

### 102703 Copper fine powder particle size < 63 µm (> 230 mesh ASTM) EMSURE®

**Specification**  
 Assay (complexometric) ..... ≥ 99.7 %  
 Substances insoluble in nitric acid ..... ≤ 0.02 %  
 P (phosphorus) ..... ≤ 0.001 %  
 Ag (Silver) ..... ≤ 0.002 %  
 As (Arsenic) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.005 %  
 Mn (Manganese) ..... ≤ 0.001 %  
 Pb (Lead) ..... ≤ 0.01 %  
 Sb (Antimony) ..... ≤ 0.001 %  
 Sn (Tin) ..... ≤ 0.010 %

Ord.No.	Packaging	Quantity	Price
1.02703.0250	Plastic bottle	250 g	inquire
1.02703.1000	Plastic bottle	1 kg	inquire

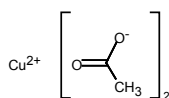
### 102700 Copper foil about 0.1 mm thickness

**Specification**  
 Assay (iodometric) ..... ≥ 99.7 %  
 Substances insoluble in nitric acid ..... ≤ 0.02 %  
 Ag (Silver) ..... ≤ 0.002 %  
 As (Arsenic) ..... ≤ 0.0002 %  
 Fe (Iron) ..... ≤ 0.005 %  
 Mn (Manganese) ..... ≤ 0.005 %  
 Pb (Lead) ..... ≤ 0.05 %  
 Sb (Antimony) ..... ≤ 0.005 %

Sn (Tin) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.02700.0250	Fibre case	250 g	inquire

## Copper(II) acetate monohydrate



C<sub>4</sub>H<sub>6</sub>CuO<sub>4</sub> · H<sub>2</sub>O  
 (CH<sub>3</sub>COO)<sub>2</sub>Cu · H<sub>2</sub>O  
 Cupric acetate  
 ■ CAS-No. 6046-93-1 ■ EC-No. 205-553-3  
 ■ Spec. density 1.88 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 72 g/l (20 °C) ■ M = 199.65 g/mol

■ pH value 5.2 - 5.5 (20 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 115 °C ■ Bulk density 1100 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P280, P273, P305 + P351 + P338  
 ■ LD50 oral rat 501 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 29 00 ■ Disposal 15

■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(KUPFER(II)-ACETAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-ACETATE), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds))  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-ACETATE), 9, III

### 102710 Copper(II) acetate monohydrate cryst. extra pure

**Specification**  
 Assay (iodometric) ..... ≥ 99 %  
 In water insoluble matter ..... ≤ 0.1 %  
 pH-value (2 %; water) ..... 5.2 - 5.5  
 Chloride (Cl) ..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.2 %  
 Fe (Iron) ..... ≤ 0.005 %  
 Zn (Zinc) ..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.02710.0500	Plastic bottle	500 g	inquire
1.02710.9050	Fibre carton	50 kg	inquire

### 102711 Copper(II) acetate monohydrate for analysis EMSURE® ACS

**Specification**  
 Assay (iodometric) ..... 99.0 - 102.0 %  
 Insoluble matter ..... ≤ 0.01 %  
 Chloride (Cl) ..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Total nitrogen (N) ..... ≤ 0.01 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.002 %  
 K (Potassium) ..... ≤ 0.01 %  
 Na (Sodium) ..... ≤ 0.01 %  
 Ni (Nickel) ..... ≤ 0.002 %  
 Pb (Lead) ..... ≤ 0.004 %  
 Zn (Zinc) ..... ≤ 0.002 %

Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.02711.0250	Plastic bottle	250 g	inquire

## 802712 Copper(II) acetylacetonate for synthesis

C<sub>10</sub>H<sub>14</sub>CuO<sub>4</sub>  
 Bis(acetylacetonato)copper(II), Bis(2,4-pentanedionato)copper(II)  
 ■ CAS-No. 13395-16-9 ■ EC-No. 236-477-9  
 ■ Vapour pressure 0.13 hPa (163 °C) ■ Solub. in H<sub>2</sub>O 0.2 g/l (20 °C) ■ M = 261.76 g/mol  
 ■ Melting point 245 °C (decomposition)  
 ■ Bulk density 200 - 400 kg/m<sup>3</sup>  
 ■ Boiling point 160 °C (13 hPa)

■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 19 90 ■ Disposal 15

Assay (iodometric) ..... ≥ 99.0 % (m)  
 Loss on drying ..... ≤ 0.20 % (m)  
 Identity (IR) ..... conforms

### Specification

Ord.No.	Packaging	Quantity	Price
8.02712.0100	Plastic bottle	100 g	inquire

## 105217 Copper di-ammonium Titriplex® solution Cu(NH<sub>4</sub>)<sub>2</sub>-EDTA 0.1 mol/l

■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C)  
 ■ pH value 9.7 - 10.3 (H<sub>2</sub>O)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 28

**Specification**  
 Assay (Cu) ..... 0.098 - 0.102 mol/l  
 pH-value ..... 9.7 - 10.3  
 Free EDTA ..... conforms  
 Free copper ..... conforms

Ord.No.	Packaging	Quantity	Price
1.05217.0500	Plastic bottle	500 ml	inquire



## 814658 Copper(II) bromide for synthesis



Br<sub>2</sub>Cu  
CuBr<sub>2</sub>  
*Copper dibromide*  
■ CAS-No. 7789-45-9 ■ EC-No. 232-167-2  
■ Spec. density 4.71 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1200 g/l (25 °C) ■ M = 223.35 g/mol  
■ Melting point 498 °C ■ Bulk density 2000 kg/m<sup>3</sup>  
■ Boiling point 900 °C (1013 hPa)  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute

aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 536 mg/kg  
■ LGK 8 B  
■ HS-No. 2827 59 00 ■ Disposal 15  
■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(KUPFER(II)-BROMID), 8, III ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(COPPER(II)-BROMIDE), 8, III

■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(COPPER(II)-BROMIDE), 8, III  
**Specification**  
Assay (iodometric) ..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.14658.0050	Glass bottle	50 g	inquire
8.14658.0250	Glass bottle	250 g	inquire

Copper(II) carbonate basic → Copper(II) hydroxide carbonate page 654

Copper Cell Test → page 63

## 102739 Copper(I) chloride for analysis EMSURE® ACS



ClCu  
CuCl  
*Copper monochloride*  
■ CAS-No. 7758-89-6 ■ EC-No. 231-842-9  
■ Spec. density 4.14 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 0.001 - 0.1 g/l ■ M = 99 g/mol ■ pH value 5 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry) ■ Melting point 422 °C  
■ Bulk density 1600 - 1800 kg/m<sup>3</sup>  
■ Boiling point 1367 °C  
■ WGK 3  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273

■ LD50 oral rat 140 mg/kg  
■ EC-Index-No. 029-001-00-4 ■ LGK 8 B  
■ HS-No. 2827 39 85 ■ Disposal 15  
■ ADR-RID UN 2802 Kupferchlorid, 8, III ■ IMDG-Code UN 2802 COPPER CHLORIDE, 8, III, Marine Pollutant: P, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2802 COPPER CHLORIDE, 8, III  
**Specification**  
Assay (manganometric) ..... ≥ 97.0 %  
Substances insoluble in acid ..... ≤ 0.02 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.05 %  
As (Arsenic) ..... ≤ 0.0002 %

Ca (Calcium) ..... ≤ 0.01 %  
Fe (Iron) ..... ≤ 0.005 %  
K (Potassium) ..... ≤ 0.02 %  
Na (Sodium) ..... ≤ 0.05 %  
Pb (Lead) ..... ≤ 0.02 %  
Substances not precipitated by hydrogen sulfide (as SO<sub>4</sub>) ..... ≤ 0.5 %  
Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.02739.0250	Plastic bottle	250 g	inquire

## 818247 Copper(II) chloride for synthesis



Cl<sub>2</sub>Cu  
CuCl<sub>2</sub>  
*Copper dichloride*  
■ CAS-No. 7447-39-4 ■ EC-No. 231-210-2  
■ Spec. density 3.39 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 620 g/l (20 °C) ■ M = 134.45 g/mol  
■ pH value 3.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 498 °C decomposes  
■ WGK 3  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye

irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P260, P273, P302 + P352, P305 + P351 + P338  
■ LD50 oral rat 584 mg/kg  
■ LGK 8 B  
■ HS-No. 2827 39 85 ■ Disposal 15  
■ ADR-RID UN 2802 Kupferchlorid, 8, III ■ IMDG-Code UN 2802 COPPER CHLORIDE, 8, III, Marine Pollutant: P, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2802 COPPER CHLORIDE, 8, III

**Specification**  
Assay (iodometric, calc.on anhydrous substance) ..... ≥ 98.0 % (m)  
Loss on drying (250 °C, 2 h) ..... ≤ 5.0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18247.0100	Glass bottle	100 g	inquire
8.18247.0500	Glass bottle	500 g	inquire

## 102733 Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur



Cl<sub>2</sub>Cu \* 2 H<sub>2</sub>O  
CuCl<sub>2</sub> \* 2 H<sub>2</sub>O  
*Copper dichloride dihydrate*  
■ CAS-No. 10125-13-0 ■ EC-No. 231-210-2  
■ Spec. density 2.54 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1150 g/l (20 °C) ■ M = 170.48 g/mol  
■ pH value 3.0 - 3.8 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 100 °C ■ Bulk density 950 kg/m<sup>3</sup>  
■ WGK 3  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338

■ LD50 oral rat 584 mg/kg  
■ LGK 8 B  
■ HS-No. 2827 39 85 ■ Disposal 15  
■ ADR-RID UN 2802 Kupferchlorid, 8, III ■ IMDG-Code UN 2802 COPPER CHLORIDE, 8, III, Marine Pollutant: P, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2802 COPPER CHLORIDE, 8, III  
**Specification**  
Assay (iodometric) ..... min 99.0 %  
Insoluble matter ..... max 0.01 %  
pH-value (5 %; water) ..... 3.0 - 3.8  
Sulphate (SO<sub>4</sub>) ..... max 0.005 %  
Nitrate (NO<sub>3</sub>) ..... max 0.015 %  
Total nitrogen (N) ..... max 0.003 %

As (Arsenic) ..... max 0.0001 %  
Ca (Calcium) ..... max 0.005 %  
Fe (Iron) ..... max 0.003 %  
K (Potassium) ..... max 0.01 %  
Na (Sodium) ..... max 0.02 %  
Ni (Nickel) ..... max 0.001 %  
Pb (Lead) ..... max 0.004 %  
Conforms ACS, Reag.Ph.Eur.

Ord.No.	Packaging	Quantity	Price
1.02733.0250	Plastic bottle	250 g	inquire
1.02733.1000	Plastic bottle	1 kg	inquire

## 841811 Copper(I) cyanide for synthesis



CCuN  
CuCN  
*Cupricin*  
■ CAS-No. 544-92-3 ■ EC-No. 208-883-6  
■ Spec. density 2.92 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 89.56 g/mol  
■ Melting point 473 °C ■ Bulk density 750 kg/m<sup>3</sup>  
■ WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
■ LD50 oral rat 1265 mg/kg  
■ EC-Index-No. 006-007-00-5 ■ LGK 6.1 B  
■ HS-No. 2837 19 00  
■ ADR-RID UN 1587 Kupfercyanid, 6.1, II ■ IMDG-Code UN 1587 COPPER CYANIDE, 6.1, II, Marine Pollutant: P, Segregation Group: 6 (Cyanides), 7

(Heavy metals and their salts (including their organometallic compounds))  
■ IATA-DGR UN 1587 COPPER CYANIDE, 6.1, II

**Specification**  
Assay of Cu ..... ≥ 70.5 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41811.0100	Glass bottle	100 g	inquire
8.41811.0500	Glass bottle	500 g	inquire
8.41811.1000	Plastic bottle	1 kg	inquire

# Copper

## Copper, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
434	124518	Bathocuproinedisulfonic acid disodium salt	172	103092	Dithizone	1407	100629	Rubeanic acid
443	822315	1H-Benzotriazole	995	107098	8-Hydroxyquinoline	1432	106689	Sodium diethyldithiocarbamate trihydrate
462	102955	2,2'-Biquinoline	1203	102968	Neocuproine	1551	100700	Thioglycolic acid
663	105227	Cupferron	1203	102964	Neocuproine hydrochloride monohydrate	1641	108739	Zincon
776	103059	5-(4-Dimethylamino-benzylidene)-rhodanine	1253	101841	Oxalic acid bis (cyclohexylidene hydrazide)			

Copper dichloride anhydrous → Copper(II) chloride page 653

Copper dichloride dihydrate → Copper(II) chloride dihydrate page 653

## 109288 Copper(II) ethylenediamine solution DIN 54270, for measuring the viscosity of cellulose

■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 12.0 - 12.5 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 3824 90 97 ■ Disposal 15  
 ■ ADR-RID UN 1761 Kupferethylenediamin, Lösung,

8 (6.1), II ■ IMDG-Code UN 1761 CUPRIETHYLENEDIAMINE SOLUTION, 8 (6.1), II, Marine Pollutant: P  
 ■ IATA-DGR UN 1761 CUPRIETHYLENEDIAMINE SOLUTION, 8 (6.1), II

### Specification

Identity (IR-spectrum) ..... passes test  
 Copper ..... 0.95 - 1.05 mol/l  
 Ethylenediamine ..... 1.90 - 2.10 mol/l

Molar ratio (Ratio Ethylenediamine/Copper) ..... 1.96 - 2.04  
 pH-value (1 %; water) ..... 12.0 - 12.5  
 Density (d 20/4) ..... 1.096 - 1.102

Ord.No.	Packaging	Quantity	Price
1.09288.1000	Glass bottle	1 l	inquire

## 102722 Copper(II) hydroxide carbonate extra pure

CH<sub>2</sub>Cu<sub>2</sub>O<sub>5</sub>  
 CuCO<sub>3</sub>\*Cu(OH)<sub>2</sub>  
 Copper(II) carbonate basic  
 ■ CAS-No. 12069-69-1 ■ EC-No. 235-113-6  
 ■ Spec. density 3.9 - 4.0 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 221.12 g/mol  
 ■ pH value 8 - 9 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Bulk density 350 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Warning, Acute aquatic toxicity, Category 4, Oral, H302

■ LD50 oral rat 1350 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2836 99 11 ■ Disposal 15

### Specification

Assay (iodometric) ..... ≥ 95 %  
 Chloride (Cl) ..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.05 %  
 Fe (Iron) ..... ≤ 0.05 %  
 Ni (Nickel) ..... ≤ 0.05 %  
 Pb (Lead) ..... ≤ 0.03 %

Zn (Zinc) ..... ≤ 0.02 %  
 Substances not precipitated by hydrogen sulfide (as sulphates) ..... ≤ 1 %  
 Bulk density ..... about 30 - 60g/100 ml

Ord.No.	Packaging	Quantity	Price
1.02722.1000	Plastic bottle	1 kg	inquire
1.02722.9050	Fibre carton	50 kg	inquire

## 818311 Copper(I) iodide for synthesis

CuI  
 Copper moniodide  
 ■ CAS-No. 7681-65-4 ■ EC-No. 231-674-6  
 ■ Spec. density 5.62 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.08 g/l (18 °C) ■ M = 190.45 g/mol  
 ■ Melting point 588 °C ■ Bulk density 1400 kg/m<sup>3</sup>  
 ■ Boiling point 1290 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1,

H410, P260, P273  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 60 00 ■ Disposal 15  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(KUPFER(I)-IODID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(I)-IODIDE), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds))

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(I)-IODIDE), 9, III

### Specification

Assay (iodometric) ..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.18311.0100	Glass bottle	100 g	inquire

Copper moniodide → Copper(I) iodide page 654

Copper monosulfate pentahydrate → page 656

Copper monosulfate anhydrous → Copper(II) sulfate anhydrous page 656

Copper monoxide granulated → page 655

## 102753 Copper(II) nitrate trihydrate for analysis EMSURE®

Cu(NO<sub>3</sub>)<sub>2</sub> \* 3 H<sub>2</sub>O  
 Cu(NO<sub>3</sub>)<sub>2</sub> \* 3 H<sub>2</sub>O  
 Copper dinitrate trihydrate  
 ■ CAS-No. 10031-43-3 ■ EC-No. 221-838-5  
 ■ Spec. density 2.05 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 2670 g/l (20 °C) ■ M = 241.60 g/mol  
 ■ pH value 3 - 4 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 114 °C ■ Bulk density 1050 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P221, P273, P302 + P352,

P305 + P351 + P338  
 ■ LD50 oral rat 940 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2834 29 40 ■ Disposal 15  
 ■ ADR-RID UN 1477 Nitrate, anorganische, n.a.g.(KUPFER(II)-NITRAT), 5.1, II ■ IMDG-Code UN 1477 NITRATES, INORGANIC, N.O.S.(COPPER(II)-NITRATE), 5.1, II, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds))  
 ■ IATA-DGR UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II

### Specification

Assay (iodometric) ..... ≥ 99.5 %

Chloride (Cl) ..... ≤ 0.0005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.002 %  
 K (Potassium) ..... ≤ 0.01 %  
 Na (Sodium) ..... ≤ 0.01 %  
 Ni (Nickel) ..... ≤ 0.001 %  
 Pb (Lead) ..... ≤ 0.001 %  
 Zn (Zinc) ..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.02753.0250	Plastic bottle	250 g	inquire
1.02753.1000	Plastic bottle	1 kg	inquire
1.02753.9025	Fibre carton	25 kg	inquire

Copperone → Cupferron page 663

## Copper oxide



CuO  
 ■ CAS-No. 1317-38-0 ■ EC-No. 215-269-1  
 ■ Spec. density 6.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 79.55 g/mol  
 ■ Melting point 1300 °C ■ Bulk density 2200 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302; Acute aquatic toxicity, Category 1, H400;  
 Chronic aquatic toxicity, Category 1, H410, P273  
 ■ LGK 10 - 13  
 ■ HS-No. 2825 50 00  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(KUPFER(II)-OXID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II) OXIDE), 9,

III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II) OXIDE), 9, III  
 Oxidizing agent in elemental analysis (oxidation of H<sub>2</sub> to H<sub>2</sub>O and CO to CO<sub>2</sub>).

102765 Copper oxide wire fine about 0.65 x 3 mm for elementary analysis (surface: CuO, core: Cu<sub>2</sub>O) ACS

**Specification**  
 Assay (oxygen demand as CuO) ..... ≥ 55.0 %  
 Chloride (Cl) ..... ≤ 0.005 %  
 Total carbon (C) ..... ≤ 0.002 %  
 Total nitrogen (N) ..... ≤ 0.002 %  
 Total sulfur (as SO<sub>4</sub>) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.02765.0250	Glass bottle	250 g	inquire
1.02765.1000	Glass bottle	1 kg	inquire

102767 Copper oxide wire about 0.65 x 6 mm for elementary analysis (surface: CuO, core: Cu<sub>2</sub>O) ACS

**Specification**  
 Assay (oxygen demand as CuO) ..... ≥ 55.0 %  
 Chloride (Cl) ..... ≤ 0.005 %  
 Total carbon (C) ..... ≤ 0.002 %  
 Total nitrogen (N) ..... ≤ 0.002 %  
 Total sulfur (as SO<sub>4</sub>) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.02767.0250	Glass bottle	250 g	inquire
1.02767.1000	Glass bottle	1 kg	inquire

## Copper(II) oxide



CuO  
*Copper monoxide granulated*  
 ■ CAS-No. 1317-38-0 ■ EC-No. 215-269-1  
 ■ Spec. density 6.48 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 79.55 g/mol  
 ■ pH value 7 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Melting point 1326 °C (decomposition)  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400;  
 Chronic aquatic toxicity, Category 1, H410, P260, P273  
 ■ LD50 oral rat 470 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2825 50 00 ■ Disposal 15  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff,

fest, n.a.g.(KUPFER(II)-OXID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II) OXIDE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II) OXIDE), 9, III  
 In elemental analysis as an oxidation catalyst.

## 102766 Copper(II) oxide powder for analysis EMSURE® ACS

**Specification**  
 Assay (complexometric) ..... ≥ 99.0 %  
 Substances insoluble in dilute hydrochloric acid ..... ≤ 0.02 %  
 Free Alkali ..... passes test  
 Chloride (Cl) ..... ≤ 0.005 %  
 Total sulfur (as SO<sub>4</sub>) ..... ≤ 0.01 %  
 Total nitrogen (N) ..... ≤ 0.002 %  
 C (Carbon) ..... ≤ 0.01 %  
 Ca (Calcium) ..... ≤ 0.01 %  
 Cr (Chromium) ..... ≤ 0.05 %  
 Fe (Iron) ..... ≤ 0.05 %  
 K (Potassium) ..... ≤ 0.02 %  
 Na (Sodium) ..... ≤ 0.05 %  
 Pb (Lead) ..... ≤ 0.05 %

Particle size (laser diffraction) (d95) ..... ≤ 160 µm

Ord.No.	Packaging	Quantity	Price
1.02766.0100	Plastic bottle	100 g	inquire
1.02766.0500	Plastic bottle	500 g	inquire

## 102761 Copper(II) oxide powder extra pure

**Specification**  
 Assay (complexometric) ..... ≥ 96.0 %  
 Substances insoluble in nitric acid ..... ≤ 0.05 %  
 Total sulfur (as SO<sub>4</sub>) ..... ≤ 0.1 %  
 Cr (Chromium) ..... ≤ 0.05 %  
 Bulk density ..... 30 - 60 g/100 ml  
 Particle size (laser diffraction) (d95) ..... ≤ 160 µm

Ord.No.	Packaging	Quantity	Price
1.02761.0500	Plastic bottle	500 g	inquire
1.02761.9025	Plastic drum	25 kg	inquire

## 102764 Copper(II) oxide granular for elementary analysis

**Specification**  
 Assay (complexometric) ..... ≥ 99.0 %  
 Chloride (Cl) ..... ≤ 0.005 %  
 Total sulfur (as SO<sub>4</sub>) ..... ≤ 0.015 %  
 Total nitrogen (N) ..... ≤ 0.002 %  
 C (Carbon) ..... ≤ 0.01 %  
 Bulk density ..... 240 - 270 g/100 ml  
 Particle size (0.71-2 mm) ..... ≥ 90 %

Ord.No.	Packaging	Quantity	Price
1.02764.0250	Plastic bottle	250 g	inquire

## 102768 Copper(II) oxide granular for analysis EMSURE®

**Specification**  
 Assay (complexometric) ..... ≥ 99.0 %  
 Substances insoluble in nitric acid ..... ≤ 0.02 %  
 Free Alkali ..... passes test  
 Chloride (Cl) ..... ≤ 0.005 %  
 Total sulfur (as sulphates) ..... ≤ 0.015 %  
 Total nitrogen (N) ..... ≤ 0.002 %  
 Cr (Chromium) ..... ≤ 0.05 %  
 Fe (Iron) ..... ≤ 0.05 %  
 Pb (Lead) ..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.02768.0500	Plastic bottle	500 g	inquire

## 102762 Copper(II) oxide wire form, suitable for microanalysis

**Specification**  
 Diameter of fibre (< 425 µm). None should pass 36 mesh BS sieve

Ord.No.	Packaging	Quantity	Price
1.02762.5000	Plastic bottle	5 kg	inquire

# Copper

## 109987 Copper standard 1000 mg Cu, (CuCl<sub>2</sub> in H<sub>2</sub>O) Titrisol®

- Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.2 (H<sub>2</sub>O, 20 °C)
- WGK 3
- GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273
- LGK 10 - 13
- HS-No. 2827 39 85 ■ Disposal 28
- ADR-RID UN 3082 Umweltgefährdender Stoff,

flüssig, n.a.g.(KUPFERCHLORIDLOESUNG), 9, III  
 ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(COPPER CHLORIDE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(COPPER CHLORIDE), 9, III

### Specification

content (Cu)..... 1000 mg / Ampoule  
 Determination method: Complexometric titration. (traceable to NIST - SRM 682) Accuracy of the method: +/- 2mg

Ord.No.	Packaging	Quantity	Price
1.09987.0001	Plastic ampoule	1 amp	inquire

Copper standard for aqueous matrices → Copper standard page 656

Copper standard for aqueous matrices ready for use → page 1468

## 102791 Copper(II) sulfate anhydrous for analysis EMSURE®

- CuO·S
- CuSO<sub>4</sub>
- Copper monosulfate anhydrous, Copper vitriol anhydrous
- CAS-No. 7758-98-7 ■ EC-No. 231-847-6
- Spec. density 3.60 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 10.3 (17 - 22 °C) ■ Solub. in H<sub>2</sub>O 203 g/l (20 °C) ■ M = 159.61 g/mol ■ pH value 3.5 - 4.5 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 800 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352,

P305 + P351 + P338  
 ■ LD50 oral rat 481 mg/kg  
 ■ EC-Index-No. 029-004-00-0 ■ LGK 10 - 13  
 ■ HS-No. 2833 25 00 ■ Disposal 15  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(KUPFER(II)-SULFAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III

### Specification

Assay (iodometric, calc. on dried substance).....

..... ≥ 99.0 %  
 Chloride (Cl)..... ≤ 0.002 %  
 Total nitrogen (N)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.015 %  
 Ni (Nickel)..... ≤ 0.005 %  
 Pb (Lead)..... ≤ 0.005 %  
 Zn (Zinc)..... ≤ 0.02 %  
 Substances not precipitated by hydrogen sulfide (as sulphate)..... ≤ 0.2 %  
 Loss on drying (250 °C)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.02791.0250	Plastic bottle	250 g	inquire
1.02791.1000	Plastic bottle	1 kg	inquire

## Copper(II) sulfate pentahydrate

- CuO·S \* 5 H<sub>2</sub>O
- CuSO<sub>4</sub> \* 5 H<sub>2</sub>O
- Copper monosulfate pentahydrate, Copper vitriol pentahydrate
- CAS-No. 7758-99-8 ■ EC-No. 231-847-6
- Spec. density 2.284 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 7.8 (17 - 22 °C) ■ Solub. in H<sub>2</sub>O 317 g/l (20 °C) ■ M = 249.68 g/mol ■ pH value 3.5 - 4.5 (50 g/l, H<sub>2</sub>O, 20 °C)
- WGK 3

- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 960 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- EC-Index-No. 029-004-00-0 ■ LGK 10 - 13
- HS-No. 2833 25 00 ■ Disposal 15

- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(KUPFER(II)-SULFAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds))
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III

## 102790 Copper(II) sulfate pentahydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
 Assay (iodometric)..... 99.0 - 100.5 %  
 Insoluble matter..... ≤ 0.005 %  
 Chloride (Cl)..... ≤ 0.0005 %  
 Total nitrogen (N)..... ≤ 0.001 %  
 Ca (Calcium)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.003 %

K (Potassium)..... ≤ 0.001 %  
 Na (Sodium)..... ≤ 0.005 %  
 Ni (Nickel)..... ≤ 0.005 %  
 Pb (Lead)..... ≤ 0.005 %  
 Zn (Zinc)..... ≤ 0.03 %  
 Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.02790.0250	Plastic bottle	250 g	inquire
1.02790.1000	Plastic bottle	1 kg	inquire
1.02790.5000	Plastic bottle	5 kg	inquire
1.02790.9050	Fibre carton	50 kg	inquire

## 102780 Copper(II) sulfate pentahydrate very fine crystals

**Specification**  
 Assay (iodometric)..... ≥ 98.0 %  
 Fe (Iron)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.02780.5000	Plastic bottle	5 kg	inquire
1.02780.9050	Fibre carton	50 kg	inquire

## 102784 Copper sulfate solution c(CuSO<sub>4</sub>)=0.1 mol/l Titripur®

- Spec. density 1.02 g/m<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.2 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 2833 25 00 ■ Disposal 28
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(KUPFER(II)-SULFAT), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(COPPER(II)-SULPHATE), 9, III, Marine Pollutant: P

- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(COPPER(II)-SULPHATE), 9, III

**Specification**  
 Amount-of-substance concentration . 0.1000 mol/l  
 The concentration of this volumetric solution was determined with titriplex-III standard solution (Merck article number 1.08431) standardized against volumetric standard zinc (Merck article number 1.02409). The determined titer at 20°C was 1.000 with an expanded measurement

uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 682 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard zinc, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN

Ord.No.	Packaging	Quantity	Price
1.02784.1000	Plastic bottle	1 l	inquire

Copper Test → page 63

Copper Test in freshwater and seawater → page 63

Copper Test Refill pack → page 63

Copper vitriol anhydrous → Copper(II) sulfate anhydrous page 656

Copper vitriol pentahydrate → page 656

Cosmetic production → Hygiene monitoring

Coumaran → 2,3-Dihydrobenzo(b)furan page 756

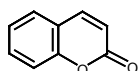
m-Coumaric acid → 3-Hydroxycinnamic acid page 980

o-Coumaric acid → 2-Hydroxycinnamic acid page 980

p-Coumaric acid → 4-Hydroxycinnamic acid page 980



## 822316 Coumarin for synthesis

C<sub>9</sub>H<sub>6</sub>O<sub>2</sub>

5,6-Benzo-2-pyrone

- CAS-No. 91-64-5 ■ EC-No. 202-086-7
- Vapour pressure 1.3 hPa (106 °C)
- Spec. density 0.935 g/cm<sup>3</sup> ■ Flash point 162 °C
- Solub. in H<sub>2</sub>O 1.7 g/l (20 °C) ■ M = 146.14 g/mol
- Melting point 68 - 71 °C
- Boiling point 298 - 302 °C

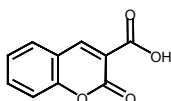
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310
- LD50 oral rat 293 mg/kg
- LGK 6.1C
- HS-No. 2932 20 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2H-1-BENZOPYRAN-2-ON), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2H-1-BENZOPYRAN-2-ON), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2H-1-BENZOPYRAN-2-ON), 6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 99.0 Area %  
 Melting range (lower value) ..... ≥ 68 °C  
 Melting range (upper value) ..... ≤ 71 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22316.0250	Plastic bottle	250 g	inquire
8.22316.1000	Plastic bottle	1 kg	inquire

## 818273 Coumarin-3-carboxylic acid for synthesis

C<sub>10</sub>H<sub>6</sub>O<sub>4</sub>

2-Oxo-2H-1-benzopyran-3-carboxylic acid

- CAS-No. 531-81-7 ■ EC-No. 208-518-0
- Solub. in H<sub>2</sub>O 13 g/l (37 °C) ■ M = 190.15 g/mol
- Melting point 188 - 191 °C
- WGK 3

- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P262, P309 + P310
- LD50 oral rat 200 mg/kg
- LGK 6.1C
- HS-No. 2932 20 90 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(CUMARIN-3-CARBONSAEURE), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(COUMARIN-3-CARBOXYLIC ACID), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(COUMARIN-3-CARBOXYLIC ACID), 6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 188 °C  
 Melting range (upper value) ..... ≤ 191 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18273.0010	Plastic bottle	10 g	inquire

Count agar sugar free FIL-IDF → page 100

## Counting blood corpuscle, reagents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
200	101384	Brilliant cresyl blue solution	200	109277	Türk's solution			

Coupling part → page 327

## Coupling reagents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
335	818755	Acetic acid 99-100%	734	802954	N,N'-Dicyclohexylcarbodiimide	996	804518	N-Hydroxysuccinimide
443	840048	O-(1H-Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium tetrafluoroborate	767	803649	N,N'-Diisopropylcarbodiimide	1159	824464	L-(+)-Methyl-tert-leucinate hydrochloride
470	841492	1,3-Bis(diphenylphosphino)-propane	779	800907	N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride	1235	840046	O-(5-Norbornen-2,3-dicarboximido)-N,N,N',N'-tetramethyluroniumtetrafluoroborate
544	820270	Butyl chloroformate	779	820499	4-(Dimethylamino)pyridine	1300	821010	Phenyl dichlorophosphate
567	822311	(1S)-(+)-Camphor-10-sulfonic acid	814	818066	Diphenyl azidophosphate	1597	810591	2,4,6-Triisopropylbenzenesulfonyl chloride
571	802301	1,1'-Carbonyldiimidazole	819	841065	Diphenylphosphinic chloride	1605	800885	Trimethyl orthoformate
621	818172	2-Chloro-1-methylpyridinium iodide	819	803088	Diphenyl phosphorochloridate			
654	818311	Copper(I) iodide	867	801241	Ethyl 2-ethoxy-1,2-dihydro-1-quinolinecarboxylate			

Coupling unit (dead volume-free) for capillaries 1/16" or 0.5 mm → page 35

CPTMO → 3-(Chloropropyl)-trimethoxysilane page 633

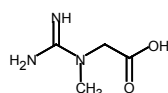
Crack Set 20 → page 95

4-CPA → 4-Chlorophenoxyacetic acid page 628

Crack Set 10 → page 95

Crack Set 10C → page 95

## 841470 Creatine monohydrate for synthesis

C<sub>4</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub> \* H<sub>2</sub>O

N-Amidinosarcosine monohydrate

- CAS-No. 6020-87-7 ■ EC-No. 200-306-6

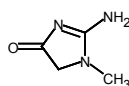
- Solub. in H<sub>2</sub>O 17 g/l (20 °C) ■ M = 149.15 g/mol
- pH value 6.9 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 296 - 297 °C (decomposition)
- Ignition temp. >800 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2925 29 00 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41470.0050	Plastic bottle	50 g	inquire
8.41470.0250	Plastic bottle	250 g	inquire

## 105206 Creatinine for biochemistry

C<sub>4</sub>H<sub>7</sub>N<sub>3</sub>O

CAS-No. 60-27-5 ■ EC-No. 200-466-7

- Flash point 290 °C ■ Solub. in H<sub>2</sub>O 90 g/l (20 °C)
- M = 113.11 g/mol ■ pH value 7.0 - 9.0 (50 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 305 °C (decomposition)
- Bulk density 484 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

## Specification

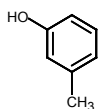
Assay (perchloric acid titration) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 pH-value (5 %; water) ..... 7 - 9  
 Spec. Absorptivity A 1%/1cm (234 nm; 0.001 %; buffer pH 7.0) ..... 620 - 640

Chloride (Cl) ..... ≤ 0.2 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 Creatine (HPLC) ..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.05206.0050	Plastic bottle	50 g	inquire
1.05206.0500	Plastic bottle	500 g	inquire

# Cresol

## 809691 m-Cresol for synthesis



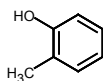
C<sub>7</sub>H<sub>8</sub>O  
3-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>OH  
3-Hydroxytoluol, 3-Methylphenol  
■ CAS-No. 108-39-4 ■ EC-No. 203-577-9  
■ Vapour pressure 0.065 hPa (20 °C)  
■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 % (V) ■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O 23.5 g/l (20 °C) ■ M = 108.14 g/mol  
■ pH value 5 (20 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 11.5 °C ■ Boiling point 203 °C (1013 hPa) ■ Ignition temp. 626 °C  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 242 mg/kg ■ LD50 dermal rabbit 2050 mg/kg  
■ EC-Index-No. 604-004-00-9 ■ LGK 6.1A  
■ HS-No. 2907 12 00  
■ ADR-RID UN 2076 Cresole, flüssig, 6.1 (8), II  
■ IMDG-Code UN 2076 CRESOLS, LIQUID, 6.1 (8), II

■ IATA-DGR UN 2076 CRESOLS, LIQUID, 6.1 (8), II  
**Specification**  
Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.031 - 1.037  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.09691.0100	Glass bottle	100 ml	inquire
8.09691.0500	Glass bottle	500 ml	inquire
8.09691.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.09691.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 809692 o-Cresol for synthesis



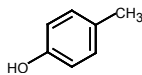
C<sub>7</sub>H<sub>8</sub>O  
2-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>OH  
2-Hydroxytoluene, 2-Methylphenol  
■ CAS-No. 95-48-7 ■ EC-No. 202-423-8  
■ Refractive index 1.553 (20 °C, 589 nm) ■ Vapour pressure 0.24 hPa (20 °C) ■ Spec. density 1.046 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 % (V)  
■ Flash point 81 °C ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C)  
■ M = 108.14 g/mol ■ pH value 4.8 (20 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 31 °C  
■ Boiling point 191 - 192 °C (1013 hPa)

■ Ignition temp. 555 °C  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P280, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 121 mg/kg ■ LD50 dermal rabbit 890 mg/kg  
■ EC-Index-No. 604-004-00-9 ■ LGK 6.1A  
■ HS-No. 2907 12 00 ■ Disposal 9  
■ ADR-RID UN 3455 Cresole, fest, 6.1 (8), II  
■ IMDG-Code UN 3455 CRESOLS, SOLID, 6.1 (8), II  
■ IATA-DGR UN 3455 CRESOLS, SOLID, 6.1 (8), II

**Specification**  
Assay (GC, area%) ..... ≥ 99.0 Area %  
Melting range (lower value) ..... ≥ 29 °C  
Melting range (upper value) ..... ≤ 33 °C  
Water (K. F.) ..... ≤ 0.10 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.09692.0100	Glass bottle	100 ml	inquire
8.09692.0500	Glass bottle	500 ml	inquire
8.09692.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.09692.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 805223 p-Cresol for synthesis



C<sub>7</sub>H<sub>8</sub>O  
CH<sub>3</sub>C<sub>6</sub>H<sub>4</sub>OH  
4-Hydroxytoluene, 4-Methylphenol  
■ CAS-No. 106-44-5 ■ EC-No. 203-398-6  
■ Vapour pressure 0.06 hPa (20 °C)  
■ Spec. density 1.034 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 % (V) ■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 108.14 g/mol  
■ Melting point 32 - 34 °C  
■ Boiling point 202.5 °C (1013 hPa)

■ Ignition temp. 555 °C  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 207 mg/kg ■ LD50 dermal rabbit 301 mg/kg  
■ EC-Index-No. 604-004-00-9 ■ LGK 6.1A  
■ HS-No. 2907 12 00 ■ Disposal 9  
■ ADR-RID UN 3455 Cresole, fest, 6.1 (8), II  
■ IMDG-Code UN 3455 CRESOLS, SOLID, 6.1 (8), II  
■ IATA-DGR UN 3455 CRESOLS, SOLID, 6.1 (8), II

**Specification**  
Assay (GC, area%) ..... ≥ 98.0 Area %  
Melting range (lower value) ..... ≥ 31 °C  
Melting range (upper value) ..... ≤ 34 °C  
o-Cresol (GC, area%) ..... ≤ 0.5 Area %  
m-Cresol (GC, area%) ..... ≤ 1.0 Area %  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05223.0101	Glass bottle	100 g	inquire
8.05223.0501	Glass bottle	500 g	inquire
8.05223.1001	Glass bottle	1 kg	inquire

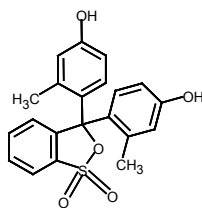
o-Cresol methyl ether → 2-Methylanisole page 1132

o-Cresolphthalein complexone → Phthalein purple page 172

p-Cresol methyl ether → 4-Methylanisole page 1132

Cresolphthalexons → Phthalein purple page 172

## 105228 m-Cresol purple indicator



m-Cresolphthalein, 2',2''-Dimethylphenolsulfonphthalein, MCP  
■ CAS-No. 2303-01-7 ■ EC-No. 218-960-6  
■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
■ M = 382.43 g/mol ■ Bulk density 480 kg/m<sup>3</sup>  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2934 99 90 ■ Disposal 3  
Use as pH indicator: 0.04 g in 100 ml ethanol (20%)

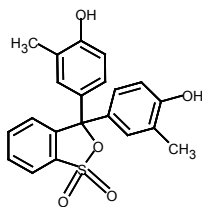
**Specification**  
Appearance (colour) ..... dark red to olive green  
1st transition range ..... pH 1.2 - pH 2.8 pink - yellow  
2nd transition range ..... pH 7.4 - pH 9.0 brownish yellow - violet  
Appearance of solution ..... conforms  
Loss on drying (110 °C) ..... ≤ 1%

Ord.No.	Packaging	Quantity	Price
1.05228.0005	Glass bottle	5 g	inquire

C<sub>21</sub>H<sub>18</sub>O<sub>5</sub>S



## 105225 Cresol red indicator Reag. Ph Eur

C<sub>21</sub>H<sub>18</sub>O<sub>5</sub>S

o-Cresolsulfonphthalein

- CAS-No. 1733-12-6 ■ EC-No. 217-064-2
  - Solub. in H<sub>2</sub>O (20 °C) slightly soluble
  - M = 382.43 g/mol
  - Melting point 290 °C decomposes
  - Bulk density 600 – 620 kg/m<sup>3</sup>
  - WGK 2
  - LGK 10 – 13
  - HS-No. 2934 99 90 ■ Disposal 3
- Use as pH indicator: 0.1 g in 100 ml ethanol (20%)

**Specification**

1st transition range..... pH 0.5 – pH 2.5

pink – brownish yellow  
 2nd transition range ..... pH 6.5 – pH 8.5  
 yellow – purple  
 Appearance of solution ..... passes test  
 Loss on drying (110 °C) ..... ≤ 5%  
 Sensitivity test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.05225.0005	Glass bottle	5 g	inquire
1.05225.0025	Glass bottle	25 g	inquire

m-Cresolsulfonphthalein → m-Cresol purple page 658

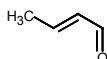
o-Cresolsulfonphthalein → Cresol red page 659

3,4-Cresotic acid → 3-Hydroxy-4-methylbenzoic acid page 988

o-Cresotic acid → 2-Hydroxy-3-methylbenzoic acid page 987

Cresyl violet (acetate) → page 189

## 802667 Crotonaldehyde (mixture of isomers) for synthesis

C<sub>4</sub>H<sub>6</sub>O

2-Butenal

- CAS-No. 4170-30-3 ■ EC-No. 224-030-0
- Refractive index 1.4312 (20 °C, 589 nm)
- Vapour pressure 24 hPa (20 °C)
- Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 – 15.5 % (V) ■ Flash point 13 °C ■ Solub. in H<sub>2</sub>O 181 g/l (20 °C) ■ M = 70.09 g/mol
- Melting point -74 °C ■ Boiling point 104 °C (1013 hPa) ■ Ignition temp. 230 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2,

- H225; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity – repeated exposure, Category 2, H373; Specific target organ toxicity – single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400, P280, P273, P304 + P340, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 0.2 mg/l
- LD50 oral rat 80 mg/kg ■ LD50 dermal rabbit 128 – 324 mg/kg
- EC-Index-No. 605-009-00-9 ■ LGK 3
- HS-No. 2912 19 00 ■ Disposal 9

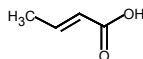
- ADR-RID UN 1143 Crotonaldehyd, stabilisiert, 6.1 (3), I ■ IMDG-Code UN 1143 CROTONALDEHYDE, STABILIZED, 6.1 (3), I, Marine Pollutant: P
- IATA-DGR UN 1143 CROTONALDEHYDE, STABILIZED, 6.1 (3),

**Specification**

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,851 – 0,853  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02667.0100	Glass bottle	100 ml	inquire
8.02667.1000	Glass bottle	1 l	inquire

## 802650 Crotonic acid for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>2</sub>CH<sub>3</sub>CH=CHCOOH

β-Methylacrylic acid, 2-Butenoic acid

- CAS-No. 107-93-7 ■ EC-No. 203-533-9
- Vapour pressure 0.25 hPa (20 °C)
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point 90 °C ■ Solub. in H<sub>2</sub>O 6.2 g/l (20 °C)
- M = 86.09 g/mol ■ pH value 3 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 70 – 73 °C
- Bulk density 543 kg/m<sup>3</sup>

- Boiling point 185.0 – 199.5 °C (1013 hPa)
- Ignition temp. 500 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Dermal, H311; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1000 mg/kg ■ LD50 dermal rabbit 600 mg/kg
- LGK 6.1C
- HS-No. 2916 19 40 ■ Disposal 3
- ADR-RID UN 2823 Crotonsäure, fest, 8, III
- IMDG-Code UN 2823 CROTONIC ACID, SOLID, 8,

III, Segregation Group: 1 (Acids)

- IATA-DGR UN 2823 CROTONIC ACID, SOLID, 8, III

**Specification**

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Melting range (lower value) ..... ≥ 70 °C  
 Melting range (upper value) ..... ≤ 73 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02650.0100	Plastic bottle	100 g	inquire
8.02650.1000	Plastic bottle	1 kg	inquire

Crotonic acid chloride → Crotonoyl chloride page 660

Crotonic acid ethyl ester → Ethyl crotonate page 857

Crotonic acid methyl ester → Methyl crotonate page 1144

## 822002 Crotonic anhydride (mixture of cis and trans isomers) for synthesis

C<sub>8</sub>H<sub>10</sub>O<sub>3</sub>(CH<sub>3</sub>CH=CHCO)<sub>2</sub>O

2-Butenoic anhydride

- CAS-No. 623-68-7 ■ EC-No. 210-807-1
- Refractive index 1.4741 (20 °C, 589 nm)
- Vapour pressure 1 hPa (25 °C)
- Spec. density 1.04 g/cm<sup>3</sup> (20 °C)
- Flash point 113 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 154.17 g/mol
- Melting point -20 °C ■ Boiling point 250 °C
- Ignition temp. 290 °C
- WGK 2
- GHS: Danger, Specific target organ toxicity –

- single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P313
- LD50 oral rat 2061 mg/kg
- LGK 10 – 13
- HS-No. 2916 19 95 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(CROTONSAEUREANHYDRID), 9, III
- IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CROTONIC ANHYDRIDE), 9, III, Marine

Pollutant: P

- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CROTONIC ANHYDRIDE), 9, III

**Specification**

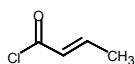
Assay isomers (GC, area%) ..... ≥ 95,5 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,038 – 1,040  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22002.0100	Glass bottle	100 ml	inquire

γ-Crotonolactone → 2(5H)-Furanone page 918

# Croton

## 820351 Crotonoyl chloride (mixture of cis- and trans isomers) for synthesis



C<sub>4</sub>H<sub>7</sub>ClO  
 CH<sub>3</sub>CH=CHCOCl  
*Crotonic acid chloride*  
 ■ CAS-No. 10487-71-5 ■ EC-No. 234-010-3  
 ■ Refractive index 1.4595 (20 °C, 589 nm)  
 ■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 40.5 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) (decomposition) ■ M = 104.54 g/mol  
 ■ Boiling point 120 - 123 °C

■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 2916 19 95 ■ Disposal 11  
 ■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(CROTONSAEURECHLORID), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(CROTONOYL

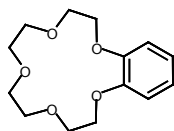
CHLORIDE), 8 (3), II  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(CROTONOYL CHLORIDE), 8 (3), II

**Specification**  
 Assay (GC, area%)..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.080 - 1.090  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20351.0025	Glass bottle	25 ml	inquire

12-Crown-4 → Crown ether/12-Crown-4 page 660    18-Crown-6 → Crown ether/18-Crown-6 page 660  
 15-Crown-5 → Crown ether/15-Crown-5 page 660    Crown compounds → Ethers

## 813718 Crown ether/Benzo-15-crown-5 for synthesis



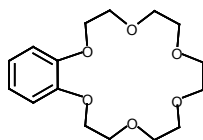
C<sub>14</sub>H<sub>20</sub>O<sub>5</sub>

*Benzo-15-crown-5, 1,4,7,10,13-Pentaoxa[13] orthocyclophane*  
 ■ CAS-No. 14098-44-3 ■ EC-No. 237-947-6  
 ■ M = 268.3 g/mol ■ Melting point 79 - 81 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 99 00 ■ Disposal 3

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 78 °C  
 Melting range (upper value)..... ≤ 82 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.13718.0005	Glass bottle	5 g	inquire

## 814316 Crown ether/Benzo-18-crown-6 for synthesis



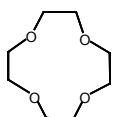
C<sub>16</sub>H<sub>24</sub>O<sub>6</sub>

*1,4,7,10,13,16-Hexahydroxy-16-orthocyclophane*  
 ■ CAS-No. 14098-24-9  
 ■ Flash point 113 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 312.37 g/mol  
 ■ Melting point 42 - 45 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 99 00 ■ Disposal 3

**Specification**  
 Assay (DSC)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 42 °C  
 Melting range (upper value)..... ≤ 46 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14316.0001	Glass bottle	1 g	inquire

## 813714 Crown ether/12-Crown-4 for synthesis



C<sub>8</sub>H<sub>16</sub>O<sub>4</sub>

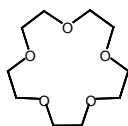
*12-Crown-4, 1,4,7,10-Tetraoxacyclododecane*  
 ■ CAS-No. 294-93-9 ■ EC-No. 206-036-5  
 ■ Refractive index 1.4621 (20 °C, 589 nm)

■ Vapour pressure 0.04 hPa (20 °C)  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 110 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) soluble ■ M = 176.21 g/mol  
 ■ Melting point 16 °C ■ Boiling point 68 - 70 °C (0.133 hPa)  
 ■ WGK 2  
 ■ LD50 oral rat 2830 mg/kg ■ LD50 dermal rabbit 5028 mg/kg  
 ■ LGK 10

■ HS-No. 2932 99 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,108 - 1,111  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.13714.0006	Glass bottle	5 ml	inquire

## 813715 Crown ether/15-Crown-5 for synthesis



C<sub>10</sub>H<sub>20</sub>O<sub>5</sub>

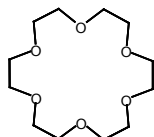
*15-Crown-5, 1,4,7,10,13-Pentaoxacyclopentadecane*  
 ■ CAS-No. 33100-27-5 ■ EC-No. 251-379-6

■ Refractive index 1.4615 (20 °C, 589 nm)  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O (20 °C) soluble ■ M = 220.26 g/mol  
 ■ Boiling point 100 - 135 °C (0.25 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1410 mg/kg ■ LD50 dermal rabbit 2520 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2932 99 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,111 - 1,113  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.13715.0006	Glass bottle	5 ml	inquire
8.13715.0025	Glass bottle	25 ml	inquire

## 811684 Crown ether/18-Crown-6 for synthesis



C<sub>12</sub>H<sub>24</sub>O<sub>6</sub>

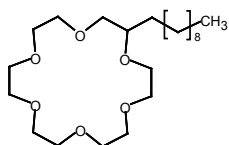
*1,4,7,10,13,16-Hexaoxacyclooctadecane, 18-Crown-6*

■ CAS-No. 17455-13-9 ■ EC-No. 241-473-5  
 ■ Flash point 109 °C ■ M = 264.32 g/mol  
 ■ Melting point 36 - 39 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
 ■ LD50 oral rat 525 mg/kg ■ LD50 dermal rabbit 3888 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 99 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 36 °C  
 Melting range (upper value)..... ≤ 41 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.11684.0002	Glass bottle	2 g	inquire
8.11684.0005	Glass bottle	5 g	inquire
8.11684.0025	Glass bottle	25 g	inquire

## 824438 Crown ether/Decyl-18-crown-6 for synthesis

C<sub>22</sub>H<sub>44</sub>O<sub>6</sub>

2-Decyl-1,4,7,10,13,16-hexaoxacyclooctadecane

- CAS-No. 60742-60-1
- Refractive index 1.4605 (18 °C, 589 nm)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C)
- M = 404.59 g/mol ■ Boiling point 190 °C (1013 hPa)
- WGK 3
- LGK 10 - 13

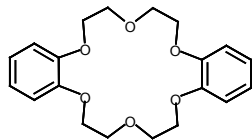
■ HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,993 - 0,996  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.24438.0500	Glass bottle	500 mg	inquire

## 811731 Crown ether/Dibenzo-18-crown-6 for synthesis

C<sub>20</sub>H<sub>24</sub>O<sub>6</sub>

Dibenzo-18-crown-6, 1,4,7,14,17,20-Hexaoxa[7.7]

orthocyclophane

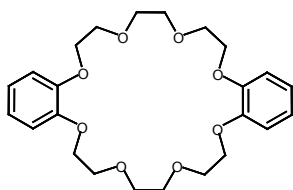
- CAS-No. 14187-32-7 ■ EC-No. 238-041-3
- Solub. in H<sub>2</sub>O 0.007 g/l (25 °C) ■ M = 360.41 g/mol
- Melting point 158 - 161 °C
- WGK 3
- LD50 oral rat 2600 mg/kg
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 158 °C  
 Melting range (upper value)..... ≤ 163 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.11731.0005	Glass bottle	5 g	inquire
8.11731.0050	Glass bottle	50 g	inquire

## 813755 Crown ether/Dibenzo-24-crown-8 for synthesis

C<sub>24</sub>H<sub>32</sub>O<sub>8</sub>

Dibenzo-24-crown-8, 1,4,7,10,17,20,23,26-Octaoxa[10.10]orthocyclophane

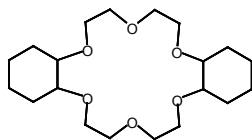
- CAS-No. 14174-09-5 ■ EC-No. 238-027-7
- M = 448.52 g/mol ■ Melting point 100 - 103 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Purity (GC)..... ≥ 99% (a/a)  
 Identity (IR-spectrum)..... passes test  
 Melting range (lower value)..... 100 - 103 °C  
 Melting range (upper value)..... 100 - 103 °C

Ord.No.	Packaging	Quantity	Price
8.13755.0001	Glass bottle	1 g	inquire
8.13755.0005	Glass bottle	5 g	inquire

## 811866 Crown ether/Dicyclohexyl-18-crown-6 (mixture of cis- and trans-isomers) for synthesis

C<sub>20</sub>H<sub>36</sub>O<sub>6</sub>

2,5,8,15,18,21-Hexaoxatricyclo[20.4.0.09.14]

hexacosane, Dicyclohexyl-18-crown-6

- CAS-No. 16069-36-6 ■ EC-No. 240-216-4
- Flash point 113 °C ■ M = 372.51 g/mol

- Melting point 46 - 50 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P262, P309 + P310
- LD50 oral rat 176 mg/kg
- LGK 6.1C
- HS-No. 2932 99 00 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(KRONETHER/DICYCLOHEXYL-18-KRONE-6), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(CROWN ETHER/DICYCLOHEXYL-18-CROWN-6), 6.1, III

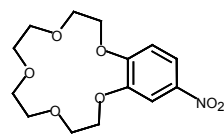
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(CROWN ETHER/DICYCLOHEXYL-18-CROWN-6), 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 97,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.11866.0001	Glass bottle	1 g	inquire
8.11866.0005	Glass bottle	5 g	inquire

## 814543 Crown ether/4'-Nitrobenzo-15-crown-5 for synthesis

C<sub>14</sub>H<sub>19</sub>NO<sub>7</sub>

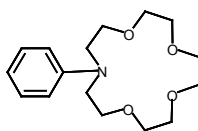
- CAS-No. 60835-69-0
- M = 313.31 g/mol ■ Melting point 95 - 97 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 94 °C  
 Melting range (upper value)..... ≤ 97 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14543.0001	Glass bottle	1 g	inquire

## 813885 Crown ether/N-Phenylaza-15-crown-5 for synthesis

C<sub>16</sub>H<sub>25</sub>NO<sub>4</sub>

N-Phenylaza-15-crown-5, N-Phenyl-13-aza-

1,4,7,10-tetracyclopentadecane

- CAS-No. 66750-10-5 ■ EC-No. 266-470-6
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 295.38 g/mol ■ Melting point 44 - 46 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

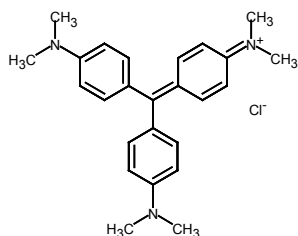
**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)  
 Melting range (lower value)..... ≥ 42 °C  
 Melting range (upper value)..... ≤ 46 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.13885.0005	Glass bottle	5 g	inquire

Crystal violet (C.I. 42555) → page 189

## 101408 Crystal violet (C.I. 42555) indicator ACS, Reag. Ph Eur

C<sub>25</sub>H<sub>30</sub>ClN<sub>3</sub>

Hexamethylenepararosaniline chloride, Gentian violet (C.I. 42555), Hexamethyl-p-rosanilinium, Methyl violet 10 B  
 ■ CAS-No. 548-62-9 ■ EC-No. 208-953-6

- Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 407.99 g/mol
- pH value 2.5 - 3.5 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 189 - 194 °C
- Bulk density 220 - 400 kg/m<sup>3</sup>
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Carcinogenicity, Category 2, H351; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P281, P305 + P351 + P338, P308 + P313
- LD50 oral rat 420 mg/kg
- EC-Index-No. 612-204-00-2 ■ LGK 10 - 13
- HS-No. 3204 13 00 ■ Disposal 9
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ENTH).

Crystal-violet neutral-red bile agar → page 105

Crystal-violet neutral-red bile dextrose agar → page 105

Crystal violet solution → Gram's crystal violet solution

CSI → Chlorosulfonyl isocyanate page 635

CTAB (or CTABr) → N-Cetyl-N,N,N-trimethylammonium bromide page 589

m-Cumaric acid → 3-Hydroxycinnamic acid page 980

HEXAMETHYLENPARAROSANILINCHLORID), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CONT. HEXAMETHYLENE PARAROSANILIN CHLORIDE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CONT. HEXAMETHYLENE PARAROSANILIN CHLORIDE), 9, III

## Specification

Michler's ketone..... &lt; 0.10 %

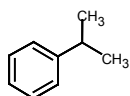
Ord.No.	Packaging	Quantity	Price
1.01408.0025	Glass bottle	25 g	inquire
1.01408.0100	Glass bottle	100 g	inquire
1.01408.1000	Glass bottle	1 kg	inquire

o-Cumaric acid → 2-Hydroxycinnamic acid page 980

p-Cumaric acid → 4-Hydroxycinnamic acid page 980

Cumaron → Benzo[b]furan page 440

## 802681 Cumene for synthesis

C<sub>9</sub>H<sub>12</sub>C<sub>6</sub>H<sub>5</sub>CH(CH<sub>3</sub>)<sub>2</sub>

2-Phenylpropane, Isopropylbenzene

■ CAS-No. 98-82-8 ■ EC-No. 202-704-5

■ Vapour pressure 5.3 hPa (20 °C)

■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 6.0 % (V) ■ Flash point 31 °C ■ Solub. in H<sub>2</sub>O 0.05 g/l (20 °C) ■ M = 120.19 g/mol

- pH value (H<sub>2</sub>O) not applicable ■ Melting point - 96 °C ■ Boiling point 153 °C (1013 hPa)
- Ignition temp. 420 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304; Specific target organ toxicity - single exposure, Category 3, H335; Chronic aquatic toxicity, Category 2, H411, P210, P273, P301 + P310, P331
- LC50 rat 39 mg/l
- LD50 oral rat 1400 mg/kg ■ LD50 dermal rabbit 10578 mg/kg
- EC-Index-No. 601-024-00-X ■ LGK 3

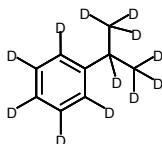
- HS-No. 2902 70 00
- ADR-RID UN 1918 Isopropylbenzen, 3, III
- IMDG-Code UN 1918 ISOPROPYLBENZENE, 3, III
- IATA-DGR UN 1918 ISOPROPYLBENZENE, 3, III

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C / 4 °C)..... 0,861 - 0,863  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02681.0100	Glass bottle	100 ml	inquire
8.02681.1000	Glass bottle	1 l	inquire

## 815023 Cumene-D12 deuteration degree min. 99% for NMR spectroscopy MagniSolv™

C<sub>9</sub>D<sub>12</sub>C<sub>6</sub>D<sub>5</sub>CD(CD<sub>3</sub>)<sub>2</sub>

■ CAS-No. 97732-82-6

■ Vapour pressure 5.3 hPa (20 °C)

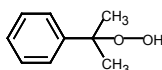
■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 6.0 % (V) ■ Flash point 31 °C ■ Solub. in H<sub>2</sub>O 0.05 g/l (20 °C) ■ M = 132.27 g/mol

- pH value (H<sub>2</sub>O) not applicable ■ Melting point - 96 °C ■ Boiling point 153 °C (1013 hPa)
- Ignition temp. 420 °C DIN 51794
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 2, H411; Aspiration hazard, Category 1, H304; Specific target organ toxicity - single exposure, Category 3, H335, P210, P262, P273, P301 + P310, P304 + P340, P331
- LC50 rat 39 mg/l
- LD50 oral rat 1400 mg/kg ■ LD50 dermal rabbit 10578 mg/kg

- 10578 mg/kg
  - LGK 3
  - HS-No. 2845 90 10 ■ Disposal 3
  - ADR-RID UN 1918 Isopropylbenzen, 3, III
  - IMDG-Code UN 1918 ISOPROPYLBENZENE, 3, III
  - IATA-DGR UN 1918 ISOPROPYLBENZENE, 3, III
- Deuteration degree..... ≥ 99 %

Ord.No.	Packaging	Quantity	Price
8.15023.0001	Glass ampoule	1 ml	inquire

## 820502 Cumene hydroperoxide (80% solution in cumene) for synthesis



α,α-Dimethylbenzyl hydroperoxide

■ Refractive index 1.5242 (20 °C, 589 nm)

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)■ Flash point 57 °C ■ Solub. in H<sub>2</sub>O 13 g/l (20 °C)■ pH value >5 (13 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point &lt; -30 °C ■ Boiling point 116 °C (20 hPa)

■ WGK 2

■ GHS: Danger, Organic peroxide, Type F, H242;

- Acute toxicity, Category 3, Inhalation, H331;
- Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 573 mg/kg
- LGK 5.2
- HS-No. 2909 60 00 ■ Disposal 10
- ADR-RID UN 3109 Organisches Peroxid Typ F, flüssig(CUMYLHYDROPEROXID), 5.2 (8), ■ IMDG-

Code UN 3109 ORGANIC PEROXIDE TYPE F, LIQUID(CUMYLHYDROPEROXIDE), 5.2 (8),  
 ■ IATA-DGR UN 3109 ORGANIC PEROXIDE TYPE F, LIQUID(CUMYLHYDROPEROXIDE), 5.2 (8),

## Specification

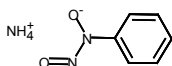
Assay (iodometric)..... 83,0 - 87,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20502.0005	Glass bottle	5 ml	inquire
8.20502.0250	Glass bottle	250 ml	inquire

Cumidine → 4-Isopropylaniline page 1052

Cuminaldehyde → 4-Isopropylbenzaldehyde page 1053

## 105227 Cupferron GR for analysis ACS

C<sub>6</sub>H<sub>8</sub>N<sub>3</sub>O<sub>2</sub>

Copperone, *N*-Nitrosophenylhydroxylamine ammonium salt, *N*-Phenyl-*N*-nitrosohydroxylamine ammonium salt

- CAS-No. 135-20-6 ■ EC-No. 205-183-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 155.16 g/mol
- Melting point 153 - 155 °C (decomposition)
- Bulk density 460 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B,

H350; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P201, P281, P304 + P340, P305 + P351 + P338, P309 + P310

- LD50 oral rat 199 mg/kg
- LGK 6.1C
- HS-No. 2928 00 90 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(KUPFERRON), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(CUPFERRON), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(CUPFERRON), 6.1, III

## Specification

Assay (from NH<sub>4</sub>)..... ≥ 98.0 %  
 Identity (IR)..... passes test  
 In water insoluble matter..... ≤ 0.01 %  
 Spec. Absorptivity A 1%/1cm (at 281 nm; 1 %; 1 cm; water)..... ≥ 515  
 Sulfated ash..... ≤ 0.05 %  
 Suitability for precipitation of iron ions.passes test

Ord.No.	Packaging	Quantity	Price
1.05227.0025	Glass bottle	25 g	inquire
1.05227.0100	Glass bottle	100 g	inquire

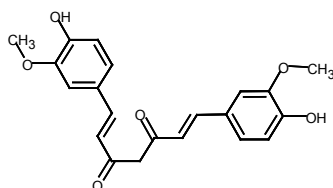
Cupric acetate → page 652

Cupricin → Copper(I) cyanide page 653

Cuprizone → Oxalic acid bis (cyclohexylidene hydrazide) page 1253

Cuproine → 2,2'-Biquinoline page 462

## 820354 Curcumin for synthesis

C<sub>21</sub>H<sub>20</sub>O<sub>6</sub>

2-Cyananiline → 2-Aminobenzonitrile page 379

Cyanic acid potassium salt → Potassium cyanate page 1347

- HS-No. 3203 00 10 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 90,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20354.0002	Glass bottle	2 g	inquire
8.20354.0010	Glass bottle	10 g	inquire
8.20354.0050	Glass bottle	50 g	inquire

Cupric acetate → page 652

Cupricin → Copper(I) cyanide page 653

Cuprizone → Oxalic acid bis (cyclohexylidene hydrazide) page 1253

Cuproine → 2,2'-Biquinoline page 462

Cyanide Cell Test → page 63

## Cyanide, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
430	100132	Barbituric acid	791	103062	Dimethylglyoxime	1287	107223	1,10-Phenanthroline chloride monohydrate
776	103059	5-(4-Dimethylamino-benzylidene)-rhodanine	791	103061	Dimethylglyoxime disodium salt octahydrate			

## Cyanides

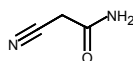
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
653	841811	Copper(I) cyanide	1347	104967	Potassium cyanide			
1347	104965	Potassium cyanide	1431	106437	Sodium cyanide			

Cyanide Test → page 63

Cyanide Test Refill pack → page 63

Cyanoacetaldehyde diethyl acetal → 3,3-Diethoxypropionitrile page 736

## 802866 Cyanoacetamide for synthesis

C<sub>3</sub>H<sub>4</sub>N<sub>2</sub>ONCCH<sub>2</sub>CONH<sub>2</sub>

- CAS-No. 107-91-5 ■ EC-No. 203-531-8
- Flash point 215 °C ■ Solub. in H<sub>2</sub>O 150 g/l (20 °C) ■ M = 84.07 g/mol
- Melting point 117 - 120 °C

- WGK 1
- LD50 oral rat 7230 mg/kg
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(CYANOACETAMID), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(CYANOACETAMIDE), 6.1, III
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(CYANOACETAMIDE), 6.1, III

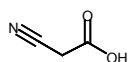
## Specification

Assay (ex N)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 118 °C  
 Melting range (upper value)..... ≤ 121 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02866.0250	Plastic bottle	250 g	inquire
8.02866.1000	Plastic bottle	1 kg	inquire



## 800252 Cyanoacetic acid for synthesis

C<sub>3</sub>H<sub>3</sub>NO<sub>2</sub>NCCH<sub>2</sub>COOH

Malonic acid mononitrile

■ CAS-No. 372-09-8 ■ EC-No. 206-743-9

■ Vapour pressure 0.1 hPa (100 °C)

■ Flash point 107 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 85.06 g/mol ■ pH value 1.6 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 65 - 68 °C■ Bulk density 700 kg/m<sup>3</sup> ■ Boiling point 108 °C (20 hPa)

■ WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412; Corrosive to metals, Category 1, H290, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LC50 rat 7.6 mg/l

■ LD50 oral rat 1500 mg/kg ■ LD50 dermal rabbit &gt; 2000 mg/kg

■ LGK 8A

■ HS-No. 2926 90 95 ■ Disposal 3

■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(CYANESSIGSAEURE), 8, II

■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CYANOACETIC ACID), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CYANOACETIC ACID), 8, II

## Specification

Assay (acidimetric)..... ≥ 98,0 %(m)

Melting range (lower value)..... ≥ 67 °C

Melting range (upper value)..... ≤ 70 °C

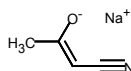
Water (K. F.)..... ≤ 0,50 %(m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00252.0250	Glass bottle	250 g	inquire
8.00252.1000	Glass bottle	1 kg	inquire

Cyanoacetic acid ethyl ester → Ethyl cyanoacetate  
page 857Cyanoacetic acid methyl ester → Methyl  
cyanoacetate page 1144Cyanoacetic acid tert-butyl ester → tert-Butyl  
cyanoacetate page 544

## 840036 Cyanoacetone sodium salt for synthesis

C<sub>3</sub>H<sub>3</sub>O<sub>2</sub>Na

■ CAS-No. 70807-22-6 ■ EC-No. 417-000-5

■ Vapour pressure 0.000016 hPa (25 °C)

■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 460 g/l (20 °C) ■ M = 105.07 g/mol■ pH value 10.9 - 11.4 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution)

■ Melting point 240 °C (decomposition)

■ Bulk density 450 kg/m<sup>3</sup> ■ Ignition temp. 625 °C

■ WGK 1

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310

■ LD50 oral rat &gt; 200 - 2000 mg/kg

■ LGK 6.1A ■ Store at +2°C to +8°C.

■ HS-No. 2926 90 95 ■ Disposal 3

■ ADR-RID UN 3263 Ätzender basischer organischer fester Stoff, n.a.g.(CYANACETON NATRIUMSALZ), 8, II ■ IMDG-Code UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(CYANOACETONE SODIUM SALT), 8, II,

Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(CYANOACETONE SODIUM SALT), 8, II

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 95,0 %

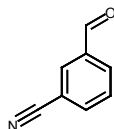
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40036.0005	Glass bottle	5 g	inquire
8.40036.0050	Glass bottle	50 g	inquire

4-Cyanoacetophenone → 4-Acetylbenzotrile page  
345

4-Cyanoaniline → 4-Aminobenzotrile page 379

## 841218 3-Cyanobenzaldehyde for synthesis

C<sub>8</sub>H<sub>5</sub>NO

3-Formylbenzotrile

■ CAS-No. 24964-64-5 ■ EC-No. 246-549-1

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 131.13 g/mol ■ Melting point 79 - 80 °C

■ Boiling point 209 - 210 °C

■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2926 90 95 ■ Disposal 3

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(3-CYANBENZALDEHYD), 6, I, II

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3-CYANOBENZALDEHYDE), 6, I, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3-CYANOBENZALDEHYDE), 6, I, II

## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)

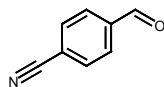
Melting range (lower value)..... ≥ 77 °C

Melting range (upper value)..... ≤ 80 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41218.0001	Plastic bottle	1 g	inquire
8.41218.0010	Plastic bottle	10 g	inquire

## 818530 4-Cyanobenzaldehyde for synthesis

C<sub>8</sub>H<sub>5</sub>NO4-(OH)C<sub>6</sub>H<sub>4</sub>CN

4-Formylbenzotrile

■ CAS-No. 105-07-7 ■ EC-No. 203-267-3

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 131.14 g/mol

mol ■ Melting point 100 - 103 °C

■ Boiling point 133 °C (16 hPa)

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2926 90 95 ■ Disposal 3

■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(4-CYANBENZALDEHYD), 6, I, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(4-CYANO BENZALDEHYDE), 6, I, III

■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,

N.O.S.(4-CYANO BENZALDEHYDE), 6, I, III

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)

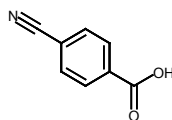
Melting range (lower value)..... ≥ 100 °C

Melting range (upper value)..... ≤ 103 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18530.0005	Plastic bottle	5 g	inquire
8.18530.0025	Plastic bottle	25 g	inquire

## 841282 4-Cyanobenzoic acid for synthesis

C<sub>8</sub>H<sub>5</sub>NO<sub>2</sub>

■ CAS-No. 619-65-8 ■ EC-No. 210-606-9

■ Solub. in H<sub>2</sub>O 1.2 g/l (20 °C) ■ M = 147.13 g/mol

■ Melting point 214 - 218 °C

■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2926 90 95 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 97,0 %

Melting range (lower value)..... ≥ 214 °C

Melting range (upper value)..... ≤ 218 °C

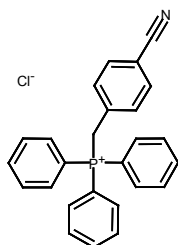
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41282.0005	Plastic bottle	5 g	inquire

2-Cyanobenzyl bromide → 2-(Bromomethyl)-  
benzotrile page 5053-Cyanobenzyl bromide → 3-(Bromomethyl)-  
benzotrile page 506



## 818511 4-Cyanobenzyltriphenylphosphonium chloride for synthesis



C<sub>26</sub>H<sub>21</sub>CINP  
 Triphenyl-4-cyanobenzylphosphonium chloride  
 ■ CAS-No. 20430-33-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 413.88 g/mol  
 ■ Melting point 326 - 338 °C  
 ■ WGK 3  
 ■ LGK 10 - 13

■ HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (argentometric) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18511.0005	Plastic bottle	5 g	inquire

β-Cyanoethanol → 3-Hydroxypropionitrile page 994

4-Cyano-3-fluorophenol → 2-Fluoro-4-hydroxybenzonitrile page 901

Cyanoformic acid ethyl ester → Ethyl cyanoformate page 857

## Cyanogen bromide



CBrN  
 BrCN  
 ■ CAS-No. 506-68-3 ■ EC-No. 208-051-2  
 ■ Vapour pressure 113 hPa (20 °C)  
 ■ Spec. density 2.015 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 105.92 g/mol  
 ■ Melting point 52 °C ■ Boiling point 61 - 62 °C

(1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400, P280, P273, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P304 + P340, P309 + P310

■ LGK 6.1B ■ Store at +2°C to +8°C.  
 ■ HS-No. 2853 00 90  
 ■ ADR-RID UN 1889 Cyanobromid, 6.1 (8), I  
 ■ IMDG-Code UN 1889 CYANOGEN BROMIDE, 6.1 (8), I, Marine Pollutant: P, Segregation Group: 6 (Cyanides)  
 ■ IATA-DGR UN 1889 CYANOGEN BROMIDE, 6.1 (8),

## 820193 Cyanogen bromide for synthesis

## Specification

Assay (iodometric) ..... ≥ 96.0 %

Ord.No.	Packaging	Quantity	Price
8.20193.0050	Glass bottle	50 g	inquire
	Glass bottle	6 x 50 g	inquire

## 820194 Cyanogen bromide for synthesis

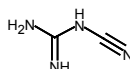
## Specification

Assay (iodometric) ..... ≥ 96.0 %

Ord.No.	Packaging	Quantity	Price
8.20194.0250	Metal can	250 g	inquire

Cyanogen potassium → page 1347

## 802491 1-Cyanoguanidine for synthesis



C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>  
 NCNHC(=NH)NH<sub>2</sub>  
 Dicyanodiamide  
 ■ CAS-No. 461-58-5 ■ EC-No. 207-312-8  
 ■ Spec. density 1.4 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 34.6 g/l (20 °C) ■ M = 84.08 g/mol  
 ■ Melting point 208 - 210 °C  
 ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 20 00 ■ Disposal 3

Assay (ex N) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 206 °C  
 Melting range (upper value) ..... ≤ 210 °C  
 Identity (IR) ..... passes test

## Specification

Ord.No.	Packaging	Quantity	Price
8.02491.0100	Plastic bottle	100 g	inquire
8.02491.1000	Plastic bottle	1 kg	inquire

4-Cyano-4'-hydroxybiphenyl → 4'-Hydroxybiphenyl-4-carbonitrile page 979

5-Cyanoindole → Indole-5-carbonitrile page 1003

Cyanomethanephosphonic acid diethyl ester → Diethyl cyanomethylphosphonate page 741

2-Cyanomethylthiophene → Thiophene-2-acetonitrile page 1552

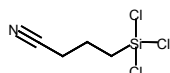
3-Cyano-1-nitrobenzene → 3-Nitrobenzonitrile page 1220

4-Cyano-3-nitrobenzotrifluoride → 2-Nitro-4-(trifluoromethyl)benzonitrile page 1231

2-Cyanophenol → 2-Hydroxybenzonitrile page 978

4-Cyanophenol → 4-Hydroxybenzonitrile page 978

## 841248 3-Cyanopropyl-trichlorosilane for synthesis



C<sub>4</sub>H<sub>6</sub>Cl<sub>3</sub>NSi  
 4-(Trichlorosilyl)-butyronitrile  
 ■ CAS-No. 1071-27-8 ■ EC-No. 213-990-6  
 ■ Spec. density 1.28 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 92 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 202.54 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid ■ Boiling point 237 - 238 °C

(1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 2830 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2931 90 90 ■ Disposal 24  
 ■ ADR-RID UN 2987 Chlorsilane, ätzend, n.a.g., 8, II ■ IMDG-Code UN 2987 CHLOROSILANES, CORROSIVE, N.O.S., 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2987 CHLOROSILANES, CORROSIVE, N.O.S., 8, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.301 - 1.305  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41248.0025	Glass bottle	25 ml	inquire

2-Cyanopyrazine → 2-Pyrazinecarbonitril page 1382

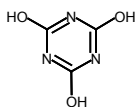
2-Cyanopyridine → 2-Pyridinecarbonitrile page 1386

3-Cyanopyridine → 3-Pyridinecarbonitrile page 1386

4-Cyanopyridine → 4-Pyridinecarbonitrile page 1386

Cyanotrimethylsilane → Trimethylsilyl cyanide page 1607

## 820358 Cyanuric acid for synthesis



$C_3H_3N_3O_3$   
 $C_3N_3(OH)_3$   
 1,3,5-Triazine-2,4,6-triol, Isocyanuric acid  
 ■ CAS-No. 108-80-5 ■ EC-No. 203-618-0  
 ■ Vapour pressure < 0.0001 Pa (25 °C)  
 ■ Spec. density 2.5 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O 2 g/l (20 °C) ■ M = 129.07 g/mol

■ pH value 3.8 - 4.0 (H<sub>2</sub>O, 20 °C) (saturated solution)  
 ■ Melting point 320 - 330 °C (decomposition)  
 ■ Bulk density 550 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: P262  
 ■ LD50 oral rat 7700 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 69 80 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

## Specification

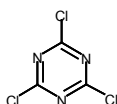
Assay (acidimetric)..... ≥ 98.0 % (m)  
 Identity (IR)..... passes test

Cyanuric Acid Test → page 64

Cyanuric acid triallyl ester → 2,4,6-Tris(allyloxy)-1,3,5-triazine page 1615

Ord.No.	Packaging	Quantity	Price
8.20358.0005	Glass bottle	5 g	inquire
8.20358.0250	Plastic bottle	250 g	inquire
8.20358.1000	Plastic bottle	1 kg	inquire

## 802815 Cyanuric chloride for synthesis



$C_3Cl_3N_3$   
 2,4,6-Trichloro-1,3,5-triazine  
 ■ CAS-No. 108-77-0 ■ EC-No. 203-614-9  
 ■ Vapour pressure 0.01 hPa (20 °C)  
 ■ Spec. density 1.92 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 190 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) (decomposition) ■ M = 184.41 g/mol  
 ■ pH value (H<sub>2</sub>O) Hydrolysis, acidic  
 ■ Melting point 144 - 146 °C  
 ■ Bulk density 600 - 900 kg/m<sup>3</sup>

■ Boiling point 193 - 198 °C (1013 hPa)  
 ■ Ignition temp. > 650 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P271, P280, P304 + P340, P305 + P351 + P338, P302 + P352, P309 + P310  
 ■ LC50 rat 0.013 mg/l  
 ■ LD50 oral rat 315 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 613-009-00-5 ■ LGK 6.1A  
 ■ HS-No. 2933 69 80 ■ Disposal 8  
 ■ ADR-RID UN 2670 Cyanurchlorid, 8, II ■ IMDG-

Code UN 2670 CYANURIC CHLORIDE, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2670 CYANURIC CHLORIDE, 8, II

## Specification

Assay (argentometric)..... ≥ 99.0 % (m)  
 Melting range (lower value)..... ≥ 144 °C  
 Melting range (upper value)..... ≤ 147 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02815.0100	Glass bottle	100 g	inquire
8.02815.0500	Glass bottle	500 g	inquire
8.02815.1000	Glass bottle	1 kg	inquire

Cyclam → 1,4,8,11-Tetraazacyclotetradecane page 1522

Cycloalkanes Cycloalkenes → Hydrocarbons

Cycloalkene halides → Organohalogen compounds

Cycloalkane halides → Organohalogen compounds

## 820360 Cyclobutanecarboxylic acid for synthesis



$C_5H_8O_2$   
 ■ CAS-No. 3721-95-7 ■ EC-No. 223-072-7  
 ■ Refractive index 1.4433 (20 °C, 589 nm)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 100.11 g/mol  
 ■ Melting point -20 °C ■ Boiling point 195 °C  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2916 20 00 ■ Disposal 4  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(CYCLOBUTANCARBONSAEURE), 8, III  
 ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(CYCLOBUTANECARBOXYLIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC,

ORGANIC, N.O.S.(CYCLOBUTANECARBOXYLIC ACID), 8, III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.059 - 1.061  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20360.0010	Glass bottle	10 ml	inquire

## 841260 1,1-Cyclobutanedicarboxylic acid for synthesis



$C_6H_8O_4$   
 ■ CAS-No. 5445-51-2 ■ EC-No. 226-651-2  
 ■ M = 144.12 g/mol ■ Melting point 156 - 158 °C  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2917 20 00 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(1,1-CYCLOBUTANEDICARBONSAEURE), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(1,1-CYCLOBUTANEDICARBOXYLIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(1,1-CYCLOBUTANEDICARBOXYLIC

ACID), 8, III

## Specification

Assay (acidimetric)..... ≥ 98.0 % (m)  
 Melting range (lower value)..... ≥ 154 °C  
 Melting range (upper value)..... ≤ 157 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41260.0005	Plastic bottle	5 g	inquire

## 802880 Cyclobutanone for synthesis



$C_4H_6O$   
 ■ CAS-No. 1191-95-3 ■ EC-No. 214-745-6  
 ■ Refractive index 1.4195 (20 °C, 589 nm)  
 ■ Vapour pressure 57 hPa (25 °C)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 16 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 70.09 g/mol ■ Melting point -50.9 °C ■ Boiling point 99 °C (1013 hPa)

■ Ignition temp. 365 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P223  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2914 29 00 ■ Disposal 3  
 ■ ADR-RID UN 1224 Keton, flüssig, n.a.g.(CYCLOBUTANON), 3, II ■ IMDG-Code UN 1224 KETONES, LIQUID, N.O.S.(CYCLOBUTANONE), 3, II  
 ■ IATA-DGR UN 1224 KETONES, LIQUID,

N.O.S.(CYCLOBUTANONE), 3, II

## Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C)..... 0.931 - 0.933  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02880.0001	Glass bottle	1 ml	inquire
8.02880.0005	Glass bottle	5 ml	inquire

Cyclobutylmethanol → Hydroxymethylcyclobutane page 988

## 814484 Cyclobutyl methyl bromide for synthesis

C<sub>5</sub>H<sub>9</sub>Br

- CAS-No. 17247-58-4
- Refractive index 1.4726 (20 °C, 589 nm)
- Spec. density 1.35 g/cm<sup>3</sup> (20 °C)
- Flash point 41 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) (decomposition) ■ M = 149.03 g/mol
- Boiling point 123 - 124 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226
- LGK 3
- HS-No. 2903 89 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(CYCLOBUTYLMETHYLBROMID), 3, III
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.

S.(CYCLOBUTYLMETHYLBROMIDE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CYCLOBUTYLMETHYLBROMIDE), 3, III

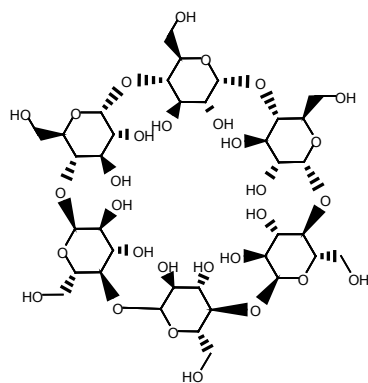
**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,351 - 1,353  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14484.0001	Glass bottle	1 ml	inquire

α-Cyclodextrin → α-Cyclodextrine page 667

## 102126 α-Cyclodextrine for biochemistry

C<sub>36</sub>H<sub>60</sub>O<sub>30</sub>

- Schardinger α-dextrin, Cyclohexaamylose, Cyclomaltohexaose
- CAS-No. 10016-20-3 ■ EC-No. 233-007-4
  - Solub. in H<sub>2</sub>O 145 g/l (25 °C) ■ M = 972.84 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral
  - Melting point 278 °C ■ Bulk density 500 kg/m<sup>3</sup>
  - WGK nwg
  - GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
  - LD50 oral rat > 10000 mg/kg
  - LGK 10 - 13
  - HS-No. 2940 00 00 ■ Disposal 3

Formation of inclusion complexes; stabilisation of

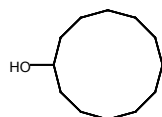
reagents, e.g. in diagnostics; enhancement of chemical reactions; model substance for enzymatic reactions; phasetransfer-catalyst; solubilizer.

**Specification**

Purity (HPLC) ..... ≥ 98,0 %  
 Identity (IR-spectrum) ..... conforms  
 Water (according to Karl Fischer) ..... 5.0 - 10.0 %  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (1 %; water; calc. on anhydrous substance) ..... 148.0 - 153.0 °

Ord.No.	Packaging	Quantity	Price
1.02126.0050	Glass bottle	50 g	inquire

## 802675 Cyclododecanol for synthesis

C<sub>12</sub>H<sub>24</sub>O

- CAS-No. 1724-39-6 ■ EC-No. 217-031-2
- Vapour pressure < 1 hPa (20 °C)
- Flash point 138 °C ■ Solub. in H<sub>2</sub>O 0.04 g/l (20 °C) ■ M = 184.32 g/mol
- Melting point 75 - 78 °C ■ Boiling point 272 °C

- Ignition temp. 380 °C
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat > 2500 mg/kg
- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(CYCLODODECANOL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CYCLODODECANOL), 9, III, Marine Pollutant: P

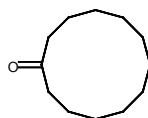
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CYCLODODECANOL), 9, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 75 °C  
 Melting range (upper value) ..... ≤ 78 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02675.0250	Glass bottle	250 g	inquire

## 802676 Cyclododecanone for synthesis

C<sub>12</sub>H<sub>22</sub>O

- CAS-No. 830-13-7 ■ EC-No. 212-595-6
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 0.97 g/cm<sup>3</sup> (20 °C)
- Flash point 118 °C ■ Solub. in H<sub>2</sub>O 0.045 g/l (20 °C) ■ M = 182.3 g/mol

- Melting point 59 - 61 °C ■ Boiling point 277 °C (1013 hPa) ■ Ignition temp. 230 °C
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat > 2500 mg/kg
- LGK 10 - 13
- HS-No. 2914 29 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(CYCLODODECANON), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CYCLODODECANONE), 9, III, Marine Pollutant: P

9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CYCLODODECANONE), 9, III

**Specification**

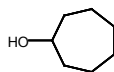
Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 59 °C  
 Melting range (upper value) ..... ≤ 61 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02676.0250	Glass bottle	250 g	inquire

Cyclododeceneoxid → Epoxycyclododecane page 836

trans-(1,2-Cyclohexylenedinitrilo)-tetra-acetic acid monohydrate → trans-1,2-Diaminocyclohexane-N,N,N',N'-tetracetic acid monohydrate page 694

## 802460 Cycloheptanol for synthesis

C<sub>7</sub>H<sub>14</sub>O

- CAS-No. 502-41-0 ■ EC-No. 207-936-0
- Refractive index 1.476 (20 °C, 589 nm)

- Spec. density 0.96 g/cm<sup>3</sup> (20 °C)
- Flash point 64 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 114.18 g/mol
- Boiling point 185 °C (1013 hPa)
- WGK 1
- LGK 10
- HS-No. 2906 19 00 ■ Disposal 3

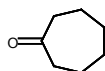
**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,958 - 0,960  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02460.0025	Glass bottle	25 ml	inquire

# Cycloh

## 802462 Cycloheptanone for synthesis



C<sub>7</sub>H<sub>12</sub>O  
**Suberone**  
 ■ CAS-No. 502-42-1 ■ EC-No. 207-937-6  
 ■ Refractive index 1.4611 (20 °C, 589 nm)  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 55 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 112.17 g/mol  
 ■ Melting point -21 °C

■ Boiling point 178 - 180 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210  
 ■ LD50 oral rat 500 - 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2914 29 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(CYCLOHEPTANON), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(CYCLOHEPTANONE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

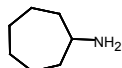
N.O.S.(CYCLOHEPTANONE), 3, III

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,951 - 0,952  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02462.0050	Glass bottle	50 ml	inquire

## 841320 Cycloheptylamine for synthesis



C<sub>7</sub>H<sub>15</sub>N  
**Aminocycloheptane**  
 ■ CAS-No. 5452-35-7 ■ EC-No. 226-693-1  
 ■ Spec. density 0.888 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 42 °C ■ M = 113.2 g/mol  
 ■ Boiling point 53 - 55 °C (14.7 hPa)  
 ■ WGK 3

■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2921 30 99 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(CYCLOHEPTYLAMIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(CYCLOHEPTYLAMINE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CYCLOHEPTYLAMINE), 3, III

### Specification

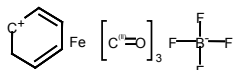
Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.885 - 0.890  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41320.0010	Glass bottle	10 ml	inquire

Cycloheptyl bromide → Bromocycloheptane page 497

Cyclohexaamylose → α-Cyclodextrine page 667

## 824504 Cyclohexadienylmiron(O)-tricarbonyl tetrafluoroborate for synthesis



C<sub>9</sub>H<sub>7</sub>BF<sub>4</sub>FeO<sub>3</sub>  
 ■ CAS-No. 33678-01-2  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 305.8 g/mol  
 ■ Melting point >300 °C  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2931 90 90 ■ Disposal 14  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(CYCLOHEXADIENYLIUMEISEN TRICARBONYL TETRAFLUOROBORAT), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CYCLOHEXADIENYLIUMFERRIC TRICARBONYLTETRAFLUOROBORATE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(CYCLOHEXADIENYLIUMFERRIC TRICARBONYLTETRAFLUOROBORATE), 8, II

### Specification

Assay (ex Fe)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.24504.0250	Glass bottle	250 mg	inquire

Cyclohexanamine → Cyclohexylamine page 674

## Cyclohexane



C<sub>6</sub>H<sub>12</sub>  
**Hexahydrobenzene, Hexamethylene, Naphthene**  
 ■ CAS-No. 110-82-7 ■ EC-No. 203-806-2  
 ■ Refractive index 1.4264 (20 °C) ■ Vapour pressure 103 hPa (20 °C) ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2 (20 °C)  
 ■ Explosive limit 1.2 - 8.3 % (V) ■ Flash point -

18 °C ■ Kin. viscosity 1.26 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 55 mg/l (20 °C) ■ M = 84.16 g/mol  
 ■ pH value (H<sub>2</sub>O) not applicable  
 ■ Melting point 6 °C ■ Boiling point 81 °C (1013 hPa) ■ Evaporation number 3.5  
 ■ Ignition temp. 260 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336;

Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P233, P240, P273, P301 + P310, P302 + P352, P331  
 ■ LC50 rat 14 mg/l  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 601-017-00-1 ■ LGK 3  
 ■ HS-No. 2902 11 00 ■ Disposal 1  
 ■ ADR-RID UN 1145 Cyclohexan, 3, II ■ IMDG-Code UN 1145 CYCLOHEXANE, 3, II  
 ■ IATA-DGR UN 1145 CYCLOHEXANE, 3, II

## 102832 Cyclohexane EEMPLURA®

### Specification

Purity (GC)..... ≥ 99,0 %  
 Identity (IR)..... conforms  
 Free acid (as CH<sub>3</sub>COOH)..... ≤ 0.001 %  
 Density (d 20 °C/ 4 °C)..... 0.778 - 0.779  
 Readily carbonizable substances..... conforms

Water..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.02832.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02832.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.02832.6025	Drum stainl. st.	25 l	inquire
1.02832.9190	Steel barrel	190 l	inquire

**109666 Cyclohexane for analysis EMSURE® ACS,ISO,Reag. Ph Eur**

<b>Specification</b>		
Purity (GC).....	≥ 99.5 %	Ba (Barium)..... ≤ 0.00001 %
Identity (IR).....	conforms	Ca (Calcium)..... ≤ 0.00005 %
Appearance.....	clear	Cd (Cadmium)..... ≤ 0.000005 %
Colour.....	≤ 10 Hazen	Co (Cobalt)..... ≤ 0.000002 %
Melting point.....	≥ 6.0 °C	Cr (Chromium)..... ≤ 0.000002 %
Density (d 20 °C/20 °C).....	0.779 - 0.781	Cu (Copper)..... ≤ 0.000002 %
Boiling point.....	80 - 81 °C	Fe (Iron)..... ≤ 0.00001 %
Acidity.....	≤ 0.0003 meq/g	Mg (Magnesium)..... ≤ 0.00001 %
Aromatics (as benzene).....	≤ 0.05 %	Mn (Manganese)..... ≤ 0.000002 %
Cyclohexene (GC).....	≤ 0.05 %	Ni (Nickel)..... ≤ 0.000002 %
Ethanol (GC).....	≤ 0.01 %	Pb (Lead)..... ≤ 0.00001 %
Readily carbonizable substances.....	conforms	Sn (Tin)..... ≤ 0.00001 %
Al (Aluminium).....	≤ 0.00005 %	Zn (Zinc)..... ≤ 0.00001 %
B (Boron).....	≤ 0.000002 %	Evaporation residue..... ≤ 0.001 %

Water..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.09666.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09666.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09666.2511	Plastic bottle	2.5 l	inquire
1.09666.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.09666.6010	Drum stainl. st.	10 l	inquire
1.09666.6025	Drum stainl. st.	25 l	inquire
1.09666.9190	Steel barrel	190 l	inquire

**102817 Cyclohexane for gas chromatography ECD and FID SupraSolv®**

<b>Specification</b>		GC/FID (retention range n-undecane to n-tetracontane, individual signals (n-tetradecane standard)).....
Purity (GC).....	≥ 99.8 %	..... ≤ 3 ng/ml
Identity (IR).....	conforms	suitable for residue analysis
Evaporation residue.....	≤ 3.0 mg/l	
Water.....	≤ 0.01 %	
Colour.....	≤ 10 Hazen	
GC/ECD (retention range 1,2,4-trichlorobenzene to decachlorobiphenyle, individual signals (lindane standard)).....	≤ 3 pg/ml	

Ord.No.	Packaging	Quantity	Price
1.02817.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02817.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.02817.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.02817.9010	Barrel stainl. st.	10 l	inquire

**100667 Cyclohexane for gas chromatography MS SupraSolv®**

<b>Specification</b>		GC/MSD (retention range n-undecane - n-tetracontane; scanning area 30 -600 amu individual signals (n-tetradecane standard)).....
Purity (GC).....	≥ 99.8 %	..... ≤ 3 ng/ml
Identity (IR).....	conforms	Suitable for residue analysis.
Evaporation residue.....	≤ 3.0 mg/l	
Water.....	≤ 0.01 %	
Colour.....	≤ 10 Hazen	

Ord.No.	Packaging	Quantity	Price
1.00667.1000	Glass bottle	1 l	inquire
1.00667.2500	Glass bottle	2.5 l	inquire

**102822 Cyclohexane for spectroscopy Uvasol®**

<b>Specification</b>		Transmission (at 220 nm)..... ≥ 55 %
Purity (GC).....	≥ 99.9 %	Transmission (at 230 nm)..... ≥ 80 %
Evaporation residue.....	≤ 0.0002 %	Transmission (at 240 nm)..... ≥ 90 %
Water.....	≤ 0.005 %	Transmission (from 250 nm)..... ≥ 98 %
Colour.....	≤ 10 Hazen	Absorbance (at 208 nm)..... ≤ 0.70
Acidity.....	≤ 0.0002 meq/g	Absorbance (at 220 nm)..... ≤ 0.26
Alkalinity.....	≤ 0.0002 meq/g	Absorbance (at 230 nm)..... ≤ 0.10
Fluorescence (as quinine at 254 nm).....	≤ 1.0 ppb	Absorbance (at 240 nm)..... ≤ 0.05
Fluorescence (as quinine at 365 nm).....	≤ 1.0 ppb	Absorbance (from 250 nm)..... ≤ 0.01
Transmission (at 208 nm).....	≥ 20 %	

Meet the requirements of "Specific use spectroscopy" according ACS and Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.02822.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.02822.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**102827 Cyclohexane for liquid chromatography LiChrosolv®**

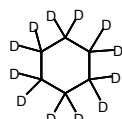
<b>Specification</b>		Transmission (at 230 nm)..... ≥ 75 %
Purity (GC).....	≥ 99.9 %	Transmission (at 240 nm)..... ≥ 90 %
Identity (IR).....	conforms	Transmission (from 260 nm)..... ≥ 99 %
Evaporation residue.....	≤ 2.0 mg/l	Filtered by 0.2 µm filter
Water.....	≤ 0.01 %	
Acidity.....	≤ 0.0002 meq/g	
Alkalinity.....	≤ 0.0002 meq/g	

Ord.No.	Packaging	Quantity	Price
1.02827.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02827.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**102830 Cyclohexane for denaturation**

<b>Specification</b>		Cyclohexane has been tested as denaturant by authorities.
Purity (GC).....	≥ 99.0 %	
Identity (IR).....	passes test	
Density (d 20 °C/ 4 °C).....	0.778 - 0.779	

Ord.No.	Packaging	Quantity	Price
1.02830.9190	Steel barrel	190 l	inquire

**815024 Cyclohexane-D12 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™**C<sub>6</sub>D<sub>12</sub>

- CAS-No. 1735-17-7 ■ EC-No. 217-077-3
- Vapour pressure 103 hPa (20 °C)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 8.3 % (V) ■ Flash point -18 °C DIN 51755 Part 1 ■ Kin. viscosity 1.26 mm<sup>2</sup>/s (20 °C)
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 96.23 g/mol ■ pH value (H<sub>2</sub>O) not applicable
- Melting point 6 °C ■ Boiling point 82 °C

- Ignition temp. 260 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410; Aspiration hazard, Category 1, H304, P210, P223, P262, P301 + P310, P302 + P352, P331
- LC50 rat 14 mg/l
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 3
- HS-No. 2845 90 10 ■ Disposal 3

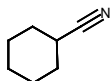
- ADR-RID UN 1145 Cyclohexan, 3, II ■ IMDG-Code UN 1145 CYCLOHEXANE, 3, II
- IATA-DGR UN 1145 CYCLOHEXANE, 3, II

**Specification**  
Deuteration degree..... ≥ 99.5 %  
Water  
- (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O)..... ≤ 0.05 %  
- (NMR, H<sub>2</sub>O)..... ≤ 0.03 %

Ord.No.	Packaging	Quantity	Price
8.15024.0005	Glass ampoule	10 x 0.5ml	inquire
8.15024.0006	Glass ampoule	5 ml	inquire
8.15024.0009	Glass ampoule	10x0.75 ml	inquire



## 802823 Cyclohexanecarbonitrile for synthesis



C<sub>7</sub>H<sub>11</sub>N  
C<sub>6</sub>H<sub>11</sub>CN  
*Hexahydrobenzotrile, Cyclohexyl cyanide*  
■ CAS-No. 766-05-2 ■ EC-No. 212-157-4  
■ Refractive index 1.4534 (15 °C, 589 nm)  
■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C)

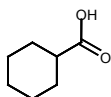
■ Flash point 65 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 109.17 g/mol  
■ Melting point 12 °C ■ Boiling point 188 °C  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
■ LD50 oral rat 80 mg/kg  
■ LGK 6.1A  
■ HS-No. 2926 90 95 ■ Disposal 9  
■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(CYCLOHEXANECARBONITRIL), 6.1, II ■ IMDG-

Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(CYCLOHEXANECARBONITRILE), 6.1, II  
■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(CYCLOHEXANECARBONITRILE), 6.1, II

**Specification**  
Assay (GC, area%) ..... ≥ 94,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,913 - 0,915  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02823.0025	Glass bottle	25 ml	inquire

## 802289 Cyclohexanecarboxylic acid for synthesis



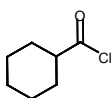
C<sub>7</sub>H<sub>12</sub>O<sub>2</sub>  
C<sub>6</sub>H<sub>11</sub>COOH  
*Hexahydrobenzoic acid*  
■ CAS-No. 98-89-5 ■ EC-No. 202-711-3  
■ Spec. density 1.03 g/cm<sup>3</sup> ■ Flash point 118 °C

■ Solub. in H<sub>2</sub>O 2 g/l (15 °C) ■ M = 128.17 g/mol  
■ Melting point 28 - 31 °C  
■ Boiling point 231 - 233 °C  
■ WGK 2  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LD50 oral rat 3265 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2916 20 00 ■ Disposal 3

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 28 °C  
Melting range (upper value) ..... ≤ 31 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02289.0100	Plastic bottle	100 g	inquire
8.02289.0500	Plastic bottle	500 g	inquire

## 818256 Cyclohexanecarboxylic acid chloride for synthesis



C<sub>7</sub>H<sub>11</sub>ClO  
C<sub>6</sub>H<sub>11</sub>COCl  
■ CAS-No. 2719-27-9 ■ EC-No. 220-322-7  
■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C)  
■ Flash point 66 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 146.62 g/mol  
■ Boiling point 180 - 181 °C (1013 hPa)  
■ WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 965 mg/kg  
■ LGK 8A  
■ HS-No. 2916 20 00  
■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(CYCLOHEXANECARBONSAEURECHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(CYCLOHEXANE

CARBOXYLIC ACID CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(CYCLOHEXANE CARBOXYLIC ACID CHLORIDE), 8, II

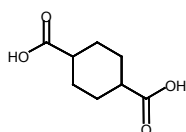
**Specification**  
Assay (morpholine method) ..... ≥ 97,0 %  
Density (d 20 °C/ 4 °C) ..... 1.081 - 1.087  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18256.0100	Glass bottle	100 ml	inquire
8.18256.0500	Glass bottle	500 ml	inquire

1,2-Cyclohexanediamine → 1,2-Diaminocyclohexane page 694

1,2-Cyclohexanediamine-N,N,N'-tetraacetic acid → Titriplex® IV page 172

## 842126 Cyclohexane-1,4-dicarboxylic acid (mixture of isomers) for synthesis



C<sub>8</sub>H<sub>12</sub>O<sub>4</sub>  
■ CAS-No. 1076-97-7 ■ EC-No. 214-068-6

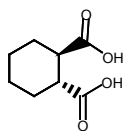
■ M = 172.18 g/mol ■ Melting point 165 - 168 °C  
■ WGK 2  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2917 20 00 ■ Disposal 3

Melting range (lower value) ..... ≥ 165 °C  
Melting range (upper value) ..... ≤ 168 °C  
Identity (IR) ..... passes test

**Specification**  
Assay (GC, area%) ..... ≥ 99,0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.42126.0025	Glass bottle	25 g	inquire
8.42126.0100	Glass bottle	100 g	inquire

## 824449 (1R,2R)-(-)-1,2-Cyclohexanedicarboxylic acid for synthesis



C<sub>8</sub>H<sub>12</sub>O<sub>4</sub>  
*(1R,2R)-(-)-Hexahydrophthalic acid*

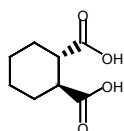
■ CAS-No. 46022-05-3  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 172.18 g/mol ■ Melting point 177 - 180 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2917 20 00 ■ Disposal 3

Melting range (upper value) ..... ≤ 180 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in Aceton) ..... -20,0 - -19,0 °  
Identity (IR) ..... passes test

**Specification**  
Assay (acidimetric) ..... ≥ 99,0 %  
Melting range (lower value) ..... ≥ 177 °C

Ord.No.	Packaging	Quantity	Price
8.24449.0250	Glass bottle	250 mg	inquire

## 824450 (1S,2S)-(+)-1,2-Cyclohexanedicarboxylic acid for synthesis



C<sub>8</sub>H<sub>12</sub>O<sub>4</sub>

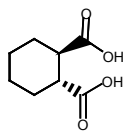
■ CAS-No. 21963-41-7  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 172.18 g/mol ■ Melting point 177 - 180 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2917 20 00 ■ Disposal 3

Melting range (lower value) ..... ≥ 177 °C  
Melting range (upper value) ..... ≤ 180 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in Aceton) ..... 19,0 - 20,0 °  
Identity (IR) ..... passes test

**Specification**  
Assay (acidimetric) ..... ≥ 99,0 %

Ord.No.	Packaging	Quantity	Price
8.24450.0250	Glass bottle	250 mg	inquire



841088 **trans-Cyclohexane-1,2-dicarboxylic acid** for synthesisC<sub>8</sub>H<sub>12</sub>O<sub>4</sub>*trans-Hexahydrophthalic acid*

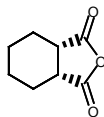
- CAS-No. 2305-32-0 ■ EC-No. 218-975-8
- M = 172.18 g/mol ■ Melting point 220 - 221 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2917 20 00 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 97.0 %

Melting range (lower value)..... ≥ 224 °C  
 Melting range (upper value)..... ≤ 227 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41088.0005	Glass bottle	5 g	inquire

820365 **Cyclohexane-1,2-dicarboxylic anhydride (mixture of isomers)** for synthesisC<sub>8</sub>H<sub>10</sub>O<sub>3</sub>*Hexahydrophthalic acid anhydride*

- CAS-No. 13149-00-3 ■ EC-No. 236-086-3
- Vapour pressure 0.01 hPa (20 °C)
- Spec. density 1.23 g/cm<sup>3</sup> (20 °C)

- Flash point 152 °C ■ Solub. in H<sub>2</sub>O 7 g/l (20 °C) (slow decomposition) ■ M = 154.16 g/mol
- Melting point 30 - 33 °C ■ Boiling point 296 °C (1013 hPa) ■ Ignition temp. 395 °C DIN 51794
- WGK 1

- GHS: Danger, Serious eye damage, Category 1, H318; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P341, P305 + P351 + P338
- LD50 oral rat 4040 mg/kg
- EC-Index-No. 607-102-00-X ■ LGK 10 - 13

- HS-No. 2917 20 00 ■ Disposal 3

**Specification**

Assay (morpholine method)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 30 °C  
 Melting range (upper value)..... ≤ 33 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20365.0100	Plastic bottle	100 g	inquire
8.20365.1000	Plastic bottle	1 kg	inquire

1,4-Cyclohexanedimethanol → 1,4-Bis(hydroxymethyl)-cyclohexane page 472

840140 **Cyclohexane-1,4-dimethanolmonovinylether (mixture of isomers, stabilised)** for synthesisC<sub>10</sub>H<sub>18</sub>O<sub>2</sub>*1,4-Bis-(hydroxymethyl)-cyclohexane-monovinylether*

- CAS-No. 114651-37-5
- Vapour pressure 0.001 hPa (20 °C)
- Spec. density 0.986 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 6.6 % (V) ■ Flash point 134 °C ■ Solub. in H<sub>2</sub>O 3.7 g/l (25 °C) ■ M = 170.25 g/mol
- Melting point 12.1 °C ■ Boiling point 262 °C

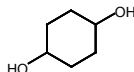
- Ignition temp. 240 °C
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 10
- HS-No. 2909 49 80 ■ Disposal 3

**Specification**

Assay isomers (GC, area%)..... ≥ 98 % (a/a)

Density (d 20 °C/ 4 °C)..... 0,980 - 0,990  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40140.0010	Glass bottle	10 ml	inquire
8.40140.0050	Glass bottle	50 ml	inquire

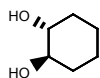
802664 **1,4-Cyclohexanediol (mixture of cis- and trans isomers)** for synthesisC<sub>6</sub>H<sub>12</sub>O<sub>2</sub>C<sub>6</sub>H<sub>10</sub>-1,4-(OH)<sub>2</sub>*Quinitol, Hexahydrohydroquinone*

- CAS-No. 556-48-9 ■ EC-No. 209-126-2
- Flash point 65 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 116.15 g/mol ■ Melting point 118 - 125 °C
- Boiling point 149 - 151 °C (27 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 3

**Specification**

Assay isomers (GC, area%)..... ≥ 98.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.02664.0100	Plastic bottle	100 g	inquire

820366 **trans-1,2-Cyclohexanediol** for synthesisC<sub>6</sub>H<sub>12</sub>O<sub>2</sub>C<sub>6</sub>H<sub>10</sub>-1,2-(OH)<sub>2</sub>

- CAS-No. 1460-57-7 ■ EC-No. 215-956-6
- Vapour pressure 4 hPa (110 °C)

- Flash point 134 °C ■ Solub. in H<sub>2</sub>O 375 g/l (20 °C) ■ M = 116.15 g/mol
- Melting point 100 - 103 °C
- Boiling point 231 - 233 °C
- Ignition temp. 360 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 100 °C  
 Melting range (upper value)..... ≤ 104 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20366.0025	Glass bottle	25 g	inquire

841824 **1,2-Cyclohexanedione** for synthesisC<sub>6</sub>H<sub>8</sub>O<sub>2</sub>

■ CAS-No. 765-87-7 ■ EC-No. 212-155-3

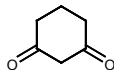
- Spec. density 1 g/cm<sup>3</sup> ■ Flash point 84 °C
- M = 112.12 g/mol ■ Melting point 38.1 °C

- Boiling point 193 - 195 °C (1013 hPa)
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2914 29 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (GC, area%)..... ≥ 96.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41824.0001	Glass bottle	1 g	inquire

820367 **1,3-Cyclohexanedione** for synthesisC<sub>6</sub>H<sub>8</sub>O<sub>2</sub>C<sub>6</sub>H<sub>8</sub>-1,3-(=O)<sub>2</sub>*Dihydroresorcinol*

- CAS-No. 504-02-9 ■ EC-No. 207-980-0
- Flash point >100 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 112.12 g/mol

- Melting point 100 - 103 °C
- WGK 2
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2914 29 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

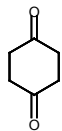
**Specification**

Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 102 °C  
 Melting range (upper value)..... ≤ 105 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20367.0025	Glass bottle	25 g	inquire
8.20367.0100	Glass bottle	100 g	inquire

# Cycloh

## 818566 1,4-Cyclohexanedione for synthesis



- CAS-No. 637-88-7 ■ EC-No. 211-306-0
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 112.12 g/mol
- Melting point 76 - 78 °C
- Boiling point 111 - 113 °C (26 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2914 29 00 ■ Disposal 3

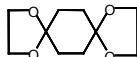
### Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 76 °C  
 Melting range (upper value)..... ≤ 78 °C  
 Identity (IR)..... passes test

C<sub>6</sub>H<sub>8</sub>O<sub>2</sub>

Ord.No.	Packaging	Quantity	Price
8.18566.0025	Plastic bottle	25 g	inquire

## 814958 1,4-Cyclohexanedione bisethylene ketal for synthesis



- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 78 °C

Melting range (upper value)..... ≤ 80 °C  
 Identity (IR)..... passes test

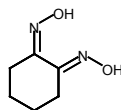
C<sub>10</sub>H<sub>16</sub>O<sub>4</sub>

1,4,9,12-Tetraoxadispiro[4.2.4.2]tetradecane

- CAS-No. 183-97-1
- M = 200.24 g/mol ■ Melting point 79 - 80 °C
- WGK 3

Ord.No.	Packaging	Quantity	Price
8.14958.0010	Glass bottle	10 g	inquire
8.14958.0050	Glass bottle	50 g	inquire

## 841825 1,2-Cyclohexanedione dioxime for synthesis



- CAS-No. 492-99-9 ■ EC-No. 207-769-3
- M = 142.15 g/mol ■ Melting point 183.8 °C
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2928 00 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

### Specification

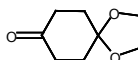
Assay (HPLC, area%)..... ≥ 97,0 % (a/a)  
 Identity (IR)..... passes test

C<sub>6</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>

Nioxime

Ord.No.	Packaging	Quantity	Price
8.41825.0005	Plastic bottle	5 g	inquire

## 818542 1,4-Cyclohexanedione monoethylene ketal for synthesis



- mol ■ Melting point 71 - 73 °C
- Bulk density 500 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)

Melting range (lower value)..... ≥ 71 °C  
 Melting range (upper value)..... ≤ 73 °C  
 Identity (IR)..... passes test

C<sub>8</sub>H<sub>12</sub>O<sub>3</sub>

■ CAS-No. 4746-97-8

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 156.18 g/

Cyclohexanehexol → page 111

Ord.No.	Packaging	Quantity	Price
8.18542.0010	Glass bottle	10 g	inquire

## 802884 Cyclohexanethiol for synthesis



- H<sub>2</sub>O (20 °C) insoluble ■ M = 116.23 g/mol
- Boiling point 158 - 160 °C (1013 hPa)
- Ignition temp. 510 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 2, H411; Skin irritation, Category 2, H315, P210, P262, P302 + P352
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 3054 Cyclohexylmercaptan, 3, III
- IMDG-Code UN 3054 CYCLOHEXYL MERCAPTAN,

3, III  
 ■ IATA-DGR UN 3054 CYCLOHEXYL MERCAPTAN, 3, III

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,946 - 0,948  
 Identity (IR)..... conforms

C<sub>6</sub>H<sub>12</sub>S

C<sub>6</sub>H<sub>11</sub>SH

Cyclohexyl mercaptan

- CAS-No. 1569-69-3 ■ EC-No. 216-378-7
- Refractive index 1.4921 (20 °C, 589 nm)
- Vapour pressure 5 hPa (20 °C)
- Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 % (V) ■ Flash point 39 °C ■ Solub. in

Ord.No.	Packaging	Quantity	Price
8.02884.0100	Glass bottle	100 ml	inquire
8.02884.0500	Glass bottle	500 ml	inquire

## Cyclohexanol



- Spec. density 0.941 g/cm<sup>3</sup> (30 °C) ■ Dielectricity constant 15 (25 °C) ■ Explosive limit 2 - 11.2 % (V)
- Flash point 68 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 40 g/l (20 °C) ■ M = 100.16 g/mol
- pH value 6.5 (40 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. 5 g/m<sup>3</sup> (20 °C) Air
- Melting point 25 °C ■ Boiling point 161 °C (1013 hPa) ■ Ignition temp. 290 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4,

Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P302 + P352, P304 + P340

- LC50 rat > 3.6 mg/l
- LD50 oral rat 1400 mg/kg
- EC-Index-No. 603-009-00-3 ■ LGK 10
- HS-No. 2906 12 00 ■ Disposal 3

C<sub>6</sub>H<sub>12</sub>O

C<sub>6</sub>H<sub>11</sub>OH

Hexahydrophenol

- CAS-No. 108-93-0 ■ EC-No. 203-630-6
- Refractive index 1.4656 (20 °C, 589 nm)
- Vapour pressure 1.3 hPa (20 °C)

## 822328 Cyclohexanol for synthesis

### Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 18 °C  
 Melting range (upper value)..... ≤ 21 °C  
 Water (K. F.)..... ≤ 0,20 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22328.0100	Glass bottle	100 ml	inquire
8.22328.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.22328.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.22328.9025	Plastic container	25 l	inquire

## 109667 Cyclohexanol reference substance for gas chromatography

## Specification

Assay (GC) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09667.0005	Glass bottle	5 ml	inquire

## 102888 Cyclohexanone EEMPLURA®

C<sub>6</sub>H<sub>10</sub>O

Pimelic ketone

■ CAS-No. 108-94-1 ■ EC-No. 203-631-1  
 ■ Refractive index 1.4507 (20 °C) ■ Vapour pressure 4.5 hPa (20 °C) ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 18.3 (25 °C)  
 ■ El. dipole moment 2.9 (20 °C) ■ Explosive limit 1.3 - 9.4 % (V) ■ Flash point 43 °C ■ Solub. in H<sub>2</sub>O 80 g/l (20 °C) ■ M = 98.14 g/mol  
 ■ pH value 7 (70 g/l, H<sub>2</sub>O, 20 °C)

■ Saturation conc. 19 g/m<sup>3</sup> ■ Melting point -31 °C  
 ■ Boiling point 155 °C (1013 hPa)  
 ■ Ignition temp. 430 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332  
 ■ LC50 rat 32.65 mg/l  
 ■ LD50 oral rat 1540 mg/kg ■ LD50 dermal rabbit 948 mg/kg  
 ■ EC-Index-No. 606-010-00-7 ■ LGK 3  
 ■ HS-No. 2914 22 00 ■ Disposal 3  
 ■ ADR-RID UN 1915 Cyclohexanon, 3, III ■ IMDG-Code UN 1915 CYCLOHEXANONE, 3, III  
 ■ IATA-DGR UN 1915 CYCLOHEXANONE, 3, III

## Specification

Purity (GC) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms  
 Density (d 20 °C/ 4 °C) ..... 0.946 - 0.948  
 Water ..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.02888.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02888.2500	C	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.02888.6010	Drum stainl. st.	10 l	inquire
1.02888.6025	Drum stainl. st.	25 l	inquire
1.02888.9191	Steel barrel	190 l	inquire

## 107061 Cyclohexanone for analysis EMPARTA® ACS

C<sub>6</sub>H<sub>10</sub>O

Pimelic ketone

■ CAS-No. 108-94-1 ■ EC-No. 203-631-1  
 ■ Refractive index 1.4507 (20 °C) ■ Vapour pressure 4.5 hPa (20 °C) ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 18.3 (25 °C)  
 ■ El. dipole moment 2.9 (20 °C) ■ Explosive limit 1.3 - 9.4 % (V) ■ Flash point 43 °C ■ Solub. in H<sub>2</sub>O 80 g/l (20 °C) ■ M = 98.14 g/mol  
 ■ pH value 7 (70 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -

31 °C ■ Boiling point 155 °C (1013 hPa)  
 ■ Ignition temp. 430 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332  
 ■ LC50 rat 32.65 mg/l  
 ■ LD50 oral rat 1540 mg/kg ■ LD50 dermal rabbit 948 mg/kg  
 ■ EC-Index-No. 606-010-00-7 ■ LGK 3

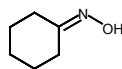
■ Disposal 3  
 ■ ADR-RID UN 1915 Cyclohexanon, 3, III ■ IMDG-Code UN 1915 CYCLOHEXANONE, 3, III  
 ■ IATA-DGR UN 1915 CYCLOHEXANONE, 3, III

Ord.No.	Packaging	Quantity	Price
1.07061.4000	Glass bottle	4 l	inquire

Cyclohexanone-2-carboxylic acid ethyl ester →  
 Ethyl 2-oxocyclohexanecarboxylate page 879

Cyclohexanone-4-carboxylic acid ethyl ester →  
 Ethyl-4-oxocyclohexanecarboxylate page 879

## 822005 Cyclohexanone oxime for synthesis

C<sub>6</sub>H<sub>11</sub>NOC<sub>6</sub>H<sub>10</sub>(=NOH)

(Hydroxyimino) cyclohexane

■ CAS-No. 100-64-1 ■ EC-No. 202-874-0  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Flash point 110 °C DIN 51758 ■ Solub. in

H<sub>2</sub>O 17.7 g/l (25 °C) ■ M = 113.15 g/mol  
 ■ Melting point 88 - 90 °C ■ Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 204 - 206 °C (1013 hPa)  
 ■ Ignition temp. 315 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
 ■ LD50 oral rat 880 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2928 00 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 87 °C  
 Melting range (upper value) ..... ≤ 90 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22005.0100	Plastic bottle	100 g	inquire
8.22005.0500	Plastic bottle	500 g	inquire

## 802824 Cyclohexene (stabilized) for synthesis

C<sub>6</sub>H<sub>10</sub>

1,2,3,4-Tetrahydrobenzene

■ CAS-No. 110-83-8 ■ EC-No. 203-807-8  
 ■ Vapour pressure 90 hPa (20 °C)  
 ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 7.7 % (V) ■ Flash point -15.6 °C DIN 51755 Part 1 ■ Kin. viscosity 0.82 mm<sup>2</sup>/s (calculated) ■ Solub. in H<sub>2</sub>O 0.21 g/l (20 °C)  
 ■ M = 82.14 g/mol ■ pH value 7 - 8 (0.2 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -104 °C

■ Boiling point 83 °C (1013 hPa)  
 ■ Ignition temp. 310 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P262, P273  
 ■ LC50 rat > 21.6 mg/l  
 ■ LD50 oral rat 1300 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2902 19 00  
 ■ ADR-RID UN 2256 Cyclohexen, 3, II ■ IMDG-Code UN 2256 CYCLOHEXENE, 3, II

■ IATA-DGR UN 2256 CYCLOHEXENE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.810 - 0.811  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02824.0100	Glass bottle	100 ml	inquire
8.02824.0500	Glass bottle	500 ml	inquire
8.02824.1000	Glass bottle	1 l	inquire
8.02824.2500	Glass bottle	2.5 l	inquire

4-Cyclohexene-1,2-dicarboximide → 1,2,3,6-Tetrahydrophthalimide page 1536

cis-4-Cyclohexene-1,2-dicarboxylic acid imide → 1,2,3,6-Tetrahydrophthalimide page 1536

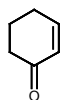
Cyclohexene oxide → Epoxycyclohexane page 836

4-Cyclohexene-1,2-dicarboxylic acid imide → 1,2,3,6-Tetrahydrophthalimide page 1536

4-Cyclohexene-1,2-dicarboxylic anhydride → 1,2,3,6-Tetrahydrophthalic anhydride page 1535

# Cycloh

## 820371 2-Cyclohexen-1-one for synthesis



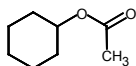
C<sub>6</sub>H<sub>8</sub>O  
 ■ CAS-No. 930-68-7 ■ EC-No. 213-223-5  
 ■ Refractive index 1.4885 (20 °C, 589 nm)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 56 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 96.13 g/mol ■ Melting point -53 °C  
 ■ Boiling point 168 °C  
 ■ WGK 3

■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301, P210, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LC50 rat 0.997 mg/l  
 ■ LD50 oral rat 220 mg/kg ■ LD50 dermal rabbit 70 mg/kg  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2914 29 00 ■ Disposal 9  
 ■ ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(2-CYCLOHEXEN-1-ON), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID,

FLAMMABLE, ORGANIC, N.O.S.(2-CYCLOHEXEN-1-ON), 6.1 (3), II  
 ■ IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(2-CYCLOHEXEN-1-ON), 6.1 (3), II  
**Specification**  
 Assay (GC, area%)..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C).....0.993 - 0.996  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20371.0010	Glass bottle	10 ml	inquire
8.20371.0100	Glass bottle	100 ml	inquire

## 822052 Cyclohexyl acetate for synthesis



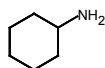
C<sub>8</sub>H<sub>14</sub>O<sub>2</sub>  
 CH<sub>3</sub>COOC<sub>6</sub>H<sub>11</sub>  
*Acetic acid cyclohexyl ester*  
 ■ CAS-No. 622-45-7 ■ EC-No. 210-736-6  
 ■ Refractive index 1.4432 (20 °C, 589 nm)  
 ■ Vapour pressure 20 hPa (20 °C)  
 ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 % (V) ■ Flash point 58 °C DIN 51758

■ Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 142.19 g/mol  
 ■ Melting point -77 °C  
 ■ Boiling point 174 - 177 °C  
 ■ Ignition temp. 330 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LD50 oral rat 6528 mg/kg ■ LD50 dermal rabbit 9700 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2915 39 00 ■ Disposal 3  
 ■ ADR-RID UN 2243 Cyclohexylacetat, 3, III

■ IMDG-Code UN 2243 CYCLOHEXYL ACETATE, 3, III  
 ■ IATA-DGR UN 2243 CYCLOHEXYL ACETATE, 3, III  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C).....0,969 - 0,971  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22052.0100	Glass bottle	100 ml	inquire
8.22052.1000	Glass bottle	1 l	inquire

## 802885 Cyclohexylamine for synthesis



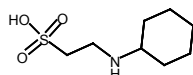
C<sub>6</sub>H<sub>13</sub>N  
 C<sub>6</sub>H<sub>11</sub>NH<sub>2</sub>  
*Aminocyclohexane, Cyclohexanamine*  
 ■ CAS-No. 108-91-8 ■ EC-No. 203-629-0  
 ■ Refractive index 1.458 (20 °C, 589 nm) ■ Vapour pressure 14 hPa (20 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 9.4 % (V)  
 ■ Flash point 27 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 99.17 g/mol ■ pH value 11.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -18 °C  
 ■ Boiling point 133 - 134 °C (1013 hPa)

■ Ignition temp. 265 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 300 mg/kg ■ LD50 dermal rabbit 280 mg/kg  
 ■ EC-Index-No. 612-050-00-6 ■ LGK 3  
 ■ HS-No. 2921 30 10 ■ Disposal 3  
 ■ ADR-RID UN 2357 Cyclohexylamine, 8 (3), II  
 ■ IMDG-Code UN 2357 CYCLOHEXYLAMINE,

8 (3), II  
 ■ IATA-DGR UN 2357 CYCLOHEXYLAMINE, 8 (3), II  
**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C).....0,866 - 0,868  
 Water (K. F.)..... ≤ 0,30 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02885.0100	Glass bottle	100 ml	inquire
8.02885.1000	Glass bottle	1 l	inquire
8.02885.2500	Glass bottle	2.5 l	inquire

## 115229 2-(Cyclohexylamino)ethanesulfonic acid buffer substance CHES



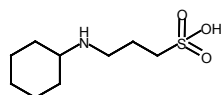
C<sub>8</sub>H<sub>17</sub>NO<sub>3</sub>S  
 CHES  
 ■ CAS-No. 103-47-9 ■ EC-No. 203-115-6  
 ■ M = 207.28 g/mol  
 ■ WGK 3  
 ■ HS-No. 2921 30 99 ■ Disposal 3

Properties: pK<sub>a</sub> (20 °C) = 9.55.  
**Specification**  
 Assay (alkalimetric, calculated on dried substance)..... ≥ 99 %  
 Identity (IR-spectrum)..... passes test  
 UV-Absorption (250 nm, 50 g/l, 1 cm, water)..... ≤ 0.05  
 Chloride (Cl)..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.025 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %

Na (Sodium)..... ≤ 0.005 %  
 Loss on drying (105 °C)..... ≤ 1.0 %  
 Biological buffer, pKa at 20 °C..... 9.55

Ord.No.	Packaging	Quantity	Price
1.15229.0025	Plastic bottle	25 g	inquire
1.15229.0250	Plastic bottle	250 g	inquire

## 843280 3-(Cyclohexylamino)-1-propanesulphonic acid for synthesis



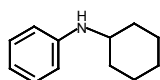
C<sub>9</sub>H<sub>19</sub>NO<sub>3</sub>S  
 ■ CAS-No. 1135-40-6 ■ EC-No. 214-492-1  
 ■ Solub. in H<sub>2</sub>O 110 g/l (20 °C) ■ M = 221.32 g/

mol ■ pH value 4 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 302 - 303 °C  
 ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 30 99 ■ Disposal 3  
**Specification**  
 Assay (acidimetric; calculated on dried substance).

..... ≥ 99,0 %  
 Loss on drying (105 °C)..... ≤ 1.0 %  
 Identity (NMR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43280.0025	Glass bottle	25 g	inquire
8.43280.0100	Glass bottle	100 g	inquire

## 814684 N-Cyclohexylaniline for synthesis



C<sub>12</sub>H<sub>17</sub>N  
 ■ CAS-No. 1821-36-9 ■ EC-No. 217-344-4

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 136 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 175.27 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 42 00 ■ Disposal 3  
**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C).....0,995 - 1,000  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14684.0006	Glass bottle	5 ml	inquire

Cyclohexyl bromide → Bromocyclohexane page 497

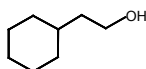
N-Cyclohexylcarbodiimide, N'-methyl polystyrene  
→ page 283

Cyclohexyl chloride → Chlorocyclohexane page 606

Cyclohexyl cyanide → Cyclohexanecarbonitrile page 670

N-Cyclohexyldimethylamine → N,N-Dimethylcyclohexylamine page 786

1,4-Cyclohexylenedimethanol → 1,4-Bis(hydroxymethyl)-cyclohexane page 472

1,2-Cyclohexylenedinitrotetraacetic acid →  
Tritriplex® IV page 172**818556 2-Cyclohexylethanol for synthesis**C<sub>8</sub>H<sub>16</sub>OC<sub>6</sub>H<sub>11</sub>CH<sub>2</sub>CH<sub>2</sub>OH

- CAS-No. 4442-79-9 ■ EC-No. 224-672-1
- Refractive index 1.4641 (20 °C, 589 nm)
- Vapour pressure 0.2 hPa (25 °C)
- Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive

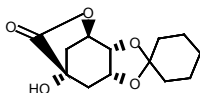
- limit 0.9 - 6.3 % (V) ■ Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 128.21 g/mol
- Melting point -20 °C
- Boiling point 206 - 207 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352
- LD50 oral rat 940 mg/kg ■ LD50 dermal rabbit 1220 mg/kg

- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 1

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.920 - 0.922  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18556.0100	Glass bottle	100 ml	inquire

**818241 (-)-4,5-O-Cyclohexylidenequinic acid lactone for synthesis**C<sub>13</sub>H<sub>18</sub>O<sub>5</sub>

■ CAS-No. 35949-53-2

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 254.28 g/mol

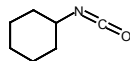
- mol ■ Melting point 138 - 141 °C
- Bulk density 210 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

**Specification**

Assay (DSC) ..... ≥ 99.0 %  
Melting range (lower value) ..... ≥ 139 °C

Melting range (upper value) ..... ≤ 142 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup> (c=5 in CH<sub>2</sub>Cl<sub>2</sub>) ..... -34.0 - -33.0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18241.0005	Glass bottle	5 g	inquire

**820372 Cyclohexyl isocyanate for synthesis**C<sub>7</sub>H<sub>11</sub>NOC<sub>6</sub>H<sub>11</sub>NCO*Isocyanic acid cyclohexyl ester*

- CAS-No. 3173-53-3 ■ EC-No. 221-639-3
- Refractive index 1.4551 (20 °C, 589 nm)
- Vapour pressure 2.2 hPa (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 53 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 125.17 g/mol
- Melting point -80 °C ■ Boiling point 171 °C (1013 hPa) ■ Ignition temp. 390 °C

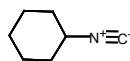
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P210, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3 ■ Store below +15 °C
- HS-No. 2929 10 00 ■ Disposal 11
- ADR-RID UN 2488 Cyclohexylisocyanat, 6.1 (3), I

- IMDG-Code UN 2488 CYCLOHEXYL ISOCYANATE, 6.1 (3), I
- IATA-DGR UN 2488 CYCLOHEXYL ISOCYANATE, 6.1 (3), I

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.983 - 0.985  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20372.0250	Glass bottle	250 ml	inquire
8.20372.1000	Glass bottle	1 l	inquire

**818151 Cyclohexyl isocyanide for synthesis**C<sub>7</sub>H<sub>11</sub>N*Cyclohexyl isonitrile*

- CAS-No. 931-53-3 ■ EC-No. 213-238-7
- Refractive index 1.4502 (20 °C, 589 nm)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C)
- Flash point 77 °C ■ M = 109.17 g/mol

- Boiling point 173 - 176 °C (1013 hPa)
- WGK 3
- LGK 6.1A ■ Store at +2 °C to +8 °C.
- HS-No. 2929 90 00 ■ Disposal 6
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(CYCLOHEXYLISOCYANID), 6.1, II
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(CYCLOHEXYL ISOCYANIDE), 6.1, II
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(CYCLOHEXYL ISOCYANIDE), 6.1, II

**Specification**

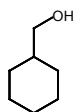
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.892 - 0.894  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18151.0010	Glass bottle	10 ml	inquire

Cyclohexyl isonitrile → Cyclohexyl isocyanide page 675

Cyclohexyl mercaptan → Cyclohexanethiol page 672

Cyclohexylmethane → Methylcyclohexane page 306

**841620 Cyclohexylmethanol for synthesis**C<sub>7</sub>H<sub>14</sub>O

■ CAS-No. 100-49-2 ■ EC-No. 202-857-8

- Spec. density 0.93 g/cm<sup>3</sup> (20 °C)
- Flash point 71 °C ■ M = 114.18 g/mol
- Boiling point 180 - 181 °C
- WGK 1
- LGK 10
- HS-No. 2906 19 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99.0 Area %

Density (d 20 °C/ 4 °C) ..... 0.927 - 0.934  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41620.0050	Glass bottle	50 ml	inquire
8.41620.0250	Glass bottle	250 ml	inquire

N-Cyclohexylmethylamine → N-Methylcyclohexylamine page 1145

Cyclomaltohexaose → α-Cyclodextrine page 667



## 818768 1,3-Cyclooctadiene for synthesis



$C_8H_{12}$   
 ■ CAS-No. 1700-10-3 ■ EC-No. 216-929-1  
 ■ Refractive index 1.4908 (25 °C, 589 nm)  
 ■ Vapour pressure 22 hPa (40 °C)  
 ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 25 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 108.18 g/mol

- Melting point -53 °C
- Boiling point 142 - 144 °C (1013 hPa)
- Ignition temp. 400 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304, P210, P301 + P310, P331
- LGK 3
- HS-No. 2902 19 00 ■ Disposal 3
- ADR-RID UN 2520 Cyclooctadiene, 3, III
- IMDG-Code UN 2520 CYCLOOCTADIENES, 3, III

■ IATA-DGR UN 2520 CYCLOOCTADIENES, 3, III

**Specification**

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C).....0,870 - 0,872  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18768.0005	Glass bottle	5 ml	inquire
8.18768.0025	Glass bottle	25 ml	inquire

## 822008 Cyclooctane for synthesis



$C_8H_{16}$   
 ■ CAS-No. 292-64-8 ■ EC-No. 206-031-8  
 ■ Refractive index 1.4584 (20 °C, 589 nm)  
 ■ Vapour pressure 5.5 hPa (20 °C)  
 ■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.95 % (V) ■ Flash point 28 °C  
 ■ Kin. viscosity 2.39 mm<sup>2</sup>/s (calculated) ■ Solub. in H<sub>2</sub>O 0.0079 g/l (25 °C) ■ M = 112.21 g/mol

- Melting point 12 - 14 °C
- Boiling point 150 - 152 °C (1013 hPa)
- Ignition temp. 290 °C DIN 51794
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304, P210, P301 + P310, P331
- LGK 3
- HS-No. 2902 19 00 ■ Disposal 1
- ADR-RID UN 3295 Kohlenwasserstoffe, flüssig, n.a.g., 3, III ■ IMDG-Code UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, III

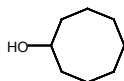
■ IATA-DGR UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, III

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C).....0,835 - 0,836  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.22008.0100	Glass bottle	100 ml	inquire

## 802661 Cyclooctanol for synthesis



$C_8H_{16}O$   
 ■ CAS-No. 696-71-9 ■ EC-No. 211-800-6  
 ■ Refractive index 1.485 (20 °C, 589 nm) ■ Vapour pressure 0.1 hPa ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O 5.4 g/l

- (20 °C) ■ M = 128.21 g/mol ■ Melting point 15 °C
- Boiling point 209 °C (1013 hPa)
  - Ignition temp. 300 °C
  - WGK 1
  - GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
  - LD50 oral rat 735 mg/kg
  - LGK 10 - 13

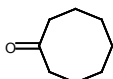
■ HS-No. 2906 19 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C).....0,964 - 0,966  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.02661.0025	Glass bottle	25 ml	inquire

## 802662 Cyclooctanone for synthesis



$C_8H_{14}O$   
 ■ CAS-No. 502-49-8 ■ EC-No. 207-940-2  
 ■ Refractive index 1.4765 (20 °C, 589 nm)  
 ■ Vapour pressure 0.3 hPa (20 °C)  
 ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 74 °C ■ Solub. in H<sub>2</sub>O 15 g/l (20 °C)  
 ■ M = 126.19 g/mol ■ pH value 7 (15 g/l, H<sub>2</sub>O)

- (20 °C) ■ Melting point 39 - 41 °C
- Boiling point 197 - 198 °C (1013 hPa)
  - Ignition temp. 320 °C
  - WGK 1
  - GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
  - LGK 8A
  - HS-No. 2914 29 00 ■ Disposal 3
  - ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(CYCLOOCTANON), 8, III ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(CYCLOOCTANONE)

, 8, III  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(CYCLOOCTANONE), 8, III

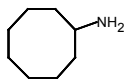
**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 37 °C  
 Melting range (upper value)..... ≤ 40 °C  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.02662.0050	Glass bottle	50 g	inquire

Cyclooctene oxide → Epoxycyclooctane page 836

## 818305 Cyclooctylamine for synthesis



$C_8H_{17}N$   
*Aminocyclooctane*  
 ■ CAS-No. 5452-37-9 ■ EC-No. 226-694-7  
 ■ Refractive index 1.4804 (20 °C, 589 nm)  
 ■ Vapour pressure 0.36 hPa (20 °C)  
 ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 71 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 10.2 g/l (20 °C) ■ M = 127.22 g/mol  
 ■ pH value 11.5 (4 g/l, H<sub>2</sub>O, 20 °C)

- Melting point -48 °C
- Boiling point 189 - 191 °C (1013 hPa)
- Ignition temp. 250 °C DIN 51794
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2921 30 99 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(CYCLOOCTYLAMIN), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(CYCLOOCTYLAMINE), 8, II, Segregation

Group: 18 (Alkalis)

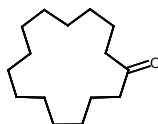
■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(CYCLOOCTYLAMINE), 8, II

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C).....0.902 - 0.905  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18305.0025	Glass bottle	25 ml	inquire

## 841245 Cyclopentadecanone for synthesis



$C_{15}H_{28}O$

- Exaltone*
- CAS-No. 502-72-7 ■ EC-No. 207-951-2
  - M = 224.38 g/mol ■ Melting point 64 - 66 °C
  - WGK 2
  - LGK 10 - 13
  - HS-No. 2914 29 00 ■ Disposal 3
- Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 63 °C  
 Melting range (upper value)..... ≤ 66 °C  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41245.0005	Plastic bottle	5 g	inquire



## Cyclopentane

C<sub>5</sub>H<sub>10</sub>

■ CAS-No. 287-92-3 ■ EC-No. 206-016-6  
 ■ Refractive index 1.4065 (20 °C) ■ Vapour pressure 346 hPa (20 °C) ■ Spec. density 0.75 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 1.9 (20 °C)

■ Explosive limit 1.5 – 8.7 % (V) ■ Flash point -42 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ M = 70.13 g/mol ■ Saturation conc. 1035 g/m<sup>3</sup> (20 °C) Air ■ Melting point -93.3 °C  
 ■ Boiling point 49 °C ■ Ignition temp. 380 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Chronic aquatic toxicity, Category 3, H412,

P210, P233, P240, P273  
 ■ LD50 oral rat 11400 mg/kg  
 ■ EC-Index-No. 601-030-00-2 ■ LGK 3  
 ■ HS-No. 2902 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1146 Cyclopentan, 3, II ■ IMDG-Code UN 1146 CYCLOPENTANE, 3, II  
 ■ IATA-DGR UN 1146 CYCLOPENTANE, 3, II



## 818769 Cyclopentane for synthesis

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,740 - 0,745  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18769.0250	Glass bottle	250 ml	inquire
8.18769.1000	Glass bottle	1 l	inquire

## 818770 Cyclopentane for synthesis

## Specification

Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.740 - 0.745  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18770.0100	Glass bottle	100 ml	inquire
8.18770.0500	Glass bottle	500 ml	inquire
8.18770.2500	Glass bottle	2.5 l	inquire

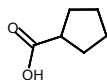
## 109662 Cyclopentane reference substance for gas chromatography

## Specification

Assay (GC) ..... ≥ 99.5 %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09662.0005	Glass bottle	5 ml	inquire

## 821743 Cyclopentanecarboxylic acid for synthesis

C<sub>6</sub>H<sub>10</sub>O<sub>2</sub>

■ CAS-No. 3400-45-1 ■ EC-No. 222-269-5  
 ■ Refractive index 1.4534 (20 °C, 589 nm)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 93 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 114.14 g/mol  
 ■ Melting point 4 °C ■ Boiling point 216 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 20 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.050 - 1.053  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21743.0010	Glass bottle	10 ml	inquire

## 841170 Cyclopentanecarboxylic acid chloride for synthesis

C<sub>6</sub>H<sub>9</sub>ClO

■ CAS-No. 4524-93-0 ■ EC-No. 224-856-1  
 ■ Spec. density 1.091 g/cm<sup>3</sup> ■ Flash point 60 °C  
 ■ M = 132.58 g/mol ■ Boiling point 161 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3,

H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 2916 20 00 ■ Disposal 11  
 ■ ADR-RID UN 2920 Atzender flüssiger Stoff, entzündbar, n.a.g.(CYCLOPENTANECARBONSAEURECHLORID), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(CYCLOPENTANECARBONYL

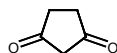
CHLORIDE), 8 (3), II  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(CYCLOPENTANECARBONYL CHLORIDE), 8 (3), II

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41170.0002	Glass bottle	1 ml	inquire

## 820377 1,3-Cyclopentanedione for synthesis

C<sub>5</sub>H<sub>6</sub>O<sub>2</sub>

■ CAS-No. 3859-41-4 ■ EC-No. 223-372-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 98.1 g/mol  
 ■ Melting point 149 - 152 °C

■ WGK 3  
 ■ LGK 10 - 13 ■ Store below +15 °C.  
 ■ HS-No. 2914 29 00 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 149 °C  
 Melting range (upper value) ..... ≤ 152 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20377.0001	Glass bottle	1 g	inquire
8.20377.0005	Glass bottle	5 g	inquire

## 802669 Cyclopentanol for synthesis

C<sub>5</sub>H<sub>10</sub>O

■ CAS-No. 96-41-3 ■ EC-No. 202-504-8  
 ■ Refractive index 1.4521 (20 °C, 589 nm)  
 ■ Vapour pressure 1.3 hPa (20 °C)  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 51 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 86.13 g/mol ■ Melting point -19 °C

■ Boiling point 141 °C (1013 hPa)  
 ■ Ignition temp. 375 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210, P262  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2906 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2244 Cyclopentanol, 3, III ■ IMDG-Code UN 2244 CYCLOPENTANOL, 3, III

■ IATA-DGR UN 2244 CYCLOPENTANOL, 3, III

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,946 - 0,947  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02669.0100	Glass bottle	100 ml	inquire



## 802670 Cyclopentanone for synthesis

C<sub>5</sub>H<sub>8</sub>O

- CAS-No. 120-92-3 ■ EC-No. 204-435-9
- Vapour pressure 11.5 hPa (20 °C)
- Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 10.8 % (V) ■ Flash point 27 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 84.11 g/mol
- pH value (H<sub>2</sub>O) not applicable ■ Melting point - 58 °C ■ Boiling point 131 °C (1013 hPa)
- Ignition temp. 445 °C

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338
- LC50 rat > 19.5 mg/l
- LD50 oral rat 1180 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- EC-Index-No. 606-025-00-9 ■ LGK 3
- HS-No. 2914 29 00
- ADR-RID UN 2245 Cyclopentanone, 3, III
- IMDG-Code UN 2245 CYCLOPENTANONE, 3, III

- IATA-DGR UN 2245 CYCLOPENTANONE, 3, III

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,947 - 0,949  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02670.0250	Glass bottle	250 ml	inquire
8.02670.1000	Glass bottle	1 l	inquire
8.02670.2500	Glass bottle	2.5 l	inquire

## 818846 Cyclopentylamine for synthesis

C<sub>5</sub>H<sub>11</sub>N

## Aminocyclopentane

- CAS-No. 1003-03-8 ■ EC-No. 213-697-3
- Refractive index 1.4482 (20 °C, 589 nm)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 9.40 % (V) ■ Flash point 11.5 °C
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 85.14 g/mol
- Melting point -85 °C
- Boiling point 107 - 108 °C

- Ignition temp. 260 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Skin sensitisation, Category 1, H317; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1B, H314, P210, P223, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 7.7 mg/l
- LD50 oral rat 26 mg/kg
- LGK 3
- HS-No. 2921 30 99 ■ Disposal 9
- ADR-RID UN 3286 Entzündbarer flüssiger Stoff,

giftig, ätzend, n.a.g.(CYCLOPENTYLAMIN), 3 (6.1, 8), II ■ IMDG-Code UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(CYCLOPENTYLAMINE), 3 (6.1, 8), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(CYCLOPENTYLAMINE), 3 (6.1, 8), II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,860 - 0,863  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18846.0050	Glass bottle	50 ml	inquire

Cyclopentyl bromide → Bromocyclopentane page 497

Cyclopentyl chloride → Chlorocyclopentane page 606

## 108293 Cyclopentyl methyl ether EEMPLURA®

C<sub>6</sub>H<sub>12</sub>O

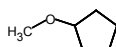
- CAS-No. 5614-37-9
- Vapour pressure 59.9 hPa (25 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Flash point - 1 °C ■ M = 100.16 g/mol ■ Melting point -140 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P240, P302 + P352, P305

- + P351 + P338
- LC50 rat > 21.5 mg/l
- LD50 oral rat 1000 - 2000 mg/kg
- LD50 dermal rat > 2000 mg/kg
- LGK 3
- Disposal 1
- ADR-RID UN 3271 Ether, n.a.g.(CYCLOPENTYLMETHYLETHER), 3, II ■ IMDG-Code UN 3271 ETHERS, N.O.S.(CYCLOPENTYLMETHYL ETHER), 3, II

- IATA-DGR UN 3271 ETHERS, N.O.S.(CYCLOPENTYL METHYL ETHER), 3, II

Ord.No.	Packaging	Quantity	Price
1.08293.1000	Glass bottle	1 l	inquire
1.08293.2500	Glass bottle	2.5 l	inquire
1.08293.4000	Glass bottle	4 l	inquire

## 843949 Cyclopentyl methyl ether (stabilised) for synthesis

C<sub>6</sub>H<sub>12</sub>O

- CAS-No. 5614-37-9
- Vapour pressure 59.9 hPa (25 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Flash point - 1 °C ■ M = 100.16 g/mol ■ Melting point -140 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation,

- Category 2, H319, P210, P240, P302 + P352, P305 + P351 + P338
- LC50 rat > 21.5 mg/l
- LD50 oral rat 1000 - 2000 mg/kg
- LD50 dermal rat > 2000 mg/kg
- LGK 3
- HS-No. 2909 20 00 ■ Disposal 1
- ADR-RID UN 3271 Ether, n.a.g.(CYCLOPENTYLMETHYLETHER), 3, II ■ IMDG-Code UN 3271 ETHERS, N.O.S.(CYCLOPENTYLMETHYL ETHER), 3, II
- IATA-DGR UN 3271 ETHERS, N.O.S.(CYCLOPENTYL METHYL ETHER), 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.862 - 0.864  
 Water (K. F.) ..... ≤ 0.50 %  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.05 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43949.0250	Glass bottle	250 ml	inquire
8.43949.1000	Glass bottle	1 l	inquire

## 841775 Cyclopropanecarbonitrile for synthesis

C<sub>4</sub>H<sub>5</sub>N

- CAS-No. 5500-21-0 ■ EC-No. 226-836-8
- Spec. density 0.895 g/cm<sup>3</sup> (20 °C)
- Flash point 32 °C ■ M = 67.09 g/mol
- Boiling point 133 - 135 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable liquid, Category 2,

- H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P210, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 3
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(CYCLOPROPANCARBONSAEURENITRIL), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(CYCLOPROPYL CYANIDE), 6.1 (3), II

- IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(CYCLOPROPYL CYANIDE), 6.1 (3), II

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,893 - 0,897  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41775.0025	Glass bottle	25 ml	inquire

## 800483 Cyclopropanecarboxylic acid for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>2</sub>

Trimethylenecarboxylic acid

- CAS-No. 1759-53-1 ■ EC-No. 217-162-5
- Refractive index 1.438 (20 °C, 589 nm)
- Spec. density 1.087 g/cm<sup>3</sup> (20 °C)
- Flash point 84 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 86.09 g/mol ■ pH value 3 (10 g/l, H<sub>2</sub>O, 22 °C) ■ Melting point 17 - 19 °C
- Boiling point 182 - 184 °C (1013 hPa)

- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2916 20 00 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(CYCLOPROPANECARBONSAEURE), 8, II
- IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(CYCLOPROPANECARBOXYLIC ACID), 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(CYCLOPROPANECARBOXYLIC ACID), 8, II

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,085 - 1,089  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00483.0025	Glass bottle	25 ml	inquire

## 841657 Cyclopropanecarboxylic acid chloride for synthesis

C<sub>4</sub>H<sub>5</sub>ClO

- CAS-No. 4023-34-1 ■ EC-No. 223-684-4
- Spec. density 1.143 g/cm<sup>3</sup> (20 °C)
- Flash point 23 °C ■ M = 104.53 g/mol
- pH value (H<sub>2</sub>O) strongly acid
- Boiling point 120 - 121 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3,

- H226; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 200 mg/kg
- LGK 3
- HS-No. 2916 20 00 ■ Disposal 11
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(CYCLOPROPANECARBONSAEURECHLORID), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(CYCLOPROPANECARBONYL CHLORIDE), 8 (3), II

- IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(CYCLOPROPANECARBONYL CHLORIDE), 8 (3), II

## Specification

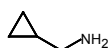
Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,141 - 1,145  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41657.0025	Glass bottle	25 ml	inquire
8.41657.0100	Glass bottle	100 ml	inquire

Cyclopropanecarboxylic acid ethyl ester → Ethyl cyclopropanecarboxylate page 858

Cyclopropanecarboxylic acid methyl ester → Methyl cyclopropanecarboxylate page 1146

## 841716 Cyclopropanemethylamine for synthesis

C<sub>4</sub>H<sub>9</sub>N

- CAS-No. 2516-47-4 ■ EC-No. 219-737-6
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 2 °C ■ M = 71.12 g/mol
- Boiling point 85 - 86 °C (1013 hPa)
- Ignition temp. 274 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210,

- P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2921 30 99 ■ Disposal 3
- ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(CYCLOPROPANMETHYLAMIN), 3 (8), II
- IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(CYCLOPROPANEMETHYLAMINE), 3 (8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE,

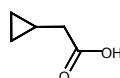
- N.O.S.(CYCLOPROPANEMETHYLAMINE), 3 (8), II

## Specification

Assay (GC, area%) ..... ≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,820 - 0,830  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41716.0005	Glass bottle	5 ml	inquire
8.41716.0025	Glass bottle	25 ml	inquire

## 841313 Cyclopropylacetic acid for synthesis

C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>

- CAS-No. 5239-82-7
- Spec. density 1.035 g/cm<sup>3</sup> (20 °C)
- M = 100.11 g/mol ■ Boiling point 189 - 191 °C (1000 hPa)
- WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2916 20 00 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(CYCLOPROPYLACETIC ACID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(CYCLOPROPYLACETIC ACID), 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(CYCLOPROPYLACETIC ACID), 8, II

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.033 - 1.038  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41313.0001	Glass bottle	1 ml	inquire

## 818017 Cyclopropylamine for synthesis

C<sub>3</sub>H<sub>7</sub>N

Aminocyclopropane

- CAS-No. 765-30-0 ■ EC-No. 212-142-2
- Refractive index 1.4206 (20 °C, 589 nm)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 1 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 57.09 g/mol ■ Melting point -10 °C
- Boiling point 49 - 50 °C ■ Ignition temp. 275 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2,

- H225; Skin corrosion, Category 1B, H314; Acute toxicity, Category 4, Oral, H302, P210, P223, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 445 mg/kg
- LGK 3
- HS-No. 2921 30 99 ■ Disposal 3
- ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(CYCLOPROPYLAMIN), 3 (8), II ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(CYCLOPROPYLAMINE), 3 (8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2733 AMINES, FLAMMABLE,

- CORROSIVE, N.O.S.(CYCLOPROPYLAMINE), 3 (8), II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,813 - 0,816  
 Water (K. F.) ..... ≤ 1,0 % (m)  
 Identity (IR) ..... passes test

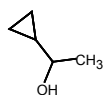
Ord.No.	Packaging	Quantity	Price
8.18017.0010	Glass bottle	10 ml	inquire
8.18017.0100	Glass bottle	100 ml	inquire

Cyclopropyl bromide → Bromocyclopropane page 497

Cyclopropyl carbinol → Cyclopropylmethanol page 680

Cyclopropylcarbinol → Cyclopropylmethanol page 680

## 814847 1-Cyclopropylethanol for synthesis



C<sub>5</sub>H<sub>10</sub>O  
Cyclopropyl methyl carbinol, 1-  
Methylcyclopropanemethanol  
■ CAS-No. 765-42-4 ■ EC-No. 212-145-9  
■ Spec. density 0.883 g/cm<sup>3</sup> (20 °C)

- Flash point 30 °C ■ M = 86.13 g/mol
- Boiling point 120 - 122 °C (1013 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2906 19 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-CYCLOPROPYLETHANOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-

CYCLOPROPYLETHANOL), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-CYCLOPROPYLETHANOL), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,888 - 0,891  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14847.0005	Glass bottle	5 ml	inquire

## 818123 Cyclopropylmethanol for synthesis



C<sub>4</sub>H<sub>8</sub>O  
Cyclopropyl carbinol, Hydroxymethylcyclopropane  
■ CAS-No. 2516-33-8 ■ EC-No. 219-735-5  
■ Refractive index 1.4299 (25 °C, 589 nm)  
■ Spec. density 0.904 g/cm<sup>3</sup> (20 °C)  
■ Flash point 35 °C ■ M = 72.1 g/mol  
■ Melting point < -60 °C  
■ Boiling point 122 - 126 °C (1013 hPa)

- Ignition temp. 310 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2906 19 00 ■ Disposal 1
- ADR-RID UN 1987 Alkohole, n.a.g.(CYCLOPROPYLMETHANOL), 3, III ■ IMDG-Code UN 1987 ALCOHOLS, N.O.S.(CYCLOPROPYLMETHANOLE), 3, III
- IATA-DGR UN 1987 ALCOHOLS,

N.O.S.(CYCLOPROPYLMETHANOLE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,911 - 0,914  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18123.0010	Glass bottle	10 ml	inquire
8.18123.0025	Glass bottle	25 ml	inquire

Cyclopropyl methyl carbinol → 1-Cyclopropylethanol page 680

## 814459 Cyclopropyl methyl chloride for synthesis



C<sub>4</sub>H<sub>7</sub>Cl  
(Chloromethyl)cyclopropane  
■ CAS-No. 5911-08-0 ■ EC-No. 227-632-1  
■ Refractive index 1.4349 (20 °C, 589 nm)  
■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Flash point -1 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
■ M = 90.55 g/mol ■ Melting point -91 °C  
■ Boiling point 87 - 89 °C

- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2903 89 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(CYCLOPROPYLMETHYLCHLORID), 3, II
- IMDG-Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(CYCLOPROPYLMETHYL CHLORIDE), 3, II  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CYCLOPROPYLMETHYL CHLORIDE), 3, II

**Specification**

Assay (GC, area%) ..... ≥ 95,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,980 - 0,990  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14459.0005	Glass bottle	5 ml	inquire

## 820380 Cyclopropyl methyl ketone for synthesis



C<sub>5</sub>H<sub>8</sub>O  
(C<sub>3</sub>H<sub>5</sub>)CH<sub>2</sub>CO  
Acetylcyclopropane  
■ CAS-No. 765-43-5 ■ EC-No. 212-146-4  
■ Refractive index 1.4241 (20 °C, 589 nm)  
■ Vapour pressure 112 hPa (50 °C)  
■ Spec. density 0.899 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 % (V) ■ Flash point 13 °C ■ Solub. in H<sub>2</sub>O 185 g/l (20 °C) ■ M = 84.11 g/mol

- Melting point -68.3 °C
- Boiling point 113 - 115 °C
- Ignition temp. 450 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301, P210, P223, P309 + P310
- LD50 oral rat 265 mg/kg
- LGK 3
- HS-No. 2914 29 00 ■ Disposal 3
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(CYCLOPROPYLMETHYLKETON), 3 (6.1), II ■ IMDG-Code UN 1992 FLAMMABLE LIQUID,

TOXIC, N.O.S.(CYCLOPROPYL METHYL KETONE), 3 (6.1), II  
■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(CYCLOPROPYL METHYL KETONE), 3 (6.1), II

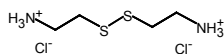
**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.898 - 0.899  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20380.0050	Glass bottle	50 ml	inquire

Cystamine dihydrochloride → Cystaminium dichloride page 680

## 802834 Cystaminium dichloride for synthesis



C<sub>8</sub>H<sub>14</sub>Cl<sub>2</sub>N<sub>2</sub>S<sub>2</sub>  
[H<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>SSCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>]<sup>+</sup> \* 2 HCl  
Cystamine dihydrochloride  
■ CAS-No. 56-17-7 ■ EC-No. 200-260-7

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 225.19 g/mol ■ Melting point 218 - 221 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

**Specification**

Assay (argentometric) ..... ≥ 98,0 % (m)  
Melting range (lower value) ..... ≥ 212 °C

Melting range (upper value) ..... ≤ 216 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02834.0025	Glass bottle	25 g	inquire
8.02834.0100	Glass bottle	100 g	inquire

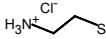
Cysteamine 2-chlorotriptyl resin → page 273

Cysteamine hydrochloride → Cystaminium chloride page 681

Cysteamine 4-methoxytriptyl resin → page 273



## 802835 Cysteaminium chloride for synthesis

C<sub>2</sub>H<sub>8</sub>ClNSHSCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> \* HCl

2-Aminoethanethiolhydrochloride, Cysteamine hydrochloride, 2-Mercaptoethylamine hydrochloride

■ CAS-No. 156-57-0 ■ EC-No. 205-858-1  
 ■ Solub. in H<sub>2</sub>O 400 g/l (20 °C) ■ M = 113.61 g/mol  
 ■ pH value 3.3 - 5.0 (400 g/l, H<sub>2</sub>O, 20 °C)

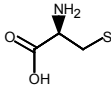
- Melting point 66 - 69 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 642 mg/kg
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (iodometric) ..... ≥ 97,0 % (m)  
 Melting range (lower value) ..... ≥ 66 °C  
 Melting range (upper value) ..... ≤ 70 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02835.0010	Glass bottle	10 g	inquire
8.02835.0025	Glass bottle	25 g	inquire
	Glass bottle	6 x 25 g	inquire
8.02835.0100	Glass bottle	100 g	inquire

## 102838 L-Cysteine for biochemistry

C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>S

α-Amino-β-mercapto propionic acid, α-Alpha-Amino-β-mercapto propionic acid, Cys, α-Alpha-Amino-beta-mercapto propionic acid

■ CAS-No. 52-90-4 ■ EC-No. 200-158-2  
 ■ Solub. in H<sub>2</sub>O 160 g/l (20 °C) ■ M = 121.16 g/mol  
 ■ pH value 4.5 - 5.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 220 - 228 °C  
 ■ Bulk density 300 kg/m<sup>3</sup> ■ Ignition temp. 420 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1890 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 13 ■ Disposal 3

In aqueous solutions L-cysteine becomes easily oxidised to L-cystine on contact with air at neutral or alkaline pH.

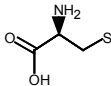
## Specification

Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ..... colorless to white, needle-shaped crystals  
 Appearance of solution (0.5 mol/l, hydrochloric acid 1 mol/l) ..... clear and colorless  
 Spec. rotation  
 (α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +8.0 to +9.0°  
 UV-Absorption (280 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l) ..... ≤ 0.50  
 Chloride (Cl) ..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 As (Arsenic) ..... ≤ 0.0005 %

Ca (Calcium) ..... ≤ 0.001 %  
 Co (Cobalt) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.0005 %  
 Mg (Magnesium) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.01 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 Zn (Zinc) ..... ≤ 0.0005 %  
 Foreign amino acids ..... ≤ 0.5 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %  
 Loss on drying (105 °C; 3 h) ..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.02838.0025	Plastic bottle	25 g	inquire
1.02838.0100	Plastic bottle	100 g	inquire
1.02838.1000	Plastic bottle	1 kg	inquire
1.02838.9010	Plastic drum	10 kg	inquire

## 816014 (R)-(+)-Cysteine for synthesis

C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>S

α-Amino-β-mercapto propionic acid, α-Alpha-Amino-β-mercapto propionic acid, Cys, α-Alpha-Amino-beta-mercapto propionic acid

■ CAS-No. 52-90-4 ■ EC-No. 200-158-2

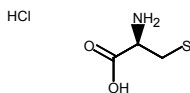
- Solub. in H<sub>2</sub>O 160 g/l (20 °C) ■ M = 121.16 g/mol  
 ■ pH value 4.5 - 5.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 220 - 228 °C
- Bulk density 300 kg/m<sup>3</sup> ■ Ignition temp. 420 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1890 mg/kg
- LGK 10 - 13
- HS-No. 2930 90 13 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 % (m)  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=8 in HCl 1 mol/l)] ..... 8,0 - 9,5 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16014.0025	Plastic bottle	25 g	inquire
8.16014.0100	Plastic bottle	100 g	inquire

## 102839 L-Cysteine hydrochloride monohydrate for biochemistry

C<sub>3</sub>H<sub>8</sub>ClNO<sub>2</sub>S \* H<sub>2</sub>O

Cys, L-Cysteinium Chloride Monohydrate, L-Cysteine Hydrochloride, Monohydrate

■ CAS-No. 7048-04-6 ■ EC-No. 200-157-7  
 ■ Solub. in H<sub>2</sub>O 650 g/l (20 °C) ■ M = 175.64 g/mol  
 ■ pH value 0.8 - 1.2 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 168 - 170 °C  
 ■ Bulk density 780 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 16 ■ Disposal 3

The hydrochloride is relatively stable, in aqueous solutions L-cysteine becomes easily oxidised to L-cystine on contact with air at neutral or alkaline

pH.

## Specification

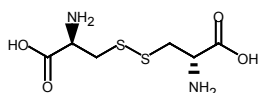
Assay (iodometric, calc. on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ..... white or almost white, crystalline powder or colorless crystals  
 Appearance of solution (1 mol/l, water) ..... clear and colorless  
 Spec. rotation  
 (α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +6.3 to +7.3°  
 UV-Absorption  
 (280 nm; 1 mol/l; 1 cm; water) ..... ≤ 0.10  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 As (Arsenic) ..... ≤ 0.0005 %  
 Ca (Calcium) ..... ≤ 0.001 %  
 Co (Cobalt) ..... ≤ 0.0005 %

Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.0005 %  
 Mg (Magnesium) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.02 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 Zn (Zinc) ..... ≤ 0.0005 %  
 Foreign amino acids ..... ≤ 0.3 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %  
 Loss on drying (Vacuum < 0.7 kPa, P<sub>2</sub>O<sub>5</sub>, 24 h) ..... 9.0 - 11.5 %

Ord.No.	Packaging	Quantity	Price
1.02839.0025	Plastic bottle	25 g	inquire
1.02839.0100	Plastic bottle	100 g	inquire
1.02839.1000	Plastic bottle	1 kg	inquire
1.02839.9010	Plastic drum	10 kg	inquire

# Cystin

## 102837 L-Cystine for biochemistry



C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>

Cys

- CAS-No. 56-89-3 ■ EC-No. 200-296-3
- Spec. density 1.677 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 240.30 g/mol
- pH value >1 (H<sub>2</sub>O, 20 °C)
- Melting point 261 - 262 °C (decomposition)
- Bulk density 300 kg/m<sup>3</sup> ■ Ignition temp. 400 °C
- WGK nwg
- LGK 10 - 13
- HS-No. 2930 90 13

Soluble in mineral acids and alkalis.

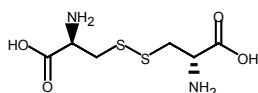
### Specification

Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance white to almost white, fine-crystalline powder  
 Appearance of solution (0.2 mol/l, hydrochloric acid 1 mol/l) ..... clear and colorless  
 Spec. rotation (α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... -220.0 to -225.0°  
 Chloride (Cl) ..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.05 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 As (Arsenic) ..... ≤ 0.0005 %  
 Ca (Calcium) ..... ≤ 0.001 %  
 Co (Cobalt) ..... ≤ 0.0005 %

Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.0005 %  
 Mg (Magnesium) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.005 %  
 Zn (Zinc) ..... ≤ 0.0005 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 Foreign amino acids ..... ≤ 0.3 %  
 Other ninhydrine positive substances ..... ≤ 0.3 %  
 Loss on drying (105 °C; 3 h) ..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.02837.0025	Plastic bottle	25 g	inquire
1.02837.0100	Plastic bottle	100 g	inquire
1.02837.1000	Plastic bottle	1 kg	inquire
1.02837.9010	Plastic drum	10 kg	inquire

## 816015 (R)-(-)-Cystine for synthesis



C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>

Cys

- CAS-No. 56-89-3 ■ EC-No. 200-296-3
- Spec. density 1.677 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 240.30 g/mol  
 ■ pH value >1 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point 261 - 262 °C (decomposition)  
 ■ Bulk density 300 kg/m<sup>3</sup> ■ Ignition temp. 400 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 13

### Specification

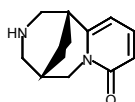
Assay (HClO<sub>4</sub>) ..... ≥ 98.0 % (m)

Spec. rotation [α<sup>20</sup>/D (c=2 in HCl 1 mol/l) .....  
 ..... -225.0 - -215.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16015.0025	Plastic bottle	25 g	inquire
8.16015.0100	Plastic bottle	100 g	inquire

L-Cystine → (R)-(-)-Cystine page 682

## 824513 (-)-Cytisine for synthesis



C<sub>11</sub>H<sub>14</sub>N<sub>2</sub>O

- CAS-No. 485-35-8 ■ EC-No. 207-616-0
- Solub. in H<sub>2</sub>O 439 g/l (16 °C) ■ M = 190.24 g/mol
- Melting point 154 - 156 °C
- Boiling point 218 °C (2.67 hPa)
- WGK 3

- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Dermal, H311, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A
- HS-No. 2939 99 00 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.((-)-CYTISIN, 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.((-)-CYTISINE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.((-)-CYTISINE), 6.1, II

### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 154 °C  
 Melting range (upper value) ..... ≤ 156 °C  
 Spec. rotation [α<sup>20</sup>/D (c=0.1 in water) .....  
 ..... -120.0 - -110.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24513.0025	Glass bottle	25 mg	inquire

Cytochemical stains → page 200

Cytocolor® → page 194

Cytocolor → page 194

CYTOCOLOR® Cytological standard stain acc. to

Szczepanik → page 194

## Cytology Staining

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
194	115355	CYTOCOLOR® Cytological standard stain acc. to Szczepanik	188	104699	Immersion oil	195	109254	Papanicolaou's solution 1b Hematoxylin solution S
			188	115577	Immersion oil acc. to ISO 8036	195	106888	Papanicolaou's solution 2a Orange G solution (OG 6)
204	100579	DPX new	186	103981	M-FIX™ spray fixative	195	106887	Papanicolaou's solution 2b Orange II solution
187	107960	Entellan®				195	109271	Papanicolaou's solution 3a polychromatic solution EA 31
188	107961	Entellan® new	197	109843	Neo-Clear®	195	109272	Papanicolaou's solution 3b polychromatic solution EA 50
194	109204	Giemsa's azur eosin methylene blue solution	196	101971	Neo-Cytocolor Quick Staining Kit - for cytological samples	195	109270	Papanicolaou's solution 3c Polychromatic solution EA 65
196	111674	Hemacolor® Rapid staining of blood smear	188	109016	Neo-Mount®	195	109269	Papanicolaou's solution 3d polychromatic solution EA 65
196	111661	Hemacolor® Rapid staining of blood smear	195	109253	Papanicolaou's solution 1a Harris' hematoxylin solution	196	109275	Shorr staining solution
196	105175	Hematoxylin solution modified acc. to Gill II						



DAB-buffer tablets → page 203  
 DABCO → 1,4-Diazabicyclo[2.2.2]octane page 699  
 DabcyI-OSu → page 260  
 DACH → 1,2-Diaminocyclohexane page 694  
 Dairy → Hygiene monitoring  
 Dansyl chloride → 5-Dimethylaminonaphthalene-1-sulfonyl chloride page 778  
 Dansyl NovaTag™ resin → page 260  
 Dantron → 1,8-Dihydroxyanthraquinone page 760  
 DAP → Diallyl phthalate page 692  
 Dapson → 4,4'-Diaminodiphenyl sulfone page 695

DAST → Diethylaminosulfur trifluoride page 739  
 Dawson Dbz AM resin (100–200 mesh) → page 262  
 Dawson Dbz NovaSynTGR resin → page 263  
 DBN → 1,5-Diazabicyclo[4.3.0]non-5-ene page 699  
 DBPC → 2,6-Di-tert-butyl-4-methylphenol page 709  
 DBU → 1,8-Diazabicyclo[5.4.0]undec-7-ene page 700  
 DCC → N,N'-Dicyclohexylcarbodiimide page 734  
 DCHA → Dicyclohexylamine page 734  
 2,4-DCP → 2,4-Dichlorophenol page 728  
 2,4-DCT → 2,4-Dichlorotoluene page 733

3,4-DCT → 3,4-Dichlorotoluene page 733  
 DCTA → Titriplex® IV page 172  
 Dde-Lys(Fmoc)-OH → page 234  
 Dde-OH → page 280  
 DDH → 1,3-Dibromo-5,5-dimethylhydantoin page 703  
 DDM → Dichlorodiphenylmethane page 721  
 DDQ → 2,3-Dichloro-5,6-dicyano-p-benzoquinone page 720  
 DDS → 4,4'-Diaminodiphenyl sulfone page 695  
 Ddz-hydrazide → page 280

## 118619 Deblock for DNA-/RNA-synthesis 3% Dichloroacetic acid in Dichloromethane v/v



■ Vapour pressure 455 hPa (20 °C)  
 ■ Spec. density 1.3 g/cm<sup>3</sup> (20 °C)  
 ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point -4.1 °C ■ Boiling point 40.1 °C (1013 hPa) ■ Ignition temp. 556 °C  
 ■ WGK 2  
 ■ GHS: Warning, Carcinogenicity, Category 2, H351; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2,

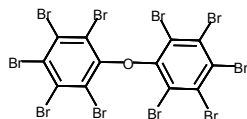
H319; Corrosive to metals, Category 1, H290, P281, P302 + P352, P308 + P313, P304 + P340, P305 + P351 + P338  
 ■ LGK 8 B  
 ■ HS-No. 3824 79 00 ■ Disposal 1  
 ■ ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(ENTH. DICHLOROESSIGSAEURE UND DICHLORMETHAN), 8 (6.1), III ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(CONT. DICHLOROACETIC ACID AND DICHLOROMETHANE)

, 8 (6.1), III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(CONT. DICHLOROACETIC ACID AND DICHLOROMETHANE), 8 (6.1), III

Ord.No.	Packaging	Quantity	Price
1.18619.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire

Deblocking Reagent, → page 283

## 841037 Decabromodiphenyl ether for synthesis



C<sub>12</sub>Br<sub>10</sub>O  
 Perbromodiphenylether, Bis(pentabromophenyl) ether  
 ■ CAS-No. 1163-19-5 ■ EC-No. 214-604-9

■ Solub. in H<sub>2</sub>O < 0.0001 g/l (25 °C)  
 ■ M = 959.17 g/mol ■ Melting point 304 - 307 °C  
 ■ WGK 1  
 ■ GHS: Chronic aquatic toxicity, Category 4, H413, P273  
 ■ LC50 rat > 48.2 mg/l  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 30 38 ■ Disposal 3

### Specification

Assay (ex Br) ..... ≥ 97.0 %  
 Melting range (lower value) ..... ≥ 302 °C  
 Melting range (upper value) ..... ≤ 308 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41037.0100	Plastic bottle	100 g	inquire

Decacarbonyldimanganese → di-Manganese decacarbonyl page 1095

## 843809 (E,E)-2,4-Decadien-1-ol for synthesis



C<sub>10</sub>H<sub>16</sub>O  
 ■ CAS-No. 25152-84-5 ■ EC-No. 246-668-9  
 ■ Spec. density 0.87 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 101 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.24 g/mol  
 ■ Boiling point 114 - 116 °C (13 hPa)

■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 19 00 ■ Disposal 3

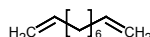
### Specification

Assay (GC, area%) ..... ≥ 90.0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 0.865 - 0.873  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43809.0005	Glass bottle	5 ml	inquire
8.43809.0025	Glass bottle	25 ml	inquire

## 814880 1,9-Decadiene for synthesis



C<sub>10</sub>H<sub>18</sub>  
 ■ CAS-No. 1647-16-1 ■ EC-No. 216-711-6  
 ■ Vapour pressure 5 hPa (20 °C)  
 ■ Spec. density 0.75 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 % (V) ■ Flash point 41 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 138.25 g/mol ■ Boiling point 169 °C (1013 hPa)  
 ■ Ignition temp. 250 °C

■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P262, P273  
 ■ LGK 3  
 ■ HS-No. 2901 29 00 ■ Disposal 3  
 ■ ADR-RID UN 3295 Kohlenwasserstoffe, flüssig, n.a.g., 3, III ■ IMDG-Code UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, III  
 ■ IATA-DGR UN 3295 HYDROCARBONS, LIQUID,

N.O.S., 3, III

### Specification

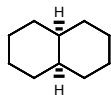
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,754 - 0,758  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14880.0005	Glass bottle	5 ml	inquire
8.14880.0025	Glass bottle	25 ml	inquire

Deca(ethylene glycol)monoethylphenyl ether → page 1618

# Decahy

## 820382 cis-Decahydronaphthalene for synthesis



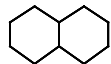
C<sub>10</sub>H<sub>18</sub>  
*cis-Decalin*  
 ■ CAS-No. 493-01-6 ■ EC-No. 207-770-9  
 ■ Refractive index 1.4811 (20 °C, 589 nm)  
 ■ Vapour pressure 1.27 hPa (20 °C)  
 ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 4.9 % (V) ■ Flash point 57 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 138.25 g/mol ■ Melting point -51 °C ■ Boiling point 193 °C

(1013 hPa) ■ Ignition temp. 260 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Skin corrosion, Category 1B, H314; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P301 + P310, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310, P331  
 ■ LGK 3  
 ■ HS-No. 2902 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1147 Decahydronaphthalen, 3, III  
 ■ IMDG-Code UN 1147  
 DECAHYDRONAPHTHALENES, 3, III

■ IATA-DGR UN 1147 DECAHYDRONAPHTHALENE, 3, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.896 - 0.898  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20382.0005	Glass bottle	5 ml	inquire
8.20382.0025	Glass bottle	25 ml	inquire
8.20382.0100	Glass bottle	100 ml	inquire

## 803101 Decahydronaphthalene (mixture of cis-and trans isomers) for synthesis



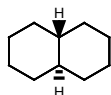
C<sub>10</sub>H<sub>18</sub>  
*Decalin*  
 ■ CAS-No. 91-17-8 ■ EC-No. 202-046-9  
 ■ Refractive index 1.4742 (20 °C, 589 nm)  
 ■ Vapour pressure 1.3 hPa (20 °C)  
 ■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 4.9 % (V) ■ Flash point 57 °C  
 ■ Kin. viscosity < 20.5 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O 0.89 mg/l (25 °C) (experimental)  
 ■ M = 138.25 g/mol ■ Melting point -40 °C  
 ■ Boiling point 189 - 191 °C (1013 hPa)  
 ■ Ignition temp. 255 °C

■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Skin corrosion, Category 1B, H314; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P301 + P330 + P331, P301 + P310, P304 + P340, P305 + P351 + P338  
 ■ LC50 rat 4.02 mg/l  
 ■ LD50 oral rat 4170 mg/kg ■ LD50 dermal rabbit 5192 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2902 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1147 Decahydronaphthalen, 3, III  
 ■ IMDG-Code UN 1147  
 DECAHYDRONAPHTHALENES, 3, III

■ IATA-DGR UN 1147 DECAHYDRONAPHTHALENE, 3, III  
**Specification**  
 Assay isomers (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,879 - 0,883  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03101.0100	Glass bottle	100 ml	inquire
8.03101.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03101.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.03101.9025	Steel barrel	25 kg	inquire

## 821745 trans-Decahydronaphthalene for synthesis



C<sub>10</sub>H<sub>18</sub>  
*trans-Decalin*  
 ■ CAS-No. 493-02-7 ■ EC-No. 207-771-4  
 ■ Refractive index 1.4697 (20 °C, 589 nm)  
 ■ Vapour pressure 4.2 hPa (20 °C)  
 ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 4.9 % (V) ■ Flash point 54 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 138.25 g/mol ■ Melting point -32.5 - -31.5 °C

■ Boiling point 187 °C (1013 hPa)  
 ■ Ignition temp. 255 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Skin corrosion, Category 1B, H314; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P301 + P330 + P331, P301 + P310, P304 + P340, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2902 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1147 Decahydronaphthalen, 3, III  
 ■ IMDG-Code UN 1147

DECAHYDRONAPHTHALENES, 3, III  
 ■ IATA-DGR UN 1147 DECAHYDRONAPHTHALENE, 3, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 96.5 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.869 - 0.871  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21745.0025	Glass bottle	25 ml	inquire
8.21745.0100	Glass bottle	100 ml	inquire

## Decalcifier for Histology

Page Cat.No. Designation  
 186 101736 OSTEOMOLL®

Page Cat.No. Designation  
 186 101728 OSTEOSOFT®

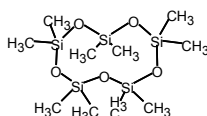
Page Cat.No. Designation

Decalin → Decahydronaphthalene page 300

cis-Decalin → cis-Decahydronaphthalene page 684

trans-Decalin → trans-Decahydronaphthalene page 684

## 814751 Decamethylcyclopentasiloxane for synthesis



C<sub>10</sub>H<sub>30</sub>O<sub>5</sub>Si<sub>5</sub>  
 ■ CAS-No. 541-02-6 ■ EC-No. 208-764-9  
 ■ Vapour pressure 0.16 hPa (20 °C)  
 ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Explosive

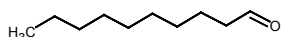
limit 0.52 - 7 % (V) ■ Flash point 77 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O 0.00024 g/l (25 °C) (calculated) ■ M = 370.78 g/mol  
 ■ Melting point -36 °C ■ Boiling point 210 °C  
 ■ Ignition temp. 450 °C DIN 51794  
 ■ WGK 3  
 ■ LD50 oral rat > 24134 mg/kg  
 ■ LD50 dermal rabbit > 15200 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Refractive index (n 25°/D) ..... 1,394 - 1,396  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14751.0025	Glass bottle	25 ml	inquire
8.14751.0100	Glass bottle	100 ml	inquire
8.14751.0250	Glass bottle	250 ml	inquire

Decamethylene chloride → 1,10-Dichlorodecane page 719

Decamethylene glycol → 1,10-Decanediol page 685

803211 Decanal (stabilized with  $\alpha$ -tocopherol) for synthesisC<sub>10</sub>H<sub>20</sub>OCH<sub>3</sub>(CH<sub>2</sub>)<sub>9</sub>CHO

Capraldehyde

■ CAS-No. 112-31-2 ■ EC-No. 203-957-4  
 ■ Refractive index 1.428 (20 °C, 589 nm) ■ Vapour pressure 0.1 hPa (20 °C) ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Flash point 87 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 156.26 g/mol ■ Melting point 7 °C  
 ■ Boiling point 207 - 209 °C (1013 hPa)  
 ■ Ignition temp. 200 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315, P302 + P352  
 ■ LD50 oral rat 3096 mg/kg ■ LD50 dermal rabbit 4183 mg/kg  
 ■ LGK 10

■ HS-No. 2912 19 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,826 - 0,829  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03211.0100	Glass bottle	100 ml	inquire

## n-Decane

C<sub>10</sub>H<sub>22</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>9</sub>CH<sub>3</sub>

■ CAS-No. 124-18-5 ■ EC-No. 204-686-4  
 ■ Vapour pressure 1 hPa (16 °C)  
 ■ Spec. density 0.73 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 5.4 % (V) ■ Flash point 51 °C  
 ■ Kin. viscosity < 7 mm<sup>2</sup>/s (40 °C) ■ Solub. in

H<sub>2</sub>O 0.00005 g/l (25 °C) ■ M = 142.28 g/mol  
 ■ Saturation conc. 11 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -30 °C ■ Boiling point 174 °C  
 ■ Ignition temp. 208 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304, P210, P301 + P310, P331  
 ■ LC50 rat > 8.1 mg/l

■ LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2901 10 00 ■ Disposal 1  
 ■ ADR-RID UN 2247 n-Decan, 3, III ■ IMDG-Code UN 2247 N-DECANE, 3, III  
 ■ IATA-DGR UN 2247 N-DECANE, 3, III

## 820383 n-Decane for synthesis

## Specification

Assay (GC, area%) ..... ≥ 94,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,728 - 0,732  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20383.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.20383.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 803405 n-Decane for synthesis

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,729 - 0,730  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03405.0100	Glass bottle	100 ml	inquire
8.03405.0250	Glass bottle	250 ml	inquire
8.03405.1000	Glass bottle	1 l	inquire

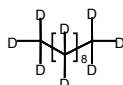
## 109603 n-Decane reference substance for gas chromatography

## Specification

Assay (GC) ..... ≥ 99.5 %  
 Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09603.0005	Glass bottle	5 ml	inquire

## 815027 n-Decane-D22 deuteration degree min. 99% for NMR spectroscopy MagniSolv™

C<sub>10</sub>D<sub>22</sub>

■ CAS-No. 16416-29-8  
 ■ Vapour pressure 1 hPa (16 °C)  
 ■ Spec. density 0.845 g/cm<sup>3</sup> ■ Explosive limit 0.7 - 5.4 % (V) ■ Flash point 46 °C  
 ■ Kin. viscosity < 7 mm<sup>2</sup>/s (40 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 164.42 g/mol  
 ■ Melting point -30 °C ■ Boiling point 174 °C  
 ■ Ignition temp. 205 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304, P210, P260, P262, P301 + P310, P331  
 ■ LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2845 90 10 ■ Disposal 1

■ ADR-RID UN 2247 n-Decan, 3, III ■ IMDG-Code UN 2247 N-DECANE, 3, III  
 ■ IATA-DGR UN 2247 N-DECANE, 3, III

## Specification

Deuteration degree ..... ≥ 99 %

Ord.No.	Packaging	Quantity	Price
8.15027.0001	Glass ampoule	1 ml	inquire

1-Decanecarboxylic acid → Undecanoic acid page 1623

1,12-Decanedicarboxylic acid → Dodecanedioic acid page 827

Decanedinitrile → Sebacic acid dinitrile page 1413

Decanedioic acid → Sebacic acid page 1413

Decanedioic acid diethyl ester → Diethyl sebacate page 749

Decanedioic acid dinitrile → Sebacic acid dinitrile page 1413

## 803561 1,10-Decanediol for synthesis

C<sub>10</sub>H<sub>22</sub>O<sub>2</sub>HO(CH<sub>2</sub>)<sub>10</sub>OH

Decamethylene glycol

■ CAS-No. 112-47-0 ■ EC-No. 203-975-2  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 0.891 g/cm<sup>3</sup> (80 °C)  
 ■ Flash point 152 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 0.7 g/l (20 °C) ■ M = 174.29 g/mol

■ Melting point 72 °C ■ Bulk density 550 kg/m<sup>3</sup>  
 ■ Boiling point 297 °C (1013 hPa)  
 ■ Ignition temp. 320 °C DIN 51794  
 ■ WGK 1  
 ■ LD50 oral rat > 10000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 39 95 ■ Disposal 3

Melting range (lower value) ..... ≥ 70 °C  
 Melting range (upper value) ..... ≤ 73 °C  
 Identity (IR) ..... passes test

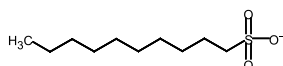
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.03561.0100	Plastic bottle	100 g	inquire
8.03561.0500	Plastic bottle	500 g	inquire

# Decane

## 841036 Decane-1-sulfonic acid sodium salt for synthesis



Na<sup>+</sup>

- M = 244.33 g/mol ■ Melting point >300 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2904 10 00 ■ Disposal 3

### Specification

Assay (acidimetric after ion exchange) .....  
 ..... ≥ 98,0 % (m)

Identity (IR) ..... conforms

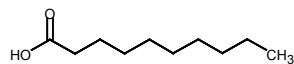
C<sub>10</sub>H<sub>21</sub>NaO<sub>3</sub>S

Sodium 1-decanesulphonate

■ CAS-No. 13419-61-9 ■ EC-No. 236-525-9

Ord.No.	Packaging	Quantity	Price
8.41036.0002	Glass bottle	2 g	inquire
8.41036.0010	Glass bottle	10 g	inquire
8.41036.0050	Glass bottle	50 g	inquire

## 802169 Decanoic acid for synthesis



- H<sub>2</sub>O 0.15 g/l (20 °C) ■ M = 172.26 g/mol
- pH value 4 (0.2 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 29 - 32 °C ■ Bulk density 690 kg/m<sup>3</sup>
- Boiling point 268 - 270 °C
- WGK 1

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LD50 oral rat > 10000 mg/kg
- LGK 10 - 13
- HS-No. 2915 90 70 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 29 °C  
 Melting range (upper value) ..... ≤ 33 °C  
 Identity (IR) ..... conforms

C<sub>10</sub>H<sub>20</sub>O<sub>2</sub>

CH<sub>3</sub>(CH<sub>2</sub>)<sub>8</sub>COOH

Capric acid

■ CAS-No. 334-48-5 ■ EC-No. 206-376-4  
 ■ Refractive index 1.428 (40 °C, 589 nm) ■ Vapour pressure 0.13 hPa (79 °C) ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Flash point 147 °C ■ Solub. in

Ord.No.	Packaging	Quantity	Price
8.02169.0100	Glass bottle	100 ml	inquire
8.02169.1000	Glass bottle	1 l	inquire

Decanoic acid chloride → Decanoyl chloride page 687

Decanoic acid ethyl ester → Ethyl decanoate page 858

Decanoic acid methyl ester → Methyl decanoate page 44

## 803463 1-Decanol for synthesis



- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 4720 mg/kg ■ LD50 dermal rabbit 3560 mg/kg
- LGK 10 - 13
- HS-No. 2905 19 00 ■ Disposal 3

■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1-DECANOL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-DECANOL), 9, III, Marine Pollutant: P

- IATA-DGR UN 3082 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-DECANOL), 9, III

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,829 - 0,830  
 Identity (IR) ..... conforms

C<sub>10</sub>H<sub>22</sub>O

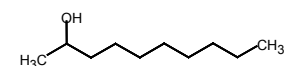
CH<sub>3</sub>(CH<sub>2</sub>)<sub>9</sub>OH

Capric alcohol, Decyl alcohol

■ CAS-No. 112-30-1 ■ EC-No. 203-956-9  
 ■ Refractive index 1.4372 (20 °C, 589 nm)  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 0.8 g/cm<sup>3</sup> (20 °C) DIN 51757  
 ■ Explosive limit 0.9 - 5.7 % (V)  
 ■ Flash point 95 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 0.037 g/l (25 °C) ■ M = 158.28 g/mol  
 ■ Melting point 5 - 7 °C  
 ■ Boiling point 220 - 235 °C (1013 hPa)  
 ■ Ignition temp. 255 °C

Ord.No.	Packaging	Quantity	Price
8.03463.0100	Glass bottle	100 ml	inquire
8.03463.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03463.9026	Plastic container	25 l	inquire

## 841648 2-Decanol for synthesis



- Flash point 85 °C ■ M = 158.28 g/mol
- Boiling point 109 - 110 °C (13.3 hPa)
- WGK 3
- LGK 10
- HS-No. 2905 19 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 97,5 Area %

Density (d 20 °C/ 4 °C) ..... 0,824 - 0,828  
 Identity (IR) ..... conforms

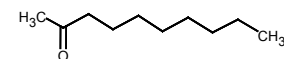
C<sub>10</sub>H<sub>22</sub>O

■ CAS-No. 1120-06-5 ■ EC-No. 214-296-6

■ Spec. density 0.825 g/cm<sup>3</sup> (20 °C)

Ord.No.	Packaging	Quantity	Price
8.41648.0010	Glass bottle	10 ml	inquire

## 818795 2-Decanone for synthesis



- Refractive index 1.4253 (20 °C, 589 nm)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 86 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 156.26 g/mol
- Melting point 3 °C ■ Boiling point 209 - 212 °C
- WGK 3
- LGK 10
- HS-No. 2914 19 90 ■ Disposal 1

### Specification

Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,822 - 0,824  
 Identity (IR) ..... conforms

C<sub>10</sub>H<sub>20</sub>O

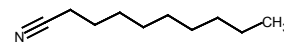
CH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>COCH<sub>3</sub>

Methyl octyl ketone

■ CAS-No. 693-54-9 ■ EC-No. 211-752-6

Ord.No.	Packaging	Quantity	Price
8.18795.0025	Glass bottle	25 ml	inquire

## 818783 Decanonitrile for synthesis



- Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 153.26 g/mol
- Melting point -18 °C ■ Boiling point 114 °C (13 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,818 - 0,820  
 Identity (IR) ..... passes test

C<sub>10</sub>H<sub>19</sub>N

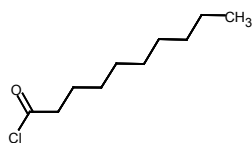
CH<sub>3</sub>(CH<sub>2</sub>)<sub>8</sub>CN

Capric acid nitrile

■ CAS-No. 1975-78-6 ■ EC-No. 217-830-6  
 ■ Refractive index 1.4313 (15 °C, 589 nm)

Ord.No.	Packaging	Quantity	Price
8.18783.0100	Glass bottle	100 ml	inquire

## 802182 Decanoyl chloride for synthesis

C<sub>10</sub>H<sub>19</sub>ClOCH<sub>3</sub>(CH<sub>2</sub>)<sub>8</sub>COCl

Capric chloride, Decanoic acid chloride, Capric acid chloride

- CAS-No. 112-13-0 ■ EC-No. 203-938-0
- Refractive index 1.441 (20 °C, 589 nm) ■ Vapour

pressure 7.7 hPa (20 °C) ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Flash point 140 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 190.72 g/mol

- Boiling point 232 °C (1013 mbar)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(DECANSAEURECHLORID), 8, II

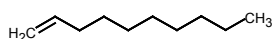
- IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DECANOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DECANOYL CHLORIDE), 8, II

## Specification

Assay (morpholine method) ..... ≥ 97,0 % (m)  
Density (d 20 °C/ 4 °C) ..... 0,932 - 0,935  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02182.0100	Glass bottle	100 ml	inquire

## 822010 1-Decen for synthesis

C<sub>10</sub>H<sub>20</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>CH=CH<sub>2</sub>

1-Decylene

- CAS-No. 872-05-9 ■ EC-No. 212-819-2
- Refractive index 1.4214 (20 °C, 589 nm)
- Vapour pressure 1.4 hPa (20 °C)
- Spec. density 0.74 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 5.9 % (V) ■ Flash point 49 °C
- Kin. viscosity 1.1 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 140.27 g/mol
- Melting point -66 °C ■ Boiling point 52 °C

(15 hPa) ■ Ignition temp. 210 °C

- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P273, P301 + P310, P302 + P352, P331
- LC50 rat 8.7 mg/l
- LD50 oral rat > 10000 mg/kg
- LD50 dermal rabbit > 10000 mg/kg
- LGK 3
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 3295 Kohlenwasserstoffe, flüssig, n.a.g., 3, III ■ IMDG-Code UN 3295

HYDROCARBONS, LIQUID, N.O.S., 3, III  
■ IATA-DGR UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, III

## Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,740 - 0,741  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22010.0100	Glass bottle	100 ml	inquire
8.22010.0500	Glass bottle	500 ml	inquire

Decyl alcohol → 1-Decanol page 300

Decyl bromide → 1-Bromodecane page 497

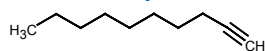
Decyl chloride → 1-Chlorodecane page 606

1-Decylene → 1-Decen page 687

2-Decyl-1,4,7,10,13,16-hexaoxacyclooctadecane  
→ Crown ether/Decyl-18-crown-6 page 661

Decyl iodide → 1-Iododecane page 1009

## 841830 1-Decyne for synthesis

C<sub>10</sub>H<sub>18</sub>

■ CAS-No. 764-93-2 ■ EC-No. 212-132-8

■ Spec. density 0.767 g/cm<sup>3</sup> (20 °C)

■ Flash point 48 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 138.25 g/mol

■ Melting point -44 °C

■ Boiling point 174 - 176 °C

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3 ■ Store below +15°C.
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 3295 Kohlenwasserstoffe, flüssig, n.a.g., 3, III ■ IMDG-Code UN 3295

HYDROCARBONS, LIQUID, N.O.S., 3, III  
■ IATA-DGR UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, III

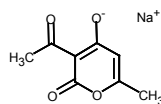
## Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,775 - 0,779  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41830.0005	Glass bottle	5 ml	inquire
8.41830.0025	Glass bottle	25 ml	inquire

DEV Gelatin agar → page 100

## Dehydracetic acid sodium salt

C<sub>8</sub>H<sub>7</sub>NaO<sub>4</sub>

3-(1-Hydroxyethylidene)-6-methyl-2H-pyran-2,4(3H)-dione sodium salt

■ CAS-No. 4418-26-2 ■ EC-No. 224-580-1

■ Solub. in H<sub>2</sub>O 330 g/l (20 °C) ■ M = 190.13 g/mol■ pH value 8.8 - 9.3 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 280 - 285 °C

■ Bulk density 500 - 550 kg/m<sup>3</sup>

■ Ignition temp. 360 °C

■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302

■ LD50 oral rat 500 mg/kg

■ EC-Index-No. 607-164-00-8 ■ LGK 10 - 13

■ HS-No. 2932 20 90 ■ Disposal 3

## 814085 Dehydracetic acid sodium salt for synthesis

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14085.0005	Glass bottle	5 g	inquire
8.14085.0250	Plastic bottle	250 g	inquire
8.14085.1000	Plastic bottle	1 kg	inquire

## 845142 Dehydracetic acid sodium salt for pharma synthesis, non-GMP

## Specification

Colour (visual) ..... white to yellowish

Appearance of substance (visual) ..... powder

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 % (m)

Water (K. F.) ..... ≤ 0,50 % (m)

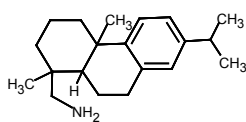
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45142.0250	Plastic bottle	250 g	inquire
8.45142.1000	Plastic bottle	1 kg	inquire



# Dehydr

## 814766 Dehydroabietylamine (mixture of isomers) for synthesis



C<sub>20</sub>H<sub>31</sub>N  
 1,4 $\alpha$ -Dimethyl-7-isopropyl-1,2,3,4,4 $\alpha$ ,9,10,10 $\alpha$ -octahydro-1-phenanthrenemethylamine  
 ■ CAS-No. 99306-87-3  
 ■ Spec. density 1.55 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 285.47 g/mol

- Melting point 35 - 38 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 3259 Amine, fest, ätzend, n.a.g.((+) -DEHYDROABIETHYLAMIN), 8, III ■ IMDG-Code UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.((+) -DEHYDROABIETHYLAMINE), 8, III, Segregation Group: 18 (Alkalis)

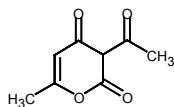
■ IATA-DGR UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.((+) -DEHYDROABIETHYLAMINE), 8, III

### Specification

Assay (HClO<sub>4</sub>)..... ≥ 90,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14766.0025	Glass bottle	25 g	inquire
8.14766.0100	Glass bottle	100 g	inquire

## 822011 Dehydroacetic acid for synthesis



C<sub>8</sub>H<sub>8</sub>O<sub>4</sub>  
 3-Acetyl-3,4-dihydro-6-methyl-2H-pyran-2,4-dione  
 ■ CAS-No. 520-45-6 ■ EC-No. 208-293-9  
 ■ Vapour pressure 0.001 hPa (20 °C)

- Flash point 157 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C)
- M = 168.14 g/mol ■ pH value 4 (2 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 109 - 111 °C
- Bulk density 700 kg/m<sup>3</sup> ■ Boiling point 270 °C (1013 hPa) ■ Ignition temp. 336 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1000 mg/kg
- EC-Index-No. 607-163-00-2 ■ LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

### Specification

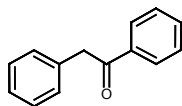
Assay (acidimetric)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 109 °C  
 Melting range (upper value)..... ≤ 112 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22011.0005	Glass bottle	5 g	inquire
8.22011.0250	Plastic bottle	250 g	inquire
8.22011.1000	Plastic bottle	1 kg	inquire

DEV Lactose broth → page 100

DEV Lactose peptone broth → page 100

## 803213 Deoxybenzoin for synthesis



C<sub>14</sub>H<sub>12</sub>O  
 C<sub>6</sub>H<sub>5</sub>COCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>  
 Benzyl phenyl ketone, 2-Phenylacetophenone

- CAS-No. 451-40-1 ■ EC-No. 207-193-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 196.24 g/mol ■ Melting point 52 - 55 °C
- Boiling point 319 - 321 °C
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2914 39 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 52 °C  
 Melting range (upper value)..... ≤ 55 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03213.0050	Glass bottle	50 g	inquire

Deoxycholate citrate agar acc. to LEIFSON → page 102

Deoxycholate lactose agar acc. to LEIFSON → page 100

Deoxyribonuclease test agar → page 100  
 DEPBT → page 280

Deoxycholate hydrogensulfide lactose agar → page 100

Deoxycholic acid sodium salt → page 112

## Derivatisation reagents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
44	109649	N,O-Bis(trimethylsilyl)acetamide	44	102333	Chlorotrimethylsilane	1580	808255	Trichloromethylsilane
44	110255	Bis(trimethylsilyl)trifluoroacetamide	720	803452	Dichlorodimethylsilane	44	112513	Trifluoroacetic anhydride
482	801630	Boron tribromide	790	803066	N,N-Dimethylformamide diethyl acetal	44	111805	2,2,2-Trifluoro-N-methyl-N-(trimethylsilyl)acetamide
483	801647	Boron trifluoride-diethyl ether complex	790	803068	N,N-Dimethylformamide dimethyl acetal	44	109771	N-(Trimethylsilyl)imidazole
483	801663	Boron trifluoride-methanol complex	44	112186	1,1,1,3,3,3-Hexamethyldisilazane			

Derivatives → Organoelement compounds

Dermatophyte selective agar → page 100

## Desiccants

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
330	106107	Absorption tube for H <sub>2</sub> O	1089	105874	Magnesium perchlorate hydrate	1345	104928	Potassium carbonate
561	102053	Calcium	1089	106067	Magnesium sulfate anhydrous	1354	105033	Potassium hydroxide
562	102379	Calcium chloride	1089	105886	Magnesium sulfate heptahydrate	1417	100719	SICACIDE with indicator
562	102378	Calcium chloride				1417	100543	SICAPENT® with indicator
563	802100	Calcium hydride	1188	105704	Molecular sieve 0.3 nm	1418	107735	Silica gel
564	102109	Calcium oxide from marble	1188	105734	Molecular sieve 0.3 nm	1418	101905	Silica gel
656	102791	Copper(II) sulfate anhydrous	1189	105706	Molecular sieve 0.3 nm	1418	101907	Silica gel
1079	805661	Lithium aluminium hydride	1189	105741	Molecular sieve 0.3 nm	1418	101969	Silica gel with indicator (orange gel),
1079	818875	Lithium aluminium hydride	1189	105708	Molecular sieve 0.4 nm	1424	106260	Sodium
1079	818876	Lithium aluminium hydride	1189	105739	Molecular sieve 0.4 nm	1439	106498	Sodium hydroxide
1080	818877	Lithium aluminium hydride	1189	105743	Molecular sieve 0.4 nm	1452	106649	Sodium sulfate
1086	105815	Magnesium	1189	105705	Molecular sieve 0.5 nm	1451	822286	Sodium sulfate
1088	105865	Magnesium oxide	1189	105703	Molecular sieve 1.0 nm	1451	106639	Sodium sulfate
1089	105873	Magnesium perchlorate hydrate	1323	100540	di-Phosphorus pentoxide	1451	106639	Sodium sulfate
			1323	100570	di-Phosphorus pentoxide	1512	100731	Sulfuric acid 95-97%



**103803 Desiccant sachet 3 g silica gel with humidity indicator (orange gel) sachet: 4 x 7 cm**

- Solub. in H<sub>2</sub>O 1 g/l ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point >1000 °C
- Water absorption 250 g/kg (20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3824 90 97

Colour changes from pink to colourless

**Specification**

Water absorption capacity (24 h, 80 % relative humidity) ..... ≥ 20 %  
Loss on drying (140°C, 3 h) ..... ≤ 10 %

Ord.No.	Packaging	Quantity	Price
1.03803.0001	Metal can	100 units	inquire
1.03803.0002	Fibre carton	1000 units	inquire

**103804 Desiccant sachet 10 g silica gel with humidity indicator (orange gel) sachet: 7 x 9 cm**

- Solub. in H<sub>2</sub>O 1 g/l ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point >1000 °C
- Water absorption 250 g/kg (20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3824 90 97

Colour changes from pink to colourless

**Specification**

Water absorption capacity (24 h, 80 % relative humidity) ..... ≥ 20 %  
Loss on drying (140°C, 3 h) ..... ≤ 10 %

Ord.No.	Packaging	Quantity	Price
1.03804.0001	Metal can	50 units	inquire

**103805 Desiccant sachet 100 g silica gel with humidity indicator (orange gel) sachet: 15 x 14 cm**

- Solub. in H<sub>2</sub>O 1 g/l ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point >1000 °C
- Water absorption 250 g/kg (20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3824 90 97

Colour changes from pink to colourless

**Specification**

Water absorption capacity (24 h, 80 % relative humidity) ..... ≥ 20 %  
Loss on drying (140°C, 3 h) ..... ≤ 10 %

Ord.No.	Packaging	Quantity	Price
1.03805.0001	Metal can	10 units	inquire

**103806 Desiccant sachet 250 g silica gel with humidity indicator (orange gel) sachet: 15 x 20.5 cm**

- Solub. in H<sub>2</sub>O 1 g/l ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point >1000 °C
- Water absorption 250 g/kg (20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3824 90 97

Colour changes from pink to colourless

**Specification**

Water absorption capacity (24 h, 80 % relative humidity) ..... ≥ 20 %  
Loss on drying (140°C, 3 h) ..... ≤ 10 %

Ord.No.	Packaging	Quantity	Price
1.03806.0001	Metal can	10 units	inquire

Desiccator grease → Stopcock grease page 1501  
Desoxyribonuclease test agar → page 100

Desyl chloride → 2-Chloro-2-phenylacetophenone page 628  
DET → (2S,3S)-(-)-Diethyl tartrate page 750

Detectors for HPLC → 1,1,3,3-Tetramethylbutyl isocyanide page 1540

**Detergents**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
484	101894	Brij® 35 solution	830	106022	Dodecyl sulfate sodium salt	830	113760	Dodecyl sulfate sodium salt
590	111662	CHAPS (3-[(3-Cholamidopropyl)-dimethylammonio]-propane-sulfonate)	830	112533	Dodecyl sulfate sodium salt			

Detergents → Tensides

Determination of dietary fibers → page 86

Determination of gas metabolism → Sulfuric acid 40% page 1511

DEV Tryptophan broth → page 100

**Deuterated solvents for NMR spectroscopy, MagniSolv™**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
294	815035	Acetic acid-D1	294	113366	Deuterium oxide	295	106028	Methanol-D4
294	815036	Acetic acid-D4	294	103428	Deuterium oxide	295	106025	Methanol-D4
294	100021	Acetone-D6	294	815029	1,2-Dichlorobenzene-D4	295	815053	Methylcyclohexane-D14
294	111969	Acetone-D6	294	113720	Dichloromethane-D2	295	815000	Naphthalene-D8
294	102904	Acetonitrile-D3	294	104200	Dichloromethane-D2	295	815001	Nitrobenzene-D5
294	100220	Acetonitrile-D3	295	815031	Diethyl ether-D10	295	102914	Nitromethane-D3
294	113753	Acetonitrile-D3	295	815032	N,N-Dimethylacetamide-D9	295	815002	n-Octane-D18
294	815008	Ammonia-D3 26% solution in D <sub>2</sub> O	295	111656	Dimethylformamide-D7	295	815003	Phenol-D6
294	101789	Benzene-D6	295	815034	Dimethyl sulfate-D6	295	815058	Phosphoric acid-D3 85% solution in D <sub>2</sub> O
294	101766	Benzene-D6	295	103424	Dimethyl sulfoxide-D6	295	815044	2-Propanol-D1
294	815014	tert-Butanol-D1	295	103562	Dimethyl sulfoxide-D6	295	815045	2-Propanol-D8
294	103296	Chloroform-D1	295	103592	Dimethyl sulfoxide-D6	295	107475	Pyridine-D5
294	102450	Chloroform-D1	295	103587	Dimethyl sulfoxide-D6	295	815055	Sodiumdeuterium oxide 30% solution in D <sub>2</sub> O
294	103420	Chloroform-D1	295	815037	Ethanol-D1	295	815061	Styrene-D8
294	102446	Chloroform-D1	295	103450	Ethanol-D6	296	815060	Sulfuric acid-D2 96% solution in D <sub>2</sub> O
294	113359	Chloroform-D1	295	113365	Formic acid-D2	296	103495	1,1,2,2-Tetrachloroethane-D2
294	815023	Cumene-D12	295	815041	1,1,1,3,3,3-Hexafluoro-2-propanol-D2	296	113364	Tetrahydrofuran-D8
294	815024	Cyclohexane-D12	295	815043	n-Hexane-D14	296	108183	Tetramethylsilane
294	815027	n-Decane-D22	295	815048	Lithium aluminium deuteride	296	113368	Toluene-D8
294	815016	Deuterium chloride 20% solution in D <sub>2</sub> O	295	815051	Methanol-D1	296	113363	Trifluoroacetic acid-D1
294	815017	Deuterium chloride 20% solution in D <sub>2</sub> O	295	815052	Methanol-D3	296	108652	3-(Trimethylsilyl)propionic acid-D4 sodium salt
294	815018	Deuterium chloride 38% solution in D <sub>2</sub> O				296	815005	p-Xylene-D10

# Deuter

## 815016 Deuterium chloride 20% solution in D<sub>2</sub>O deuteration degree min. 99.5% for NMR spectroscopy

MagniSolv™

■ Spec. density 1.189 g/cm<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 2845 90 10 ■ Disposal 12  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

### Specification

Deuteration degree..... ≥ 99.5 %  
 Assay (weight%)..... ≥ 20 %

Ord.No.	Packaging	Quantity	Price
8.15016.0025	Glass bottle	25 ml	inquire

## 815017 Deuterium chloride 20% solution in D<sub>2</sub>O deuteration degree min. 99.95% for NMR spectroscopy

MagniSolv™

■ Spec. density 1.189 g/cm<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 2845 90 10 ■ Disposal 12  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

### Specification

Deuteration degree..... ≥ 99.95 %  
 Assay (weight%)..... ≥ 20 %

Ord.No.	Packaging	Quantity	Price
8.15017.0010	Glass ampoule	10 ml	inquire

## 815018 Deuterium chloride 38% solution in D<sub>2</sub>O deuteration degree min. 99.5% for NMR spectroscopy

MagniSolv™

DCI  
 ■ Vapour pressure 21.3 hPa (20 °C)  
 ■ Spec. density 1.257 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -40 °C  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category

3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2845 90 10 ■ Disposal 12  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

### Specification

Deuteration degree..... ≥ 99.5 %  
 Assay (weight%)..... ≥ 38 %

Ord.No.	Packaging	Quantity	Price
8.15018.0010	Glass ampoule	10 ml	inquire
8.15018.0050	Glass bottle	50 ml	inquire

## Deuterium oxide

D<sub>2</sub>O  
 Heavy water  
 ■ CAS-No. 7789-20-0 ■ EC-No. 232-148-9  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 20.03 g/mol  
 ■ pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point 3.8 °C  
 ■ Boiling point 101 °C (1013 hPa)

■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2845 10 00 ■ Disposal 28

## 103428 Deuterium oxide deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™

### Specification

Deuteration degree..... ≥ 99.96 %  
 Performance test (NMR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.03428.0005	Glass ampoule	10x 0.5 ml	inquire
1.03428.0009	Glass ampoule	10x 0.75 ml	inquire
1.03428.0010	Septum ampoule	10 ml	inquire
1.03428.0100	Glass bottle	100 ml	inquire

## 113366 Deuterium oxide deuteration degree min. 99.9% for NMR spectroscopy MagniSolv™

### Specification

Deuteration degree..... ≥ 99.90 %  
 Performance test (NMR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.13366.0009	Glass ampoule	10x 0.75 ml	inquire
1.13366.0010	Septum ampoule	10 ml	inquire
1.13366.0025	Glass bottle	25 ml	inquire
1.13366.0100	Glass bottle	100 ml	inquire
1.13366.0500	Glass bottle	500 ml	inquire

Deuteriochloroform → page 294

## 105341 Devarda's alloy for analysis EMSURE®

■ CAS-No. 8049-11-4  
 ■ Spec. density 5.79 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ Melting point 490 - 560 °C  
 ■ Bulk density 2080 kg/m<sup>3</sup> ■ Boiling point 906 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 7403 29 00 ■ Disposal 14

Reducing agent for the Kjeldahl determination of total nitrogen and for reducing alkali metal chlorates to chlorides.

### Specification

Total nitrogen (N)..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.05341.0250	Plastic bottle	250 g	inquire
1.05341.1000	Plastic bottle	1 kg	inquire

DEV-Nutrient agar → page 100

Dextrose tryptone agar → page 100

DHP HM resin (100-200 mesh) → page 268

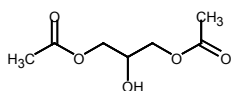
Dextrose → D(+)-Glucose page 923

DFPE polystyrene → page 267

Dextrose casein peptone agar → page 100

DHL agar acc. to SAKAZAKI → page 100

## 820384 Diacetin (mixture of isomers) for synthesis

C<sub>7</sub>H<sub>12</sub>O<sub>5</sub>

Glycerol diacetate

- CAS-No. 25395-31-7 ■ EC-No. 246-941-2
- Vapour pressure 0.001 hPa (20 °C)

- Spec. density 1.18 g/cm<sup>3</sup> (20 °C)
- Flash point 140 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 176.17 g/mol
- pH value 5 - 6 (50 g/l, H<sub>2</sub>O, 20 °C)
- Boiling point 280 °C ■ Ignition temp. >370 °C
- WGK 1
- LGK 10
- HS-No. 2915 39 00 ■ Disposal 3

## Specification

Saponification value .....540 - 605  
Density (d 20 °C/ 4 °C) .....1.185 - 1.195  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.20384.0100	Glass bottle	100 ml	inquire
8.20384.0500	Glass bottle	500 ml	inquire

Diaceton alcohol → 4-Hydroxy-4-methyl-2-pentanone page 304

Diacetoneglucose → (-)-1,2:5,6-Di-O-isopropylidene-α-D-glucufuranose page 768

Diaceton-α-D-mannofuranose → (+)-2,3:5,6-Di-O-isopropylidene-α-D-mannofuranose page 768

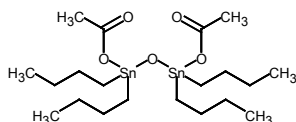
Diacetoxydibutylstannane → Dibutyltin diacetate page 710

Diacetoxydibutyltin → Dibutyltin diacetate page 710

1,2-Diacetoxyethane → Ethylene glycol diacetate page 303

Diacetoxyiodosobenzene → Iodosobenzene diacetate page 1013

## 818064 1,3-Diacetoxy-1,1,3,3-tetrabutyl-distannoxane for synthesis

C<sub>20</sub>H<sub>40</sub>O<sub>5</sub>Sn<sub>2</sub>

Acetoxydibutylstannoxane, Dibutylacetoxytin oxide

- CAS-No. 5967-09-9 ■ EC-No. 227-755-0
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 599.97 g/mol

mol ■ Melting point 53 - 56 °C

- WGK 3
- LGK 6.1A
- HS-No. 2931 90 90 ■ Disposal 15
- ADR-RID UN 3146 Organische Zinnverbindung, fest, n.a.g.(DIACETOXYTETRABUTYLDISTANNOXAN DIMER), 6.1, II ■ IMDG-Code UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(DIACETOXYTETRABUTYLDISTANNOXAN DIMER), 6.1, II, Marine Pollutant: P
- IATA-DGR UN 3146 ORGANOTIN COMPOUND,

SOLID,  
N.O.S.(DIACETOXYTETRABUTYLDISTANNOXAN DIMER), 6.1, II

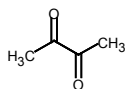
## Specification

Assay (ex Sn) .....≥ 98,0 % (m)  
Melting range (lower value).....≥ 56 °C  
Melting range (upper value).....≤ 59 °C  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18064.0025	Glass bottle	25 g	inquire

Diacetoxytetrabutyltin oxide → 1,3-Diacetoxy-1,1,3,3-tetrabutyl-distannoxane page 691

## 803528 Diacetyl for synthesis

C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>CH<sub>3</sub>COCOCH<sub>3</sub>

2,3-Butanedione, 2,3-Butadione, Dimethyldiketon, Dimethylglyoxal

- CAS-No. 431-03-8 ■ EC-No. 207-069-8
- Vapour pressure 52 hPa (20 °C)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.4 - 13.0 % (V) ■ Flash point 5 °C ■ Solub. in H<sub>2</sub>O 200 g/l (25 °C) ■ M = 86.09 g/mol

- Melting point -2 °C ■ Boiling point 89 - 90 °C (1013 hPa) ■ Ignition temp. 365 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P233, P240, P302 + P352, P305 + P351 + P338
- LC50 rat 2.25 - 5.2 mg/l
- LD50 oral rat 1580 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 3
- HS-No. 2914 19 90 ■ Disposal 3

- ADR-RID UN 2346 Butandion, 3, II ■ IMDG-Code UN 2346 BUTANEDIONE, 3, II
- IATA-DGR UN 2346 BUTANEDIONE, 3, II

## Specification

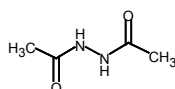
Assay (GC, area%) .....≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) .....0.984 - 0.987  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.03528.0002	Glass bottle	2 ml	inquire
8.03528.0100	Alu bottle	100 ml	inquire
8.03528.0250	Alu bottle	250 ml	inquire

Di-O-acetyl-1,5-anhydro-2,6-deoxy-L-arabinohex-1-enite → (+)-Di-O-acetyl-L-rhamnal page 692

Diacetyldioxime → Dimethylglyoxime page 791

## 814463 N,N'-Diacetylhydrazine for synthesis

C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>CH<sub>3</sub>CONH-NHCOCH<sub>3</sub>

- CAS-No. 3148-73-0 ■ EC-No. 221-576-1
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 116.11 g/mol

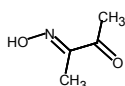
- mol ■ Melting point 137 - 140 °C
- Boiling point 209 °C (20 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

## Specification

Assay (HPLC, area%) .....≥ 99,0 Area %  
Melting range (lower value).....≥ 137 °C  
Melting range (upper value).....≤ 139 °C  
Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14463.0010	Glass bottle	10 g	inquire

## 102918 Diacetyl monoxime GR for analysis

C<sub>4</sub>H<sub>7</sub>NO<sub>2</sub>

2,3-Butanedione monoxime, Biacetyl monoxime, BDM

- CAS-No. 57-71-6 ■ EC-No. 200-348-5

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 101.1 g/mol
- Melting point 74 - 76 °C ■ Bulk density 440 kg/m<sup>3</sup> ■ Boiling point 185 - 186 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

## Specification

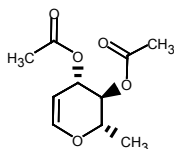
Purity (DSC).....≥ 99 %  
Identity (IR-spectrum).....conforms

Melting point (DSC).....74 - 76 °C  
Sulfated ash.....≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.02918.0025	Plastic bottle	25 g	inquire
1.02918.0100	Plastic bottle	100 g	inquire

# Diacet

## 818235 (+)-Di-O-acetyl-L-rhamnal for synthesis



C<sub>10</sub>H<sub>14</sub>O<sub>5</sub>  
Di-O-acetyl-1,5-anhydro-2,6-deoxy-L-arabino-

*hex-1-enite*  
 ■ CAS-No. 34819-86-8 ■ EC-No. 252-228-7  
 ■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 214.21 g/mol  
 ■ Boiling point 84 - 86 °C (1 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 99 00 ■ Disposal 3

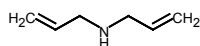
### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.141 - 1.143  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (undiluted)] ..... 70.0 - 71.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18235.0001	Glass bottle	1 g	inquire

Diacrylamidomethane → page 1150

## 803521 Diallylamine for synthesis



C<sub>6</sub>H<sub>11</sub>N  
 (CH<sub>2</sub>=CHCH<sub>2</sub>)<sub>2</sub>NH  
*N-2-Propenyl-2-propen-1-amine*  
 ■ CAS-No. 124-02-7 ■ EC-No. 204-671-2  
 ■ Refractive index 1.4405 (20 °C, 589 nm)  
 ■ Vapour pressure 24.2 hPa (20 °C)  
 ■ Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.93 - 14.2 % (V) ■ Flash point 11 °C ■ Solub. in H<sub>2</sub>O 86 g/l (20 °C) ■ M = 97.15 g/mol  
 ■ pH value 11.5 (9.7 g/l, H<sub>2</sub>O) ■ Melting point - 88 °C ■ Boiling point 111 °C (1013 hPa)

■ Ignition temp. 273 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P223, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 11.1 mg/l  
 ■ LD50 oral rat 578 mg/kg ■ LD50 dermal rabbit > 500 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2921 19 99 ■ Disposal 3

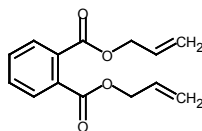
ADR-RID UN 2359 Diallylamin, 3 (6.1, 8), II  
 IMDG-Code UN 2359 DIALLYLAMINE, 3 (6.1, 8), II  
 IATA-DGR UN 2359 DIALLYLAMINE, 3 (6.1, 8), II

### Specification

Assay (GC, area%) ..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.787 - 0.792  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03521.0250	Glass bottle	250 ml	inquire
8.03521.1000	Glass bottle	1 l	inquire

## 803289 Diallyl phthalate for synthesis



C<sub>14</sub>H<sub>14</sub>O<sub>4</sub>  
 C<sub>6</sub>H<sub>4</sub>-1,2-(COOCH<sub>2</sub>CH=CH<sub>2</sub>)<sub>2</sub>  
*DAP, Phthalic acid diallyl ester*  
 ■ CAS-No. 131-17-9 ■ EC-No. 205-016-3  
 ■ Vapour pressure 0.3 hPa (100 °C)  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 166 °C ■ Solub. in H<sub>2</sub>O 0.18 g/l

(20 °C) ■ M = 246.26 g/mol ■ Melting point - 70 °C ■ Boiling point 290 °C (1013 hPa)  
 ■ Ignition temp. 435 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273  
 ■ LC50 rat 1.3 mg/l  
 ■ LD50 oral rat 656 mg/kg ■ LD50 dermal rabbit 3300 mg/kg  
 ■ EC-Index-No. 607-086-00-4 ■ LGK 10 - 13  
 ■ HS-No. 2917 34 00 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüchtig, n.a.g.(DIALLYLPHTHALAT), 9, III ■ IMDG-

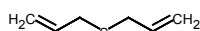
Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIALLYL PHTHALATE), 9, III, Marine Pollutant: P  
 IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIALLYL PHTHALATE), 9, III

### Specification

Assay (GC, area%) ..... ≥ 96.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1.118 - 1.120  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03289.0100	Plastic bottle	100 ml	inquire
8.03289.0500	Plastic bottle	500 ml	inquire

## 820050 Diallyl sulfide for synthesis



C<sub>6</sub>H<sub>10</sub>S  
 (CH<sub>2</sub>=CHCH<sub>2</sub>)<sub>2</sub>S  
*Allyl sulfide*  
 ■ CAS-No. 592-88-1 ■ EC-No. 209-775-1  
 ■ Refractive index 1.4877 (27 °C, 589 nm)  
 ■ Vapour pressure 12 hPa (25 °C)  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 % (V) ■ Flash point 23 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 114.2 g/mol

■ Melting point -83 °C  
 ■ Boiling point 138 - 140 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LD50 oral rat 2980 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DIALLYLSULFID), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ALLYL SULFIDE),

3, III  
 IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ALLYL SULFIDE), 3, III

### Specification

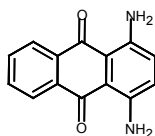
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.886 - 0.892  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20050.0050	Glass bottle	50 ml	inquire

4',6-Diamidino-2-phenylindole dihydrochloride (DAPI) → page 191

cis-Diaminedichloroplatinum(II) → cis-Platinum (65% Pt) page 1334

## 842128 1,4-Diaminoanthraquinone for synthesis



C<sub>14</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>

■ CAS-No. 128-95-0 ■ EC-No. 204-922-6  
 ■ Flash point >340 °C ■ Solub. in H<sub>2</sub>O 0.33 mg/l (25 °C) (experimental) ■ M = 238.25 g/mol  
 ■ Melting point 265 - 268 °C  
 ■ WGK 1  
 ■ LD50 oral rat 5790 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 39 00 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 88.0 % (a/a)  
 Identity (IR) ..... passes test

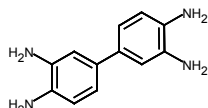
Ord.No.	Packaging	Quantity	Price
8.42128.0025	Glass bottle	25 g	inquire
8.42128.0100	Glass bottle	100 g	inquire

1,2-Diaminobenzene → page 1300

1,3-Diaminobenzene → 1,3-Phenylenediamine page 1301

1,4-Diaminobenzene → 1,4-Phenylenediamine page 1301

## 843958 3,3'-Diaminobenzidine for synthesis

C<sub>12</sub>H<sub>14</sub>N<sub>4</sub>

■ CAS-No. 91-95-2 ■ EC-No. 202-110-6  
 ■ Flash point >200 °C ■ Solub. in H<sub>2</sub>O 0.55 g/l (20 °C) ■ M = 214.27 g/mol ■ pH value 7 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 175 - 177 °C

■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341, P201, P281, P308 + P313  
 ■ EC-Index-No. 612-239-00-3 ■ LGK 6.1C  
 ■ HS-No. 2921 59 90 ■ Disposal 3

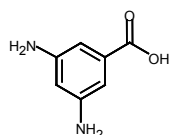
**Specification**  
 Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 172 °C

Melting range (upper value) ..... ≤ 176 °C  
 Water (K. F.) ..... ≤ 0.50 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43958.0010	Glass bottle	10 g	inquire
8.43958.0025	Glass bottle	25 g	inquire

3,3-Diamino benzidine → page 203

## 820405 3,5-Diaminobenzoic acid for synthesis

C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>

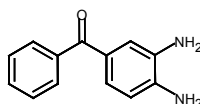
3,5-(NH<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COOH  
 ■ CAS-No. 535-87-5 ■ EC-No. 208-621-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.15 g/mol  
 ■ Melting point 239 - 242 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

**Specification**

Assay (acidimetric) ..... ≥ 99.0 %  
 Melting range (lower value) ..... ≥ 239 °C  
 Melting range (upper value) ..... ≤ 242 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20405.0050	Plastic bottle	50 g	inquire
8.20405.0250	Plastic bottle	250 g	inquire

## 841662 3,4-Diaminobenzophenone for synthesis

C<sub>13</sub>H<sub>12</sub>N<sub>2</sub>O(C<sub>6</sub>H<sub>5</sub>)CO(C<sub>6</sub>H<sub>3</sub>(NH<sub>2</sub>)<sub>2</sub>)

■ CAS-No. 39070-63-8 ■ EC-No. 254-273-8  
 ■ Solub. in H<sub>2</sub>O 0.4 g/l ■ M = 212.25 g/mol

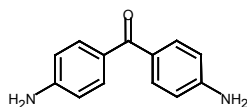
■ Melting point 116 - 118 °C  
 ■ Ignition temp. 550 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 39 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 96.0 Area %  
 Melting range (lower value) ..... ≥ 115 °C  
 Melting range (upper value) ..... ≤ 117 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41662.0025	Plastic bottle	25 g	inquire

## 815111 4,4'-Diaminobenzophenone for synthesis

C<sub>13</sub>H<sub>12</sub>N<sub>2</sub>O

■ CAS-No. 611-98-3

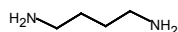
■ M = 212.25 g/mol ■ Melting point 242 - 246 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 39 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 96.0 Area %  
 Melting range (lower value) ..... ≥ 242 °C  
 Melting range (upper value) ..... ≤ 246 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.15111.0025	Glass bottle	25 g	inquire

## 808279 1,4-Diaminobutane for synthesis

C<sub>4</sub>H<sub>12</sub>N<sub>2</sub>H<sub>2</sub>N(CH<sub>2</sub>)<sub>4</sub>NH<sub>2</sub>

Tetramethylenediamine, 1,4-Butanediamine

■ CAS-No. 110-60-1 ■ EC-No. 203-782-3  
 ■ Refractive index 1.454 (30 °C, 589 nm)  
 ■ Spec. density 0.88 g/cm<sup>3</sup> ■ Explosive limit 0.7 - 11.2 % (V) ■ Flash point 63 °C ■ Solub. in H<sub>2</sub>O 40 g/l (20 °C) ■ M = 88.15 g/mol  
 ■ Melting point 25 - 28 °C  
 ■ Boiling point 158 - 160 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3,

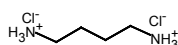
Inhalation, H331; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314;  
 Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.877 - 1.297 mg/l  
 ■ LD50 oral rat 463 mg/kg ■ LD50 dermal rabbit 1576 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2921 29 00 ■ Disposal 9  
 ■ ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(1,4-DIAMINOBTAN), 8 (6.1), II ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC,

N.O.S.(1,4-DIAMINOBTAN), 8 (6.1), II  
 ■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(1,4-DIAMINOBTAN), 8 (6.1), II

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Melting range (lower value) ..... ≥ 25 °C  
 Melting range (upper value) ..... ≤ 28 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08279.0100	Glass bottle	100 ml	inquire

## 821980 1,4-Diaminobutane dihydrochloride for synthesis

C<sub>4</sub>H<sub>14</sub>Cl<sub>2</sub>N<sub>2</sub>H<sub>2</sub>N(CH<sub>2</sub>)<sub>4</sub>NH<sub>2</sub> \* 2 HCl

1,4-Butanediammonium dichloride, Putrescine

dihydrochloride, Tetramethylenediammonium dichloride

■ CAS-No. 333-93-7 ■ EC-No. 206-375-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 161.07 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13

■ HS-No. 2921 29 00 ■ Disposal 3

**Specification**  
 Assay (argentometric) ..... ≥ 98.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21980.0025	Glass bottle	25 g	inquire

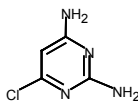
1,4-Diaminobutane trityl resin → page 273

L-(+)-2,6-Diamino-N-caproic acid monohydrochloride → L-Lysine monohydrochloride page 1085

L-(+)-2,6-Diamino-n-caproic acid monohydrochloride → (S)-(+)-Lysine monohydrochloride page 1085



## 814663 2,4-Diamino-6-chloropyrimidine for synthesis



C<sub>4</sub>H<sub>5</sub>ClN<sub>4</sub>  
 ■ CAS-No. 156-83-2 ■ EC-No. 205-863-9  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ M = 144.56 g/mol  
 ■ Melting point 197 - 200 °C

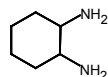
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 197 °C  
 Melting range (upper value) ..... ≤ 200 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14663.0025	Plastic bottle	25 g	inquire

## 814731 1,2-Diaminocyclohexane (mixture of isomers) for synthesis



C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>  
 1,2-Cyclohexanediamine, DACH  
 ■ CAS-No. 694-83-7 ■ EC-No. 211-776-7  
 ■ Vapour pressure 0.51 hPa (20 °C)  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 114.19 g/mol ■ pH value 11.3 (5 g/l, H<sub>2</sub>O, 20 °C) neutral ■ Melting point 2 - 15 °C  
 ■ Boiling point 183 °C (1013 hPa)

- WGK 2
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P301 + P330 + P331, P305 + P351 + P338, P302 + P352, P309 + P310
- LD50 oral rat 4556 mg/kg
- LGK 8A
- HS-No. 2921 30 99 ■ Disposal 3
- ADR-RID UN 2735 Polyamine, flüssig, ätzend, n.a.g.(1,2-DIAMINOCYCLOHEXAN), 8, II ■ IMDG-Code UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S.(1,2-DIAMINOCYCLOHEXANES), 8, II,

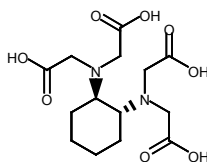
Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S.(1,2-DIAMINOCYCLOHEXANES), 8, II

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,954 - 0,956  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14731.0100	Glass bottle	100 ml	inquire
8.14731.1000	Glass bottle	1 l	inquire

1,2-Diaminocyclohexane-N,N,N',N'-tetraacetic acid → Titriplex® IV page 172

## 841032 trans-1,2-Diaminocyclohexane-N,N,N',N'-tetraacetic acid monohydrate for synthesis



C<sub>14</sub>H<sub>22</sub>N<sub>2</sub>O<sub>8</sub> · H<sub>2</sub>O  
 1,2-Cyclohexanediamine-N,N,N',N'-tetraacetic acid, 1,2-Cyclohexylenedinitrilotetraacetic

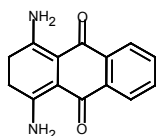
- acid, 1,2-Diaminocyclohexane-N,N,N',N'-tetraacetic acid
- CAS-No. 125572-95-4 ■ EC-No. 236-308-9
  - Solub. in H<sub>2</sub>O (20 °C) practically insoluble
  - M = 364.34 g/mol ■ Melting point 213 °C
  - Bulk density 500 kg/m<sup>3</sup>
  - WGK 2
  - GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
  - LGK 10 - 13

■ HS-No. 2922 49 85 ■ Disposal 3  
**Specification**  
 Assay (complexometric, calc. on anhydrous substance) ..... ≥ 99,0 %  
 Water (K. F.) ..... 4.8 - 5.6 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41032.0005	Glass bottle	5 g	inquire
8.41032.0025	Glass bottle	25 g	inquire
8.41032.0100	Glass bottle	100 g	inquire

2,2'-Diaminodiethylamine → Diethylenetriamine page 744

## 843852 1,4-Diamino-2,3-dihydroanthracinone for synthesis



C<sub>14</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>  
 ■ CAS-No. 81-63-0 ■ EC-No. 201-367-1  
 ■ M = 240.26 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 39 00 ■ Disposal 3

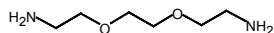
**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 253 °C  
 Melting range (upper value) ..... ≤ 257 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43852.0010	Glass bottle	10 g	inquire
8.43852.0100	Glass bottle	100 g	inquire

4,4'-Diamino-3,3'dimethyl-1,1'-binaphthyl → 3,3'-Dimethylnaphthidine page 172

## 818116 1,8-Diamino-3,6-dioxaoctane for synthesis



C<sub>6</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>  
 ■ CAS-No. 929-59-9 ■ EC-No. 213-203-6  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 121 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 148.20 g/mol  
 ■ Boiling point 88 °C (0.7 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P260, P280,

P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2922 19 85  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(1,8-DIAMINO-3,6-DIOXAOKTAN), 8, II  
 ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1,8-DIAMINO-3,6-DIOXAOKTANE), 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1,8-DIAMINO-3,6-

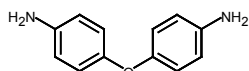
DIOXAOKTANE), 8, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,011 - 1,014  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18116.0025	Glass bottle	25 ml	inquire
8.18116.0100	Glass bottle	100 ml	inquire



## 820948 4,4'-Diaminodiphenyl ether for synthesis

C<sub>12</sub>H<sub>12</sub>N<sub>2</sub>O4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>OC<sub>6</sub>H<sub>4</sub>-4-(NH<sub>2</sub>)

4,4'-Oxydianiline, Bis(p-aminophenyl) ether

■ CAS-No. 101-80-4 ■ EC-No. 202-977-0

■ Vapour pressure 13.3 hPa (240 °C)

■ Flash point 218 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 200.23 g/mol

■ Melting point 189 - 192 °C (decomposition)

■ Boiling point 190 °C (0.13 hPa)

■ WGK 3

■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 2, H411, P201, P281, P273, P304 + P340, P302 + P352, P309 + P310

■ EC-Index-No. 612-199-00-7 ■ LGK 6.1C

■ HS-No. 2922 29 00 ■ Disposal 9

■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(4,4'-DIAMINODIPHENYLETHER), 9, III

■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4,4'-

DIAMINODIPHENYL ETHER), 9, III, Marine

Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4,4'-DIAMINODIPHENYL ETHER), 9, III

## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

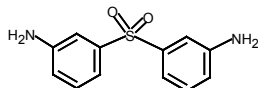
Melting range (lower value) ..... ≥ 189 °C

Melting range (upper value) ..... ≤ 192 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20948.0250	Glass bottle	250 g	inquire

## 814680 3,3'-Diaminodiphenyl sulfone for synthesis

C<sub>12</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>S

3,3'-Sulfonyldianiline

■ CAS-No. 599-61-1 ■ EC-No. 209-967-5

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. inH<sub>2</sub>O (20 °C) slightly soluble ■ M = 248.29 g/mol

■ Melting point 167 - 170 °C

■ Bulk density 400 kg/m<sup>3</sup>

■ WGK 3

■ LD50 oral rat 4920 mg/kg

■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 96.0 % (a/a)

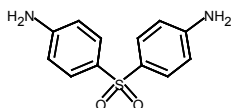
Melting range (lower value) ..... ≥ 166 °C

Melting range (upper value) ..... ≤ 170 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14680.0025	Glass bottle	25 g	inquire

## 821073 4,4'-Diaminodiphenyl sulfone for synthesis

C<sub>12</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>S[4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>]<sub>2</sub>SO<sub>2</sub>

DDS, 4,4'-Sulfonyldianiline, Bis(p-aminophenyl) sulfone

■ CAS-No. 80-08-0 ■ EC-No. 201-248-4

■ Solub. in H<sub>2</sub>O 0.38 g/l (37 °C) ■ M = 248.30 g/mol■ pH value 5.5 - 7.5 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution) ■ Melting point 172 - 175 °C■ Bulk density 250 - 350 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P260

■ LD50 oral rat 1000 mg/kg ■ LD50 dermal rabbit &gt; 4000 mg/kg

■ EC-Index-No. 612-084-00-1 ■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)

Melting range (lower value) ..... ≥ 175 °C

Melting range (upper value) ..... ≤ 180 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21073.0005	Glass bottle	5 g	inquire
8.21073.0250	Plastic bottle	250 g	inquire

1,2-Diaminoethane → page 303

1,2-Diaminoethane dihydrochloride →

Ethylenediammonium dichloride page 862

1,2-Diaminoethane sulfate → Ethylenediammonium sulfate page 862

1,2-Diaminoethane trityl resin → page 273

2,7-Diaminofluorene dihydrochloride → 2,7-Fluorenediammonium dichloride page 894

## 818842 1,7-Diaminoheptane for synthesis

C<sub>7</sub>H<sub>16</sub>N<sub>2</sub>H<sub>2</sub>N(CH<sub>2</sub>)<sub>7</sub>NH<sub>2</sub>

Heptamethylenediamine, 1,7-Heptanediamine

■ CAS-No. 646-19-5 ■ EC-No. 211-468-2

■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)■ Flash point 87 °C ■ Solub. in H<sub>2</sub>O 450 g/l (20 °C)

■ M = 130.23 g/mol ■ Melting point 26 - 29 °C

■ Boiling point 223 - 225 °C

■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8A

■ HS-No. 2921 29 00 ■ Disposal 3

■ ADR-RID UN 3259 Polyamine, fest, ätzend,

n.a.g.(1,7-DIAMINOHEPTAN), 8, II ■ IMDG-

Code UN 3259 POLYAMINES, SOLID, CORROSIVE,

N.O.S.(1,7-DIAMINOHEPTAN), 8, II, Segregation

Group: 18 (Alkalis)

■ IATA-DGR UN 3259 POLYAMINES, SOLID,

CORROSIVE, N.O.S.(1,7-DIAMINOHEPTAN), 8, II

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98.0 % (m)

Melting range (lower value) ..... ≥ 26 °C

Melting range (upper value) ..... ≤ 29 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18842.0010	Glass bottle	10 g	inquire

## 804323 1,6-Diaminohexane for synthesis

C<sub>6</sub>H<sub>16</sub>N<sub>2</sub>H<sub>2</sub>N(CH<sub>2</sub>)<sub>6</sub>NH<sub>2</sub>

1,6-Hexanediamine, Hexamethylenediamine

■ CAS-No. 124-09-4 ■ EC-No. 204-679-6

■ Vapour pressure 0.25 hPa (20 °C)

■ Spec. density 0.83 g/cm<sup>3</sup> (60 °C) ■ Explosive

limit 0.9 - 7.6 % (V) ■ Flash point 85 °C ■ Solub. in

H<sub>2</sub>O 490 g/l (20 °C) ■ M = 116.21 g/mol■ pH value 12.4 (100 g/l, H<sub>2</sub>O, 25 °C)

■ Melting point 39 - 42 °C

■ Boiling point 199 - 204 °C (1013 hPa)

■ Ignition temp. 305 °C

■ WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Dermal,

H312; Acute toxicity, Category 4, Oral, H302;

Specific target organ toxicity - single exposure,

Category 3, H335; Skin corrosion, Category 1B,

H314, P280, P302 + P352, P301 + P330 + P331,

P305 + P351 + P338, P309 + P310

■ LD50 oral rat 850 mg/kg ■ LD50 dermal rabbit

1110 mg/kg

■ EC-Index-No. 612-104-00-9 ■ LGK 8A

■ HS-No. 2921 22 00 ■ Disposal 3

■ ADR-RID UN 2280 Hexamethylenediamin, fest, 8,

III ■ IMDG-Code UN 2280

HEXAMETHYLENEDIAMINE, SOLID, 8, III

■ IATA-DGR UN 2280 HEXAMETHYLENEDIAMINE, SOLID, 8, III

## Specification

Assay (GC, area%) ..... ≥ 99 %

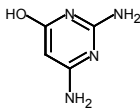
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.04323.0005	Glass bottle	5 g	inquire
8.04323.0250	Glass bottle	250 g	inquire
8.04323.1000	Glass bottle	1 kg	inquire

1,6-Diaminohexane trityl resin → page 273

# Diamin

## 841789 2,4-Diamino-6-hydroxypyrimidine for synthesis

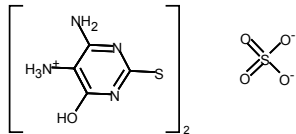


$C_4H_6N_4O$   
 ■ CAS-No. 56-06-4 ■ EC-No. 200-254-4  
 ■ M = 126.11 g/mol ■ Melting point 285 - 286 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 59 95 ■ Disposal 3

**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 96,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41789.0050	Glass bottle	50 g	inquire

## 814702 4,5-Diamino-6-hydroxy-2-pyrimidinethiol hemisulfate-1,5-hydrate for synthesis



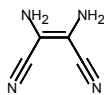
$C_4H_{14}N_6O_6S_2 \cdot (H_2O)_n$   
 ■ CAS-No. 207226-25-3  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Melting point 235 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 59 95 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14702.0005	Glass bottle	5 g	inquire

Diaminomaleic acid dinitrile → Diaminomaleonitrile page 696

## 818430 Diaminomaleonitrile for synthesis



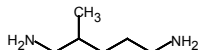
$C_4H_4N_4$   
 CNC(NH<sub>2</sub>)=C(NH<sub>2</sub>)CN  
 Diaminomaleic acid dinitrile  
 ■ CAS-No. 1187-42-4 ■ EC-No. 214-697-6  
 ■ Solub. in H<sub>2</sub>O 5000 mg/l (25 °C) ■ M = 108.1 g/mol  
 mol ■ Melting point 178 - 181 °C  
 ■ Boiling point 181 - 183 °C  
 ■ WGK 3  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(DIAMINOMALEONITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(DIAMINOMALEONITRILE), 6.1, III  
 ■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,

N.O.S.(DIAMINOMALEONITRILE), 6.1, III  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 178 °C  
 Melting range (upper value) ..... ≤ 181 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18430.0025	Plastic bottle	25 g	inquire
8.18430.0100	Plastic bottle	100 g	inquire

4,6-Diamino-2-mercaptopyrimidine → 4,6-Diamino-2-pyrimidinethiol page 698

## 814699 1,5-Diamino-2-methylpentane for synthesis



$C_6H_{16}N_2$   
 NH<sub>2</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)(CH<sub>2</sub>)<sub>3</sub>NH<sub>2</sub>  
 2-Methylpentamethylenediamine  
 ■ CAS-No. 15520-10-2 ■ EC-No. 239-556-6  
 ■ Vapour pressure 0.29 hPa (20 °C)  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 83 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 116.21 g/mol ■ pH value 12.1 (50 g/l, H<sub>2</sub>O)  
 ■ Melting point -60 - -50 °C  
 ■ Boiling point 188 - 190 °C (1013 hPa)  
 ■ Ignition temp. 298 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 4.9 mg/l  
 ■ LD50 oral rat 1690 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2921 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(1,5-DIAMINO-2-METHYLPENTAN), 8, I  
 ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1,5-DIAMINO-2-

METHYLPENTANE), 8, I, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1,5-DIAMINO-2-METHYLPENTANE), 8, I  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,864 - 0,867  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14699.0050	Glass bottle	50 ml	inquire
8.14699.1000	Glass bottle	1 l	inquire

3,8-Diamino-5-methyl-6-phenylphenanthridinium bromide → Dimidium bromide page 808

1,8-Diaminonaphthalene → 1,8-Naphthalenediamine page 1197

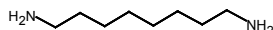
1,3-Diamino-4-nitrobenzene → 4-Nitro-1,3-phenylenediamine page 1228

1,5-Diaminonaphthalene → 1,5-Naphthalenediamine page 1196

1,2-Diamino-4-nitrobenzene → 4-Nitro-1,2-phenylenediamine page 1227

1,4-Diamino-2-nitrobenzene → 2-Nitro-1,4-phenylenediamine page 1227

## 806916 1,8-Diaminooctane for synthesis



$C_8H_{20}N_2$   
 H<sub>2</sub>N(CH<sub>2</sub>)<sub>8</sub>NH<sub>2</sub>  
 Octamethylenediamine, 1,8-Octanediamine  
 ■ CAS-No. 373-44-4 ■ EC-No. 206-764-3  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 0.83 g/cm<sup>3</sup> (60 °C) ■ Explosive limit 1.1 - 6.8 % (V) ■ Flash point 106 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 575 g/l (20 °C)  
 ■ M = 144.26 g/mol ■ pH value 11.7 (4 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 51 °C  
 ■ Boiling point 237 °C (1013 hPa)  
 ■ Ignition temp. 280 °C DIN 51794  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 500 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2921 29 00 ■ Disposal 3  
 ■ ADR-RID UN 3259 Polyamine, fest, ätzend, n.a.g.(1,8-DIAMINOOCATAN), 8, II ■ IMDG-Code UN 3259 POLYAMINES, SOLID, CORROSIVE, N.O.S.(DIAMINOOCATAN), 8, II, Segregation Group:

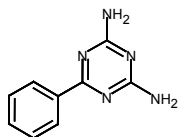
18 (Alkalis)  
 ■ IATA-DGR UN 3259 POLYAMINES, SOLID, CORROSIVE, N.O.S.(DIAMINOOCATAN), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 50 °C  
 Melting range (upper value) ..... ≤ 55 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06916.0100	Glass bottle	100 g	inquire

1,5-Diaminopentane trityl resin → page 273

2,4-Diaminophenol dihydrochloride → 4-Hydroxy-1,3-phenylenediammonium dichloride page 992

## 803573 2,6-Diamino-4-phenyl-1,3,5-triazine for synthesis

C<sub>9</sub>H<sub>9</sub>N<sub>5</sub>

Benzoguanamine, 2,4-Diamino-6-phenyl-s-triazine

- CAS-No. 91-76-9 ■ EC-No. 202-095-6
- Vapour pressure (20 °C) not applicable

- Spec. density 1.425 g/cm<sup>3</sup> (15 °C)
- Flash point >270 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (25 °C) ■ M = 187.21 g/mol ■ pH value 6.5 (0.3 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 224 - 227 °C
- Bulk density 680 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P273
- LC50 rat 2.9 mg/l
- LD50 oral rat 1470 mg/kg
- EC-Index-No. 613-038-00-3 ■ LGK 10 - 13

- HS-No. 2933 69 80 ■ Disposal 3

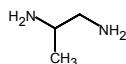
## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 224 °C  
 Melting range (upper value)..... ≤ 228 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03573.0100	Plastic bottle	100 g	inquire
8.03573.1000	Plastic bottle	1 kg	inquire

2,4-Diamino-6-phenyl-s-triazine → 2,6-Diamino-4-phenyl-1,3,5-triazine page 697

## 821041 1,2-Diaminopropane for synthesis

C<sub>3</sub>H<sub>10</sub>N<sub>2</sub>CH<sub>3</sub>CH(NH<sub>2</sub>)CH<sub>2</sub>NH<sub>2</sub>

Propylenediamine, 1,2-Propanediamine

- CAS-No. 78-90-0 ■ EC-No. 201-155-9
- Refractive index 1.446 (20 °C, 589 nm) ■ Vapour pressure 14 hPa (20 °C) ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 - 11.1 % (V)
- Flash point 34 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 74.13 g/mol ■ pH value 12 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -37 °C

- Boiling point 121 °C (1013 hPa)
- Ignition temp. 360 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P280, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1300 mg/kg ■ LD50 dermal rabbit 430 mg/kg
- EC-Index-No. 612-100-00-7 ■ LGK 3
- HS-No. 2921 29 00 ■ Disposal 3
- ADR-RID UN 2258 1,2-Propylenediamin, 8 (3), II

- IMDG-Code UN 2258 1,2-PROPYLENEDIAMINE, 8 (3), II
- IATA-DGR UN 2258 1,2-PROPYLENEDIAMINE, 8 (3), II

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 0.862 - 0.864  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21041.0250	Glass bottle	250 ml	inquire
8.21041.1000	Glass bottle	1 l	inquire

## 808272 1,3-Diaminopropane for synthesis

C<sub>3</sub>H<sub>10</sub>N<sub>2</sub>H<sub>2</sub>N(CH<sub>2</sub>)<sub>3</sub>NH<sub>2</sub>

1,3-Propanediamine, Trimethylenediamine

- CAS-No. 109-76-2 ■ EC-No. 203-702-7
- Refractive index 1.4575 (20 °C, 589 nm)
- Vapour pressure < 10 hPa (20 °C)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.8 - 15.2 % (V) ■ Flash point 50 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 74.12 g/mol
- pH value >12 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -12 °C
- Boiling point 137 - 140 °C (1013 mbar)
- Ignition temp. 350 °C
- WGK 2

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314; Acute toxicity, Category 4, Inhalation, H332, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 700 mg/kg ■ LD50 dermal rabbit 200 mg/kg
- LGK 3
- HS-No. 2921 29 00 ■ Disposal 9
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(1,3-DIAMINOPROPAN), 8 (3), I
- IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(1,3-DIAMINOPROPANE), 8 (3), I, Segregation Group:

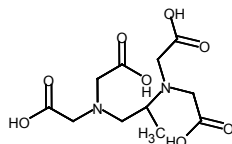
- 18 (Alkalis)
- IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(1,3-DIAMINOPROPANE), 8 (3), I

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C / 4 °C)..... 0,886 - 0,888  
 Water (K. F.)..... ≤ 0,50 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08272.0100	Glass bottle	100 ml	inquire
8.08272.0500	Glass bottle	500 ml	inquire

## 841201 1,2-Diaminopropane-tetraacetic acid for synthesis

C<sub>11</sub>H<sub>18</sub>N<sub>2</sub>O<sub>8</sub>

- CAS-No. 4408-81-5 ■ EC-No. 224-559-7

- M = 306.27 g/mol
- Melting point 241 °C (decomposition)

- WGK 3
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

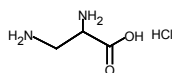
## Specification

Assay (acidimetric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41201.0005	Plastic bottle	5 g	inquire

1,3-Diaminopropane trityl resin → page 273

## 841673 DL-2,3-Diaminopropionic acid monohydrochloride for synthesis

C<sub>3</sub>H<sub>9</sub>ClN<sub>2</sub>O<sub>2</sub>

DL-3-Aminoalanine Hydrochloride

- CAS-No. 54897-59-5 ■ EC-No. 259-387-1

- M = 140.57 g/mol
- Melting point 228 °C (decomposition)
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2922 49 85 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

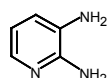
## Specification

Assay (argentometric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 227 °C  
 Melting range (upper value)..... ≤ 230 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41673.0001	Plastic bottle	1 g	inquire

# Diamin

## 841183 2,3-Diaminopyridine for synthesis



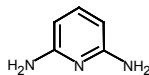
C<sub>5</sub>H<sub>7</sub>N<sub>3</sub>  
 ■ CAS-No. 452-58-4 ■ EC-No. 207-200-9  
 ■ M = 109.13 g/mol ■ Melting point 108 - 113 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation,

Category 2, H315; Eye irritation, Category 2, H319, P301 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,3-DIAMINOPYRIDIN), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,3-DIAMINO PYRIDINE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,3-DIAMINO PYRIDINE), 6.1, III

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41183.0005	Plastic bottle	5 g	<a href="#">inquire</a>
8.41183.0025	Plastic bottle	25 g	<a href="#">inquire</a>

## 803575 2,6-Diaminopyridine for synthesis



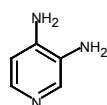
C<sub>5</sub>H<sub>7</sub>N<sub>3</sub>  
 2,6-(NH<sub>2</sub>)<sub>2</sub>C<sub>5</sub>H<sub>3</sub>N  
 ■ CAS-No. 141-86-6 ■ EC-No. 205-507-2  
 ■ Flash point 155 °C ■ Solub. in H<sub>2</sub>O 180 g/l (20 °C) ■ M = 109.13 g/mol ■ pH value >7 (H<sub>2</sub>O)  
 ■ Melting point 115 - 118 °C  
 ■ Boiling point 159 °C (13 hPa)  
 ■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 6.1C  
 ■ HS-No. 2933 39 99 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,6-DIAMINOPYRIDIN), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,6-DIAMINOPYRIDINE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,6-DIAMINOPYRIDINE), 6.1, III  
**Specification**  
 Assay (GC, area%)..... ≥ 97,0 Area %  
 Melting range (lower value)..... ≥ 117 °C  
 Melting range (upper value) ..... ≤ 121 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03575.0100	Glass bottle	100 g	<a href="#">inquire</a>

## 818392 3,4-Diaminopyridine for synthesis



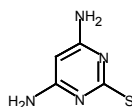
C<sub>5</sub>H<sub>7</sub>N<sub>3</sub>  
 3,4-(NH<sub>2</sub>)<sub>2</sub>C<sub>5</sub>H<sub>3</sub>N  
 ■ CAS-No. 54-96-6 ■ EC-No. 200-220-9  
 ■ Flash point 240 °C ■ Solub. in H<sub>2</sub>O 24 g/l (20 °C)  
 ■ M = 109.13 g/mol ■ Melting point 217 - 220 °C  
 ■ Ignition temp. 480 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2,

Inhalation, H330; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 2, Oral, H300; Eye irritation, Category 2, H319, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.10 mg/l  
 ■ LD50 oral rat 47 mg/kg ■ LD50 dermal rabbit > 200 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2933 39 99 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(3,4-DIAMINOPYRIDIN), 6.1, I ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3,4-

DIAMINOPYRIDINE), 6.1, I  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3,4-DIAMINOPYRIDINE), 6.1, I  
**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18392.0001	Glass bottle	1 g	<a href="#">inquire</a>
8.18392.0005	Glass bottle	5 g	<a href="#">inquire</a>
	Glass bottle	6 x 5 g	<a href="#">inquire</a>

## 814037 4,6-Diamino-2-pyrimidinethiol for synthesis



C<sub>4</sub>H<sub>6</sub>N<sub>4</sub>S  
 4,6-Diamino-2-mercaptopyrimidine, 6-Amino-2-

*thiocytosine*  
 ■ CAS-No. 1004-39-3 ■ EC-No. 213-721-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 142.17 g/mol ■ Melting point >280 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

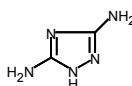
■ LGK 10 - 13  
 ■ HS-No. 2933 59 95 ■ Disposal 3  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14037.0025	Plastic bottle	25 g	<a href="#">inquire</a>

2,4-Diaminotoluene → 4-Methyl-1,3-phenylenediamine page 1169

2,5-Diaminotoluene sulfate → 2-Methyl-1,4-phenylenediammonium sulfate page 1169

## 841080 3,5-Diamino-1,2,4-triazole for synthesis



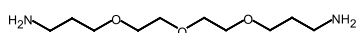
C<sub>2</sub>H<sub>5</sub>N<sub>5</sub>  
 Guanazole

■ CAS-No. 1455-77-2 ■ EC-No. 215-937-2  
 ■ M = 99.09 g/mol  
 ■ Melting point 205 °C (decomposition)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41080.0010	Plastic bottle	10 g	<a href="#">inquire</a>

## 814807 1,13-Diamino-4,7,10-trioxatridecane for synthesis



C<sub>10</sub>H<sub>24</sub>N<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 4246-51-9 ■ EC-No. 224-207-2  
 ■ Vapour pressure < 0.001 hPa (20 °C)  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 4.5 % (V) ■ Flash point 139 °C  
 ■ M = 220.31 g/mol ■ pH value >12 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -32 °C  
 ■ Boiling point 146 - 148 °C (1 hPa)  
 ■ Ignition temp. 260 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314;

Chronic aquatic toxicity, Category 3, H412; Corrosive to metals, Category 1, H290, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 3160 mg/kg ■ LD50 dermal rabbit 2500 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(1,13-DIAMINO-4,7,10-TRIOXATRIDECAN), 8, II  
 ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1,13-DIAMINO-4,7,10-TRIOXATRIDECANE), 8, II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(1,13-DIAMINO-4,7,10-TRIOXATRIDECANE), 8, II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,003 - 1,008  
 Water (K. F.) ..... ≤ 1,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14807.0100	Glass bottle	100 ml	<a href="#">inquire</a>
8.14807.0500	Glass bottle	500 ml	<a href="#">inquire</a>



L(+)-2,5-Diamino valeric acid hydrochloride → L-Ornithine monohydrochloride page 1252  
 Diammonium hydrogen citrate → di-Ammonium hydrogen citrate page 411  
 Diamond green B → page 190  
 Diamond green G → page 111

### 820964 Di-n-amy ether (stabilised) for synthesis



C<sub>10</sub>H<sub>22</sub>O

(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>O

*n*-Pentyl ether, Amyl ether, Dipentyl ether  
 ■ CAS-No. 693-65-2 ■ EC-No. 211-756-8  
 ■ Refractive index 1.4119 (20 °C, 589 nm)  
 ■ Vapour pressure 0.7 hPa (20 °C)  
 ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 3.1 (20 °C) ■ Explosive limit 2.0 - 8.0 % (V) ■ Flash point 57 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 158.28 g/

mol ■ Melting point -69 °C  
 ■ Boiling point 186 - 188 °C (1013 hPa)  
 ■ Ignition temp. 180 °C  
 ■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 2, H411, P210, P262  
 ■ LGK 3  
 ■ HS-No. 2909 19 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DI-N-AMYLETHER), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(DI-N-AMYLETHER), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(DI-N-AMYLETHER), 3, III

#### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.783 - 0.788  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.005 %  
 Identity (IR) ..... passes test

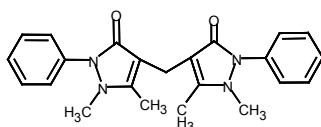
Ord.No.	Packaging	Quantity	Price
8.20964.0250	Glass bottle	250 ml	inquire

Diane → 2,2-Bis(4-hydroxyphenyl) propane page 473

1,4:3,6-Dianhydro-2,5-O-dimethyl-D-glucitol → Isosorbide dimethyl ether page 1057

1,4:3,6-Dianhydrosorbitol 2,5-dimethyl ether → Isosorbide dimethyl ether page 1057  
 Di-p-anisoyl → 4,4'-Dimethoxybenzil page 770

### 103133 Diantiprylmethane GR for analysis (reagent for titanium)



C<sub>23</sub>H<sub>24</sub>N<sub>4</sub>O<sub>2</sub>

■ CAS-No. 1251-85-0 ■ EC-No. 215-009-7

■ Solub. in H<sub>2</sub>O 0.431 g/l (25 °C) (experimental)  
 ■ M = 388.46 g/mol ■ Melting point 179 - 182 °C  
 ■ Bulk density 430 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 11 90 ■ Disposal 3

#### Specification

Assay (perchloric acid titration, calculated on

dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... conforms  
 Melting range ..... 179 - 182 °C  
 Loss on drying (105 °C) ..... ≤ 3.0 %  
 Suitability for titanium determination ..... conforms

Ord.No.	Packaging	Quantity	Price
1.03133.0025	Glass bottle	25 g	inquire

### 103604 Diastase (from fungi) for biochemistry

■ CAS-No. 9000-90-2 ■ EC-No. 232-565-6  
 ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ pH value 6.5 - 7.5 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 100 - 200 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Respiratory sensitisation, Category 1, H334, P260, P262, P304 + P341  
 ■ LD50 oral rat > 7500 mg/kg  
 ■ EC-Index-No. 647-015-00-4 ■ LGK 10 - 13

■ Store at +2°C to +8°C.  
 ■ HS-No. 3507 90 90 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Determination of vitamin B<sub>1</sub> (thiamine) in food.

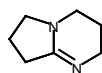
#### Specification

Appearance ..... slightly brownish powder

α-Amylase (starch; pH 6.0; 25 °C) about 100U/mg  
 β-Amylase (starch, pH 4.8; 25 °C) ..... about 100U/mg  
 Note: Sulfatase and phosphatase detectable.  
 Suitable for the determination of thiamine (Vit. B<sub>1</sub>) in food.

Ord.No.	Packaging	Quantity	Price
1.03604.0050	Glass bottle	50 g	inquire

### 803603 1,5-Diazabicyclo[4.3.0]non-5-ene for synthesis



C<sub>7</sub>H<sub>12</sub>N<sub>2</sub>

*Pyrrolidino*[1,2*a*][1,4,5,6-tetrahydropyrimidine, DBN

■ CAS-No. 3001-72-7 ■ EC-No. 221-087-3  
 ■ Refractive index 1.519 (20 °C, 589 nm)  
 ■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 94 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 124.18 g/mol ■ Boiling point 110 °C (20 hPa)

■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2933 59 95 ■ Disposal 3  
 ■ ADR-RID UN 3267 Ätzender basischer organischer flüssiger Stoff, n.a.g.(1,5-DIAZABICYCLO(4.3.0)NON-5-EN), 8, III ■ IMDG-Code UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(1,5-DIAZABICYCLO(4.3.0)NON-5-ENE), 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 3267 CORROSIVE LIQUID, BASIC,

ORGANIC, N.O.S.(1,5-DIAZABICYCLO(4.3.0)NON-5-ENE), 8, III

#### Specification

Assay (GC, area%) ..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,038 - 1,041  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03603.0025	Glass bottle	25 ml	inquire
8.03603.0100	Glass bottle	100 ml	inquire

### 803456 1,4-Diazabicyclo[2.2.2]octane for synthesis



C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>

*Triethylenediamine, DABCO*

■ CAS-No. 280-57-9 ■ EC-No. 205-999-9  
 ■ Vapour pressure 0.68 hPa (21 °C)  
 ■ Spec. density 1.14 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 62.2 °C ■ Solub. in H<sub>2</sub>O 400 g/l (20 °C) ■ M = 112.17 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) alkaline, Aqueous solution  
 ■ Melting point 155 - 158 °C  
 ■ Bulk density 800 kg/m<sup>3</sup>  
 ■ Boiling point 174 - 176 °C

■ Ignition temp. 350 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable solid, Category 1, H228; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P260, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 700 mg/kg  
 ■ LGK 4.1B  
 ■ HS-No. 2933 59 20 ■ Disposal 3  
 ■ ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(1,4-DIAZABICYCLOOCTAN), 4, 1, II ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(1,4-DIAZABICYCLO-OCTANE), 4, 1, II

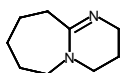
■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(1,4-DIAZABICYCLO-OCTANE), 4, 1, II

#### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Water (K. F.) ..... ≤ 1.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03456.0100	Glass bottle	100 g	inquire
8.03456.0250	Glass bottle	250 g	inquire
8.03456.1000	Glass bottle	1 kg	inquire

## 803282 1,8-Diazabicyclo[5.4.0]undec-7-ene for synthesis

C<sub>9</sub>H<sub>16</sub>N<sub>2</sub>

- CAS-No. 6674-22-2 ■ EC-No. 229-713-7
- Vapour pressure 0.02 hPa (25 °C)
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 6.5 % (V) ■ Flash point 116 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 152.24 g/mol
- pH value 12.8 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point < -70 °C ■ Boiling point 261 °C (1013 hPa) ■ Ignition temp. 260 °C
- WGK 2

- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1, H314; Chronic aquatic toxicity, Category 3, H412; Corrosive to metals, Category 1, H290, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 215 - 681 mg/kg
- LGK 6.1A
- HS-No. 2933 59 95 ■ Disposal 3
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(1,8-DIAZABICYCLO(5,4,0)UNDEC-7-EN), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1,8-DIAZABICYCLO(5,4,0)UNDEC-7-EN), 8 (6.1), II, Segregation Group: 18 (Alkalis)

- IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1,8-DIAZABICYCLO(5,4,0)UNDEC-7-EN), 8 (6.1), II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,018 - 1,020  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03282.0025	Glass bottle	25 ml	inquire
8.03282.0100	Glass bottle	100 ml	inquire

1,3-Diaza-2,4-cyclopentadiene → page 998

3,6-Diazaoctane-1,8-diamine →

Triethylenetetramine page 1587

1,4-Diazine → Pyrazine page 1382

Diazines → Heterocycles

Diazobenzene → trans-Azobenzene page 428

1,2-Diazol → Pyrazole page 1382

DIB → 1,3-Diphenyl-isobenzofuran page 818

DIBAH → Diisobutylaluminium hydride page 764

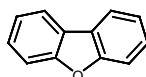
9H-Dibenzo[b,d]pyrrole → Carbazole page 570

Dibenzo[b,e]pyridine → Acridine page 351

Dibenzo-18-crown-6 → Crown ether/Dibenzo-18-crown-6 page 661

Dibenzo-24-crown-8 → Crown ether/Dibenzo-24-crown-8 page 661

## 820408 Dibenzofuran for synthesis

C<sub>12</sub>H<sub>8</sub>O

Diphenylene oxide

- CAS-No. 132-64-9 ■ EC-No. 205-071-3
- Spec. density 1.3 g/cm<sup>3</sup> (20 °C)
- Flash point 148 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 168.19 g/mol

- Melting point 79 - 82 °C
- Boiling point 287 - 289 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

## Specification

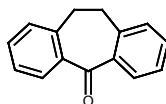
Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 79 °C

Melting range (upper value) ..... ≤ 82 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20408.0005	Glass bottle	5 g	inquire
8.20408.0250	Glass bottle	250 g	inquire

Dibenzopyrazine → Phenazine page 1288

## 803559 Dibenzosuberone for synthesis

C<sub>15</sub>H<sub>12</sub>O

10,11-Dihydro-5H-dibenzo[a,d]cyclohepten-5-one

- CAS-No. 1210-35-1 ■ EC-No. 214-912-3
- Refractive index 1.6324 (20 °C, 589 nm)
- Spec. density 1.16 g/cm<sup>3</sup> (25 °C)

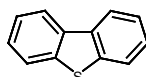
- Flash point 200 °C ■ Solub. in H<sub>2</sub>O 0.03 g/l (20 °C) ■ M = 208.25 g/mol
- Melting point 31 - 34 °C
- Boiling point 191 - 194 °C (7 hPa)
- WGK 2
- LD50 oral rat 2511 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2914 39 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 31 °C  
 Melting range (upper value) ..... ≤ 34 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03559.0050	Glass bottle	50 g	inquire

## 820409 Dibenzothiophene for synthesis

C<sub>12</sub>H<sub>8</sub>S

- CAS-No. 132-65-0 ■ EC-No. 205-072-9
- Flash point 170 °C ■ Solub. in H<sub>2</sub>O 0.0015 g/l (25 °C) (Lit.) ■ M = 184.25 g/mol ■ pH value 7 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 95 - 98 °C
- Boiling point 331 - 333 °C
- Ignition temp. >450 °C

- WGK 3
- GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(DIBENZOTHIOPHEN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(DIBENZOTHIOPHEN), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID,  
 N.O.S.(DIBENZOTHIOPHEN), 9, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 96 °C  
 Melting range (upper value) ..... ≤ 99 °C  
 Identity (IR) ..... passes test

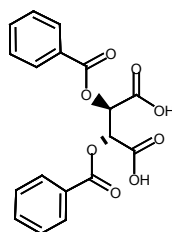
Ord.No.	Packaging	Quantity	Price
8.20409.0025	Glass bottle	25 g	inquire

Dibenzoyl → Benzil page 439

Dibenzoylmethane → 1,3-Diphenyl-1,3-propanedione page 820

Dibenzoyl peroxide → Benzoyl peroxide page 445

## 818869 (2S,3S)-(+)-Di-O-benzoyltartaric acid for resolution of racemates for synthesis

C<sub>18</sub>H<sub>14</sub>O<sub>8</sub>C<sub>6</sub>H<sub>5</sub>COOCH(COOH)CH(COOH)OCOC<sub>6</sub>H<sub>5</sub>

Di-O-benzoyl-D-tartaric acid

- CAS-No. 17026-42-5 ■ EC-No. 241-097-1
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 358.3 g/mol ■ Melting point 150 - 154 °C
- Bulk density 510 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13

- HS-No. 2918 13 00 ■ Disposal 4

## Specification

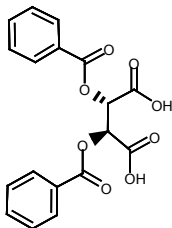
Assay (acidimetric) ..... ≥ 99,0 %  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=5 in methanol) ..... 115,0 - 122,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18869.0025	Plastic bottle	25 g	inquire



## 802927 (2R,3R)-(-)-Di-O-benzoyl-tartaric acid monohydrate for resolution of racemates for

synthesis



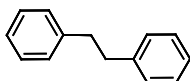
$C_{18}H_{14}O_8$   
 $C_6H_5COOCH(COOH)CH(COOH)OCOC_6H_5$   
*Di-O-benzoyl-L-tartaric acid*  
 ■ CAS-No. 62708-56-9 ■ EC-No. 220-374-0  
 ■ Solub. in  $H_2O$  (20 °C) insoluble ■ M = 358.31 g/mol  
 ■ Melting point 87 - 90 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 13 00 ■ Disposal 4

**Specification**  
 Assay (acidimetric)..... ≥ 99,0 % (m)

Melting range (lower value)..... ≥ 87 °C  
 Melting range (upper value)..... ≤ 90 °C  
 Spec. rotation [ $\alpha^20/D$  (c=5 in methanol)].....  
 ..... -119,0 - -116,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02927.0100	Plastic bottle	100 g	inquire
8.02927.0500	Plastic bottle	500 g	inquire

## 841610 Dibenzyl for synthesis



$C_{14}H_{14}$   
*1,2-Diphenylethane*  
 ■ CAS-No. 103-29-7 ■ EC-No. 203-096-4

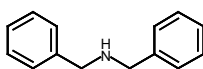
■ M = 182.26 g/mol ■ Melting point 52 - 54 °C  
 ■ WGK 1  
 ■ LD50 oral rat 4518 mg/kg ■ LD50 dermal rabbit  
 > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 99,0 % (a/a)

Melting range (lower value)..... ≥ 50 °C  
 Melting range (upper value)..... ≤ 53 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41610.0025	Glass bottle	25 g	inquire

## 803533 Dibenzylamine for synthesis



$C_{14}H_{15}N$   
 $(C_6H_5CH_2)_2NH$   
*N-(Phenylmethyl)-benzenemethanamine*  
 ■ CAS-No. 103-49-1 ■ EC-No. 203-117-7  
 ■ Refractive index 1.5731 (20 °C, 589 nm)  
 ■ Vapour pressure 0.3 Pa (20 °C)  
 ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 143 °C ■ Solub. in  $H_2O$  0.4 g/l  
 (20 °C) ■ M = 197.27 g/mol ■ pH value 8.9 ( $H_2O$ ,  
 20 °C) ■ Melting point -26 °C

■ Boiling point 300 °C (1013 hPa)  
 ■ Ignition temp. 425 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,  
 H302; Skin irritation, Category 2, H315, P262,  
 P302 + P352  
 ■ LD50 oral rat 395 mg/kg ■ LD50 dermal rat >  
 2000 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2921 49 00 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend,  
 n.a.g.(DIBENZYLAMIN), 8, III ■ IMDG-Code UN  
 2735 AMINES, LIQUID, CORROSIVE,  
 N.O.S.(DIBENZYLAMINE), 8, III, Segregation Group:

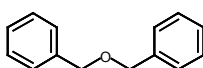
18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID,  
 CORROSIVE, N.O.S.(DIBENZYLAMINE), 8, III

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,026 - 1,028  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03533.0250	Glass bottle	250 ml	inquire
8.03533.1000	Glass bottle	1 l	inquire

Dibenzyl-N,N-diisopropylphosphoramidite → page 258

## 801522 Dibenzyl ether for synthesis



$C_{14}H_{14}O$   
 $(C_6H_5CH_2)_2O$   
*Benzyl ether*  
 ■ CAS-No. 103-50-4 ■ EC-No. 203-118-2  
 ■ Refractive index 1.5406 (20 °C, 589 nm)  
 ■ Vapour pressure 0.03 hPa (25 °C)  
 ■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >135 °C ■ Solub. in  
 $H_2O$  (20 °C) insoluble ■ M = 198.26 g/mol  
 ■ Melting point 3 - 4 °C ■ Boiling point 297 °C

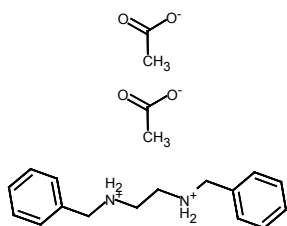
(1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute aquatic toxicity, Category  
 1, H400; Chronic aquatic toxicity, Category 1,  
 H410, P273  
 ■ LD50 oral rat 2500 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2909 30 90 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff,  
 flüssig, n.a.g.(DIBENZYLETHER), 9, III ■ IMDG-  
 Code UN 3082 ENVIRONMENTALLY HAZARDOUS  
 SUBSTANCE, LIQUID, N.O.S.(DIBENZYL ETHER), 9,  
 III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID,  
 N.O.S.(DIBENZYL ETHER), 9, III

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,043 - 1,044  
 Peroxide (as  $H_2O_2$ )..... ≤ 0,005 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01522.0100	Glass bottle	100 ml	inquire
8.01522.1000	Glass bottle	1 l	inquire

## 814050 N,N-Dibenzylethylenediamine diacetate for synthesis



$C_{16}H_{20}N_2 \cdot 2 C_2H_4O_2$   
 ■ CAS-No. 122-75-8 ■ EC-No. 204-572-4  
 ■ Solub. in  $H_2O$  150 g/l (20 °C) ■ M = 360.45 g/  
 mol ■ pH value 5 - 6 (50 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 118 °C ■ Bulk density 280 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13

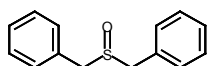
■ HS-No. 2921 59 90 ■ Disposal 3

**Specification**  
 Assay ( $HClO_4$ )..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 115 °C  
 Melting range (upper value)..... ≤ 118 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14050.0100	Plastic bottle	100 g	inquire

# Dibenz

## 803549 Dibenzyl sulfoxide for synthesis



C<sub>14</sub>H<sub>14</sub>O<sub>S</sub>  
(C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>)<sub>2</sub>SO  
Benzyl sulfoxide  
■ CAS-No. 621-08-9 ■ EC-No. 210-668-7

- Solub. in H<sub>2</sub>O 0.3 g/l (20 °C) ■ M = 230.32 g/mol
- pH value 6.0 - 6.5 (0.3 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 128 - 131 °C
- Bulk density 400 - 500 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

### Specification

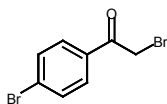
Assay (HPLC, area%) ..... ≥ 99,0 Area %  
Melting range (lower value) ..... ≥ 129 °C  
Melting range (upper value) ..... ≤ 133 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03549.0100	Plastic bottle	100 g	inquire

Diboc → Di-tert-butyl dicarbonate page 707

DIBP → Diisobutyl phthalate page 765

## 822019 2,4'-Dibromoacetophenone for synthesis



C<sub>8</sub>H<sub>6</sub>Br<sub>2</sub>O  
4-BrC<sub>6</sub>H<sub>4</sub>COCH<sub>3</sub>Br  
*p*-Bromophenacyl bromide  
■ CAS-No. 99-73-0 ■ EC-No. 202-783-6  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 277.94 g/mol  
■ Melting point 107 - 110 °C

- Boiling point 1415 °C
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2914 70 00 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(2,4-DIBROMOACETOPHENON), 8, III ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(OMEGA-4-DIBROMOACETOPHENONE), 8, III

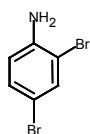
■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(OMEGA-4-DIBROMOACETOPHENONE), 8, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 109 °C  
Melting range (upper value) ..... ≤ 112 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22019.0025	Glass bottle	25 g	inquire

## 841719 2,4-Dibromoaniline for synthesis



C<sub>6</sub>H<sub>5</sub>Br<sub>2</sub>N  
■ CAS-No. 615-57-6 ■ EC-No. 210-434-4  
■ Spec. density 2.26 g/cm<sup>3</sup> (20 °C)

- M = 250.92 g/mol ■ Melting point 80 - 82 °C
- Boiling point 156 °C (28 hPa)
- WGK 3
- LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,4-DIBROMANILIN), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,4-DIBROMOANILINE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(2,4-DIBROMOANILINE), 6.1, II

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 80 °C  
Melting range (upper value) ..... ≤ 82 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41719.0010	Plastic bottle	10 g	inquire

## 803458 1,2-Dibromobenzene for synthesis



C<sub>6</sub>H<sub>4</sub>Br<sub>2</sub>  
1,2-(Br)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>  
■ CAS-No. 583-53-9 ■ EC-No. 209-507-3  
■ Refractive index 1.6109 (20 °C, 589 nm)  
■ Spec. density 1.98 g/cm<sup>3</sup> (20 °C)  
■ Flash point 96 °C ■ Solub. in H<sub>2</sub>O 0.075 g/l (25 °C) ■ M = 235.9 g/mol  
■ Melting point 5 - 7 °C  
■ Boiling point 107 - 109 °C (27 hPa)

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411; Skin irritation, Category 2, H315, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1,2-DIBROMBENZOL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,2-

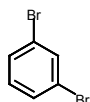
DIBROMOBENZENE), 9, III, Marine Pollutant: P  
■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,2-DIBROMOBENZENE), 9, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C / 4 °C) ..... 1,985 - 1,990  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03458.0005	Glass bottle	5 ml	inquire

## 841738 1,3-Dibromobenzene for synthesis



C<sub>6</sub>H<sub>4</sub>Br<sub>2</sub>  
■ CAS-No. 108-36-1 ■ EC-No. 203-574-2  
■ Vapour pressure 0.36 hPa (25 °C)  
■ Spec. density 1.955 g/cm<sup>3</sup> (20 °C)  
■ Flash point 93 °C ■ Solub. in H<sub>2</sub>O 0.068 g/l

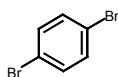
- (35 °C) ■ M = 235.9 g/mol ■ Melting point -7 °C
- Boiling point 219 - 220 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C / 4 °C) ..... 1,953 - 1,957  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41738.0005	Glass bottle	5 ml	inquire

## 803535 1,4-Dibromobenzene for synthesis



C<sub>6</sub>H<sub>4</sub>Br<sub>2</sub>  
1,4-(Br)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>  
■ CAS-No. 106-37-6 ■ EC-No. 203-390-2  
■ Vapour pressure 33 hPa (61 °C)  
■ Spec. density 1.83 g/cm<sup>3</sup> (20 °C)  
■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 0.02 g/l (25 °C) ■ M = 235.9 g/mol  
■ Melting point 84 - 87 °C  
■ Boiling point 219 - 221 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1,4-DIBROMBENZOL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,4-

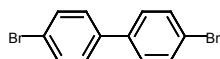
DIBROMOBENZENE), 9, III, Marine Pollutant: P  
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,4-DIBROMOBENZENE), 9, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 86 °C  
Melting range (upper value) ..... ≤ 90 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03535.0250	Glass bottle	250 g	inquire

## 840156 4,4'-Dibromobiphenyl for synthesis

C<sub>12</sub>H<sub>8</sub>Br<sub>2</sub>

- CAS-No. 92-86-4 ■ EC-No. 202-198-6
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 312 g/mol
- Melting point 169 °C
- Boiling point 355 - 360 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation,

Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2903 99 90
- ADR-RID UN 3152 Polyhalogenierte Biphenyle, fest, 9, II ■ IMDG-Code UN 3152 POLYHALOGENATED BIPHENYLS, SOLID, 9, II, Marine Pollutant: P
- IATA-DGR UN 3152 POLYHALOGENATED BIPHENYLS, SOLID, 9, II

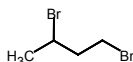
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 166 °C  
 Melting range (upper value) ..... ≤ 169 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40156.0025	Glass bottle	25 g	inquire
8.40156.0100	Glass bottle	100 g	inquire

2,3-Dibromo-butandioic acid → 2,3-Dibromosuccinic acid page 706

## 841622 1,3-Dibromobutane for synthesis

C<sub>4</sub>H<sub>8</sub>Br<sub>2</sub>

- CAS-No. 107-80-2 ■ EC-No. 203-520-8
- Spec. density 1.789 g/cm<sup>3</sup> (20 °C)
- Flash point >112 °C ■ M = 215.91 g/mol

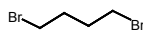
- Boiling point 173 - 175 °C (1013 hPa)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 39 19 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,780 - 1,800  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41622.0010	Glass bottle	10 ml	inquire

## 803275 1,4-Dibromobutane for synthesis

C<sub>4</sub>H<sub>8</sub>Br<sub>2</sub>Br(CH<sub>2</sub>)<sub>4</sub>Br

Tetramethylene bromide

- CAS-No. 110-52-1 ■ EC-No. 203-775-5
- Refractive index 1.519 (20 °C, 589 nm) ■ Vapour pressure 1.63 hPa (25 °C) ■ Spec. density 1.83 g/cm<sup>3</sup> (20 °C) ■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O 0.35 g/l (25 °C) ■ M = 215.91 g/mol
- Melting point -20 °C ■ Boiling point 198 °C

- (1013 hPa)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10
- HS-No. 2903 39 19 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1,4-DIBROMBUTAN), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,4-DIBROMBUTANE), 6.1, II

- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,4-DIBROMBUTANE), 6.1, II

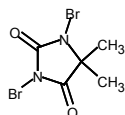
## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,822 - 1,826  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03275.0250	Glass bottle	250 ml	inquire

5',5''-Dibromo-o-cresolsulfonphthalein → Bromocresol purple page 497

## 803600 1,3-Dibromo-5,5-dimethylhydantoin for synthesis

C<sub>5</sub>H<sub>6</sub>Br<sub>2</sub>N<sub>2</sub>O<sub>2</sub>

- CAS-No. 77-48-5 ■ EC-No. 201-030-9
- Spec. density 1.00 g/cm<sup>3</sup> (25 °C)
- Flash point 155.0 °C ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ M = 285.92 g/mol
- Melting point 186.0 - 192.0 °C
- Ignition temp. 550 °C

- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 250 mg/kg ■ LD50 dermal rabbit 20000 mg/kg
- LGK 6.1A
- HS-No. 2933 21 00 ■ Disposal 3
- ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(1,3-DIBROM-5,5-DIMETHYLHYDANTOIN), 8

(6.1), II ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(1,3-DIBROMO-5,5-DIMETHYLHYDANTOINE), 8 (6.1), II

■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(1,3-DIBROMO-5,5-DIMETHYLHYDANTOINE), 8 (6.1), II

## Specification

Assay (iodometric) ..... ≥ 98,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03600.0250	Plastic bottle	250 g	inquire

1,3-Dibromo-5,5-dimethyl-2,4-imidazolidinedione → 1,3-Dibromo-5,5-dimethylhydantoin page 703

Dibromodinitrofluorescein sodium → page 189

## 841850 1,12-Dibromododecane for synthesis

C<sub>12</sub>H<sub>24</sub>Br<sub>2</sub>

- CAS-No. 3344-70-5 ■ EC-No. 222-096-5
- Flash point >110 °C ■ M = 328.12 g/mol
- Melting point 37 - 39 °C

- WGK 3
- HS-No. 2903 39 19 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Melting range (lower value) ..... ≥ 37 °C  
 Melting range (upper value) ..... ≤ 40 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41850.0005	Glass bottle	5 g	inquire

# Dibrom

## 800952 1,2-Dibromoethane for synthesis



C<sub>2</sub>H<sub>4</sub>Br<sub>2</sub>  
CH<sub>2</sub>BrCH<sub>2</sub>Br  
*Ethylene bromide, Ethylene dibromide*  
■ CAS-No. 106-93-4 ■ EC-No. 203-444-5  
■ Refractive index 1.5127 (20 °C, 589 nm)  
■ Vapour pressure 14.7 hPa (20 °C)  
■ Spec. density 2.18 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 4.04 g/l (20 °C) ■ M = 187.86 g/mol  
■ Melting point 10 °C ■ Boiling point 132 °C (1013 hPa) ■ Ignition temp. 490 °C  
■ WGK 3  
■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation,

H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P201, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LC50 rat 14.3 mg/l  
■ LD50 oral rat 108 mg/kg ■ LD50 dermal rabbit 300 mg/kg  
■ EC-Index-No. 602-010-00-6 ■ LGK 6.1A  
■ HS-No. 2903 31 00 ■ Disposal 9  
■ ADR-RID UN 1605 Ethylendibromid, 6.1, I  
■ IMDG-Code UN 1605 ETHYLENE DIBROMIDE,

6.1, I, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
■ IATA-DGR UN 1605 ETHYLENE DIBROMIDE, 6.1,  
**Specification**  
Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 2,175 - 2,180  
Water (K. F.) ..... ≤ 0,10 %(m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00952.0250	Glass bottle	250 ml	inquire
8.00952.1000	Glass btl. pl.coat.	1 l	inquire
	Glass btl. pl.coat.	6 x 1 l	inquire

## 802921 1,6-Dibromohexane for synthesis



C<sub>6</sub>H<sub>12</sub>Br<sub>2</sub>  
Br(CH<sub>2</sub>)<sub>6</sub>Br  
*Hexamethylene bromide*  
■ CAS-No. 629-03-8 ■ EC-No. 211-067-2  
■ Refractive index 1.5066 (20 °C, 589 nm)  
■ Vapour pressure < 1 hPa (20 °C)  
■ Spec. density 1.61 g/cm<sup>3</sup> (20 °C)  
■ Flash point > 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 243.96 g/mol  
■ Melting point -85 °C ■ Boiling point 243 °C

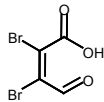
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P262, P273, P280, P302 + P352  
■ LD50 oral rat 1800 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
■ LGK 10  
■ HS-No. 2903 39 19 ■ Disposal 3  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1,6-DIBROMHEXAN), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(1,6-DIBROMOHEXANE), 6.1, III  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,6-DIBROMOHEXANE), 6.1, III  
**Specification**  
Assay (GC, area%) ..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,604 - 1,606  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02921.0250	Glass bottle	250 ml	inquire

3,5-Dibromo-2-hydroxybenzoic acid → 3,5-Dibromosalicylic acid page 706

## 841441 2,3-Dibromomalealdehydic acid for synthesis



C<sub>4</sub>H<sub>2</sub>Br<sub>2</sub>O<sub>3</sub>  
HOCCBrCBrCO  
*Mucobromic acid*  
■ CAS-No. 488-11-9 ■ EC-No. 207-670-5  
■ M = 257.86 g/mol ■ Melting point 122 - 125 °C  
■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8 A  
■ HS-No. 2918 30 00 ■ Disposal 3  
■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,3-DIBROMMALDEALDEHYDSAUE), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,3-DIBROMOMALEALDEHYDIC ACID), 6.1, III  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(2,3-DIBROMOMALEALDEHYDIC ACID), 6.1, III  
**Specification**  
Assay (acidimetric) ..... ≥ 98.0 %  
Melting range (lower value) ..... ≥ 122 °C  
Melting range (upper value) ..... ≤ 125 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41441.0025	Plastic bottle	25 g	inquire

## 810278 Dibromomethane (stabilised) for synthesis



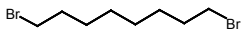
CH<sub>2</sub>Br<sub>2</sub>  
*Methylene bromide*  
■ CAS-No. 74-95-3 ■ EC-No. 200-824-2  
■ Refractive index 1.5419 (20 °C, 589 nm)  
■ Vapour pressure 44 hPa (20 °C)  
■ Spec. density 2.49 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 11.7 g/l (15 °C) ■ M = 173.83 g/mol  
■ Melting point -52.7 °C  
■ Boiling point 95 - 97 °C (1013 hPa)  
■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Chronic aquatic toxicity, Category 3, H412; Hazardous to the ozone layer, Category 1, H420, P273  
■ LC50 rat 20 mg/l  
■ LD50 oral rat 108 mg/kg ■ LD50 dermal rabbit > 4000 mg/kg  
■ EC-Index-No. 602-003-00-8 ■ LGK 6.1 C  
■ HS-No. 2903 39 15 ■ Disposal 3  
■ ADR-RID UN 2664 Dibrommethan, 6.1, III  
■ IMDG-Code UN 2664 DIBROMOMETHANE, 6.1, III, Segregation Group: 10 (Liquid halogenated

hydrocarbons)  
■ IATA-DGR UN 2664 DIBROMOMETHANE, 6.1, III  
**Specification**  
Assay (GC, area%) ..... ≥ 98.5 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 2.485 - 2.500  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.10278.0100	Glass bottle	100 ml	inquire
8.10278.0250	Glass bottle	250 ml	inquire
8.10278.2500	Glass bottle	2.5 l	inquire

## 803277 1,8-Dibromooctane for synthesis



C<sub>8</sub>H<sub>16</sub>Br<sub>2</sub>  
Br(CH<sub>2</sub>)<sub>8</sub>Br  
*Octamethylene bromide*  
■ CAS-No. 4549-32-0 ■ EC-No. 224-912-5  
■ Refractive index 1.4981 (20 °C, 589 nm)  
■ Spec. density 1.46 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 272.02 g/mol  
■ Melting point 15 °C ■ Boiling point 270 - 272 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2903 39 19 ■ Disposal 3  
**Specification**  
Assay (GC, area%) ..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,458 - 1,465

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03277.0010	Glass bottle	10 ml	inquire
8.03277.0025	Glass bottle	25 ml	inquire



## 803278 1,5-Dibromopentane for synthesis

C<sub>5</sub>H<sub>10</sub>Br<sub>2</sub>Br(CH<sub>2</sub>)<sub>5</sub>Br

Pentamethylene bromide

- CAS-No. 111-24-0 ■ EC-No. 203-849-7
- Refractive index 1.5122 (20 °C, 589 nm)
- Spec. density 1.70 g/cm<sup>3</sup> (20 °C)
- Flash point 79 °C ■ Solub. in

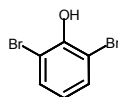
- H<sub>2</sub>O (20 °C) insoluble ■ M = 229.94 g/mol
- Melting point -35 °C ■ Boiling point 222 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 39 19 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,698 - 1,700  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03278.0100	Glass bottle	100 ml	inquire

## 841765 2,6-Dibromophenol for synthesis

C<sub>6</sub>H<sub>4</sub>Br<sub>2</sub>O

- CAS-No. 608-33-3 ■ EC-No. 210-161-0
- M = 251.9 g/mol ■ Melting point 55 - 57 °C
- Boiling point 255 - 256 °C (987 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity -

- single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,6-DIBROMPHENOL), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,6-DIBROMOPHENOL), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,6-DIBROMOPHENOL), 6.1, III

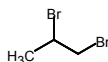
## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 55 °C  
 Melting range (upper value) ..... ≤ 57 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41765.0001	Glass bottle	1 g	inquire

3',3''-Dibromophenolsulfonphthalein → Bromophenol red page 511

## 841523 1,2-Dibromopropane for synthesis

C<sub>3</sub>H<sub>6</sub>Br<sub>2</sub>

Propylene dibromide

- CAS-No. 78-75-1 ■ EC-No. 201-139-1
- Vapour pressure 10.45 hPa (25 °C)
- Spec. density 1.932 g/cm<sup>3</sup> (20 °C)
- Flash point 36 °C ■ Solub. in H<sub>2</sub>O 1.43 g/l (25 °C) ■ M = 201.89 g/mol ■ Melting point -55 °C ■ Boiling point 140 - 142 °C (1013 hPa)
- WGK 2

- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P210, P273, P302 + P352, P305 + P351 + P338
- LC50 rat 12 mg/l
- LD50 oral rat 741 mg/kg
- LGK 3
- HS-No. 2903 39 19 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,2-DIBROMPROPAN), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,2-DIBROMOPROPANE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,2-DIBROMOPROPANE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.922 - 1.929  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41523.0050	Glass bottle	50 ml	inquire
8.41523.0250	Glass bottle	250 ml	inquire

## 803279 1,3-Dibromopropane for synthesis

C<sub>3</sub>H<sub>6</sub>Br<sub>2</sub>Br(CH<sub>2</sub>)<sub>3</sub>Br

Trimethylene bromide

- CAS-No. 109-64-8 ■ EC-No. 203-690-3
- Refractive index 1.5233 (20 °C, 589 nm)
- Vapour pressure 2.6 hPa (20 °C)
- Spec. density 1.98 g/cm<sup>3</sup> (20 °C)
- Flash point 54 °C ■ Solub. in H<sub>2</sub>O 1.68 g/l (30 °C) ■ M = 201.88 g/mol ■ Melting point -34 °C ■ Boiling point 166 - 168 °C (1013 hPa)
- WGK 2

- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P210, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 315 mg/kg
- LGK 3
- HS-No. 2903 39 19 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,3-DIBROMPROPAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,3-DIBROMOPROPANE), 3, III

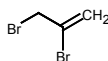
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,3-DIBROMOPROPANE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.976 - 1.980  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03279.0100	Glass bottle	100 ml	inquire
8.03279.0250	Glass bottle	250 ml	inquire

## 841627 2,3-Dibromopropene for synthesis

C<sub>3</sub>H<sub>3</sub>Br<sub>2</sub>

- CAS-No. 513-31-5 ■ EC-No. 208-155-8
- Vapour pressure 10 hPa (25 °C)
- Spec. density 2.05 g/cm<sup>3</sup> (20 °C)
- Flash point 81 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly

- soluble ■ M = 199.87 g/mol
- Boiling point 140 - 142 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2903 39 19 ■ Disposal 3

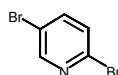
## Specification

Assay (GC, area%) ..... ≥ 85,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41627.0005	Glass bottle	5 ml	inquire

2,3-Dibromopropionic acid ethyl ester → Ethyl 2,3-dibromopropionate page 858

## 821756 2,5-Dibromopyridine for synthesis

C<sub>5</sub>H<sub>3</sub>Br<sub>2</sub>N2,5-(Br)<sub>2</sub>C<sub>5</sub>H<sub>3</sub>N

- CAS-No. 624-28-2 ■ EC-No. 210-839-6
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 236.89 g/

- mol ■ Melting point 90 - 93 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 90 °C  
 Melting range (upper value) ..... ≤ 93 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21756.0010	Glass bottle	10 g	inquire

!

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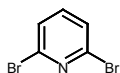
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# Dibrom

## 818644 2,6-Dibromopyridine for synthesis



$C_5H_3Br_2N$   
2,6-(Br)<sub>2</sub>C<sub>5</sub>H<sub>3</sub>N  
■ CAS-No. 626-05-1 ■ EC-No. 210-926-9  
■ Flash point 213 °C ■ Solub. in  
H<sub>2</sub>O (20 °C) practically insoluble ■ M = 236.89 g/mol  
■ Melting point 116 - 119 °C  
■ Bulk density 750 kg/m<sup>3</sup> ■ Boiling point 249 °C  
■ Ignition temp. 435 °C DIN 51794

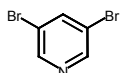
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 31 mg/kg  
■ LGK 6.1A  
■ HS-No. 2933 39 99 ■ Disposal 9  
■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,6-DIBROMOPYRIDIN), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,6-

DIBROMOPYRIDINE), 6.1, II  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,6-DIBROMOPYRIDINE), 6.1, II

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Melting range (lower value)..... ≥ 116 °C  
Melting range (upper value)..... ≤ 119 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18644.0025	Glass bottle	25 g	inquire

## 814869 3,5-Dibromopyridine for synthesis



$C_5H_3Br_2N$   
■ CAS-No. 625-92-3 ■ EC-No. 210-916-4  
■ M = 236.89 g/mol ■ Melting point 113 - 115 °C  
■ Boiling point 222 °C

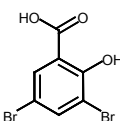
■ WGK 3  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2933 39 99

**Specification**  
Assay (HPLC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 112 °C  
Melting range (upper value)..... ≤ 115 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14869.0010	Glass bottle	10 g	inquire

## 841158 3,5-Dibromosalicylic acid for synthesis



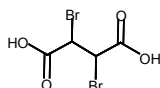
$C_7H_4Br_2O_3$   
3,5-Dibromo-2-hydroxybenzoic acid  
■ CAS-No. 3147-55-5 ■ EC-No. 221-570-9

■ M = 295.91 g/mol ■ Melting point 228 - 229 °C  
■ WGK 3  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2918 29 00 ■ Disposal 3

**Specification**  
Assay (acidimetric)..... ≥ 98.0 %  
Melting range (lower value)..... ≥ 223 °C  
Melting range (upper value)..... ≤ 228 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41158.0025	Plastic bottle	25 g	inquire

## 841348 2,3-Dibromosuccinic acid for synthesis



$C_4H_4Br_2O_4$   
2,3-Dibromo-butandioic acid  
■ CAS-No. 526-78-3 ■ EC-No. 208-396-9  
■ M = 275.88 g/mol ■ Melting point 278 - 281 °C  
■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1B, H314,

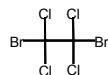
P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat > 2000 mg/kg  
■ LGK 8A  
■ HS-No. 2917 19 90 ■ Disposal 3  
■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2,3-DIBROMBERNSTEINSAEURE), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2,3-DIBROMOSUCCINIC ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2,3-DIBROMOSUCCINIC ACID), 8, III

**Specification**  
Assay (acidimetric)..... ≥ 98.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41348.0050	Plastic bottle	50 g	inquire

## 818551 1,2-Dibromotetrachloroethane for synthesis



$C_2Br_2Cl_4$   
BrCCl<sub>2</sub>CCl<sub>2</sub>Br  
1,1,2,2-Tetrachlorodibromoethane  
■ CAS-No. 630-25-1 ■ EC-No. 211-136-7  
■ Vapour pressure 0.53 hPa (50 °C)

■ Spec. density 2.71 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 325.64 g/mol  
■ Melting point 220 - 222 °C decomposes  
■ WGK 3  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2903 78 00 ■ Disposal 3

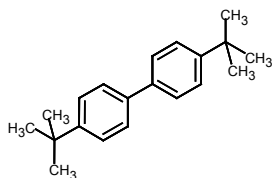
**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Melting range (lower value)..... ≥ 218 °C  
Melting range (upper value)..... ≤ 220 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18551.0050	Glass bottle	50 g	inquire

3',3''-Dibromothymolsulfonphthalein →  
Bromothymol blue page 516

α,α'-Dibromo-o-xylene → 1,2-Bis(bromomethyl)-  
benzene page 463

## 842861 4,4'-Di-tert-butyl-1,1'biphenyl for synthesis



$C_{20}H_{26}$   
■ CAS-No. 1625-91-8 ■ EC-No. 216-615-4  
■ M = 266.43 g/mol ■ Melting point 126 - 129 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2902 90 00 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 99.0 % (a/a)

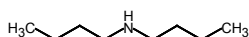
Melting range (lower value)..... ≥ 126 °C  
Melting range (upper value)..... ≤ 129 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42861.0005	Glass bottle	5 g	inquire
8.42861.0025	Glass bottle	25 g	inquire

Dibutylacetoxytin oxyde → 1,3-Diacetoxy-1,1,3,3-tetrabutylstannoxane page 691



## 803222 Dibutylamine for synthesis

C<sub>8</sub>H<sub>19</sub>N(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>NH*N*-Butyl-1-butanamine

- CAS-No. 111-92-2 ■ EC-No. 203-921-8
- Refractive index 1.4168 (20 °C, 589 nm)
- Vapour pressure 2.3 hPa (20 °C)
- Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.6 - 6.8 % (V) ■ Flash point 39 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O 4.05 g/l (25 °C)
- M = 129.24 g/mol ■ pH value 11.1 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -62 °C
- Boiling point 160 °C (1013 hPa)

- Ignition temp. 260 °C DIN 51794
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P302 + P352
- LC50 rat > 2 mg/l
- LD50 oral rat 189 mg/kg ■ LD50 dermal rabbit 770 mg/kg
- EC-Index-No. 612-049-00-0 ■ LGK 3
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2248 Di-n-butylamin, 8 (3), II
- IMDG-Code UN 2248 DI-N-BUTYLAMINE, 8 (3), II

- IATA-DGR UN 2248 DI-N-BUTYLAMINE, 8 (3), II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,758 - 0,760  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03222.0100	Glass bottle	100 ml	inquire
8.03222.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03222.2500	Glass bottle	2.5 l	inquire

3-(Dibutylamino)-propylamine → N,N-Dibutyltrimethylenediamine page 711

3,5-Di-tert-butyl-1,2-benzenediol → 3,5-Di-tert-butylcatechol page 707

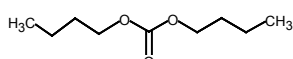
Dibutylbis(lauroyloxy)stannane → Dibutyltin dilaurate page 710

Dibutyl bis(lauroyloxy)tin → Dibutyltin dilaurate page 710

N,N-Dibutyl-1-butane amine → Tributylamine page 1574

Dibutyl carbinol → 5-Nonanol page 1234

## 814420 Di-n-butyl carbonate for synthesis

C<sub>9</sub>H<sub>18</sub>O<sub>3</sub>

Carbon dioxidedi-n-butyl ester

- CAS-No. 542-52-9 ■ EC-No. 208-816-0

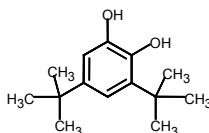
- Spec. density 0.92 g/cm<sup>3</sup> (20 °C)
- Flash point 75 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 174.23 g/mol
- Boiling point 206 °C (1013 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2920 90 10 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,923 - 0,924  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14420.0025	Glass bottle	25 ml	inquire

## 841005 3,5-Di-tert-butylcatechol for synthesis

C<sub>14</sub>H<sub>22</sub>O<sub>2</sub>

3,5-Di-tert-butyl-1,2-benzenediol, 3,5-Bis(1,1-dimethylethyl)-1,2-benzenediol

- CAS-No. 1020-31-1 ■ EC-No. 213-816-9
- M = 222.32 g/mol ■ Melting point 96 - 97 °C
- Boiling point 141 - 145 °C (7 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P304 + P340
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

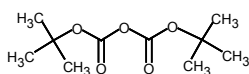
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 96 °C  
 Melting range (upper value) ..... ≤ 99 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41005.0005	Glass bottle	5 g	inquire

2,6-Di-tert-butyl-p-cresol → 2,6-Di-tert-butyl-4-methylphenol page 709

## 818282 Di-tert-butyl dicarbonate for synthesis

C<sub>10</sub>H<sub>18</sub>O<sub>5</sub>

- CAS-No. 24424-99-5 ■ EC-No. 246-240-1

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point 37 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 218.25 g/mol
- Melting point 20 - 24 °C
- Boiling point 56 - 57 °C (0.7 hPa)
- Ignition temp. 460 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation,

- H330; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P210, P280, P309 + P310, P304 + P340, P305 + P351 + P338, P302 + P352
- LC50 rat 0.1 mg/l
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 3
- HS-No. 2920 90 10
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(DI-TERT-BUTYLDICARBONAT), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(DI-TERT-BUTYLDICARBONATE), 6.1 (3), II
- IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE,

ORGANIC, N.O.S.(DI-TERT-BUTYLDICARBONATE), 6.1 (3), II

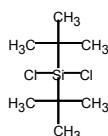
## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 20 °C  
 Melting range (upper value) ..... ≤ 24 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18282.0025	Glass bottle	25 ml	inquire
8.18282.0100	Glass bottle	100 ml	inquire
8.18282.0500	Glass bottle	500 ml	inquire

Di-tert-butyl dicarbonate → page 280

## 814244 Di-tert-butylchlorosilane for synthesis

C<sub>8</sub>H<sub>18</sub>Cl<sub>2</sub>Si

Dichlorodi-tert-butylsilane

- CAS-No. 18395-90-9 ■ EC-No. 242-273-0
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)

- Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 213.22 g/mol
- Melting point -15 °C ■ Boiling point 196 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2931 90 90
- ADR-RID UN 2987 Chlorsilane, ätzend, n.a.g., 8, II ■ IMDG-Code UN 2987 CHLOROSILANES,

CORROSIVE, N.O.S., 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2987 CHLOROSILANES, CORROSIVE, N.O.S., 8, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,008 - 1,010  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14244.0005	Glass bottle	5 ml	inquire

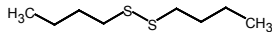
Dibutylchlorostannane → Dibutyltin dichloride page 710

Dibutylchlorotin → Dibutyltin dichloride page 710

Dibutyl diglycol → Diethylene glycol dibutyl ether page 301

# Dibuty

## 820242 Dibutyl disulfide for synthesis



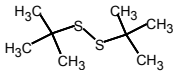
$C_8H_{18}S_2$   
 $CH_3(CH_2)_3SS(CH_2)_3CH_3$   
*Dibutyl disulfide*  
 ■ CAS-No. 629-45-8 ■ EC-No. 211-091-3  
 ■ Refractive index 1.492 (20 °C, 589 nm)  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 % (V) ■ Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 178.35 g/mol

■ Melting point -94 °C  
 ■ Boiling point 229 - 233 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338, P362  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 6

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,936 - 0,938  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20242.0010	Glass bottle	10 ml	inquire
8.20242.0025	Glass bottle	25 ml	inquire
8.20242.0100	Glass bottle	100 ml	inquire

## 820243 Di-tert-butyl disulfide for synthesis



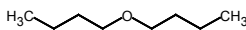
$C_8H_{18}S_2$   
*tert-Butyl disulfide*  
 ■ CAS-No. 110-06-5 ■ EC-No. 203-734-1  
 ■ Vapour pressure 2 hPa (38 °C)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 0.8 % (V) ■ Flash point 67 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 178.35 g/mol  
 ■ Melting point -5 °C ■ Boiling point 198.2 °C  
 ■ WGK 2  
 ■ LC50 rat > 40 mg/l  
 ■ LD50 oral rat 6200 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2930 90 99 ■ Disposal 6

**Specification**  
 Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.922 - 0.924  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20243.0250	Glass bottle	250 ml	inquire

## 802892 Dibutyl ether for synthesis



$C_8H_{18}O$   
 $(CH_3CH_2CH_2CH_2)_2O$   
 ■ CAS-No. 142-96-1 ■ EC-No. 205-575-3  
 ■ Refractive index 1.3985 ■ Vapour pressure 6.4 hPa (20 °C) ■ Spec. density 0.769 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 8.5 % (V)  
 ■ Flash point 25 °C ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C)  
 ■ M = 130.23 g/mol ■ pH value 5.2 (0.2 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 34 g/m<sup>3</sup> (20 °C) not applicable ■ Melting point -95 °C  
 ■ Boiling point 140 - 143 °C (1013 hPa)  
 ■ Water absorption 300 mg/kg (20 °C)

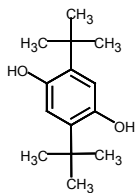
■ Ignition temp. 175 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 3, H412, P210, P273, P305 + P351 + P338, P302 + P352  
 ■ LC50 rat 21.66 mg/l  
 ■ LD50 oral rat 3200 mg/kg ■ LD50 dermal rabbit 7640 mg/kg  
 ■ EC-Index-No. 603-054-00-9 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2909 19 90 ■ Disposal 3

■ ADR-RID UN 1149 Dibutylether, 3, III ■ IMDG-Code UN 1149 DIBUTYL ETHERS, 3, III  
 ■ IATA-DGR UN 1149 DIBUTYL ETHERS, 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,767 - 0,769  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,05 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02892.0100	Glass bottle	100 ml	inquire
8.02892.1000	Glass bottle	1 l	inquire
8.02892.2500	Glass bottle	2.5 l	inquire

## 821762 2,5-Di-tert-butylhydroquinone for synthesis



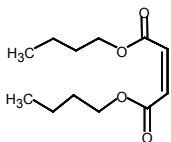
$C_{14}H_{22}O_2$   
 3,5-Di-tert-butyl-4-hydroxytoluene → 2,6-Di-tert-butyl-4-methylphenol page 709

2,5-[CH<sub>3</sub>]<sub>2</sub>C<sub>2</sub>C<sub>6</sub>H<sub>2</sub>-1,4-(OH)<sub>2</sub>  
 ■ CAS-No. 88-58-4 ■ EC-No. 201-841-8  
 ■ Flash point 216 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 222.32 g/mol  
 ■ Melting point 214 - 217 °C  
 ■ Ignition temp. 420 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2907 29 00 ■ Disposal 5

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 214 °C  
 Melting range (upper value) ..... ≤ 218 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21762.0250	Plastic bottle	250 g	inquire
8.21762.1000	Plastic bottle	1 kg	inquire

## 818688 Dibutyl maleate for synthesis



$C_{12}H_{20}O_4$   
 $CH_3(CH_2)_3OOCCH=CHCOO(CH_2)_3CH_3$   
*Maleic acid dibutyl ester*  
 ■ CAS-No. 105-76-0 ■ EC-No. 203-328-4  
 ■ Refractive index 1.4451 (20 °C, 589 nm)  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.5 - 3.4 % (V) ■ Flash point 120 °C ■ Solub.

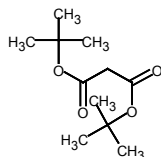
in H<sub>2</sub>O 0.173 g/l (20 °C) ■ M = 228.29 g/mol  
 ■ Melting point -85 °C  
 ■ Boiling point 280 - 282 °C (1013 hPa)  
 ■ Ignition temp. 280 °C  
 ■ WGK 1  
 ■ GHS: Warning, Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P262, P273, P280, P302 + P352  
 ■ LC50 rat > 5 mg/l  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit 10039 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(DIBUTYLMALÉINAT), 9, III ■ IMDG-

Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIBUTYL MALEATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIBUTYL MALEATE), 9, III

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.993 - 0.995  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18688.0100	Plastic bottle	100 ml	inquire
8.18688.1000	Plastic bottle	1 l	inquire

## 841258 Di-tert-butyl malonate for synthesis

C<sub>11</sub>H<sub>20</sub>O<sub>4</sub>

## Malonic acid-di-tert-butylester

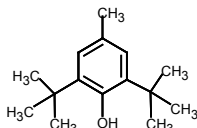
- CAS-No. 541-16-2 ■ EC-No. 208-769-6
- Spec. density 0.965 g/cm<sup>3</sup> (20 °C)
- Flash point 88 °C ■ M = 216.27 g/mol
- Melting point -7 °C ■ Boiling point 65 - 67 °C (1.33 hPa)
- WGK 3
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2917 19 10 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.961 - 0.966  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41258.0010	Glass bottle	10 ml	inquire

## 822021 2,6-Di-tert-butyl-4-methylphenol for synthesis

C<sub>15</sub>H<sub>24</sub>O

- CAS-No. 128-37-0 ■ EC-No. 204-881-4
- Vapour pressure 0.02 hPa (20 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C)
- Flash point 127 °C ■ Solub. in H<sub>2</sub>O < 0.001 g/l (25 °C) ■ M = 220.35 g/mol ■ pH value (H<sub>2</sub>O) not

- applicable ■ Melting point 69 - 70 °C  
 ■ Bulk density 450 kg/m<sup>3</sup> ■ Boiling point 265 °C (1013 hPa) ■ Ignition temp. 345 °C  
 ■ WGK 2  
 ■ GHS: Chronic aquatic toxicity, Category 4, H413, P273  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2907 19 90  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

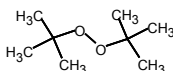
## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 69 °C  
 Melting range (upper value) ..... ≤ 72 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22021.0100	Plastic bottle	100 g	inquire
8.22021.0500	Plastic bottle	500 g	inquire
8.22021.2500	Plastic bottle	2.5 kg	inquire
8.22021.9025	Fibre carton	25 kg	inquire

Dibutylxostannane → page 711

## 820248 Di-tert-butyl peroxide for synthesis

C<sub>8</sub>H<sub>18</sub>O<sub>2</sub>

## tert-Butyl peroxide

- CAS-No. 110-05-4 ■ EC-No. 203-733-6
- Vapour pressure 1000 hPa (110 °C)
- Spec. density 0.80 g/cm<sup>3</sup> (20 °C)
- Flash point 6 °C ■ Solub. in H<sub>2</sub>O 0.063 g/l (20 °C) ■ M = 146.23 g/mol ■ Melting point < -25 °C ■ Boiling point 110 - 115 °C

- Ignition temp. 182 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Organic peroxide, Type E, H242, P210, P233, P280
- LC50 rat 24929 mg/m<sup>3</sup>
- LD50 oral rat > 25000 mg/kg
- EC-Index-No. 617-001-00-2 ■ LGK 5.2
- HS-No. 2909 60 00 ■ Disposal 10
- ADR-RID UN 3107 Organisches Peroxid Typ E, flüssig(DI-TERT-BUTYLPEROXID), 5,2, ■ IMDG-Code UN 3107 ORGANIC PEROXIDE TYPE E,

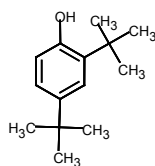
LIQUID(DI-TERT-BUTYL PEROXIDE), 5,2,  
 ■ IATA-DGR UN 3107 ORGANIC PEROXIDE TYPE E,  
 LIQUID(DI-TERT-BUTYL PEROXIDE), 5,2,

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.795 - 0.797  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20248.0250	Plastic bottle	250 ml	inquire
8.20248.1000	Plastic bottle	1 l	inquire

## 820422 2,4-Di-tert-butylphenol for synthesis

C<sub>14</sub>H<sub>22</sub>O2,4-[[CH<sub>3</sub>]<sub>3</sub>C]<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH

- CAS-No. 96-76-4 ■ EC-No. 202-532-0
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 0.887 g/cm<sup>3</sup> (20 °C)
- Flash point 129 °C ■ Solub. in H<sub>2</sub>O 0.012 g/l (20 °C) ■ M = 206.32 g/mol ■ pH value 4.5 (H<sub>2</sub>O),

- 20 °C) (saturated aqueous solution)  
 ■ Melting point 53 - 56 °C ■ Boiling point 265 °C (1013 hPa) ■ Ignition temp. 330 °C  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit 2200 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2907 19 90 ■ Disposal 3  
 ■ ADR-RID UN 2430 Alkylphenole, fest, n.a.g.(2,4-

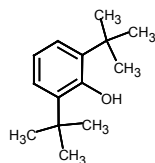
DI-TERT-BUTYLPHENOL), 8, III ■ IMDG-Code UN 2430 ALKYLPHENOLS, SOLID, N.O.S.(2,4-DI-TERT-BUTYLPHENOL), 8, III  
 ■ IATA-DGR UN 2430 ALKYLPHENOLS, SOLID, N.O.S., 8, III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 55 °C  
 Melting range (upper value) ..... ≤ 59 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20422.0100	Glass bottle	100 g	inquire
8.20422.0500	Glass bottle	500 g	inquire

## 818623 2,6-Di-tert-butylphenol for synthesis

C<sub>14</sub>H<sub>22</sub>O2,6-[[CH<sub>3</sub>]<sub>3</sub>C]<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH

- CAS-No. 128-39-2 ■ EC-No. 204-884-0
- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 0.914 g/cm<sup>3</sup> (20 °C)
- Flash point 120 °C ■ Solub. in H<sub>2</sub>O 0.003 g/l

- (25 °C) ■ M = 206.32 g/mol  
 ■ Melting point 34 - 37 °C ■ Boiling point 253 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Chronic aquatic toxicity, Category 2, H411, P262, P273  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 10000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2907 19 90 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2,6-DI-TERT-BUTYLPHENOL), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,6-DI-

TERT-BUTYLPHENOL), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,6-DI-TERT-BUTYLPHENOL), 9, III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 34 °C  
 Melting range (upper value) ..... ≤ 37 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18623.0100	Glass bottle	100 g	inquire
8.18623.0500	Glass bottle	500 g	inquire

# Dibuty

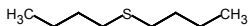
Di(*n*-butyl)phenylphosphine polystyrene → page 283

Dibutyl phosphate → Butyl phosphate page 554

N,N-Dibutyl-1,3-propanediamine → N,N-Dibutyltrimethylenediamine page 711

Di-*tert*-butyl pyrocarbonate → Di-*tert*-butyl dicarbonate page 707

## 820252 Dibutyl sulfide for synthesis



C<sub>8</sub>H<sub>18</sub>S  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>S(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>  
*Butyl sulfide*

■ CAS-No. 544-40-1 ■ EC-No. 208-870-5  
■ Refractive index 1.453 (20 °C, 589 nm) ■ Vapour pressure 26 hPa (80 °C) ■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Flash point 62 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 146.29 g/mol  
■ Melting point -80 °C

■ Boiling point 181 - 183 °C

■ WGK 2

■ LD50 oral rat 2220 mg/kg

■ LGK 10

■ HS-No. 2930 90 99 ■ Disposal 6

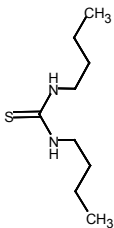
### Specification

Assay (GC, area%) ..... ≥ 96,0 Area %

Density (d 20 °C/ 4 °C) ..... 0,837 - 0,839  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20252.0050	Glass bottle	50 ml	inquire
8.20252.0100	Glass bottle	100 ml	inquire
	Glass bottle	6 x 100 ml	inquire
8.20252.0500	Glass bottle	500 ml	inquire

## 820423 N,N'-Dibutylthiourea for synthesis



C<sub>9</sub>H<sub>20</sub>N<sub>2</sub>S  
(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH)<sub>2</sub>C=S

■ CAS-No. 109-46-6 ■ EC-No. 203-674-6

■ Vapour pressure 0.0032 hPa (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 188.34 g/mol ■ pH value 6 (0.2 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 62 - 65 °C ■ Bulk density 500 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302

■ LD50 oral rat 350 mg/kg

■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 3

### Specification

Assay (of S) ..... ≥ 98,0 %

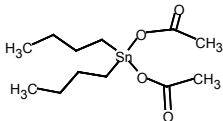
Melting range (lower value) ..... ≥ 63 °C

Melting range (upper value) ..... ≤ 66 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20423.0250	Plastic bottle	250 g	inquire

## 820386 Dibutyltin diacetate for synthesis



C<sub>12</sub>H<sub>24</sub>O<sub>4</sub>Sn  
(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>Sn(OOCCH<sub>3</sub>)<sub>2</sub>  
*Diacetoxydibutylstannane, Diacetoxydibutyltin*

■ CAS-No. 1067-33-0 ■ EC-No. 213-928-8

■ Vapour pressure 1.7 hPa (25 °C)

■ Spec. density 1.30 g/cm<sup>3</sup> (20 °C)

■ Flash point 143 °C ■ Solub. in H<sub>2</sub>O 0.006 g/l (20 °C) ■ M = 351 g/mol ■ Melting point 12 °C

■ Boiling point 142 - 145 °C (13 hPa)

■ Ignition temp. >200 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 1, H410; Acute aquatic toxicity, Category 1, H400; Skin corrosion, Category 1B, H314, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 900 - 1235 mg/kg

■ LD50 dermal rabbit 2320 mg/kg

■ LGK 6.1A

■ HS-No. 2931 90 90 ■ Disposal 8

■ ADR-RID UN 2788 Organische Zinnverbindung, flüssig, n.a.g.(DIBUTYLZINNDIACETAT), 6.1, II

■ IMDG-Code UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(DIBUTYL TIN DIACETATE), 6.1, II, Marine Pollutant: P

■ IATA-DGR UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(DIBUTYL TIN DIACETATE), 6.1, II

### Specification

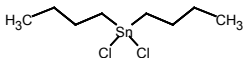
Assay (ex Sn) ..... ≥ 96,0 %

Density (d 20 °C/ 4 °C) ..... 1.300 - 1.310

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20386.0100	Glass bottle	100 ml	inquire

## 804184 Dibutyltin dichloride for synthesis



C<sub>8</sub>H<sub>18</sub>Cl<sub>2</sub>Sn  
(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>SnCl<sub>2</sub>  
*Dibutylidichlorostannane, Dibutylidichlorotin*

■ CAS-No. 683-18-1 ■ EC-No. 211-670-0

■ Vapour pressure 0.0016 hPa (25 °C)

■ Spec. density 1.37 - 1.40 g/cm<sup>3</sup> (20 °C)

■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 0.32 g/l

(20 °C) ■ M = 303.85 g/mol

■ Melting point 37 - 41 °C ■ Boiling point 148 °C (16 hPa)

■ WGK 3

■ GHS: Danger, Germ cell mutagenicity, Category

2, H341; Reproductive toxicity, Category 1B, H360FD; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Dermal, H312;

Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure,

Category 1, H372; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400;

Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P301 + P330 + P331, P302 + P352,

P304 + P340, P305 + P351 + P338, P309 + P310

■ LC50 rat > 0.36 mg/l

■ LD50 oral rat 50 mg/kg

■ EC-Index-No. 050-022-00-X ■ LGK 6.1A

■ HS-No. 2931 90 90 ■ Disposal 15

■ ADR-RID UN 3146 Organische Zinnverbindung, fest, n.a.g.(DIBUTYLZINNDICHLORID), 6.1, II

■ IMDG-Code UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(DIBUTYL TIN DICHLORIDE), 6.1, II, Marine Pollutant: P

■ IATA-DGR UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(DIBUTYL TIN DICHLORIDE), 6.1, II

### Specification

Assay (argentometric) ..... ≥ 98,0 % (m)

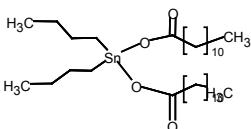
Melting range (lower value) ..... ≥ 37 °C

Melting range (upper value) ..... ≤ 41 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04184.0250	Glass bottle	250 g	inquire
8.04184.1000	Glass bottle	1 kg	inquire

## 820421 Dibutyltin dilaurate for synthesis



C<sub>32</sub>H<sub>64</sub>O<sub>4</sub>Sn  
*Dibutylbis(lauroyloxy)stannane, Dibutyl bis(lauroyloxy)tin*

■ CAS-No. 77-58-7 ■ EC-No. 201-039-8

■ Vapour pressure < 0.1 hPa (20 °C)

■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)

■ Flash point 149 °C ■ Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C) ■ M = 631.55 g/mol

■ Melting point 25 - 27 °C

■ Boiling point >250 °C (1013 hPa)

■ Ignition temp. >200 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Skin irritation,

Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 1, H400, P273,

P302 + P352, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 175 mg/kg

■ LGK 6.1C

■ HS-No. 2931 90 90 ■ Disposal 15

■ ADR-RID UN 2788 Organische Zinnverbindung,

flüssig, n.a.g.(DIBUTYLZINNDILAURAT), 6.1, III

■ IMDG-Code UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(DIBUTYL TIN DILAURATE), 6.1, III, Marine Pollutant: P

■ IATA-DGR UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(DIBUTYL TIN DILAURATE), 6.1, III

### Specification

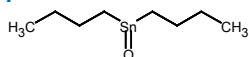
Assay (ex Sn) ..... ≥ 96,0 % (m)

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20421.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.20421.1000	Glass bottle	1 l	inquire



## Dibutyltin oxide

C<sub>8</sub>H<sub>18</sub>O<sub>2</sub>Sn(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>SnO*Dibutylstannoxid*

- CAS-No. 818-08-6 ■ EC-No. 212-449-1
- Spec. density 1.5 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.004 g/l (20 °C) ■ M = 248.94 g/mol
- Bulk density 650 – 750 kg/m<sup>3</sup>
- Boiling point >300 °C decomposes

- Ignition temp. 525 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338
- LC50 rat > 2000 mg/l
- LD50 oral rat 487 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- LGK 10 – 13

- HS-No. 2931 90 90 ■ Disposal 15
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(DIBUTYLZINNOXID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(DIBUTYL TIN OXIDE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(DIBUTYL TIN OXIDE), 9, III

## 803539 Dibutyltin oxide for synthesis

## Specification

Assay (ex Sn) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03539.0005	Glass bottle	5 g	inquire
8.03539.0250	Plastic bottle	250 g	inquire

## 845035 Dibutyltin oxide for pharma synthesis, non-GMP

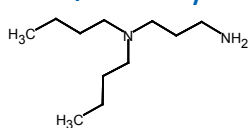
## Specification

Colour (visual) ..... white  
 Appearance of substance (visual) ..... powder  
 Assay (ex Sn) ..... ≥ 98,0 % (m)

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45035.0250	Plastic bottle	250 g	inquire
8.45035.1000	Plastic bottle	1 kg	inquire

## 803292 N,N-Dibutyltrimethylenediamine for synthesis

C<sub>11</sub>H<sub>26</sub>N<sub>2</sub>(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>N(CH<sub>2</sub>)<sub>3</sub>NH<sub>2</sub>*3-(Dibutylamino)-propylamine, N,N-Dibutyl-1,3-propanediamine*

- CAS-No. 102-83-0 ■ EC-No. 203-059-2
- Refractive index 1.4463 (20 °C, 589 nm)
- Spec. density 0.83 g/cm<sup>3</sup> (20 °C)
- Flash point 104 °C ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C)
- M = 186.33 g/mol ■ Melting point -70 °C

- Boiling point 157 – 159 °C (100 hPa)
- Ignition temp. 250 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 820 mg/kg ■ LD50 dermal rabbit 224 mg/kg
- LGK 6.1A
- HS-No. 2921 29 00 ■ Disposal 9
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(N,N-DIBUTYLTRIMETHYLENEDIAMIN), 8, III
- IMDG-Code UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(N,N-DIBUTYLTRIMETHYLENEDIAMINE), 8, III, Segregation Group: 18 (Alkalis)

- IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(N,N-DIBUTYLTRIMETHYLENEDIAMINE), 8, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,825 – 0,828  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03292.0250	Glass bottle	250 ml	inquire

Dicarbonyldiimide → Azodicarboxamide page 428

1,2-Dicarbonyl compounds → Ketones

1,3-Dicarbonyl compounds → Ketones

1,4-Dicarbonyl compounds → Ketones

2,5-Dichlo-1-hydroxybenzene → page 728

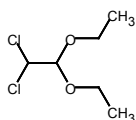
2,6-Dichlo-1-hydroxybenzene → 2,6-

Dichlorophenol page 728

Dichlone → 2,3-Dichloro-1,4-naphthoquinone page 726

Dichloroacetal → Dichloroacetaldehyde diethyl acetal page 711

## 820424 Dichloroacetaldehyde diethyl acetal for synthesis

C<sub>6</sub>H<sub>12</sub>Cl<sub>2</sub>O<sub>2</sub>Cl<sub>2</sub>CHCH(OC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>*Dichloroacetal, 1,1-Dichloro-2,2-diethoxyethane*

- CAS-No. 619-33-0 ■ EC-No. 210-591-9
- Refractive index 1.436 (20 °C, 589 nm) ■ Vapour pressure >110 kPa (50 °C) ■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Flash point 60 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 187.06 g/mol
- Boiling point 183 – 184 °C (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2911 00 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DICHLOROACETALDEHYDDIETHYLACETAL), 3,

III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(DICHLOROACETALDEHYDE DIETHYL ACETAL), 3, III

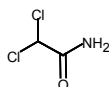
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(DICHLOROACETALDEHYDE DIETHYL ACETAL), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.140 – 1.146  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20424.0025	Glass bottle	25 ml	inquire

## 818672 2,2-Dichloroacetamide for synthesis

C<sub>2</sub>H<sub>3</sub>Cl<sub>2</sub>NOCl<sub>2</sub>CHCONH<sub>2</sub>

■ CAS-No. 683-72-7 ■ EC-No. 211-674-2

- Solub. in H<sub>2</sub>O 71 g/l (20 °C) ■ M = 127.95 g/mol
- Melting point 96 – 99 °C
- Boiling point 233 – 234 °C

- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 – 13
- HS-No. 2924 19 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(DICHLORACETAMID), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(DICHLORACETAMID), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(DICHLORACETAMID), 6.1, II

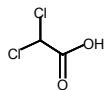
## Specification

Assay (ex N) ..... ≥ 99,0 %  
 Melting range (lower value) ..... ≥ 96 °C  
 Melting range (upper value) ..... ≤ 99 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18672.0100	Plastic bottle	100 g	inquire
8.18672.0500	Plastic bottle	500 g	inquire

# Dichlo

## 803541 Dichloroacetic acid for synthesis



$C_2H_2Cl_2O_2$   
 $Cl_2CHCOOH$   
 ■ CAS-No. 79-43-6 ■ EC-No. 201-207-0  
 ■ Refractive index 1.4642 (20 °C, 589 nm)  
 ■ Vapour pressure 0.19 hPa (20 °C)  
 ■ Spec. density 1.57 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 128.94 g/mol  
 ■ pH value 1.2 (129 g/l, H<sub>2</sub>O, 20 °C)

- Melting point -4 °C
- Boiling point 192 °C decomposes
- WGK 2
- GHS: Danger, Skin corrosion, Category 1A, H314; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2820 mg/kg ■ LD50 dermal rabbit 801 mg/kg
- EC-Index-No. 607-066-00-5 ■ LGK 8B
- HS-No. 2915 40 00 ■ Disposal 3
- ADR-RID UN 1764 Dichloressigsäure, 8, II
- IMDG-Code UN 1764 DICHLOROACETIC ACID, 8,

II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1764 DICHLOROACETIC ACID, 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,560 - 1,570  
 Identity (IR) ..... conforms

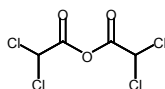
Ord.No.	Packaging	Quantity	Price
8.03541.0005	Glass bottle	5 ml	inquire
8.03541.0250	Glass bottle	250 ml	inquire
8.03541.1000	Glass bottle	1 l	inquire

Dichloroacetic acid chloride → Dichloroacetyl chloride page 712

Dichloroacetic acid ethyl ester → Ethyl dichloroacetate page 858

Dichloroacetic acid methyl ester → Methyl dichloroacetate page 1147

## 818196 Dichloroacetic anhydride for synthesis



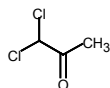
$C_4H_2Cl_4O_3$   
 $(Cl_2CHCO)_2O$   
 ■ CAS-No. 4124-30-5 ■ EC-No. 223-924-8  
 ■ Spec. density 1.62 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >112 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 239.87 g/mol  
 ■ Melting point 29 - 31 °C

- Boiling point 214 - 216 °C (1013 hPa)
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2820 mg/kg ■ LD50 dermal rabbit 761.4 mg/kg
- LGK 6.1A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(DICHLORRESSIGSAEUREANHYDRID), 8

(6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(DICHLOROACETIC ANHYDRIDE), 8 (6.1), II  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(DICHLOROACETIC ANHYDRIDE), 8 (6.1), II  
**Specification**  
 Assay (morpholine method) ..... ≥ 98,0 %  
 Density (d 20 °C/ 4 °C) ..... 1.621 - 1.624  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18196.0005	Glass bottle	5 ml	inquire

## 818602 1,1-Dichloroacetone for synthesis



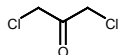
$C_3H_4Cl_2O$   
 $Cl_2CHCOCH_3$   
 ■ CAS-No. 513-88-2 ■ EC-No. 208-175-7  
 ■ Refractive index 1.4472 (20 °C, 589 nm)  
 ■ Vapour pressure < 30 hPa (20 °C)  
 ■ Spec. density 1.30 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4.4 % (V) ■ Flash point 45.8 °C ■ Solub. in H<sub>2</sub>O 32 g/l (20 °C) ■ M = 126.97 g/mol  
 ■ pH value 2.6 (10 g/l, H<sub>2</sub>O, 20 °C)

- Melting point < -50 °C
- Boiling point 117 - 120 °C
- Ignition temp. 560 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 1, H410; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400, P210, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2914 70 00 ■ Disposal 3
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(1,1-DICHLORACETON),

6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(1,1-DICHLOROACETONE), 6.1 (3), II  
 ■ IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(1,1-DICHLOROACETONE), 6.1 (3), II  
**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.302 - 1.310  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18602.0050	Glass bottle	50 ml	inquire
8.18602.0250	Glass bottle	250 ml	inquire

## 822024 1,3-Dichloroacetone for synthesis



$C_3H_4Cl_2O$   
 $ClCH_2COCH_2Cl$   
 1,3-Dichloro-2-propanone  
 ■ CAS-No. 534-07-6 ■ EC-No. 208-585-6  
 ■ Refractive index 1.4711 (46 °C, 589 nm)  
 ■ Vapour pressure 0.4 hPa (20 °C)  
 ■ Flash point 95 °C ■ Solub. in H<sub>2</sub>O 27.9 g/l (20 °C) ■ M = 126.97 g/mol ■ pH value 4.2 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 39 - 42 °C  
 ■ Boiling point 172 - 173 °C (1013 hPa)  
 ■ Ignition temp. 590 °C  
 ■ WGK 3

- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.015 mg/l
- LD50 oral rat 20 mg/kg ■ LD50 dermal rabbit 53 mg/kg
- LGK 6.1A
- HS-No. 2914 70 00 ■ Disposal 9
- ADR-RID UN 2649 1,3-Dichloroacetone, 6.1, II
- IMDG-Code UN 2649 1,3-DICHLOROACETONE,

6.1, II  
 ■ IATA-DGR UN 2649 1,3-DICHLOROACETONE, 6.1, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 39 °C  
 Melting range (upper value) ..... ≤ 42 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22024.0050	Glass bottle	50 g	inquire
8.22024.0250	Glass bottle	250 g	inquire

## 803628 Dichloroacetyl chloride for synthesis



$C_2HCl_3O$   
 $Cl_2CHCOCl$   
 Dichloroacetic acid chloride  
 ■ CAS-No. 79-36-7 ■ EC-No. 201-199-9  
 ■ Refractive index 1.4603 (20 °C, 589 nm)  
 ■ Vapour pressure 30.6 hPa (20 °C)  
 ■ Spec. density 1.53 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 11.9 % (V) ■ Flash point 55 °C ■ Solub. in

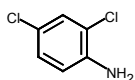
- H<sub>2</sub>O (20 °C) (rigorous decomposition)
- M = 147.38 g/mol ■ pH value (H<sub>2</sub>O) acidic, Hydrolysis ■ Ignition temp. >650 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314; Carcinogenicity, Category 1B, H350; Acute aquatic toxicity, Category 1, H400, P201, P210, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2460 mg/kg
- EC-Index-No. 607-067-00-0 ■ LGK 3
- HS-No. 2915 90 70 ■ Disposal 11

ADR-RID UN 1765 Dichloroacetylchlorid, 8, II  
 ■ IMDG-Code UN 1765 DICHLOROACETYL CHLORIDE, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1765 DICHLOROACETYL CHLORIDE, 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,530 - 1,533  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03628.0250	Glass bottle	250 ml	inquire
8.03628.1000	Glass bottle	1 l	inquire



## 820427 2,4-Dichloroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>N2,4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>

- CAS-No. 554-00-7 ■ EC-No. 209-057-8
- Vapour pressure 1 hPa (78 °C)
- Spec. density 1.56 g/cm<sup>3</sup> (20 °C)
- Flash point 115 °C ■ Solub. in H<sub>2</sub>O 0.62 g/l (25 °C) ■ M = 162.01 g/mol ■ pH value 7 (H<sub>2</sub>O)
- Saturation conc. 5.5 g/m<sup>3</sup> (78 °C)
- Melting point 59 - 62 °C ■ Bulk density 800 kg/m<sup>3</sup> ■ Boiling point 245 °C (1013 hPa)

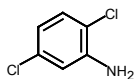
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 1600 mg/kg
- EC-Index-No. 612-010-00-8 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 3442 Dichloraniline, fest, 6.1, II
- IMDG-Code UN 3442 DICHLOROANILINES,

SOLID, 6.1, II, Marine Pollutant: P  
 ■ IATA-DGR UN 3442 DICHLOROANILINES, SOLID, 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 59 °C  
 Melting range (upper value) ..... ≤ 62 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20427.0005	Glass bottle	5 g	inquire
8.20427.0250	Glass bottle	250 g	inquire

## 820429 2,5-Dichloroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>N2,5-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>

- CAS-No. 95-82-9 ■ EC-No. 202-455-2
- Vapour pressure 0.057 hPa (20 °C)
- Spec. density 1.54 g/cm<sup>3</sup> (20 °C)
- Flash point 139 °C ■ Solub. in H<sub>2</sub>O 0.56 g/l (20 °C) ■ M = 162.01 g/mol ■ pH value 6.5 (0.66 g/l, H<sub>2</sub>O) ■ Saturation conc. 5.5 g/m<sup>3</sup> (78 °C)
- Melting point 46 - 49 °C ■ Bulk density 540 kg/m<sup>3</sup> ■ Boiling point 251 °C (1013 hPa)

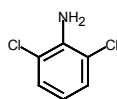
- Ignition temp. >540 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 2900 mg/kg
- EC-Index-No. 612-010-00-8 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 3442 Dichloraniline, fest, 6.1, II

■ IMDG-Code UN 3442 DICHLOROANILINES, SOLID, 6.1, II, Marine Pollutant: P  
 ■ IATA-DGR UN 3442 DICHLOROANILINES, SOLID, 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 46 °C  
 Melting range (upper value) ..... ≤ 49 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20429.0250	Glass bottle	250 g	inquire

## 820430 2,6-Dichloroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>N2,6-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>

- CAS-No. 608-31-1 ■ EC-No. 210-160-5
- Vapour pressure < 0.5 hPa (20 °C)
- Spec. density 1.275 g/cm<sup>3</sup> (30 °C)
- Flash point 118 °C ■ Solub. in H<sub>2</sub>O 1.6 g/l (20 °C) ■ M = 162.01 g/mol
- Melting point 35 - 38 °C ■ Boiling point 97 °C

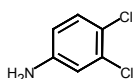
- (7 hPa) ■ Ignition temp. >600 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 3167 mg/kg
- EC-Index-No. 612-010-00-8 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9

■ ADR-RID UN 3442 Dichloraniline, fest, 6.1, II  
 ■ IMDG-Code UN 3442 DICHLOROANILINES, SOLID, 6.1, II, Marine Pollutant: P  
 ■ IATA-DGR UN 3442 DICHLOROANILINES, SOLID, 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 35 °C  
 Melting range (upper value) ..... ≤ 38 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20430.0250	Glass bottle	250 g	inquire

## 820431 3,4-Dichloroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>N3,4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>

- CAS-No. 95-76-1 ■ EC-No. 202-448-4
- Vapour pressure 0.0018 hPa (20 °C)
- Spec. density 1.34 g/cm<sup>3</sup> (75 °C)
- Flash point 135 °C ■ Solub. in H<sub>2</sub>O 0.73 g/l (20 °C) ■ M = 162.02 g/mol ■ pH value 7.1 (0.8 g/l, H<sub>2</sub>O) ■ Melting point 70 - 73 °C
- Boiling point 272 °C (1013 hPa)
- Ignition temp. >600 °C
- WGK 3

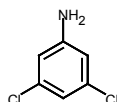
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P304 + P340, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat > 0.631 mg/l
- LD50 oral rat 545 mg/kg ■ LD50 dermal rabbit 815 mg/kg
- EC-Index-No. 612-202-00-1 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 3442 Dichloraniline, fest, 6.1, II

■ IMDG-Code UN 3442 DICHLOROANILINES, SOLID, 6.1, II, Marine Pollutant: P  
 ■ IATA-DGR UN 3442 DICHLOROANILINES, SOLID, 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 70 °C  
 Melting range (upper value) ..... ≤ 73 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20431.0100	Glass bottle	100 g	inquire
8.20431.0500	Glass bottle	500 g	inquire

## 841790 3,5-Dichloroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>N3,5-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>

- CAS-No. 626-43-7 ■ EC-No. 210-948-9
- Vapour pressure 40 hPa (150 °C)
- Spec. density 1.58 g/cm<sup>3</sup> (20 °C)
- Flash point 133 °C ■ Solub. in H<sub>2</sub>O 0.78 g/l
- M = 162.02 g/mol ■ Melting point 46 - 53 °C
- Boiling point 259 - 260 °C (1013 hPa)
- Ignition temp. 620 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310
- EC-Index-No. 612-010-00-8 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 3442 Dichloraniline, fest, 6.1, II
- IMDG-Code UN 3442 DICHLOROANILINES,

SOLID, 6.1, II, Marine Pollutant: P  
 ■ IATA-DGR UN 3442 DICHLOROANILINES, SOLID, 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Melting range (lower value) ..... ≥ 46 °C  
 Melting range (upper value) ..... ≤ 53 °C  
 Identity (IR) ..... passes test

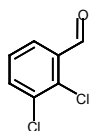
Ord.No.	Packaging	Quantity	Price
8.41790.0100	Glass bottle	100 g	inquire

# Dichlo

3,5-Dichloroanthranilic acid → 2-Amino-3,5-dichlorobenzoic acid page 385

3,5-Dichloroanthranilic acid → 2-Amino-3,5-dichlorobenzoic acid page 385

## 840101 2,3-Dichlorobenzaldehyde for synthesis



C<sub>7</sub>H<sub>4</sub>Cl<sub>2</sub>O  
 ■ CAS-No. 6334-18-5 ■ EC-No. 228-711-3  
 ■ Spec. density 1.33 g/cm<sup>3</sup> (100 °C)

■ Flash point 135 °C ■ M = 175.01 g/mol  
 ■ Melting point 59 - 62 °C ■ Boiling point 144 °C (40 hPa) ■ Ignition temp. >250 °C  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 2860 mg/kg  
 ■ LGK 10 - 13

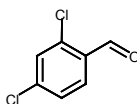
■ HS-No. 2913 00 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 61 °C  
 Melting range (upper value) ..... ≤ 64 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40101.0025	Glass bottle	25 g	inquire

## 820433 2,4-Dichlorobenzaldehyde for synthesis



C<sub>7</sub>H<sub>4</sub>Cl<sub>2</sub>O  
 2,4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CHO  
 ■ CAS-No. 874-42-0 ■ EC-No. 212-861-1  
 ■ Flash point 135 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 175.01 g/mol ■ Melting point 68 - 71 °C  
 ■ Bulk density 700 kg/m<sup>3</sup> ■ Boiling point 233 °C (1013 hPa) ■ Ignition temp. 440 °C  
 ■ WGK 2

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 3470 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2913 00 00 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2,4-DICHLORBENZALDEHYD), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,4-DICHLORO BENZALDEHYDE), 9, III, Marine

Pollutant: P

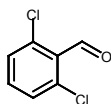
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,4-DICHLORO BENZALDEHYDE), 9, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 68 °C  
 Melting range (upper value) ..... ≤ 71 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20433.0100	Plastic bottle	100 g	inquire
8.20433.0500	Plastic bottle	500 g	inquire

## 821763 2,6-Dichlorobenzaldehyde for synthesis



C<sub>7</sub>H<sub>4</sub>Cl<sub>2</sub>O  
 2,6-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CHO  
 ■ CAS-No. 83-38-5 ■ EC-No. 201-472-2  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 175.01 g/mol

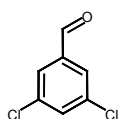
■ Melting point 67 - 70 °C ■ Bulk density 800 kg/m<sup>3</sup> ■ Boiling point 124 °C (13 hPa)  
 ■ Ignition temp. 380 °C  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2913 00 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 67 °C  
 Melting range (upper value) ..... ≤ 70 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21763.0100	Plastic bottle	100 g	inquire

## 841758 3,5-Dichlorobenzaldehyde for synthesis



C<sub>7</sub>H<sub>4</sub>Cl<sub>2</sub>O  
 ■ CAS-No. 10203-08-4 ■ EC-No. 233-499-0  
 ■ M = 175.01 g/mol ■ Melting point 63 °C

■ Boiling point 235 - 240 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2913 00 00 ■ Disposal 3

Assay (HPLC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 62 °C  
 Melting range (upper value) ..... ≤ 65 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41758.0001	Glass bottle	1 g	inquire
8.41758.0005	Glass bottle	5 g	inquire

## 1,2-Dichlorobenzene



C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>  
 1,2-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>  
*o*-Chlorobenzene  
 ■ CAS-No. 95-50-1 ■ EC-No. 202-425-9  
 ■ Vapour pressure 1.33 hPa (20 °C)  
 ■ Spec. density 1.31 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 9.9 (25 °C) ■ El. dipole moment 2.27 (24 °C) ■ Explosive limit 2.2 - 12 % (V)

■ Flash point 66 °C ■ Solub. in H<sub>2</sub>O 0.13 g/l (20 °C) ■ M = 147 g/mol ■ Saturation conc. 8 g/m<sup>3</sup> (20 °C) Air ■ Melting point -17 °C  
 ■ Boiling point 180 °C (1013 hPa)  
 ■ Evaporation number 57 ■ Ignition temp. 640 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 +

P352, P305 + P351 + P338

■ LC50 rat 8.15 mg/l  
 ■ LD50 oral rat 500 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg  
 ■ EC-Index-No. 602-034-00-7 ■ LGK 10  
 ■ HS-No. 2903 91 00 ■ Disposal 3  
 ■ ADR-RID UN 1591 *o*-Dichlorbenzen, 6,1, III  
 ■ IMDG-Code UN 1591 *o*-DICHLOROBENZENE, 6,1, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
 ■ IATA-DGR UN 1591 *o*-DICHLOROBENZENE, 6,1, III

## 803238 1,2-Dichlorobenzene for synthesis

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,305 - 1,307  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03238.0100	Glass bottle	100 ml	inquire
8.03238.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03238.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 102930 1,2-Dichlorobenzene for extraction analysis EMSURE®

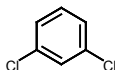
## Specification

Purity (GC).....	≥ 99.0 %
Identity (IR).....	conforms
Free acid (as HCl).....	≤ 0.001 %
Chloride (Cl).....	≤ 0.0001 %

Heavy metals (as Pb).....	≤ 0.0001 %
Fe (Iron).....	≤ 0.0001 %
Sulfated ash.....	≤ 0.005 %
Water.....	≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.02930.1000	Glass bottle	1 l	inquire
1.02930.2500	Glass bottle	2.5 l	inquire

## 803225 1,3-Dichlorobenzene for synthesis

C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>1,3-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>

- CAS-No. 541-73-1 ■ EC-No. 208-792-1
- Refractive index 1.5457 (20 °C, 589 nm)
- Vapour pressure 3 hPa (20 °C)
- Spec. density 1.29 g/cm<sup>3</sup> (20 °C)
- Flash point 65 °C ■ Solub. in H<sub>2</sub>O 0.11 g/l (20 °C) ■ M = 147 g/mol ■ Melting point -25 °C
- Boiling point 173 °C (1013 hPa)

- Ignition temp. >500 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LC50 rat > 17.6 mg/l
- LD50 oral rat 580 mg/kg
- EC-Index-No. 602-067-00-7 ■ LGK 10
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1,3-DICHLORBENZOL), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,3-DICHLOROENZENE), 6.1, III

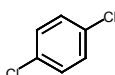
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,3-DICHLOROENZENE), 6.1, III

## Specification

Assay (GC, area%).....	≥ 98.0 Area %
Density (d 20 °C/ 4 °C).....	1,287 - 1,289
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
8.03225.0005	Glass bottle	5 ml	inquire
8.03225.0250	Glass bottle	250 ml	inquire

## 803226 1,4-Dichlorobenzene for synthesis

C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>1,4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>

- CAS-No. 106-46-7 ■ EC-No. 203-400-5
- Refractive index 1.5267 (70 °C, 589 nm)
- Vapour pressure 0.8 hPa (20 °C)
- Spec. density 1.23 g/cm<sup>3</sup> (70 °C) ■ Explosive limit 1.7 - 5.9 % (V) ■ Flash point 66 °C ■ Solub. in H<sub>2</sub>O 0.08 g/l (25 °C) ■ M = 147 g/mol
- pH value 7 (0.06 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. 5 g/m<sup>3</sup> (20 °C) Air
- Melting point 52 - 54 °C ■ Bulk density 800 kg/m<sup>3</sup> ■ Boiling point 173 - 175 °C (1013 hPa)

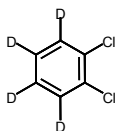
- Ignition temp. >500 °C
- WGK 2
- GHS: Warning, Carcinogenicity, Category 2, H351; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P305 + P351 + P338, P308 + P313
- LC50 rat 5 mg/l
- LD50 oral rat 500 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 602-035-00-2 ■ LGK 10 - 13
- HS-No. 2903 91 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1,4-DICHLORBENZOL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,4-

- DICHLOROENZENE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,4-DICHLOROENZENE), 9, III

## Specification

Assay (GC, area%).....	≥ 99.0 % (a/a)
Melting range (lower value).....	≥ 50 °C
Melting range (upper value).....	≤ 54 °C
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.03226.0100	Plastic bottle	100 g	inquire
8.03226.1000	Plastic bottle	1 kg	inquire
8.03226.2500	Plastic bottle	2.5 kg	inquire

815029 1,2-Dichlorobenzene-D<sub>4</sub> deuteration degree min. 99% for NMR spectroscopy MagniSolv™C<sub>6</sub>D<sub>4</sub>Cl<sub>2</sub>

- CAS-No. 2199-69-1 ■ EC-No. 218-606-0
- Vapour pressure 1.33 hPa (20 °C)
- Spec. density 1.31 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 - 12 % (V) ■ Flash point 66 °C DIN 51758
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 151.03 g/mol ■ Melting point -17 °C

- Boiling point 180 °C ■ Ignition temp. 640 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 1, H410; Acute aquatic toxicity, Category 1, H400; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P260, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LC50 rat 8.15 mg/l
- LD50 oral rat 500 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg
- LGK 10
- HS-No. 2845 90 10 ■ Disposal 3

- ADR-RID UN 1591 o-Dichlorbenzen, 6.1, III
- IMDG-Code UN 1591 O-DICHLOROENZENE, 6.1, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)
- IATA-DGR UN 1591 O-DICHLOROENZENE, 6.1, III

## Specification

Deuteration degree.....	≥ 99 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.03 %

Ord.No.	Packaging	Quantity	Price
8.15029.0005	Glass ampoule	5 ml	inquire

## 814765 o-Dichlorobenzene/Phenol (mixture 1:1) for synthesis

- Spec. density 1.18 g/cm<sup>3</sup> (20 °C)
- Flash point 79 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Germ cell mutagenicity, Category 2, H341; Specific target organ toxicity - single exposure, Category 3, H335; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic

- toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 6.1A
- HS-No. 3824 90 97 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(DICHLORBENZOL UND PHENOL), 6.1, II
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(DICHLOROENZENE AND PHENOL), 6.1, II
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

- N.O.S.(DICHLOROENZENE AND PHENOL), 6.1, II

## Specification

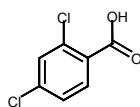
Assay of phenole (GC, weight%).....	48.0 - 52.0 %
Water (K. F.).....	≤ 200 ppm
Assay of dichloro benzene (GC, weight%).....	48.0 - 52.0 %
Colourless liquid.....	passes test

Ord.No.	Packaging	Quantity	Price
8.14765.2500	Glass bottle	2.5 l	inquire

2,6-Dichlorobenzethiol → 2,6-Dichlorothiophenol page 732

# Dichlo

## 820435 2,4-Dichlorobenzoic acid for synthesis



$C_7H_4Cl_2O_2$   
 2,4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COOH  
 ■ CAS-No. 50-84-0 ■ EC-No. 200-067-8  
 ■ Solub. in H<sub>2</sub>O 0.36 g/l (15 °C) ■ M = 191.01 g/mol ■ pH value 2.8 (0.36 g/l, H<sub>2</sub>O, 15 °C)

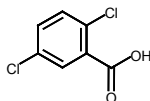
- Melting point 160 - 164 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 160 °C  
 Melting range (upper value) ..... ≤ 164 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20435.0005	Glass bottle	5 g	inquire
8.20435.0250	Plastic bottle	250 g	inquire

## 818834 2,5-Dichlorobenzoic acid for synthesis



$C_7H_4Cl_2O_2$   
 2,5-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COOH  
 ■ CAS-No. 50-79-3 ■ EC-No. 200-065-7  
 ■ Solub. in H<sub>2</sub>O 0.8 g/l (14 °C) ■ M = 191.01 g/mol

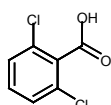
- Melting point 151 - 154 °C
- Boiling point 300 - 302 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

### Specification

Assay (acidimetric) ..... ≥ 97.0 % (m)  
 Melting range (lower value) ..... ≥ 151 °C  
 Melting range (upper value) ..... ≤ 154 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18834.0025	Plastic bottle	25 g	inquire

## 821764 2,6-Dichlorobenzoic acid for synthesis



$C_7H_4Cl_2O_2$   
 2,6-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COOH  
 ■ CAS-No. 50-30-6 ■ EC-No. 200-025-9

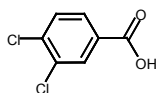
- Solub. in H<sub>2</sub>O 14 g/l ■ M = 191.01 g/mol
- Melting point 138 - 141 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

### Specification

Assay (acidimetric) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 138 °C  
 Melting range (upper value) ..... ≤ 141 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21764.0025	Glass bottle	25 g	inquire

## 841788 3,4-Dichlorobenzoic acid for synthesis



$C_7H_4Cl_2O_2$   
 ■ CAS-No. 51-44-5 ■ EC-No. 200-099-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 191.01 g/mol ■ Melting point 205 - 208 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

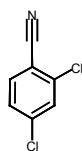
### Specification

Assay (acidimetric) ..... ≥ 98.0 %

Melting range (lower value) ..... ≥ 205 °C  
 Melting range (upper value) ..... ≤ 208 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41788.0025	Glass bottle	25 g	inquire

## 840037 2,4-Dichlorobenzonitrile for synthesis



$C_7H_3Cl_2N$

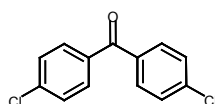
- CAS-No. 6574-98-7 ■ EC-No. 229-493-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 172.01 g/mol ■ Melting point 59 - 62 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312, P302 + P352
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 59 °C  
 Melting range (upper value) ..... ≤ 62 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40037.0100	Glass bottle	100 g	inquire

## 841531 4,4'-Dichlorobenzophenone for synthesis



$C_{13}H_8Cl_2O$   
 Bis-(4-chlorophenyl)methanone

- CAS-No. 90-98-2 ■ EC-No. 202-030-1
- M = 251.11 g/mol ■ Melting point 142 - 144 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

### Specification

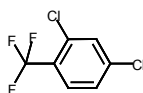
Assay (GC, area%) ..... ≥ 99.0 % (a/a)

Melting range (lower value) ..... ≥ 142 °C  
 Melting range (upper value) ..... ≤ 145 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41531.0025	Plastic bottle	25 g	inquire



## 842351 2,4-Dichlorobenzotrifluoride for synthesis

C<sub>7</sub>H<sub>3</sub>Cl<sub>2</sub>F<sub>3</sub>

- CAS-No. 320-60-5 ■ EC-No. 206-278-1
- Vapour pressure 1.48 hPa (25 °C)
- Spec. density 1.490 g/cm<sup>3</sup> (20 °C)
- Flash point 72 °C ■ M = 215 g/mol
- Boiling point 117 - 118 °C (1013 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LD50 oral rat 2150 mg/kg
- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 2
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2,4-DICHLORBENZOTRIFLUORID), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,4-DICHLORBENZOTRIFLUORIDE), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC,

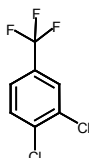
ORGANIC, N.O.S.(2,4-DICHLORBENZOTRIFLUORIDE), 8, III

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.488 - 1.492  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42351.0010	Glass bottle	10 ml	inquire
8.42351.0100	Glass bottle	100 ml	inquire

## 841167 3,4-Dichlorobenzotrifluoride for synthesis

C<sub>7</sub>H<sub>3</sub>Cl<sub>2</sub>F<sub>3</sub>3,4-Dichloro- $\alpha,\alpha,\alpha$ -trifluorotoluene

- CAS-No. 328-84-7 ■ EC-No. 206-337-1
- Vapour pressure 2.7 hPa (25 °C)

- Spec. density 1.479 g/cm<sup>3</sup> (20 °C)
- Flash point 65 °C ■ Solub. in H<sub>2</sub>O 0.116 g/l (20 °C) ■ M = 215 g/mol ■ Melting point -12 °C
- Boiling point 173 - 174 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 1325 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10

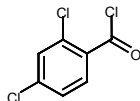
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No
- IATA-DGR No Dangerous Good

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.481 - 1.485  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41167.0010	Glass bottle	10 ml	inquire

## 820438 2,4-Dichlorobenzoyl chloride for synthesis

C<sub>7</sub>H<sub>3</sub>Cl<sub>3</sub>OC<sub>7</sub>H<sub>3</sub>OCl<sub>3</sub>

- CAS-No. 89-75-8 ■ EC-No. 201-936-4
- Refractive index 1.5927 (20 °C, 589 nm)
- Spec. density 1.50 g/cm<sup>3</sup> (20 °C)
- Flash point 137 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 209.45 g/mol
- Melting point 18 °C ■ Boiling point 130 - 135 °C (28 hPa) ■ Ignition temp. >450 °C

- WGK 1
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 4640 mg/kg ■ LD50 dermal rabbit 3160 mg/kg
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2,4-DICHLORBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,4-DICHLORO

BENZOYLCHLORIDE), 8, II, Segregation Group: 1 (Acids)

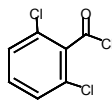
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,4-DICHLORO BENZOYLCHLORIDE), 8, II

**Specification**

Assay (morpholine method) ..... ≥ 98.0 %  
Density (d 20 °C/ 4 °C) ..... 1.497 - 1.499  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20438.0025	Glass bottle	25 ml	inquire
8.20438.0100	Glass bottle	100 ml	inquire

## 841172 2,6-Dichlorobenzoyl chloride for synthesis

C<sub>7</sub>H<sub>3</sub>Cl<sub>3</sub>O

- CAS-No. 4659-45-4 ■ EC-No. 225-102-4
- Spec. density 1.463 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 209.45 g/mol
- pH value (H<sub>2</sub>O, 20 °C) acidic
- Melting point 15 - 17 °C
- Boiling point 130 - 132 °C (20 hPa)

- WGK 3
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2,6-DICHLORBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,6-DICHLORBENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

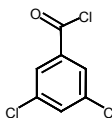
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,6-DICHLORBENZOYL CHLORIDE), 8, II

**Specification**

Assay (morpholine method) ..... ≥ 98.0 %  
Density (d 20 °C/ 4 °C) ..... 1.460 - 1.465  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41172.0010	Glass bottle	10 ml	inquire
8.41172.0050	Glass bottle	50 ml	inquire

## 841231 3,5-Dichlorobenzoyl chloride for synthesis

C<sub>7</sub>H<sub>3</sub>Cl<sub>3</sub>O

- CAS-No. 2905-62-6 ■ EC-No. 220-813-6
- Vapour pressure 0.13 hPa (32 °C)
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 209.45 g/mol
- pH value (H<sub>2</sub>O, 20 °C) strongly acid
- Melting point 26 - 28 °C

- Boiling point 135 - 137 °C (33 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 794 mg/kg
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(3,5-DICHLORBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID,

ACIDIC, ORGANIC, N.O.S.(3,5-DICHLORBENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3,5-DICHLORBENZOYL CHLORIDE), 8, II

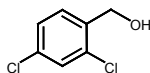
**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41231.0005	Glass bottle	5 g	inquire



## 841083 2,4-Dichlorobenzyl alcohol for synthesis



C<sub>7</sub>H<sub>6</sub>Cl<sub>2</sub>O  
Dybenal

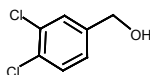
- CAS-No. 1777-82-8 ■ EC-No. 217-210-5
- Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ M = 177.03 g/mol
- Melting point 56 - 58 °C

- Bulk density 1450 kg/m<sup>3</sup>
  - WGK 2
  - GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
  - LD50 oral rat > 2000 mg/kg
  - LGK 10 - 13
  - HS-No. 2906 29 00 ■ Disposal 3
- Specification**  
Assay (GC, area%)..... ≥ 99.0 % (a/a)

Melting range (lower value)..... ≥ 58 °C  
Melting range (upper value)..... ≤ 60 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41083.0025	Glass bottle	25 g	inquire
8.41083.0100	Glass bottle	100 g	inquire

## 841133 3,4-Dichlorobenzyl alcohol for synthesis



C<sub>7</sub>H<sub>6</sub>Cl<sub>2</sub>O

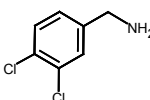
- 3,4-Dichloro-1-(hydroxymethyl)-benzene
- CAS-No. 1805-32-9 ■ EC-No. 217-299-0
  - Flash point > 110 °C ■ M = 177.03 g/mol

- Melting point 38 - 39 °C
  - Boiling point 148 - 151 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2906 29 00 ■ Disposal 3
- Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Melting range (lower value)..... ≥ 36 °C

Melting range (upper value)..... ≤ 39 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41133.0010	Glass bottle	10 g	inquire

## 814849 3,4-Dichlorobenzylamine for synthesis



C<sub>7</sub>H<sub>7</sub>Cl<sub>2</sub>N

- CAS-No. 102-49-8 ■ EC-No. 203-035-1
- Spec. density 1.322 g/cm<sup>3</sup> (20 °C)
- Flash point > 110 °C ■ M = 176.05 g/mol
- Boiling point 80 - 82 °C (0.8 hPa)
- WGK 3

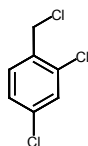
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(3,4-DICHLOROBENZYLAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3,4-DICHLOROBENZYLAMINE), 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(3,4-DICHLOROBENZYLAMINE), 8, III

**Specification**  
Assay (GC, area%)..... ≥ 96.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.320 - 1.324  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14849.0005	Glass bottle	5 ml	inquire

## 841585 2,4-Dichlorobenzyl chloride for synthesis



C<sub>7</sub>H<sub>5</sub>Cl<sub>3</sub>

- CAS-No. 94-99-5 ■ EC-No. 202-381-0
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 1.408 g/cm<sup>3</sup> (20 °C)
- Flash point 190 °C ■ Kin. viscosity 2.6 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (slow

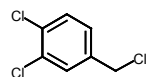
- decomposition) ■ M = 195.48 g/mol
- Melting point -2.6 °C ■ Boiling point 248 °C (1013 hPa) ■ Ignition temp. > 500 °C
  - WGK 3
  - GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
  - LGK 8A
  - HS-No. 2903 99 90 ■ Disposal 3
  - ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2,4-DICHLOROBENZYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC,

N.O.S.(2,4-DICHLOROBENZYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,4-DICHLOROBENZYL CHLORIDE), 8, II

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.403 - 1.407  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41585.0050	Glass bottle	50 ml	inquire

## 841010 3,4-Dichlorobenzyl chloride for synthesis



C<sub>7</sub>H<sub>5</sub>Cl<sub>3</sub>

- CAS-No. 102-47-6 ■ EC-No. 203-033-0
- Spec. density 1.415 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ M = 195.47 g/mol
- Melting point 37 - 38 °C
- Boiling point 99 - 101 °C (2.67 hPa)
- WGK 3
- GHS: Danger, Specific target organ toxicity -

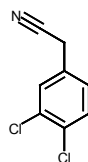
- single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A
  - HS-No. 2903 99 90 ■ Disposal 3
  - ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(3,4-DICHLOROBENZYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3,4-DICHLOROBENZYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)
  - IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC,

ORGANIC, N.O.S.(3,4-DICHLOROBENZYL CHLORIDE), 8, II

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.402 - 1.412  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41010.0050	Glass bottle	50 ml	inquire

## 841151 3,4-Dichlorobenzyl cyanide for synthesis



C<sub>8</sub>H<sub>5</sub>Cl<sub>2</sub>N

- 3,4-Dichlorophenylacetonitrile
- CAS-No. 3218-49-3 ■ EC-No. 221-743-9
  - Flash point > 110 °C ■ M = 186.04 g/mol
  - Melting point 40 - 42 °C
  - Boiling point 169 - 171 °C (16 hPa)

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(3,4-DICHLOROBENZYLACETONITRIL), 6.1, III
- IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(3,4-DICHLOROPHENYLACETONITRILE),

6.1, III  
■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(3,4-DICHLOROPHENYLACETONITRILE), 6.1, III

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Melting range (lower value)..... ≥ 38 °C  
Melting range (upper value)..... ≤ 40 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41151.0025	Glass bottle	25 g	inquire



## 2,6-Dichlorobenzyl cyanide → 2,6-

Dichlorophenylacetonitrile page 729

## Dichlorobis(benzonitrile)palladium(II) →

Bis(benzonitrile)-palladium(II) chloride (27.7% Pd)  
page 463

## Dichlorobis(triphenylphosphine)nickel(II) →

Bis(triphenylphosphine)nickel(II) chloride page  
478

## Dichlorobis(triphenylphosphine)palladium(II) →

Bis(triphenylphosphine)palladium(II) chloride  
(15.2% Pd) page 478

## 803227 1,4-Dichlorobutane for synthesis

C<sub>4</sub>H<sub>8</sub>Cl<sub>2</sub>Cl(CH<sub>2</sub>)<sub>4</sub>Cl

Tetramethylene chloride

- CAS-No. 110-56-5 ■ EC-No. 203-778-1
- Refractive index 1.4545 (20 °C, 589 nm)
- Vapour pressure 5 hPa (20 °C)
- Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 8.9 % (V) ■ Flash point 53 °C ■ Solub. in H<sub>2</sub>O 2.4 g/l (20 °C) ■ M = 127.01 g/mol
- pH value 7.3 (H<sub>2</sub>O, 20 °C) ■ Melting point -38 °C

- Boiling point 155 °C (1013 hPa)
- Ignition temp. 220 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 3, H412, P210, P262, P273
- LD50 oral rat 3420 mg/kg
- LGK 3
- HS-No. 2903 19 80 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,4-DICHLOROBUTAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,4-

DICHLOROBUTANE), 3, III

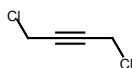
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,4-DICHLOROBUTANE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.136 - 1.139  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03227.0250	Glass bottle	250 ml	inquire
8.03227.1000	Glass bottle	1 l	inquire

## 841524 1,4-Dichloro-2-butyne for synthesis

C<sub>4</sub>H<sub>4</sub>Cl<sub>2</sub>

■ CAS-No. 821-10-3 ■ EC-No. 212-474-8

■ Spec. density 1.258 g/cm<sup>3</sup> (20 °C)

■ Flash point 160 °C ■ M = 122.98 g/mol

■ Melting point -35 °C

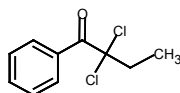
- Boiling point 166 - 168 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2903 29 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.260 - 1.264  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41524.0010	Glass bottle	10 ml	inquire

## 814490 2,2-Dichlorobutyrophenone for synthesis

C<sub>10</sub>H<sub>10</sub>Cl<sub>2</sub>OC<sub>6</sub>H<sub>5</sub>COC(Cl)<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>

2,2-Dichloropropyl phenyl ketone

■ CAS-No. 66255-85-4

■ Spec. density 1.23 g/cm<sup>3</sup> (20 °C)

■ M = 217.09 g/mol ■ Boiling point 132 - 136 °C

■ WGK 2

■ LGK 10 - 13

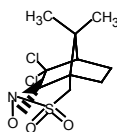
■ HS-No. 2914 70 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 96.0 Area %  
Density (d 20 °C/ 4 °C) ..... 1.230 - 1.232  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14490.0005	Glass bottle	5 ml	inquire

## 814672 (-)-[(8,8-Dichlorocamphoryl)-sulfonyl]-oxaziridine for synthesis

C<sub>10</sub>H<sub>13</sub>Cl<sub>2</sub>NO<sub>3</sub>S

■ CAS-No. 139628-16-3

■ Spec. density 1 g/cm<sup>3</sup> ■ M = 298.18 g/mol

■ Melting point 180 - 185 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2934 99 90 ■ Disposal 3

## Specification

Assay (ex Cl) ..... ≥ 97.0 %

Melting range (lower value) ..... ≥ 180 °C

Melting range (upper value) ..... ≤ 185 °C

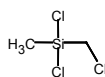
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=0.5 in chloroform) -92,5 -

-87,5 °

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14672.0001	Glass bottle	1 g	inquire
8.14672.0005	Glass bottle	5 g	inquire

## 842024 Dichloro(chloromethyl)methylsilane for synthesis

C<sub>2</sub>H<sub>5</sub>Cl<sub>3</sub>Si

■ CAS-No. 1558-33-4 ■ EC-No. 216-319-5

■ Spec. density 1.282 g/cm<sup>3</sup> (20 °C)

■ Flash point 35 °C ■ M = 163.51 g/mol

■ Boiling point 121 °C (1013 hPa)

■ WGK 3

■ GHS: Danger, Flammable liquid, Category 3, H226; Substances and mixtures, which in contact with water, emit flammable gases, Category 1,

H260; Acute toxicity, Category 3, Inhalation, H331; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1A, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310

■ LC50 rat 6.8 mg/l

■ LGK 4.3

■ HS-No. 2931 90 90 ■ Disposal 24

■ ADR-RID UN 2988 Chlorsilane, mit Wasser reagierend, entzündbar, ätzend, n.a.g., 4.3 (3, 8), I

■ IMDG-Code UN 2988 CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S., 4.3 (3,

8), I, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2988 CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S., 4.3 (3, 8), I

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 1.280 - 1.285

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42024.0025	Glass bottle	25 ml	inquire
8.42024.0100	Glass bottle	100 ml	inquire

## 818498 1,10-Dichlorodecane for synthesis

C<sub>10</sub>H<sub>20</sub>Cl<sub>2</sub>Cl(CH<sub>2</sub>)<sub>10</sub>Cl

Decamethylene chloride

■ CAS-No. 2162-98-3 ■ EC-No. 218-489-6

■ Refractive index 1.462 (20 °C, 589 nm)

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 0.5 % (V) ■ Flash point 146 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 211.17 g/mol

■ Melting point 14 - 16 °C

■ Boiling point 140 - 142 °C (13 hPa)

■ Ignition temp. 220 °C

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315,

P302 + P352

■ LGK 10 - 13

■ HS-No. 2903 19 80 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 0.996 - 0.997

Identity (IR) ..... passes test

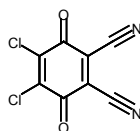
Ord.No.	Packaging	Quantity	Price
8.18498.0050	Glass bottle	50 ml	inquire

# Dichlo

cis-Dichlorodiamineplatinum(II) → cis-Platinum  
(65% Pt) page 1334

Dichlorodi-tert-butylsilane → Di-tert-butyl-  
dichlorosilane page 707

## 802940 2,3-Dichloro-5,6-dicyano-p-benzoquinone for synthesis



$C_8Cl_2N_2O_2$   
2,3-(Cl)<sub>2</sub>-1-(=O)<sub>2</sub>C<sub>6</sub>-4-(=O)-5,6-(CN)<sub>2</sub>  
4,5-Dichloro-3,6-dioxo-1,4-cyclohexadiene-1,2-dicarbonitrile, DDQ  
■ CAS-No. 84-58-2 ■ EC-No. 201-542-2

- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 227 g/mol ■ Melting point 209 - 214 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P260, P262, P309 + P310
- LD50 oral rat 86 mg/kg
- LGK 6.1A
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(DICHLOR-DICYAN-P-BENZOCHINON), 6.1, II
- IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(2,3-DICHLORO-5,6-DICYANO-P-

BENZOQUINONE), 6.1, II  
■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(2,3-DICHLORO-5,6-DICYANO-P-BENZOQUINONE), 6.1, II

### Specification

Assay (iodometric) ..... ≥ 98,0 %(m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02940.0025	Glass bottle	25 g	inquire

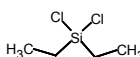
Dichlorodicyclopentadienyltitanium →  
Bis(cyclopentadienyl)titanium dichloride page  
466

1,1-Dichloro-2,2-diethoxyethane →  
Dichloroacetaldehyde diethyl acetal page 711

Dichlorodicyclopentadienylzirconium →  
Bis(cyclopentadienyl)zirconium dichloride page  
467

2,2'-Dichlorodiethyl ether → Bis(2-chloroethyl)  
ether page 299

## 814115 Dichlorodiethylsilane for synthesis



$C_4H_{10}Cl_2Si$   
Diethyl-dichlorosilane  
■ CAS-No. 1719-53-5 ■ EC-No. 217-005-0  
■ Refractive index 1.4307 (20 °C, 589 nm)  
■ Vapour pressure 54 hPa (48 °C)  
■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.13 %(V) ■ Flash point 26.1 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 157.11 g/mol  
■ Melting point -96 °C

- Boiling point 128 - 130 °C (1013 hPa)
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 24
- ADR-RID UN 1767 Diethyl-dichlorsilan, 8 (3), II
- IMDG-Code UN 1767 DIETHYLDICHLOROSILANE,

8 (3), II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1767 DIETHYLDICHLOROSILANE, 8 (3), II

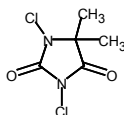
### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C / 4 °C) ..... 1,056 - 1,058  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14115.0005	Glass bottle	5 ml	inquire

2,5-Dichloro-3,6-dihydroxy-p-benzoquinone → Chloranilic acid page 593

## 814752 1,3-Dichloro-5,5-dimethylhydantoin for synthesis



$C_5H_6Cl_2N_2O_2$   
1,3-Dichloro-5,5-dimethyl-2,4-imidazolidinedione  
■ CAS-No. 118-52-5 ■ EC-No. 204-258-7  
■ Spec. density 1.5 g/cm<sup>3</sup> (20 °C) (HSDB)  
■ Flash point 171 °C ■ Solub. in H<sub>2</sub>O 2.1 g/l (25 °C) (HSDB) ■ M = 197.02 g/mol ■ pH value 4.4 (H<sub>2</sub>O) (HSDB) ■ Melting point 134 - 136 °C  
■ WGK 2

- GHS: Danger, Oxidising solid, Category 3, H272; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 542 mg/kg ■ LD50 dermal rabbit > 20000 mg/kg
- LGK 5.1 B
- HS-No. 2933 21 00 ■ Disposal 22
- ADR-RID UN 3085 Entzündend (oxidierend) wirkender fester Stoff, ätzend, n.a.g.(1,3-DICHLOR-5,5-DIMETHYLHYDANTOIN), 5.1 (8), III
- IMDG-Code UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(1,3-DICHLOR-5,5-DIMETHYLHYDANTOINE), 5.1 (8), III

■ IATA-DGR UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(1,3-DICHLOR-5,5-DIMETHYLHYDANTOINE), 5.1 (8), III

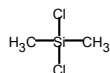
### Specification

Assay (iodometric) ..... ≥ 98,0 %  
Melting range (lower value) ..... ≥ 130 °C  
Melting range (upper value) ..... ≤ 133 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14752.0100	Glass bottle	100 g	inquire
8.14752.1000	Glass bottle	1 kg	inquire

1,3-Dichloro-5,5-dimethyl-2,4-imidazolidinedione → 1,3-Dichloro-5,5-dimethylhydantoin page 720

## 803452 Dichlorodimethylsilane for synthesis



$C_2H_6Cl_2Si$   
(CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>  
Dimethyl-dichlorosilane  
■ CAS-No. 75-78-5 ■ EC-No. 200-901-0  
■ Refractive index 1.4038 (20 °C, 589 nm)  
■ Vapour pressure < 200 hPa (20 °C)  
■ Spec. density 1.07 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 1.75 - 48.5 %(V) ■ Flash point -5 °C  
■ Kin. viscosity 0.6 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)

- M = 129.06 g/mol ■ Melting point -76 °C
- Boiling point 70 °C (1013 hPa)
- Ignition temp. 425 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P302 + P352, P305 + P351 + P338
- LC50 rat 4.98 mg/l
- LD50 oral rat 6056 mg/kg
- EC-Index-No. 014-003-00-X ■ LGK 3
- HS-No. 2931 90 90 ■ Disposal 24
- ADR-RID UN 1162 Dimethyl-dichlorsilan, 3 (8), II

■ IMDG-Code UN 1162 DIMETHYLDICHLOROSILANE, 3 (8), II  
■ IATA-DGR UN 1162 DIMETHYLDICHLOROSILANE, 3 (8), II

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Identity (IR) ..... passes test

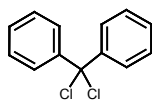
Ord.No.	Packaging	Quantity	Price
8.03452.0250	Glass bottle	250 ml	inquire
8.03452.1000	Glass bottle	1 l	inquire

Dichlorodimethylstannane → Dimethyltin dichloride  
page 806

Dichlorodimethyltin → Dimethyltin dichloride page  
806

4,5-Dichloro-3,6-dioxo-1,4-cyclohexadiene-1,2-dicarbonitrile → 2,3-Dichloro-5,6-dicyano-p-benzoquinone page 720

## 820439 Dichlorodiphenylmethane for synthesis

C<sub>13</sub>H<sub>10</sub>Cl<sub>2</sub>Cl<sub>2</sub>C(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>

DDM, Diphenyldichloromethane

- CAS-No. 2051-90-3 ■ EC-No. 218-134-5
- Refractive index 1.6015 (22 °C, 589 nm)
- Spec. density 1.25 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 237.12 g/mol
- Boiling point 192 - 194 °C (43 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(DICHLORDIPHENYLMETHAN), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC,

N.O.S.(DICHLORODIPHENYLMETHANE), 8, II,  
Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DICHLORODIPHENYLMETHANE), 8, II

## Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.248 - 1.250  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20439.0025	Glass bottle	25 ml	inquire

α,4-Dichlorodiphenylmethane → 4-Chlorobenzhydryl chloride page 599

4,4'-Dichlorodiphenyl sulfone → Bis(4-chlorophenyl) sulfone page 465

## 1,2-Dichloroethane

C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>ClCH<sub>2</sub>CH<sub>2</sub>Cl

Ethylene chloride, Ethylene dichloride

- CAS-No. 107-06-2 ■ EC-No. 203-458-1
- Vapour pressure 87 hPa (20 °C)
- Spec. density 1.25 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 10.6 (20 °C) ■ El. dipole moment 1.75 (20 °C) ■ Explosive limit 6 % (v/v)
- Flash point 13 °C ■ Solub. in H<sub>2</sub>O 8.7 g/l (20 °C)
- M = 98.96 g/mol ■ Saturation conc. 350 g/m<sup>3</sup>

- (20 °C) Air ■ Melting point -35.5 °C
- Boiling point 83.5 - 84.1 °C (1013 hPa)
- Evaporation number 4.1
- Ignition temp. 412.6 - 440 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Carcinogenicity, Category 1B, H350; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P201, P210, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313

- LC50 rat 7.2 mg/l
- LD50 oral rat 670 mg/kg ■ LD50 dermal rabbit 2800 mg/kg
- EC-Index-No. 602-012-00-7 ■ LGK 3
- HS-No. 2903 15 00 ■ Disposal 9
- ADR-RID UN 1184 Ethylendichlorid, 3 (6.1), II
- IMDG-Code UN 1184 ETHYLENE DICHLORIDE, 3 (6.1), II, Segregation Group: 10 (Liquid halogenated hydrocarbons)
- IATA-DGR UN 1184 ETHYLENE DICHLORIDE, 3 (6.1), II

## 100955 1,2-Dichloroethane EEMPLURA®

## Specification

Purity (GC)..... ≥ 99.5 %  
Identity (IR)..... conforms  
Colour..... ≤ 50 Hazen  
Titrable acid..... ≤ 0.0003 meq/g  
Density (d 20 °C/20 °C)..... about 1.25  
Boiling range (82-84 °C)..... ≥ 95 % (v/v)  
Free chlorine (Cl)..... ≤ 0.00003 %  
Al (Aluminium)..... ≤ 0.000005 %  
Ba (Barium)..... ≤ 0.000005 %  
Ca (Calcium)..... ≤ 0.00002 %  
Cd (Cadmium)..... ≤ 0.000002 %  
Co (Cobalt)..... ≤ 0.000002 %

Cr (Chromium)..... ≤ 0.000002 %  
Cu (Copper)..... ≤ 0.000002 %  
Fe (Iron)..... ≤ 0.0001 %  
K (Potassium)..... ≤ 0.00002 %  
Mg (Magnesium)..... ≤ 0.000005 %  
Mn (Manganese)..... ≤ 0.000002 %  
Na (Sodium)..... ≤ 0.00005 %  
Ni (Nickel)..... ≤ 0.000002 %  
Pb (Lead)..... ≤ 0.000002 %  
Sr (Strontium)..... ≤ 0.000002 %  
Zn (Zinc)..... ≤ 0.00001 %  
Substances reducing potassium permanganate

(as O)..... ≤ 0.001 %  
Evaporation residue..... ≤ 0.0020 %  
Water..... ≤ 0.030 %

Ord.No.	Packaging	Quantity	Price
1.00955.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00955.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00955.6025	Drum stainl. st.	25 l	inquire
1.00955.9190	Steel barrel	190 l	inquire

## 113713 1,2-Dichloroethane for liquid chromatography LiChrosolv®

## Specification

Purity (GC)..... ≥ 99,8 %  
Identity (IR)..... conforms  
Evaporation residue..... ≤ 2,0 mg/l  
Water..... ≤ 0,02 %  
Acidity..... ≤ 0,0002 meq/g

Alkalinity..... ≤ 0,0002 meq/g  
Transmission (at 240 nm)..... ≥ 85 %  
Transmission (at 245 nm)..... ≥ 90 %  
Transmission (from 270 nm)..... ≥ 99 %  
Filtered by 0.2 µm filter

Ord.No.	Packaging	Quantity	Price
1.13713.1000	Glass bottle	1 l	inquire

## 107058 1,2-Dichloroethane for analysis EMPARTA® ACS

C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>ClCH<sub>2</sub>CH<sub>2</sub>Cl

Ethylene chloride, Ethylene dichloride

- CAS-No. 107-06-2 ■ EC-No. 203-458-1
- Vapour pressure 87 hPa (20 °C)
- Spec. density 1.25 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 10.6 (20 °C) ■ El. dipole moment 1.75 (20 °C) ■ Explosive limit 6 % (v/v)
- Flash point 13 °C ■ Solub. in H<sub>2</sub>O 8.7 g/l (20 °C)
- M = 98.96 g/mol ■ Saturation conc. 350 g/m<sup>3</sup>
- (20 °C) ■ Melting point -35.5 °C
- Boiling point 83.5 - 84.1 °C (1013 hPa)
- Evaporation number 4.1

- Ignition temp. 412.6 - 440 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Carcinogenicity, Category 1B, H350; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P201, P210, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313
- LC50 rat 7.2 mg/l
- LD50 oral rat 670 mg/kg ■ LD50 dermal rabbit 2800 mg/kg
- EC-Index-No. 602-012-00-7 ■ LGK 3 ■ Store

below +30 °C.  
■ Disposal 9  
■ ADR-RID UN 1184 Ethylendichlorid, 3 (6.1), II  
■ IMDG-Code UN 1184 ETHYLENE DICHLORIDE, 3 (6.1), II, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
■ IATA-DGR UN 1184 ETHYLENE DICHLORIDE, 3 (6.1), II

Ord.No.	Packaging	Quantity	Price
1.07058.4000	Glass bottle	4 l	inquire

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

# Dichlo

## 1,1-Dichloroethylene



C<sub>2</sub>H<sub>2</sub>Cl<sub>2</sub>  
Cl<sub>2</sub>C=CH<sub>2</sub>  
*Vinylidene chloride*  
 ■ CAS-No. 75-35-4 ■ EC-No. 200-864-0  
 ■ Refractive index 1.4254 (20 °C, 589 nm)  
 ■ Vapour pressure 665 hPa (20 °C)  
 ■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 8.4 - 16.5 % (V) ■ Flash point -25 °C ■ Solub. in H<sub>2</sub>O 2.5 g/l (25 °C) ■ M = 96.94 g/mol  
 ■ Melting point -122 °C  
 ■ Boiling point 31.2 - 31.7 °C (1013 hPa)  
 ■ Ignition temp. 520 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 1, H224; Acute toxicity, Category 4, Inhalation, H332; Carcinogenicity, Category 2, H351, P210, P233, P240, P281, P308 + P313  
 ■ LC50 rat 34.13 mg/l

■ LD50 oral rat 200 mg/kg  
 ■ EC-Index-No. 602-025-00-8 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2903 29 00 ■ Disposal 3  
 ■ ADR-RID UN 1303 Vinylidenchlorid, stabilisiert, 3, I ■ IMDG-Code UN 1303 VINYLIDENE CHLORIDE, STABILIZED, 3, I, Marine Pollutant: P, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
 ■ IATA-DGR UN 1303 VINYLIDENE CHLORIDE, STABILIZED, 3, I



### 803209 1,1-Dichloroethylene (stabilised with hydroquinone monomethyl ether) for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,212 - 1,213  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03209.0100	Glass bottle	100 ml	inquire
8.03209.1000	Glass bottle	1 l	inquire

### 845033 1,1-Dichloroethylene (stabilised with hydrochinone monomethyl ether) for pharma synthesis, non-GMP

#### Specification

Appearance of substance (visual) ..... clear  
 Colour number (Hazen) ..... ≤ 20  
 Assay (GC, area%) ..... ≥ 99,0 Area %

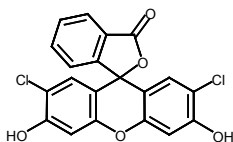
Density (d 20 °C/ 4 °C) ..... 1,212 - 1,213  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45033.0100	Glass bottle	100 ml	inquire
8.45033.1000	Glass bottle	1 l	inquire

2,2'-Dichloro-(ethylenedioxy)-diethane → 1,2-Bis-(2-chloroethoxy) ethane page 464

β,β'-Dichloroethyl ether → Bis(2-chloroethyl) ether page 299

## 109676 2',7'-Dichlorofluorescein indicator ACS, Reag. Ph Eur



C<sub>20</sub>H<sub>10</sub>Cl<sub>2</sub>O<sub>5</sub>

■ CAS-No. 76-54-0 ■ EC-No. 200-968-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 401.2 g/mol ■ Bulk density 390 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 3204 19 00 ■ Disposal 3  
**Specification**  
 Clarity of solution (according to ACS) .... passes test

Loss on drying (110 °C) ..... ≤ 3%  
 Suitability as adsorption indicator (according to ACS) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.09676.0005	Glass bottle	5 g	inquire

2,7-Dichlorofluorescein fluorescence indicator → 2',7'-Dichlorofluorescein page 722

## 803632 1,6-Dichlorohexane for synthesis



C<sub>6</sub>H<sub>12</sub>Cl<sub>2</sub>  
 Cl(CH<sub>2</sub>)<sub>5</sub>Cl  
*Hexamethylene chloride*  
 ■ CAS-No. 2163-00-0 ■ EC-No. 218-491-7  
 ■ Refractive index 1.4568 (20 °C, 589 nm)  
 ■ Vapour pressure 23 hPa (92 °C)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Explosive  
 limit 5.3 - 10.5 % (V) ■ Flash point 77 °C ■ Solub. in H<sub>2</sub>O 0.9 g/l (20 °C) ■ M = 155.07 g/mol  
 ■ pH value 6 - 7 (H<sub>2</sub>O, 20 °C) ■ Melting point -

13 °C ■ Boiling point 208 °C (1013 hPa)  
 ■ Ignition temp. 204 °C  
 ■ WGK 1  
 ■ GHS: Chronic aquatic toxicity, Category 4, H413, P273  
 ■ LD50 oral rat 2700 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 19 80 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1,6-DICHLORHEXAN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,6-DICHLORO

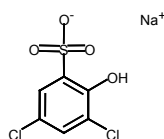
HEXANE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,6-DICHLORO HEXANE), 9, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,066 - 1,070  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03632.0250	Glass bottle	250 ml	inquire

α-Dichlorohydrin → 1,3-Dichloro-2-propanol page 731

## 841262 3,5-Dichloro-2-hydroxybenzenesulfonic acid sodium salt for synthesis



C<sub>6</sub>H<sub>3</sub>Cl<sub>2</sub>NaO<sub>4</sub>S  
 ■ CAS-No. 54970-72-8 ■ EC-No. 259-416-8

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 265.05 g/mol ■ pH value 7 (53 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point >300 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13

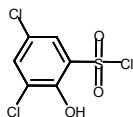
■ HS-No. 2908 99 00 ■ Disposal 3

**Specification**  
 Assay (ex Na) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41262.0005	Plastic bottle	5 g	inquire
8.41262.0025	Plastic bottle	25 g	inquire



## 841068 3,5-Dichloro-2-hydroxybenzenesulfonyl chloride for synthesis

C<sub>6</sub>H<sub>3</sub>Cl<sub>2</sub>O<sub>2</sub>S

2,4-Dichlorophenol-6-sulfonyl chloride

■ CAS-No. 23378-88-3 ■ EC-No. 245-619-9

■ M = 261.5 g/mol ■ Melting point 77 - 81 °C

■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8A

■ HS-No. 2908 99 00 ■ Disposal 3

■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(3,5-DICHLOR-2-HYDROXY-BENZOLSULFONYLCHLORID), 8, II ■ IMDG-

Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3,5-DICHLORO-2-HYDROXY-BENZENESULFONYLCHLORIDE), 8, II, Segregation

Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

ORGANIC, N.O.S.(3,5-DICHLORO-2-HYDROXY-BENZENESULFONYLCHLORIDE), 8, II

## Specification

Assay (ex Cl) ..... ≥ 98.0 %

Melting range (lower value) ..... ≥ 77 °C

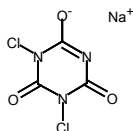
Melting range (upper value) ..... ≤ 81 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41068.0010	Glass bottle	10 g	inquire

3,4-Dichloro-1-(hydroxymethyl)-benzene → 3,4-Dichlorobenzyl alcohol page 718

## Dichloroisocyanuric acid sodium salt dihydrate

C<sub>3</sub>Cl<sub>2</sub>N<sub>2</sub>NaO<sub>3</sub> \* 2 H<sub>2</sub>O

Bleaching solution

■ CAS-No. 51580-86-0 ■ EC-No. 220-767-7

■ Solub. in H<sub>2</sub>O 250 g/l (25 °C) ■ M = 255.98 g/mol ■ pH value 6.7 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 240 - 250 °C (decomposition)

■ Bulk density 980 kg/m<sup>3</sup>

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific

target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273,

P305 + P351 + P338

■ LD50 oral rat 550 - 1600 mg/kg

■ LD50 dermal rabbit &gt; 5000 mg/kg

■ EC-Index-No. 613-030-01-7 ■ LGK 4.1A

■ HS-No. 2933 69 80 ■ Disposal 10

■ ADR-RID UN 3077 Umweltgefährdender Stoff,

fest, n.a.g.(DICHLORISOCYANURSAEURE NATRIUMSALZ DIHYDRAT), 9, III ■ IMDG-Code UN

3077 ENVIRONMENTALLY HAZARDOUS

SUBSTANCE, SOLID,

N.O.S.(DICHLORISOCYANURIC ACID SODIUM

SALT DIHYDRATE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID,

N.O.S.(DICHLORISOCYANURIC ACID SODIUM

SALT DIHYDRATE), 9, III

For chlorination in private swimming pools.

## 110888 Dichloroisocyanuric acid sodium salt dihydrate GR for analysis

## Specification

Assay (iodometric, calc. on dried substance) ..... ≥ 98.0 %

Identity (Raman-spectrum) ..... conforms

Heavy metals (as Pb) ..... ≤ 0.001 %

Fe (Iron) ..... ≤ 0.005 %

Loss on drying (105 °C) ..... 9.0 - 16.0 %

Ord.No.	Packaging	Quantity	Price
1.10888.0100	Glass bottle	100 g	inquire

## 110887 Dichloroisocyanuric acid sodium salt dihydrate

## Specification

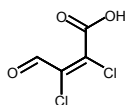
Assay (iodometric, calc. on dried substance) ..... ≥ 98.0 %

Identity (Raman-spectrum) ..... conforms

Loss on drying (105 °C) ..... 9.0 - 16.0 %

Ord.No.	Packaging	Quantity	Price
1.10887.2500	Glass bottle	2.5 kg	inquire

## 820441 2,3-Dichloromalealdehydic acid for synthesis

C<sub>4</sub>H<sub>2</sub>Cl<sub>2</sub>O<sub>3</sub>

(CHO)CCl=CClCOOH

Mucocloric acid

■ CAS-No. 87-56-9 ■ EC-No. 201-752-4

■ Vapour pressure 130 hPa (50 °C)

■ Spec. density 1.85 g/cm<sup>3</sup> (20 °C)■ Flash point 186 °C ■ Solub. in H<sub>2</sub>O 27 g/l (20 °C)■ M = 168.96 g/mol ■ pH value 2.4 (27 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 124 - 127 °C decomposes■ Bulk density 750 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single

exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331,

P304 + P340, P305 + P351 + P338, P309 + P310

■ LC50 rat &gt; 5.1 mg/l

■ LD50 oral rat 100 mg/kg

■ LGK 6.1A

■ HS-No. 2918 30 00 ■ Disposal 9

■ ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(2,3-DICHLOROMALEALDEHYDSAEURE), 8 (6.1), II ■ IMDG-Code UN 2923 CORROSIVE SOLID,

TOXIC, N.O.S.(2,3-DICHLOROMALEALDEHYDIC

ACID), 8 (6.1), II

■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(2,3-DICHLOROMALEALDEHYDIC ACID), 8

(6.1), II

## Specification

Assay (acidimetric) ..... ≥ 96.0 %

Melting range (lower value) ..... ≥ 124 °C

Melting range (upper value) ..... ≤ 127 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20441.0250	Plastic bottle	250 g	inquire

## Dichloromethane

CH<sub>2</sub>Cl<sub>2</sub>

DCM, Methylene chloride, Methylene dichloride

■ CAS-No. 75-09-2 ■ EC-No. 200-838-9

■ Refractive index 1.42 ■ Vapour pressure 475 hPa

(20 °C) ■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C)

■ Explosive limit 13 - 22 %(V) ■ Solub. in

H<sub>2</sub>O 20 g/l (20 °C) ■ M = 84.93 g/mol■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point - 95 °C ■ Boiling point 40 °C (1013 hPa)

■ Evaporation number 1.9

■ Ignition temp. 605 °C DIN 51794

■ WGK 2

■ GHS: Warning, Carcinogenicity, Category 2,

H351, P281, P308 + P313

■ LC50 rat 88 mg/l

■ LD50 oral rat 1600 mg/kg ■ LD50 dermal rat &gt;

2000 mg/kg

■ EC-Index-No. 602-004-00-3 ■ LGK 6.1 D

■ Store below +30 °C.

■ HS-No. 2903 12 00 ■ Disposal 2

■ ADR-RID UN 1593 Dichlormethan, 6.1, III

■ IMDG-Code UN 1593 DICHLOROMETHANE, 6.1,

III, Segregation Group: 10 (Liquid halogenated

hydrocarbons)

■ IATA-DGR UN 1593 DICHLOROMETHANE, 6.1, III

## 822271 Dichloromethane EEMPLURA®

## Specification

Purity (GC) ..... ≥ 99.0 %

Identity (IR) ..... conforms

Density (d 20 °C / 4 °C) ..... 1.323 - 1.326

Evaporation residue ..... ≤ 0.0020 %

Water ..... ≤ 0.10 %

Stabilized with 2-Methyl-2-buten

Ord.No.	Packaging	Quantity	Price
8.22271.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.22271.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.22271.9025	Steel barrel	25 l	inquire
8.22271.9190	Steel barrel	190 l	inquire

# Dichlo

## 107020 Dichloromethane for analysis EMPARTA® ACS

<b>Specification</b>	Evaporation residue.....	≤ 0.002 %
Purity (GC).....	Water.....	≤ 0.02 %
Identity (IR).....	Stabilized with about 50 ppm 2-Methyl-2-butene.	
Appearance.....		
Colour.....		
Titration acid.....		
Free chlorine (as Cl).....		

Ord.No.	Packaging	Quantity	Price
1.07020.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.07020.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.07020.6010	Drum stainl. st.	10 l	inquire

## 106050 Dichloromethane for analysis EMSURE® ACS,ISO,Reag. Ph Eur

<b>Specification</b>	Al (Aluminium).....	≤ 0.00005 %
Purity (GC).....	B (Boron).....	≤ 0.000002 %
Identity (IR).....	Ba (Barium).....	≤ 0.00001 %
Appearance.....	Ca (Calcium).....	≤ 0.00005 %
Colour.....	Cd (Cadmium).....	≤ 0.000005 %
Titration acid.....	Co (Cobalt).....	≤ 0.000002 %
Alkalinity.....	Cr (Chromium).....	≤ 0.000002 %
Density (d 20 °C/ 4 °C).....	Cu (Copper).....	≤ 0.000002 %
Boiling point.....	Fe (Iron).....	≤ 0.00001 %
Free chlorine (as Cl).....	Mg (Magnesium).....	≤ 0.00001 %
Chloride (Cl).....	Mn (Manganese).....	≤ 0.000002 %
Matter discoloured by H <sub>2</sub> SO <sub>4</sub> .....	Mo (Molybdenum).....	≤ 0.000002 %
Chloroform (GC).....	Ni (Nickel).....	≤ 0.000002 %
Ethanol (GC).....	Pb (Lead).....	≤ 0.00001 %
Methanol (GC).....	Sn (Tin).....	≤ 0.00001 %
Carbon tetrachloride (GC).....	Zn (Zinc).....	≤ 0.00001 %
Fluorescence (as quinine at 365 nm).....		

Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.01 %  
 Stabilized with about 50 ppm 2-Methyl-2-butene.

Ord.No.	Packaging	Quantity	Price
1.06050.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.06050.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.06050.4000	Glass bottle	4 l	inquire
1.06050.6010	Drum stainl. st.	10 l	inquire
1.06050.6025	Drum stainl. st.	25 l	inquire
1.06050.9025	Steel barrel	25 l	inquire
1.06050.9190	Steel barrel	190 l	inquire

## 106051 Dichloromethane dried (max. 0.004% H<sub>2</sub>O) SeccoSolv®

<b>Specification</b>	Evaporation residue.....	≤ 10 mg/l
Purity (GC).....	Water.....	≤ 0.004 %
Identity (IR).....	The product is stabilized with about 50 ppm 2-methyl-2-butene	
Colour.....		
Acidity.....		
Alkalinity.....		
Chloroform (GC).....		
Carbon tetrachloride (GC).....		

Ord.No.	Packaging	Quantity	Price
1.06051.0161	Septum bottle	150 ml	inquire
	Septum bottle	12 x 150 ml	inquire
1.06051.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.06051.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

## 106054 Dichloromethane for gas chromatography ECD and FID SupraSolv®

<b>Specification</b>	individual signals (lindane standard).....	≤ 3 pg/ml
Purity (GC).....	GC/FID (retention range n-undecane to n-tetracontane, individual signals (n-tetradecane standard)).....	≤ 3 ng/ml
Identity (IR).....	Suitable for residue analysis. The product is stabilized with 2-Methyl-2-buten.	
Evaporation residue.....		
Water.....		
Colour.....		
GC/ECD (retention range 1,2,4-trichlorobenzene to decachlorobiphenyle,		

Ord.No.	Packaging	Quantity	Price
1.06054.1000	Glass bottle	1 l	inquire
1.06054.2500	Glass bottle	2.5 l	inquire
1.06054.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.06054.9010	Barrel stainl. st.	10 l	inquire

## 100668 Dichloromethane for gas chromatography MS SupraSolv®

<b>Specification</b>	GC/MSD (retention range n-undecane - n-tetracontane; scanning area 30 -600 amu individual signals (n- tetradecane standard)).....	≤ 3 ng/ml
Identity (IR).....	Suitable for residue analysis. The product is stabilized with 2-Methyl-2-buten.	
Evaporation residue.....		
Water.....		
Colour.....		
Purity (GC).....		

Ord.No.	Packaging	Quantity	Price
1.00668.1000	Glass bottle	1 l	inquire
1.00668.2500	Glass bottle	2.5 l	inquire

## 106048 Dichloromethane for spectroscopy Uvasol®

<b>Specification</b>	Transmission (at 240 nm).....	≥ 70 %
Purity (GC).....	Transmission (at 245 nm).....	≥ 85 %
Evaporation residue.....	Transmission (at 250 nm).....	≥ 95 %
Water.....	Transmission (from 255 nm).....	≥ 98 %
Colour.....	Absorbance (at 235 nm).....	≤ 0.52
Acidity.....	Absorbance (at 240 nm).....	≤ 0.16
Alkalinity.....	Absorbance (at 245 nm).....	≤ 0.07
Fluorescence (as quinine at 254 nm).....	Absorbance (at 250 nm).....	≤ 0.02
Fluorescence (as quinine at 365 nm).....	Absorbance (from 255 nm).....	≤ 0.01
Transmission (at 235 nm).....		

The product is stabilized with about 50 ppm 2-Methyl-2-butene Meet the requirements of "Specific use spectroscopy" according ACS

Ord.No.	Packaging	Quantity	Price
1.06048.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.06048.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 106044 Dichloromethane for liquid chromatography LiChrosolv®

<b>Specification</b>	Evaporation residue.....	≤ 5.0 mg/l
Purity (GC).....	Water.....	≤ 0.01 %
Identity (IR).....	The product is stabilized with 2-Methyl-2-buten.	
Acidity.....	Filtered by 0.2 µm filter	
Alkalinity.....		
Transmission (at 240 nm).....		
Transmission (at 245 nm).....		
Transmission (from 260 nm).....		

Ord.No.	Packaging	Quantity	Price
1.06044.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.06044.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.06044.4000	Glass bottle	4 l	inquire
1.06044.9010	Barrel stainl. st.	10 l	inquire
1.06044.9030	Barrel stainl. st.	30 l	inquire



## 106454 Dichloromethane for organic trace analysis UniSolv®

## Specification

Purity (GC).....≥ 99.9 %  
 Identity (IR).....conforms  
 Evaporation residue.....≤ 3.0 mg/l  
 Water.....≤ 0.005 %  
 Colour.....≤ 10 Hazen  
 GC/ECD (retention range 1,2,4-trichlorobenzene to decachlorobiphenyl individual signals (lindane standard)).....≤ 2 pg/ml

GC/FID (retention range n-undecane - n-tetracontane individual signals (n- tetradecane standard)).....≤ 2 ng/ml  
 GC/MSD (retention range n-undecane - n-tetracontane; scanning area 30 -600 amu individual signals (n- tetradecane standard)).....≤ 2 ng/ml  
 Recommended for analysis of polychlorinated

Dibenzodioxins and polychlorinated Dibenzofurans (PCDD/F). The product is stabilized with 2-Methyl-2-buten.

Ord.No.	Packaging	Quantity	Price
1.06454.1000	Glass bottle	1 l	inquire

## Dichloromethane-D2



CCl<sub>2</sub>D<sub>2</sub>  
 CD<sub>2</sub>Cl<sub>2</sub>

*Dideuteromethylene chloride, Methylene chloride-d<sub>2</sub>, Dideuterodichloromethane, DCM deuterated*  
 ■ CAS-No. 1665-00-5 ■ EC-No. 216-776-0  
 ■ Vapour pressure 450 hPa (20 °C)

■ Spec. density 1.36 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 13 - 22 % (V) ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C)  
 ■ M = 86.95 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral  
 ■ Melting point -97 °C ■ Boiling point 39 °C  
 ■ Ignition temp. 605 °C DIN 51794  
 ■ WGK 2  
 ■ GHS: Warning, Carcinogenicity, Category 2, H351, P281, P308 + P313  
 ■ LC50 rat 88 mg/l  
 ■ LD50 oral rat 1600 mg/kg ■ LD50 dermal rat >

2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2845 90 10 ■ Disposal 2  
 ■ ADR-RID UN 1593 Dichlormethan, 6.1, III  
 ■ IMDG-Code UN 1593 DICHLOROMETHANE, 6.1, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
 ■ IATA-DGR UN 1593 DICHLOROMETHANE, 6.1, III

## 113720 Dichloromethane-D2 deuteration degree min. 99.8% for NMR spectroscopy MagniSolv™

## Specification

Deuteration degree.....≥ 99.8 %  
 Water (NMR, H<sub>2</sub>O).....≤ 0.01 %  
 Performance test (NMR-spectrum).....passes test

Ord.No.	Packaging	Quantity	Price
1.13720.0009	Glass ampoule	10x0.75 ml	inquire
1.13720.0010	Glass ampoule	10 ml	inquire

## 104200 Dichloromethane-D2 deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™

## Specification

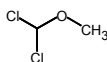
Deuteration degree.....≥ 99.96 %  
 Water (NMR, H<sub>2</sub>O).....≤ 0.005 %  
 Performance test (NMR-spectrum).....passes test

Ord.No.	Packaging	Quantity	Price
1.04200.0005	Glass ampoule	10 x 0.5ml	inquire
1.04200.0009	Glass ampoule	10x0.75 ml	inquire
1.04200.0010	Glass ampoule	10 ml	inquire

1,2-Dichloro-4-methyl-benzene → 3,4-Dichlorotoluene page 733

1,1-Dichloromethylether → Dichloromethyl methyl ether page 725

## 803467 Dichloromethyl methyl ether for synthesis



C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>O  
 Cl<sub>2</sub>CHOCH<sub>3</sub>

*1,1-Dichloromethylether*  
 ■ CAS-No. 4885-02-3 ■ EC-No. 225-498-9  
 ■ Refractive index 1.43 (20 °C, 589 nm) ■ Vapour pressure 84 hPa (20 °C) ■ Spec. density 1.29 g/cm<sup>3</sup> (20 °C) ■ Flash point 42 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 114.95 g/mol  
 ■ Boiling point 85 - 87 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P210, P240, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2909 19 90 ■ Disposal 3  
 ■ ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.((DICHLORMETHYL)-METHYLETHER), 3 (8), II ■ IMDG-Code UN 2924 FLAMMABLE

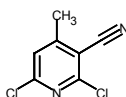
LIQUID, CORROSIVE, N.O.S.((DICHLORMETHYL)-METHYLETHER), 3 (8), II  
 ■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.((DICHLORMETHYL)-METHYLETHER), 3 (8), II

## Specification

Assay (GC, area%).....≥ 97,0 Area %  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.03467.0025	Glass bottle	25 ml	inquire
8.03467.0100	Glass bottle	100 ml	inquire

## 842413 2,6-Dichloro-4-methylnicotinonitrile for synthesis



C<sub>7</sub>H<sub>6</sub>Cl<sub>2</sub>N<sub>2</sub>

■ CAS-No. 875-35-4 ■ EC-No. 212-873-7  
 ■ Flash point >236 °C ■ Solub. in H<sub>2</sub>O 0.4 g/l (20 °C) ■ M = 187.03 g/mol ■ pH value 3.5 (H<sub>2</sub>O),

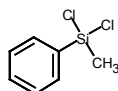
20 °C) (aqueous suspension)  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ Ignition temp. >600 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Chronic aquatic toxicity, Category 3, H412, P273  
 ■ LD50 oral rat 3600 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (GC, area%).....≥ 98,0 % (a/a)  
 Melting range (lower value).....≥ 110 °C  
 Melting range (upper value).....≤ 112 °C  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.42413.0005	Glass bottle	5 g	inquire

## 814044 Dichloromethylphenylsilane for synthesis



C<sub>7</sub>H<sub>8</sub>Cl<sub>2</sub>Si

C<sub>6</sub>H<sub>5</sub>Si(H<sub>2</sub>)CHCl<sub>2</sub>  
*Methylphenyldichlorosilane*  
 ■ CAS-No. 149-74-6 ■ EC-No. 205-746-2  
 ■ Refractive index 1.518 (20 °C, 589 nm)  
 ■ Spec. density 1.173 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.2 - 8.6 % (V) ■ Flash point 82 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 191.13 g/mol  
 ■ Boiling point 205 - 206 °C  
 ■ Ignition temp. >400 °C  
 ■ WGK 1  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2931 90 90 ■ Disposal 24  
 ■ ADR-RID UN 2437 Methylphenyldichlorsilan, 8, II ■ IMDG-Code UN 2437

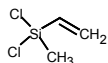
METHYLPHENYLDICHLOROSILANE, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2437  
 METHYLPHENYLDICHLOROSILANE, 8, II

## Specification

Assay (GC, area%).....≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C).....1,172 - 1,174  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.14044.0025	Glass bottle	25 ml	inquire
8.14044.0100	Glass bottle	100 ml	inquire

## 804187 Dichloromethylvinylsilane for synthesis

C<sub>3</sub>H<sub>6</sub>Cl<sub>2</sub>SiCH<sub>2</sub>=CHSiCl<sub>2</sub>CH<sub>3</sub>*Methylvinylchlorosilane*

■ CAS-No. 124-70-9 ■ EC-No. 204-710-3  
 ■ Refractive index 1.43 (20 °C, 589 nm) ■ Vapour pressure 60 hPa (20 °C) ■ Spec. density 1.086 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 42.0 % (V)  
 ■ Flash point -1 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)

■ M = 141.07 g/mol ■ Melting point -78 °C  
 ■ Boiling point 92 °C ■ Ignition temp. 320 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1A, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2931 90 90 ■ Disposal 24  
 ■ ADR-RID UN 2985 Chlorsilane, entzündbar,

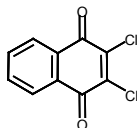
ätzend, n.a.g., 3 (8), II ■ IMDG-Code UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S., 3 (8), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2985 CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S., 3 (8), II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C / 4 °C) ..... 1,085 - 1,087  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04187.0100	Glass bottle	100 ml	inquire

## 841608 2,3-Dichloro-1,4-naphthoquinone for synthesis

C<sub>10</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub>*Dichlone*

■ CAS-No. 117-80-6 ■ EC-No. 204-210-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 227.04 g/mol ■ Melting point 190 - 194 °C  
 ■ Boiling point 275 °C (2.67 hPa)  
 ■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 160 mg/kg ■ LD50 dermal rabbit 500 mg/kg  
 ■ EC-Index-No. 606-018-00-0 ■ LGK 10 - 13  
 ■ HS-No. 2914 70 00 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,3-DICHLOR-1,4-NAPHTHOCHINON), 6,1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,3-DICHLORO-1,4-

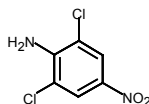
NAPHTHOQUINONE), 6,1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,3-DICHLORO-1,4-NAPHTHOQUINONE), 6,1, III

**Specification**

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 190 °C  
 Melting range (upper value) ..... ≤ 194 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41608.0100	Plastic bottle	100 g	inquire

## 820444 2,6-Dichloro-4-nitroaniline for synthesis

C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>2</sub>2,6-(Cl)<sub>2</sub>-4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>*Botran, Dicloran*

■ CAS-No. 99-30-9 ■ EC-No. 202-746-4  
 ■ Solub. in H<sub>2</sub>O 0.006 g/l (20 °C) (HSDB)  
 ■ M = 207.02 g/mol ■ Melting point 186 - 189 °C  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity -

single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P273, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LC50 rat > 21.6 mg/l  
 ■ LD50 oral rat 2400 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 42 00 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2,6-DICHLOR-4-NITROANILIN), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,6-

DICHLORO-4-NITROANILINE), 9, III, Marine Pollutant: P

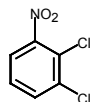
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,6-DICHLORO-4-NITROANILINE), 9, III

**Specification**

Assay (HPLC, area%) ..... ≥ 90,0 % (a/a)  
 Melting range (lower value) ..... ≥ 186 °C  
 Melting range (upper value) ..... ≤ 189 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20444.0005	Glass bottle	5 g	inquire
8.20444.0250	Glass bottle	250 g	inquire

## 840100 1,2-Dichloro-3-nitrobenzene for synthesis

C<sub>6</sub>H<sub>3</sub>Cl<sub>2</sub>NO<sub>2</sub>

■ CAS-No. 3209-22-1 ■ EC-No. 221-717-7

■ Vapour pressure < 1.3 hPa (50 °C)  
 ■ Spec. density 1.45 g/cm<sup>3</sup> (80 °C)  
 ■ Flash point 152 °C ■ Solub. in H<sub>2</sub>O 0.067 g/l (20 °C) ■ M = 192 g/mol ■ Melting point 61 °C

■ Boiling point 270 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P260, P273  
 ■ LD50 oral rat 1070 mg/kg ■ LD50 dermal rat > 2500 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2904 90 95 ■ Disposal 3  
 ■ ADR-RID UN 1578 Chlornitrobenzene, fest, 6,1, II ■ IMDG-Code UN 1578

CHLORONITROBENZENES, SOLID, 6,1, II

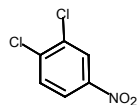
■ IATA-DGR UN 1578 CHLORONITROBENZENES, SOLID, 6,1, II

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 60 °C  
 Melting range (upper value) ..... ≤ 63 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40100.0025	Glass bottle	25 g	inquire

## 820445 1,2-Dichloro-4-nitrobenzene for synthesis

C<sub>6</sub>H<sub>3</sub>Cl<sub>2</sub>NO<sub>2</sub>

3,4-Dichloro-1-nitrobenzene, 1-Nitro-3,4-dichlorine benzene

■ CAS-No. 99-54-7 ■ EC-No. 202-764-2  
 ■ Vapour pressure 0.01 hPa (20 °C)  
 ■ Spec. density 1.48 g/cm<sup>3</sup> (55 °C)  
 ■ Flash point 123 °C ■ Solub. in H<sub>2</sub>O 0.151 g/l (20 °C) ■ M = 192.00 g/mol

■ Melting point 38 - 41 °C ■ Bulk density 750 kg/m<sup>3</sup> ■ Boiling point 255 - 256 °C (1013 hPa)  
 ■ Ignition temp. 420 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P262, P273  
 ■ LC50 rat 10 mg/l  
 ■ LD50 oral rat 643 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2904 90 95 ■ Disposal 3  
 ■ ADR-RID UN 1578 Chlornitrobenzene, fest, 6,1, II ■ IMDG-Code UN 1578

CHLORONITROBENZENES, SOLID, 6,1, II

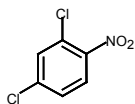
■ IATA-DGR UN 1578 CHLORONITROBENZENES, SOLID, 6,1, II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 38 °C  
 Melting range (upper value) ..... ≤ 41 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20445.0100	Glass bottle	100 g	inquire
8.20445.1000	Glass bottle	1 kg	inquire

## 820446 1,3-Dichloro-4-nitrobenzene for synthesis



$C_6H_3Cl_2NO_2$   
1,3-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>-4-(NO<sub>2</sub>)  
2,4-Dichloro-1-nitrobenzene, 1-Nitro-2,4-dichlorine benzene  
■ CAS-No. 611-06-3 ■ EC-No. 210-248-3  
■ Vapour pressure 0.013 hPa (20 °C)  
■ Spec. density 1.51 g/cm<sup>3</sup> ■ Flash point 152 °C  
■ Solub. in H<sub>2</sub>O 188 g/l (20 °C) ■ M = 192 g/mol  
■ Melting point 28 - 31 °C ■ Boiling point 259 °C

■ Ignition temp. 500 °C  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P309 + P310  
■ LD50 oral rat 380 mg/kg ■ LD50 dermal rat 920 mg/kg  
■ LGK 6.1 C  
■ HS-No. 2904 90 95 ■ Disposal 3  
■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1,3-DICHLOR-4-NITROBENZOL), 9, III  
■ IMDG-Code UN 3077 ENVIRONMENTALLY

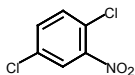
HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,3-DICHLORO-4-NITROBENZENE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,3-DICHLORO-4-NITROBENZENE), 9, III

**Specification**  
Assay (GC, area%)..... ≥ 96.0 % (a/a)  
Melting range (lower value)..... ≥ 28 °C  
Melting range (upper value)..... ≤ 33 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20446.1000	Glass bottle	1 kg	inquire

## 818560 1,4-Dichloro-2-nitrobenzene for synthesis



$C_6H_3Cl_2NO_2$   
1,4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>-2-(NO<sub>2</sub>)  
1-Nitro-2,5-dichlorine benzene, 2,5-Dichloro-1-nitrobenzene  
■ CAS-No. 89-61-2 ■ EC-No. 201-923-3  
■ Refractive index 1.5673 (55 °C, 589 nm)  
■ Vapour pressure 0.7 hPa (60 °C)  
■ Spec. density 1.6 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.4 - 8.5 % (V) ■ Flash point 135 °C ■ Solub. in H<sub>2</sub>O 0.083 g/l (20 °C) ■ M = 192.00 g/mol  
■ Melting point 52 - 54 °C ■ Boiling point 267 °C

(1013 hPa) ■ Ignition temp. 465 °C  
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273  
■ LD50 oral rat 1210 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2904 90 95 ■ Disposal 3  
■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1,4-DICHLOR-2-NITROBENZOL), 9, III  
■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,4-DICHLORO-2-NITROBENZENE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,4-DICHLORO-2-NITROBENZENE), 9, III

**Specification**  
Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Melting range (lower value)..... ≥ 52 °C  
Melting range (upper value)..... ≤ 54 °C  
Identity (IR)..... passes test

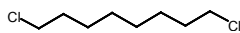
Ord.No.	Packaging	Quantity	Price
8.18560.0100	Glass bottle	100 g	inquire
8.18560.0500	Glass bottle	500 g	inquire

2,4-Dichloro-1-nitrobenzene → 1,3-Dichloro-4-nitrobenzene page 727

2,5-Dichloro-1-nitrobenzene → 1,4-Dichloro-2-nitrobenzene page 727

3,4-Dichloro-1-nitrobenzene → 1,2-Dichloro-4-nitrobenzene page 726

## 814334 1,8-Dichlorooctane for synthesis



$C_8H_{16}Cl_2$   
Cl(CH<sub>2</sub>)<sub>6</sub>Cl  
■ CAS-No. 2162-99-4 ■ EC-No. 218-490-1  
■ Refractive index 1.457 (25 °C, 589 nm) ■ Vapour pressure 0.1 hPa (20 °C) ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Flash point 118 °C ■ Solub. in

H<sub>2</sub>O 0.17 g/l (20 °C) ■ M = 183.12 g/mol  
■ Melting point -8 °C ■ Boiling point 240 - 242 °C (1013 hPa) ■ Ignition temp. 215 °C  
■ WGK 3  
■ GHS: Warning, Skin irritation, Category 2, H315, P302 + P352  
■ LGK 10 - 13  
■ HS-No. 2903 19 80 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 98.0 Area %  
Density (d 20 °C/ 4 °C)..... 1.025 - 1.026  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14334.0025	Glass bottle	25 ml	inquire

## 842141 1,5-Dichloropentane for synthesis



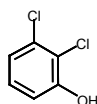
$C_5H_{10}Cl_2$   
■ CAS-No. 628-76-2 ■ EC-No. 211-053-6  
■ Vapour pressure 1.5 hPa (25 °C)  
■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)  
■ Flash point 26 °C ■ Solub. in H<sub>2</sub>O 0.125 g/l (25 °C) ■ M = 141.04 g/mol ■ Melting point - 72 °C ■ Boiling point 180 °C (1013 hPa)  
■ WGK 3

■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
■ LGK 3  
■ HS-No. 2903 19 80 ■ Disposal 2  
■ ADR-RID UN 1152 Dichloropentane, 3, III  
■ IMDG-Code UN 1152 DICHLOROPENTANES, 3, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
■ IATA-DGR UN 1152 DICHLOROPENTANES, 3, III

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.098 - 1.103  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42141.0025	Glass bottle	25 ml	inquire
8.42141.0100	Glass bottle	100 ml	inquire

## 820447 2,3-Dichlorophenol for synthesis



$C_6H_4Cl_2O$   
2,3-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH  
■ CAS-No. 576-24-9 ■ EC-No. 209-399-8  
■ Spec. density 1.40 g/cm<sup>3</sup> (25 °C)  
■ Flash point 115 °C ■ Solub. in H<sub>2</sub>O 3600 mg/l (25 °C) (experimental) ■ M = 163.00 g/mol

■ Melting point 55 - 58 °C ■ Boiling point 206 °C (1013 hPa)  
■ WGK 3  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2908 19 00 ■ Disposal 3  
■ ADR-RID UN 2020 Chlorphenole, fest, 6.1, III  
■ IMDG-Code UN 2020 CHLORPHENOLS, SOLID, 6.1, III

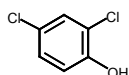
■ IATA-DGR UN 2020 CHLORPHENOLS, SOLID, 6.1, III

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Melting range (lower value)..... ≥ 55 °C  
Melting range (upper value)..... ≤ 58 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20447.0025	Glass bottle	25 g	inquire

# Dichlo

## 803774 2,4-Dichlorophenol for synthesis



C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>O  
2,4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH  
2,4-DCP  
 ■ CAS-No. 120-83-2 ■ EC-No. 204-429-6  
 ■ Vapour pressure 1.3 hPa (50 °C)  
 ■ Flash point 114 °C ■ Solub. in H<sub>2</sub>O 4.5 g/l (20 °C) ■ M = 163 g/mol  
 ■ Saturation conc. 0.67 g/m<sup>3</sup> (20 °C)  
 ■ Melting point 40 - 43 °C  
 ■ Boiling point 209 - 211 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.97 mg/l  
 ■ LD50 oral rat 47 mg/kg ■ LD50 dermal rat 780 mg/kg  
 ■ EC-Index-No. 604-011-00-7 ■ LGK 6.1A  
 ■ HS-No. 2908 19 00 ■ Disposal 9  
 ■ ADR-RID UN 2020 Chlorphenole, fest, 6.1, III  
 ■ IMDG-Code UN 2020 CHLOROPHENOLS, SOLID,

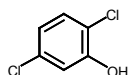
6.1, III  
 ■ IATA-DGR UN 2020 CHLOROPHENOLS, SOLID, 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 41 °C  
 Melting range (upper value) ..... ≤ 44 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03774.0100	Glass bottle	100 g	inquire
8.03774.0500	Glass bottle	500 g	inquire

## 2,5-Dichlorophenol



C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>O  
2,5-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH  
2,5-Dichlo-1-hydroxybenzene  
 ■ CAS-No. 583-78-8 ■ EC-No. 209-520-4  
 ■ Solub. in H<sub>2</sub>O 2000 mg/l (25 °C) (experimental)

■ M = 163.00 g/mol ■ Melting point 56 - 58 °C  
 ■ Boiling point 211 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 580 mg/kg

■ LGK 6.1C  
 ■ HS-No. 2908 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2020 Chlorphenole, fest, 6.1, III  
 ■ IMDG-Code UN 2020 CHLOROPHENOLS, SOLID, 6.1, III  
 ■ IATA-DGR UN 2020 CHLOROPHENOLS, SOLID, 6.1, III

## 820448 2,5-Dichlorophenol for synthesis

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 53 °C  
 Melting range (upper value) ..... ≤ 57 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20448.0050	Glass bottle	50 g	inquire
8.20448.0250	Glass bottle	250 g	inquire

## 845149 2,5-Dichlorophenol for pharma synthesis, non-GMP

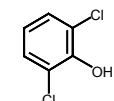
### Specification

Colour (visual) ..... white to yellow/greyish  
 Appearance of substance (visual) ..... flakes  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 54 °C

Melting range (upper value) ..... ≤ 57 °C  
 Water (K. F.) ..... ≤ 0,50 %(m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45149.0050	Glass bottle	50 g	inquire
8.45149.0250	Glass bottle	250 g	inquire

## 820449 2,6-Dichlorophenol for synthesis



C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>O  
2,6-Dichlo-1-hydroxybenzene  
 ■ CAS-No. 87-65-0 ■ EC-No. 201-761-3  
 ■ Vapour pressure 0.049 hPa (25 °C) ■ Solub. in H<sub>2</sub>O 2.6 g/l (25 °C) ■ M = 163 g/mol  
 ■ Melting point 65 °C ■ Boiling point 218 - 220 °C (1013 hPa)

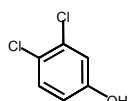
■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 2940 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2908 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2020 Chlorphenole, fest, 6.1, III  
 ■ IMDG-Code UN 2020 CHLOROPHENOLS, SOLID, 6.1, III  
 ■ IATA-DGR UN 2020 CHLOROPHENOLS, SOLID, 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 63 °C  
 Melting range (upper value) ..... ≤ 66 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20449.0050	Glass bottle	50 g	inquire
8.20449.0250	Glass bottle	250 g	inquire

## 820450 3,4-Dichlorophenol for synthesis



C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>O  
3,4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH  
 ■ CAS-No. 95-77-2 ■ EC-No. 202-450-5  
 ■ Solub. in H<sub>2</sub>O 9260 mg/l (25 °C) (experimental)  
 ■ M = 163 g/mol ■ Melting point 66 - 68 °C

■ Boiling point 146 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2908 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2020 Chlorphenole, fest, 6.1, III  
 ■ IMDG-Code UN 2020 CHLOROPHENOLS, SOLID, 6.1, III

■ IATA-DGR UN 2020 CHLOROPHENOLS, SOLID, 6.1, III

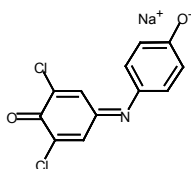
### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 63 °C  
 Melting range (upper value) ..... ≤ 66 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20450.0100	Glass bottle	100 g	inquire



## 103028 2,6-Dichlorophenol-indophenol sodium salt dihydrate GR for analysis for the determination of ascorbic acid



$C_{12}H_6Cl_2NNaO_2 \cdot 2 H_2O$

3,3"-Dichlorophenolsulfonphthalein →  
Chlorophenol red page 627

- CAS-No. 620-45-1 ■ EC-No. 210-640-4
  - Solub. in H<sub>2</sub>O (20 °C) slightly soluble
  - M = 326.11 g/mol ■ Bulk density 320 kg/m<sup>3</sup>
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2925 29 00 ■ Disposal 3
- Reagent for the determination of ascorbic acid and cholinesterase.

### Specification

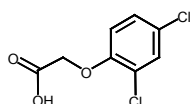
Assay (perchloric acid titration, calculated on

dried substance) ..... ≥ 98%  
Identity (IR-spectrum) ..... passes test  
TLC-Test ..... passes test  
Foreign coloring agents ..... passes test  
Loss on drying (120 °C) ..... 12.5 - 14.0 %

Ord.No.	Packaging	Quantity	Price
1.03028.0005	Glass bottle	5 g	inquire
1.03028.0025	Glass bottle	25 g	inquire

2,4-Dichlorophenol-6-sulfonyl chloride → 3,5-Dichloro-2-hydroxybenzenesulfonyl chloride page 723

## 820451 2,4-Dichlorophenoxyacetic acid for synthesis



$C_8H_6Cl_2O_3$

2,4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OCH<sub>2</sub>COOH

2,4-D-acid

- CAS-No. 94-75-7 ■ EC-No. 202-361-1
- Vapour pressure < 0.01 hPa
- Spec. density 1.42 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 0.3 g/l (25 °C) ■ M = 221.04 g/mol
- Melting point 134 - 137 °C

- Bulk density 720 kg/m<sup>3</sup> ■ Boiling point 160 °C (0.53 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P273, P280, P305 + P351 + P338, P302 + P352, P313
- LC50 rat 1.8 mg/l
- LD50 oral rat 375 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg

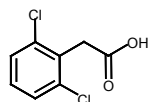
- EC-Index-No. 607-039-00-8 ■ LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

### Specification

Assay (acidimetric) ..... ≥ 98.0 %  
Melting range (lower value) ..... ≥ 134 °C  
Melting range (upper value) ..... ≤ 140 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20451.0005	Glass bottle	5 g	inquire
8.20451.0250	Plastic bottle	250 g	inquire
8.20451.1000	Plastic bottle	1 kg	inquire

## 841503 2,6-Dichlorophenylacetic acid for synthesis



$C_8H_6Cl_2O_2$

■ CAS-No. 6575-24-2 ■ EC-No. 229-504-0

■ M = 205.04 g/mol ■ Melting point 160 - 161 °C

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

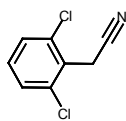
### Specification

Assay (acidimetric) ..... ≥ 98.0 %

Melting range (lower value) ..... ≥ 158 °C  
Melting range (upper value) ..... ≤ 161 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41503.0010	Glass bottle	10 g	inquire
8.41503.0050	Glass bottle	50 g	inquire

## 841239 2,6-Dichlorophenylacetonitrile for synthesis



$C_8H_5Cl_2N$

2,6-Dichlorobenzyl cyanide

■ CAS-No. 3215-64-3 ■ EC-No. 221-730-8

■ M = 186.04 g/mol ■ Melting point 75 - 77 °C

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4,

- Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(2,6-DICHLORPHENYLACETONITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(2,6-DICHLORPHENYLACETONITRILE), 6.1, III
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,

N.O.S.(2,6-DICHLORPHENYLACETONITRILE), 6.1, III

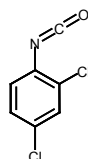
### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Melting range (lower value) ..... ≥ 72 °C  
Melting range (upper value) ..... ≤ 75 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41239.0025	Plastic bottle	25 g	inquire

3,4-Dichlorophenylacetonitrile → 3,4-Dichlorobenzyl cyanide page 718

## 841439 2,4-Dichlorophenyl isocyanate for synthesis



$C_7H_3Cl_2NO$

Isocyanic acid 2,4-dichlorophenyl ester

■ CAS-No. 2612-57-9 ■ EC-No. 220-040-4

■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis, practically insoluble ■ M = 188.01 g/mol

- Melting point 58 - 61 °C ■ Boiling point 80 °C (1 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 6.1A ■ Store below +15°C.
- HS-No. 2929 10 00 ■ Disposal 11

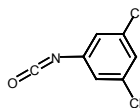
- ADR-RID UN 2250 Dichlorophenylisocyanate, 6.1, II ■ IMDG-Code UN 2250 DICHLOROPHENYL ISOCYANATES, 6.1, II
- IATA-DGR UN 2250 DICHLOROPHENYL ISOCYANATES, 6.1, II

### Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Melting range (lower value) ..... ≥ 58 °C  
Melting range (upper value) ..... ≤ 61 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41439.0001	Glass bottle	1 g	inquire

## 842691 3,5-Dichlorophenyl isocyanate for synthesis

C<sub>7</sub>H<sub>5</sub>Cl<sub>2</sub>NO

- CAS-No. 34893-92-0 ■ EC-No. 252-276-9
- Vapour pressure 0.04 hPa (20 °C)
- Spec. density 1.38 g/cm<sup>3</sup> ■ Flash point 143 °C
- Solub. in H<sub>2</sub>O (20 °C) decomposes
- M = 188.01 g/mol ■ Melting point 29 - 35 °C
- Boiling point 243 °C (1013 hPa)
- Ignition temp. >500 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335; Respiratory sensitisation, Category 1, H334; Skin irritation, Category 2, H315; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310, P342 + P311
- LGK 6.1A
- HS-No. 2929 10 00 ■ Disposal 11
- ADR-RID UN 2250 Dichlorophenylisocyanate, 6.1, II ■ IMDG-Code UN 2250 DICHLOROPHENYL ISOCYANATES, 6.1, II

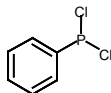
■ IATA-DGR UN 2250 DICHLOROPHENYL ISOCYANATES, 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Melting range (lower value)..... ≥ 29 °C  
 Melting range (upper value)..... ≤ 35 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42691.0001	Glass bottle	1 g	inquire
8.42691.0005	Glass bottle	5 g	inquire

## 820454 Dichlorophenylphosphine for synthesis

C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>PC<sub>6</sub>H<sub>5</sub>PCl<sub>2</sub>*Phenyldichlorophosphine*

- CAS-No. 644-97-3 ■ EC-No. 211-425-8
- Refractive index 1.598 (20 °C, 589 nm)
- Spec. density 1.32 g/cm<sup>3</sup> (20 °C)
- Flash point 102 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 178.98 g/mol

- Melting point -51 °C ■ Boiling point 225 °C (1013 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 200 mg/kg ■ LD50 dermal rabbit > 2150 mg/kg
- LGK 6.1A
- HS-No. 2931 90 90 ■ Disposal 24
- ADR-RID UN 2798 Phenylphosphordichlorid, 8, II

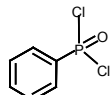
■ IMDG-Code UN 2798 PHENYLPHOSPHORUS DICHLORIDE, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2798 PHENYLPHOSPHORUS DICHLORIDE, 8, II

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 1.320 - 1.322  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20454.0100	Glass bottle	100 ml	inquire
8.20454.0250	Glass bottle	250 ml	inquire

## 818248 Dichlorophenylphosphine oxide for synthesis

C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>OPC<sub>6</sub>H<sub>5</sub>P(O)Cl<sub>2</sub>*Phenylphosphonic acid*

- CAS-No. 824-72-6 ■ EC-No. 212-534-3
- Refractive index 1.5581 (25 °C, 589 nm)
- Spec. density 1.40 g/cm<sup>3</sup> (20 °C)
- Flash point 204 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 194.98 g/mol

- Melting point 1 °C ■ Boiling point 258 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 681 mg/kg
- LGK 8A
- HS-No. 2931 90 90 ■ Disposal 24
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(P,P-DICHLOROPHENYLPHOSPHINOXID), 8, II ■ IMDG-

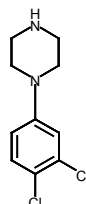
Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PHENYL PHOSPHORIC ACID DICHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PHENYL PHOSPHORIC ACID DICHLORIDE), 8, II

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 1.396 - 1.400  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18248.0025	Glass bottle	25 ml	inquire
8.18248.0100	Glass bottle	100 ml	inquire

## 841886 1-(3,4-Dichlorophenyl)-piperazine for synthesis

C<sub>10</sub>H<sub>12</sub>Cl<sub>2</sub>N<sub>2</sub>

■ CAS-No. 57260-67-0 ■ EC-No. 260-652-9

■ M = 231.13 g/mol ■ Melting point 59 - 63 °C

■ Boiling point 179 °C (20 hPa)

■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13

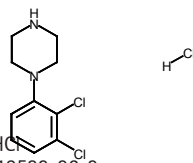
■ HS-No. 2933 59 95 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 96,5 % (a/a)  
 Melting range (lower value)..... ≥ 59 °C  
 Melting range (upper value)..... ≤ 63 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41886.0010	Glass bottle	10 g	inquire

## 843925 1-(2,3-Dichlorophenyl) piperazine monohydrochloride for synthesis

C<sub>10</sub>H<sub>13</sub>Cl<sub>2</sub>N<sub>2</sub>C<sub>10</sub>H<sub>12</sub>Cl<sub>2</sub>N<sub>2</sub>·HCl

■ CAS-No. 119532-26-2

■ M = 267.58 g/mol ■ Melting point 242 - 246 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

**Specification**

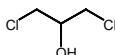
Colour (visual)..... white to pale yellow  
 Appearance of substance (visual)..... powder  
 Assay (argentometric)..... ≥ 98,0 % (m)  
 Loss on drying..... ≤ 1,0 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.43925.0005	Glass bottle	5 g	inquire
8.43925.0025	Glass bottle	25 g	inquire



## 803030 1,3-Dichloro-2-propanol for synthesis

C<sub>3</sub>H<sub>5</sub>Cl<sub>2</sub>OGlycerol- $\alpha,\gamma$ -dichlorohydrin,  $\alpha$ -Dichlorohydrin

- CAS-No. 96-23-1 ■ EC-No. 202-491-9
- Refractive index 1.4835 (20 °C, 589 nm)
- Vapour pressure 0.72 hPa (20 °C)
- Spec. density 1.36 g/cm<sup>3</sup> (20 °C)
- Flash point 85 °C ■ Solub. in H<sub>2</sub>O 110 g/l (20 °C)
- M = 128.98 g/mol ■ Melting point -4 °C
- Boiling point 175 °C (1013 hPa)

- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301, P201, P280, P302 + P352, P309 + P310
- LD50 oral rat 110 mg/kg ■ LD50 dermal rabbit 800 mg/kg
- EC-Index-No. 602-064-00-0 ■ LGK 6.1A
- HS-No. 2905 59 98 ■ Disposal 9
- ADR-RID UN 2750 1,3-Dichloropropan-2-ol, 6.1, II ■ IMDG-Code UN 2750 1,3-DICHLOROPROPANOL-2, 6.1, II

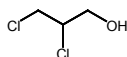
- IATA-DGR UN 2750 1,3-DICHLOROPROPANOL-2, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,363 - 1,365  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03030.0005	Glass bottle	5 ml	inquire
8.03030.0250	Glass bottle	250 ml	inquire
8.03030.1000	Glass bottle	1 l	inquire

## 803031 2,3-Dichloro-1-propanol for synthesis

C<sub>3</sub>H<sub>5</sub>Cl<sub>2</sub>OClCH<sub>2</sub>CHClCH<sub>2</sub>OHGlycerol- $\alpha,\beta$ -dichlorohydrin

- CAS-No. 616-23-9 ■ EC-No. 210-470-0
- Refractive index 1.4819 (20 °C) ■ Vapour pressure 0.245 hPa (25 °C) (calculated)
- Spec. density 1.36 g/cm<sup>3</sup> (20 °C)
- Flash point 93 °C ■ Solub. in H<sub>2</sub>O 1 - 10 g/l
- M = 128.98 g/mol ■ Boiling point 182 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319, P260, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 90 mg/kg ■ LD50 dermal rabbit 200 mg/kg
- LGK 6.1A
- HS-No. 2905 59 98 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2,3-DICHLOR-1-PROPANOL), 6.1, II
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

- N.O.S.(2,3-DICHLOR-1-PROPANOLE), 6.1, II
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2,3-DICHLOR-1-PROPANOLE), 6.1, II

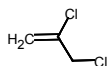
## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,359 - 1,362  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03031.0010	Glass bottle	10 ml	inquire

1,3-Dichloro-2-propanone → 1,3-Dichloroacetone page 712

## 841616 2,3-Dichloro-1-propene for synthesis

C<sub>3</sub>H<sub>4</sub>Cl<sub>2</sub>

- CAS-No. 78-88-6 ■ EC-No. 201-153-8
- Vapour pressure 70.7 hPa (25 °C)
- Spec. density 1.209 g/cm<sup>3</sup> (20 °C)
- Flash point 10 °C ■ Solub. in H<sub>2</sub>O 2.2 g/l (25 °C)
- M = 110.97 g/mol ■ Boiling point 93 - 96 °C
- Ignition temp. 510 °C
- WGK 3

- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Germ cell mutagenicity, Category 2, H341; Specific target organ toxicity - single exposure, Category 3, H335; Chronic aquatic toxicity, Category 3, H412, P273, P280, P304 + P340, P305 + P351 + P338, P308 + P313
- LD50 oral rat 320 mg/kg ■ LD50 dermal rabbit 1910 mg/kg

- EC-Index-No. 602-079-00-2 ■ LGK 3
- HS-No. 2903 29 00 ■ Disposal 3
- ADR-RID UN 2047 Dichlorpropene, 3, II ■ IMDG-Code UN 2047 DICHLOROPROPENES, 3, II
- IATA-DGR UN 2047 DICHLOROPROPENES, 3, II

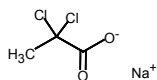
## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41616.0025	Glass bottle	25 ml	inquire

2,3-Dichloropropionic acid methyl ester → Methyl 2,3-dichloropropionate page 1147

## 819100 2,2-Dichloropropionic acid sodium salt for synthesis

C<sub>3</sub>H<sub>3</sub>Cl<sub>2</sub>NaO<sub>2</sub>C<sub>3</sub>H<sub>3</sub>Cl<sub>2</sub>O<sub>2</sub>\*Na

- CAS-No. 127-20-8 ■ EC-No. 204-828-5
- Solub. in H<sub>2</sub>O 450 g/l (25 °C) ■ M = 164.95 g/mol
- pH value 5.5 (100 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 166.5 °C
- WGK 1
- GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 3, H412, P273, P280, P302 + P352, P305 + P351 + P338
- LD50 oral rat 3860 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 607-162-00-7 ■ LGK 10 - 13
- HS-No. 2915 90 70 ■ Disposal 3

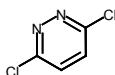
## Specification

Assay (GC, area%) ..... ≥ 90,0 Area %  
 Assay (HClO<sub>4</sub>) ..... ≥ 90,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.19100.0250	Plastic bottle	250 g	inquire
8.19100.1000	Plastic bottle	1 kg	inquire

2,2-Dichloropropyl phenyl ketone → 2,2-Dichlorobutyrophenone page 719

## 842712 3,6-Dichloropyridazine for synthesis

C<sub>4</sub>H<sub>2</sub>Cl<sub>2</sub>N<sub>2</sub>

- CAS-No. 141-30-0 ■ EC-No. 205-478-6
- Solub. in H<sub>2</sub>O 0.0012 g/l (20 °C) ■ M = 148.98 g/mol
- Melting point 72 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315;

- Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 6.1A
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(3,6-DICHLOROPYRIDAZIN), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3,6-DICHLOROPYRIDAZINE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3,6-DICHLOROPYRIDAZINE), 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 66 °C  
 Melting range (upper value) ..... ≤ 69 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42712.0025	Glass bottle	25 g	inquire
8.42712.0100	Glass bottle	100 g	inquire

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
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L  
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O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

# Dichlo

## 841407 2,3-Dichloropyridine for synthesis

C<sub>5</sub>H<sub>3</sub>Cl<sub>2</sub>N  
 ■ CAS-No. 2402-77-9 ■ EC-No. 219-281-8  
 ■ M = 147.99 g/mol ■ Melting point 70 - 71 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319,

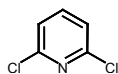
P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 65 °C

Melting range (upper value) ..... ≤ 68 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41407.0010	Plastic bottle	10 g	inquire

## 820455 2,6-Dichloropyridine for synthesis



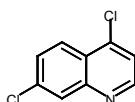
C<sub>5</sub>H<sub>3</sub>Cl<sub>2</sub>N  
 2,6-(Cl)<sub>2</sub>C<sub>5</sub>H<sub>3</sub>N  
 ■ CAS-No. 2402-78-0 ■ EC-No. 219-282-3  
 ■ Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 147.99 g/mol  
 ■ pH value 6 - 7 (H<sub>2</sub>O, 20 °C) (saturated solution)

■ Melting point 83 - 86 °C ■ Bulk density 900 kg/m<sup>3</sup> ■ Boiling point 211 °C (1013 hPa)  
 ■ Ignition temp. >700 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 83 °C  
 Melting range (upper value) ..... ≤ 85 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20455.0100	Glass bottle	100 g	inquire

## 841815 4,7-Dichloroquinoline for synthesis



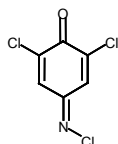
C<sub>9</sub>H<sub>5</sub>Cl<sub>2</sub>N  
 ■ CAS-No. 86-98-6 ■ EC-No. 201-714-7  
 ■ Vapour pressure 13 hPa (150 °C)  
 ■ Flash point 164 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.05 g/mol

■ Melting point 83 - 86 °C ■ Boiling point 148 °C (13 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 10 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 95.0 % (a/a)  
 Melting range (lower value) ..... ≥ 83 °C  
 Melting range (upper value) ..... ≤ 86 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41815.0025	Plastic bottle	25 g	inquire
8.41815.0100	Plastic bottle	100 g	inquire

## 103037 2,6-Dichloroquinone-4-chloroimide GR for analysis reagent for Vitamin B<sub>6</sub> Reag. Ph Eur



C<sub>6</sub>H<sub>2</sub>Cl<sub>3</sub>NO  
 ■ CAS-No. 101-38-2 ■ EC-No. 202-937-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 210.44 g/mol ■ Melting point 65 - 67 °C  
 ■ Bulk density 800 kg/m<sup>3</sup>  
 ■ WGK 3

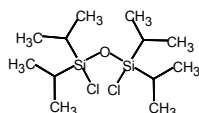
■ GHS: Danger, Self-reactive substances and mixtures, Type C, H242; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
 ■ LGK 4.1A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2925 29 00 ■ Disposal 10  
 ■ ADR-RID UN 3224 Selbstzersetzlicher Stoff Typ C, fest(2,6-DICHLORCHINON-4-CHLORIMID), 4.1, ■ IMDG-Code UN 3224 SELF-REACTIVE SOLID TYPE C(2,6-DICHLOROQUINONE-4-CHLOROIMIDE), 4.1, ■ IATA-DGR UN 3224 SELF-REACTIVE SOLID TYPE C(2,6-DICHLOROQUINONE-4-CHLOROIMIDE), 4.1,

Reagent for the det. of 4-unsubstituted and 4-alkoxy phenols.

**Specification**  
 Assay (ex Cl, by argentometry) ..... ≥ 98%  
 Identity (IR-spectrum) ..... passes test  
 Spec. Absorptivity A 1%/1cm (312 nm; 0,001 %; 1 cm; ethanol) ..... ≥ 800  
 Melting point ..... 65 - 68 °C

Ord.No.	Packaging	Quantity	Price
1.03037.0010	Plastic bottle	10 g	inquire
1.03037.0100	Plastic bottle	100 g	inquire

## 818360 1,3-Dichloro-1,1,3,3-tetraisopropylidisiloxane for synthesis



C<sub>12</sub>H<sub>28</sub>Cl<sub>2</sub>OSi<sub>2</sub>  
 Cl((CH<sub>3</sub>)<sub>2</sub>CH)<sub>2</sub>SiOSi(CH(CH<sub>3</sub>)<sub>2</sub>)<sub>2</sub>Cl  
 TIPSCI  
 ■ CAS-No. 69304-37-6  
 ■ Refractive index 1.455 (20 °C, 589 nm)  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 76 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 315.42 g/mol

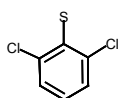
■ Boiling point 120 °C (20 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2931 90 90 ■ Disposal 24  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(DICHLOR-1,1,3,3-TETRAISOPROPYLDISILOXAN), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1,3-DICHLORO-1,1,3,3-TETRAISOPROPYLDISILOXANE), 8, II, Segregation

Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1,3-DICHLORO-1,1,3,3-TETRAISOPROPYLDISILOXANE), 8, II

**Specification**  
 Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.004 - 1.006  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18360.0001	Glass bottle	1 ml	inquire
8.18360.0005	Glass bottle	5 ml	inquire

## 814058 2,6-Dichlorothiophenol for synthesis



C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>S  
 2,6-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SH  
 2,6-Dichlorobenzenethiol  
 ■ CAS-No. 24966-39-0 ■ EC-No. 416-720-7  
 ■ Flash point 112 °C ■ Solub. in

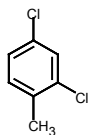
H<sub>2</sub>O (20 °C) insoluble ■ M = 179.06 g/mol  
 ■ Melting point 45 - 50 °C ■ Bulk density 300 kg/m<sup>3</sup> ■ Boiling point 95 - 100 °C (4 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 2400 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Melting range (lower value) ..... ≥ 46 °C  
 Melting range (upper value) ..... ≤ 49 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14058.0005	Glass bottle	5 g	inquire

## 820458 2,4-Dichlorotoluene for synthesis

C<sub>7</sub>H<sub>6</sub>Cl<sub>2</sub>2,4-(Cl)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CH<sub>3</sub>

2,4-DCT

- CAS-No. 95-73-8 ■ EC-No. 202-445-8
- Refractive index 1.5454 (20 °C, 589 nm)
- Vapour pressure 4 hPa (50 °C)
- Spec. density 1.25 g/cm<sup>3</sup> (20 °C)

- Flash point 79 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 161.03 g/mol
- Melting point -13 °C
- Boiling point 199 - 201 °C (1013 hPa)
- Ignition temp. >450 °C
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 2400 mg/kg
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(2,4-DICHLORTOLUEN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS

SUBSTANCE, LIQUID, N.O.S.(2,4-DICHLORO TOLUENE), 9, III, Marine Pollutant: P

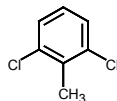
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2,4-DICHLORO TOLUENE), 9, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.248 - 1.249  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20458.0250	Glass bottle	250 ml	inquire

## 841827 2,6-Dichlorotoluene for synthesis

C<sub>7</sub>H<sub>6</sub>Cl<sub>2</sub>

CAS-No. 118-69-4 ■ EC-No. 204-269-7

- Spec. density 1.267 g/cm<sup>3</sup> (20 °C)
- Flash point 82 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 161.03 g/mol
- Melting point 2 °C ■ Boiling point 196 - 203 °C

- (1013 hPa)
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P262, P273
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(2,6-DICHLORTOLUEN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2,6-DICHLORO TOLUENE), 9, III, Marine Pollutant: P

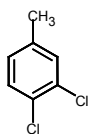
■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2,6-DICHLORO TOLUENE), 9, III

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1,264 - 1,268  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41827.0100	Glass bottle	100 ml	inquire

## 841553 3,4-Dichlorotoluene for synthesis

C<sub>7</sub>H<sub>6</sub>Cl<sub>2</sub>

1,2-Dichloro-4-methyl-benzene, 3,4-DCT

- CAS-No. 95-75-0 ■ EC-No. 202-447-9
- Vapour pressure 0.4 hPa (25 °C)
- Spec. density 1.251 g/cm<sup>3</sup> (20 °C)

- Flash point 85 °C ■ Kin. viscosity 1.25 mm<sup>2</sup>/s (20 °C) ■ M = 161.03 g/mol ■ Melting point -15 °C ■ Boiling point 200 - 202 °C
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P262, P273
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(3,4-DICHLORTOLUEN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3,4-DICHLORO

TOLUENE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3,4-DICHLORO TOLUENE), 9, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.250 - 1.254  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41553.0100	Glass bottle	100 ml	inquire

3,4-Dichloro- $\alpha,\alpha,\alpha$ -trifluorotoluene → 3,4-Dichlorobenzotrifluoride page 717

Dichlorotris(triphenylphosphine)ruthenium(II) → Tris(triphenylphosphine)ruthenium(II) chloride (10.5% Ru) page 1617

$\alpha,\alpha'$ -Dichloro-m-xylene → 1,3-Bis(chloromethyl)-benzene page 465

Dichromate-sulfuric acid mixture → Chromosulfuric acid page 642

Dicloran → 2,6-Dichloro-4-nitroaniline page 726

Dicobaltoctacarbonyl → di-Cobalt octacarbonyl page 649

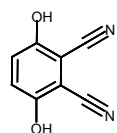
Dicumyl peroxide → Bis( $\alpha,\alpha$ -dimethylbenzyl)peroxide page 468

1,3-Dicyanobenzene → Isophthalonitrile page 1051

1,3-Dicyanobutane → 2-Methylglutarodinitrile page 1153

Dicyanodiamide → 1-Cyanoguanidine page 665

## 814409 2,3-Dicyanohydroquinone for synthesis

C<sub>8</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>

1,4-Dihydroxy-2,3-dicyano benzene

- CAS-No. 4733-50-0 ■ EC-No. 225-241-0
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 160.13 g/mol

- mol
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(2,3-DICYANHYDROCHINON), 6.1, II ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(2,3-DICYANO HYDROCHINON), 6.1, II

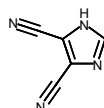
■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(2,3-DICYANO HYDROCHINON), 6.1, II

## Specification

Assay (HPLC, area%) ..... ≥ 96.0 % (a/a)  
Melting range (lower value) ..... ≥ 264 °C  
Melting range (upper value) ..... ≤ 267 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14409.0010	Plastic bottle	10 g	inquire

## 816101 4,5-Dicyanoimidazole for synthesis

C<sub>5</sub>H<sub>2</sub>N<sub>4</sub>

CAS-No. 1122-28-7 ■ EC-No. 214-344-6

- M = 118.1 g/mol ■ Melting point 171 - 175 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 600 mg/kg
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

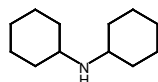
## Specification

Assay (HPLC, area%) ..... ≥ 99.0 Area %  
Melting range (lower value) ..... ≥ 173 °C  
Melting range (upper value) ..... ≤ 176 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16101.0025	Glass bottle	25 g	inquire



## 802948 Dicyclohexylamine for synthesis



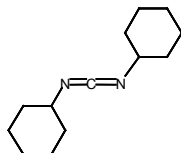
C<sub>12</sub>H<sub>23</sub>N  
(C<sub>6</sub>H<sub>11</sub>)<sub>2</sub>NH  
DCHA  
 ■ CAS-No. 101-83-7 ■ EC-No. 202-980-7  
 ■ Refractive index 1.4842 (20 °C, 589 nm)  
 ■ Vapour pressure 0.04 hPa (25 °C)  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 4.6 % (V) ■ Flash point 105 °C ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ M = 181.32 g/mol

■ pH value 11 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point - 0.1 °C ■ Boiling point 256 °C (1013 hPa)  
 ■ Ignition temp. 240 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 240 mg/kg  
 ■ EC-Index-No. 612-066-00-3 ■ LGK 8A  
 ■ HS-No. 2921 30 99 ■ Disposal 3  
 ■ ADR-RID UN 2565 Dicyclohexylamin, 8, III

■ IMDG-Code UN 2565 DICYCLOHEXYLAMINE, 8, III  
 ■ IATA-DGR UN 2565 DICYCLOHEXYLAMINE, 8, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,911 - 0,914  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02948.0050	Glass bottle	50 ml	inquire
8.02948.0100	Glass bottle	100 ml	inquire
8.02948.1000	Glass bottle	1 l	inquire

## 802954 N,N'-Dicyclohexylcarbodiimide for synthesis



C<sub>13</sub>H<sub>22</sub>N<sub>2</sub>  
C(NC<sub>6</sub>H<sub>11</sub>)<sub>2</sub>  
DCC  
 ■ CAS-No. 538-75-0 ■ EC-No. 208-704-1  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (40 °C)  
 ■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 206.33 g/mol

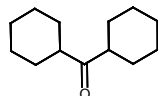
■ Melting point 35 - 36 °C ■ Bulk density 920 kg/m<sup>3</sup> ■ Boiling point 148 - 152 °C (15 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317, P280, P280, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1110 mg/kg ■ LD50 dermal rat 71 mg/kg  
 ■ EC-Index-No. 615-019-00-5 ■ LGK 6.1A  
 ■ HS-No. 2925 29 00 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N,N-DICYCLOHEXYLCARBODIIMID), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID,

ORGANIC, N.O.S.(N,N-DICYCLOHEXYLCARBODIIMIDE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N,N-DICYCLOHEXYLCARBODIIMIDE), 6.1, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 99 %  
 Melting range - (lower value) ..... ≥ 33 °C  
 - (upper value) ..... ≤ 36 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.02954.0250	Glass bottle	250 g	inquire
8.02954.1000	Glass bottle	1 kg	inquire
8.02954.2500	Glass bottle	2.5 kg	inquire

Dicyclohexyl-18-crown-6 → Crown ether/Dicyclohexyl-18-crown-6 page 661

## 814015 Dicyclohexyl ketone for synthesis



C<sub>13</sub>H<sub>22</sub>O  
(C<sub>6</sub>H<sub>11</sub>)<sub>2</sub>CO  
 ■ CAS-No. 119-60-8 ■ EC-No. 204-336-0

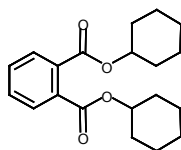
■ Refractive index 1.4891 (20 °C, 589 nm)  
 ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 105 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 194.31 g/mol  
 ■ Melting point 8 - 12 °C  
 ■ Boiling point 148 - 151 °C (19 hPa)  
 ■ WGK 3  
 ■ LGK 10

■ HS-No. 2914 29 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,958 - 0,960  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14015.0050	Glass bottle	50 ml	inquire

## 800920 Dicyclohexyl phthalate for synthesis



C<sub>20</sub>H<sub>26</sub>O<sub>4</sub>  
C<sub>6</sub>H<sub>4</sub>-1,2-(COOC<sub>6</sub>H<sub>11</sub>)<sub>2</sub>  
Phthalic acid dicyclohexyl ester  
 ■ CAS-No. 84-61-7 ■ EC-No. 201-545-9

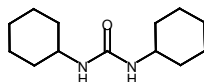
■ Vapour pressure 0.0000039 hPa (50 °C)  
 ■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 180 - 190 °C ■ Solub. in H<sub>2</sub>O 0.2 mg/l (20 °C) ■ M = 330.42 g/mol  
 ■ pH value (H<sub>2</sub>O) neutral  
 ■ Melting point 62 - 64 °C ■ Bulk density 710 kg/m<sup>3</sup> ■ Boiling point 226 °C (1013 hPa)  
 ■ Ignition temp. 395 °C  
 ■ WGK 1  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2917 34 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 62 °C  
 Melting range (upper value) ..... ≤ 64 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00920.0100	Plastic bottle	100 g	inquire
8.00920.1000	Plastic bottle	1 kg	inquire

## 843819 1,3-Dicyclohexylurea for synthesis



C<sub>13</sub>H<sub>24</sub>N<sub>2</sub>O  
 ■ CAS-No. 2387-23-7 ■ EC-No. 219-213-7

■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C)  
 ■ M = 224.35 g/mol ■ Melting point 230 - 234 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 21 00 ■ Disposal 3

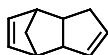
Melting range (lower value) ..... ≥ 230 °C  
 Melting range (upper value) ..... ≤ 234 °C  
 Identity (IR) ..... passes test

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.43819.0025	Plastic bottle	25 g	inquire



## 803038 Dicyclopentadiene (stabilised) for synthesis

C<sub>10</sub>H<sub>12</sub>

Cyclopentadiene dimer, 4,7-Methano-3a,4,7,7a-tetrahydroindene

- CAS-No. 77-73-6 ■ EC-No. 201-052-9
- Vapour pressure 3 hPa (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 6.3 % (V) ■ Flash point 32 °C
- Kin. viscosity 6 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 132.2 g/mol
- Melting point 11 - 13 °C ■ Boiling point 166 °C (1013 hPa) ■ Ignition temp. 503 °C

- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P210, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LC50 rat 2.11 mg/l
- LD50 oral rat 353 mg/kg ■ LD50 dermal rabbit 4940 mg/kg
- EC-Index-No. 601-044-00-9 ■ LGK 3
- HS-No. 2902 19 00 ■ Disposal 3

- ADR-RID UN 2048 Dicyclopentadien, 3, III
- IMDG-Code UN 2048 DICYCLOPENTADIENE, 3, III
- IATA-DGR UN 2048 DICYCLOPENTADIENE, 3, III

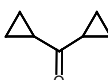
## Specification

Assay (GC, area%) ..... 91,0 - 94,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,975 - 0,985  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03038.0100	Glass bottle	100 ml	inquire
8.03038.1000	Glass bottle	1 l	inquire
8.03038.2500	Glass bottle	2.5 l	inquire

Dicyclopentadienyliron → Ferrocene page 892

## 840157 Dicyclopentylketone for synthesis

C<sub>7</sub>H<sub>10</sub>O

- CAS-No. 1121-37-5 ■ EC-No. 214-331-5
- Spec. density 0.968 g/cm<sup>3</sup> ■ Flash point 39 °C
- M = 110.15 g/mol ■ Boiling point 160 - 162 °C (1013 hPa)

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2914 29 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DICYCLOPROPYLKETON), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(DICYCLOPROPYLKETONE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

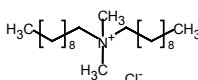
N.O.S.(DICYCLOPROPYLKETONE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,965 - 0,970  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40157.0025	Glass bottle	25 ml	inquire

## 814364 Didecylidimethylammonium chloride (50% solution in 2-propanol/water 2:3) for synthesis



- Spec. density 0.90 g/cm<sup>3</sup> (20 °C)
- Flash point 29 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 6.5 - 8.0 (10 g/l, H<sub>2</sub>O, 20 °C)
- Boiling point 88 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H336; Skin corrosion,

- Category 1B, H314; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 645 mg/kg
- LGK 3
- HS-No. 3824 90 97 ■ Disposal 3
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(DIDECYL-DIMETHYLAMMONIUMCHLORID UND ISOPROPANOL), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(DIDECYL-DIMETHYLAMMONIUMCHLORIDE AND ISOPROPANOL), 8 (3), II

- IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(DIDECYL-DIMETHYLAMMONIUMCHLORIDE AND ISOPROPANOL), 8 (3), II

## Specification

Assay (argentometric) ..... 50,0 - 55,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,900 - 0,910

Ord.No.	Packaging	Quantity	Price
8.14364.0100	Plastic bottle	100 ml	inquire
8.14364.1000	Plastic bottle	1 l	inquire

4,13-Didecyl-1,7,10,16-tetraoxa-4,13-diazacyclooctadecane → Kryptofix® 22 DD page 1069

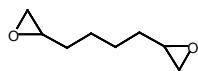
Dideuterodichloromethane → page 294

Dideuterioformic acid → Formic acid-D2 page 295

Dideuteromethylene chloride → page 294

1,2-Dideutero-1,1,2,2-tetrachloroethane → 1,1,2,2-Tetrachloroethane-D2 page 296  
 DIDP → Diisodecyl phthalate page 765

## 821770 1,2:7,8-Diepoxyoctane for synthesis

C<sub>8</sub>H<sub>14</sub>O<sub>2</sub>

1,7-Octadiene dioxide

- CAS-No. 2426-07-5 ■ EC-No. 219-375-9
- Refractive index 1.4456 (20 °C, 589 nm)
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 89 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 7 g/l (20 °C) ■ M = 142.19 g/mol
- Melting point 7 °C ■ Boiling point 222 °C

- (1013 hPa) ■ Ignition temp. 350 °C DIN 51794
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Acute toxicity, Category 4, Oral, H302, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1049 mg/kg ■ LD50 dermal rabbit 314 mg/kg
- LGK 6.1A
- HS-No. 2910 90 00 ■ Disposal 9
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(1,2,7,8-DIEPOXYOCTAN), 8 (6.1), II

- IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1,2:7,8-DIEPOXYOCTANE), 8 (6.1), II
- IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1,2:7,8-DIEPOXYOCTANE), 8 (6.1), II

## Specification

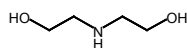
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,983 - 0,985  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21770.0010	Glass bottle	10 ml	inquire

Dietary fibers, determination of → page 86

# Dietha

## Diethanolamine



C<sub>4</sub>H<sub>11</sub>NO<sub>2</sub>  
 NH(CH<sub>2</sub>CH<sub>2</sub>OH)<sub>2</sub>  
*Bis-(2-hydroxyethyl)amine*  
 ■ CAS-No. 111-42-2 ■ EC-No. 203-868-0  
 ■ Refractive index 1.4753 (30 °C, 589 nm)  
 ■ Vapour pressure < 0.01 hPa (25 °C)

■ Spec. density 1.09 g/cm<sup>3</sup> (30 °C) liquid  
 ■ El. dipole moment 2.81 (30 °C) ■ Explosive limit 2.1 - 10.6 % (V) ■ Flash point 176 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 105.14 g/mol  
 ■ pH value 11 (53 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 28 °C ■ Boiling point 269 - 270 °C (1013 hPa) ■ Ignition temp. 365 - 370 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated

exposure, Category 2, H373; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313  
 ■ LD50 oral rat 676 mg/kg ■ LD50 dermal rabbit 8328 mg/kg  
 ■ EC-Index-No. 603-071-00-1 ■ LGK 10  
 ■ HS-No. 2922 12 00 ■ Disposal 3



### 803116 Diethanolamine for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 25 °C  
 Melting range (upper value) ..... ≤ 29 °C  
 Water (K. F.) ..... ≤ 0.30 %

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03116.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03116.5000	Plastic container	5 l	inquire
	Plastic container	4 x 5 l	inquire
8.03116.9051	Barrel PE/met	50 l	inquire

### 116205 Diethanolamine for analysis EMSURE®

#### Specification

Assay (GC) ..... ≥ 99.5 %  
 Identity (IR-spectrum) ..... passes test  
 Melting point ..... 26 - 28 °C  
 Chloride (Cl) ..... ≤ 0.0005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.002 %

Heavy metals (as Pb) ..... ≤ 0.0001 %  
 Fe (Iron) ..... ≤ 0.0001 %  
 Ethanolamine (GC) ..... ≤ 0.3 %  
 Triethanolamine (GC) ..... ≤ 0.3 %  
 Sulfated ash (600 °C) ..... ≤ 0.005 %

Water (according to Karl Fischer) ..... ≤ 0.25 %

Ord.No.	Packaging	Quantity	Price
1.16205.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

### 845159 Diethanolamine for pharma synthesis, non-GMP

#### Specification

Colour (visual) ..... colourless  
 Appearance of substance (visual) ..... clear  
 Assay (GC, area%) ..... ≥ 99.0 Area %  
 Melting range (lower value) ..... ≥ 25 °C

Melting range (upper value) ..... ≤ 28 °C  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45159.1000	Glass bottle	1 l	inquire
8.45159.5000	Plastic container	5 l	inquire

N'-Diethanolaminomethyl polystyrene → page 282

1,1-Diethoxyethane → Acetaldehyde diethyl acetal page 331

2-Diethoxyphosphoryl propionic acid ethyl ester → Triethyl 2-phosphonopropionate page 1588

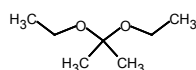
1,1-Diethoxy-2-bromoethane → Bromoacetaldehyde diethyl acetal page 486

1,2-Diethoxyethane → Ethylene glycol diethyl ether page 303

1,1-Diethoxy-2-cyanoethane → 3,3-Diethoxypropionitrile page 736

Diethoxymethane → Formaldehyde diethyl acetal page 910

### 820391 2,2-Diethoxypropane (stabilised) for synthesis



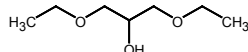
C<sub>7</sub>H<sub>16</sub>O<sub>2</sub>  
 (CH<sub>3</sub>)<sub>2</sub>C(OC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>  
*Acetone diethyl acetal*  
 ■ CAS-No. 126-84-1 ■ EC-No. 204-808-6  
 ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 8 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble

■ M = 132.20 g/mol ■ Boiling point 114 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
 ■ LGK 3  
 ■ HS-No. 2911 00 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,2-DIETHOXYPROPAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,2-

DIETHOXYPROPANE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2,2-DIETHOXYPROPANE), 3, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 94.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.828 - 0.831  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20391.0025	Glass bottle	25 ml	inquire

### 820392 1,3-Diethoxy-2-propanol for synthesis



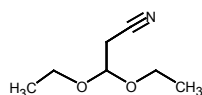
C<sub>7</sub>H<sub>16</sub>O<sub>3</sub>  
 C<sub>2</sub>H<sub>5</sub>OCH<sub>2</sub>CH(OH)CH<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>  
*Glycerol α,γ-diethyl ether*  
 ■ CAS-No. 4043-59-8 ■ EC-No. 223-736-6  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 148.20 g/mol  
 ■ Boiling point 191 - 192 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 49 80 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.950 - 0.960

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20392.0050	Glass bottle	50 ml	inquire
8.20392.0250	Glass bottle	250 ml	inquire

### 814001 3,3-Diethoxypropionitrile for synthesis



C<sub>7</sub>H<sub>13</sub>NO<sub>2</sub>  
 (CH<sub>3</sub>CH<sub>2</sub>O)<sub>2</sub>CHCH<sub>2</sub>CN  
*Cyanoacetaldehyde diethyl acetal, 1,1-Diethoxy-2-cyanoethane*  
 ■ CAS-No. 2032-34-0 ■ EC-No. 217-988-6

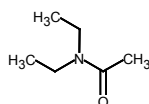
■ Refractive index 1.4155 (20 °C, 589 nm)  
 ■ Vapour pressure 0.14 hPa (20 °C)  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 83 °C ■ Solub. in H<sub>2</sub>O 32 g/l (20 °C)  
 ■ M = 143.18 g/mol ■ Boiling point 82 °C (13 hPa) ■ Ignition temp. 395 °C  
 ■ WGK 2  
 ■ GHS: P262  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10

■ HS-No. 2926 90 95 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 96.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,949 - 0,952  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14001.0010	Glass bottle	10 ml	inquire

Diethyl acetal → Acetaldehyde diethyl acetal page 331



803214 **N,N-Diethylacetamide** for synthesis

$C_6H_{13}NO$   
 $CH_3CON(C_2H_5)_2$   
*Acetic acid diethylamide*  
 ■ CAS-No. 685-91-6 ■ EC-No. 211-685-2  
 ■ Refractive index 1.4401 (20 °C, 589 nm)

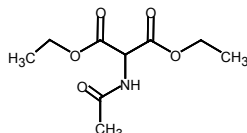
■ Vapour pressure 1.2 hPa (25 °C)  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 76 °C ■ Solub. in H<sub>2</sub>O 53.5 g/l (25 °C) ■ M = 115.17 g/mol  
 ■ Boiling point 182 - 186 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1500 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2924 19 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,907 - 0,911  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03214.0025	Glass bottle	25 ml	inquire
8.03214.0100	Glass bottle	100 ml	inquire

800074 **Diethyl acetamidomalonate** for synthesis

$C_9H_{15}NO_5$   
 $CH_3CONHCH(COOC_2H_5)_2$   
*Acetamidomalononic acid diethyl*

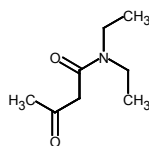
*ester, Acetylamino malonic acid diethyl ester*  
 ■ CAS-No. 1068-90-2 ■ EC-No. 213-952-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 217.22 g/mol  
 ■ Melting point 95 - 96 °C  
 ■ Bulk density 680 kg/m<sup>3</sup> ■ Boiling point 185 °C (27 hPa)  
 ■ WGK 3  
 ■ LD50 oral rat 4220 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 94 °C  
 Melting range (upper value) ..... ≤ 97 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00074.0050	Plastic bottle	50 g	inquire

Diethylacetic acid → 2-Ethylbutyric acid page 855

814730 **N,N-Diethyl acetoacetamide** for synthesis

$C_8H_{15}NO_2$   
*Acetoacetic acid diethylamide*  
 ■ CAS-No. 2235-46-3 ■ EC-No. 218-792-3

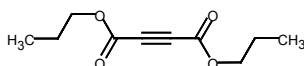
■ Vapour pressure 1.0 hPa (50 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 % (V) ■ Flash point 101 °C DIN 51758  
 ■ Solub. in H<sub>2</sub>O (20 °C) miscible in all proportions  
 ■ M = 157.21 g/mol ■ pH value 5 - 7 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -73 °C  
 ■ Boiling point 213 - 218 °C (1013 hPa)  
 ■ Ignition temp. 220 °C  
 ■ WGK 2  
 ■ LD50 oral rat 4760 mg/kg

■ LGK 10  
 ■ HS-No. 2924 19 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,993 - 0,997  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14730.0100	Glass bottle	100 ml	inquire
8.14730.0500	Glass bottle	500 ml	inquire

841514 **Diethyl acetylenedicarboxylate** for synthesis

$C_8H_{10}O_4$   
*2-Butynedioic acid diethyl ester*  
 ■ CAS-No. 762-21-0 ■ EC-No. 212-095-8  
 ■ Spec. density 1.067 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 94 °C ■ M = 170.16 g/mol  
 ■ Melting point 1.5 °C  
 ■ Boiling point 108 - 110 °C (14.7 hPa)

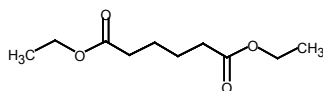
■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2917 19 90 ■ Disposal 3  
 ■ ADR-RID UN 1760 Atzender flüssiger Stoff, n.a.g.(DIETHYL-ACETYLENEDICARBOXYLAT), 8, III  
 ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(DIETHYL ACETYLENEDICARBOXYLATE), 8, III  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID,

N.O.S.(DIETHYL ACETYLENEDICARBOXYLATE), 8, III

**Specification**

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.063 - 1.073  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41514.0010	Glass bottle	10 ml	inquire
8.41514.0100	Glass bottle	100 ml	inquire

800086 **Diethyl adipate** for synthesis

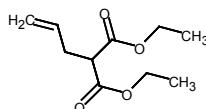
$C_{10}H_{18}O_4$   
 $C_2H_5OOC(CH_2)_4COOC_2H_5$   
*Diethyl hexanedioate, Adipic acid diethyl ester*  
 ■ CAS-No. 141-28-6 ■ EC-No. 205-477-0

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C) ■ M = 202.25 g/mol ■ Melting point - 19.8 °C ■ Boiling point 245 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: P262  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 12 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,007 - 1,009  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00086.0100	Glass bottle	100 ml	inquire
8.00086.0500	Glass bottle	500 ml	inquire

841118 **Diethyl allylmalonate** for synthesis

$C_{10}H_{16}O_4$   
*2-Propenyl-propanedioic acid diethyl*

*ester, Allylmalonic acid diethyl ester*  
 ■ CAS-No. 2049-80-1 ■ EC-No. 218-072-9  
 ■ Spec. density 1.016 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 92 °C ■ M = 200.23 g/mol  
 ■ Boiling point 105 - 107 °C (22.7 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2917 19 90 ■ Disposal 3

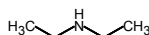
**Specification**

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.000 - 1.010  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41118.0025	Glass bottle	25 ml	inquire
8.41118.0100	Glass bottle	100 ml	inquire

# Diethy

## Diethylamine



C<sub>4</sub>H<sub>11</sub>N  
(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>NH  
*N*-Ethylethanamine  
 ■ CAS-No. 109-89-7 ■ EC-No. 203-716-3  
 ■ Refractive index 1.3864 (20 °C) ■ Vapour pressure 253 hPa (20 °C) ■ Spec. density 0.71 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.0 - 11.8 % (V) ■ Flash point -23 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 73.14 g/mol  
 ■ pH value 13 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -50 °C ■ Boiling point 56 °C  
 ■ Ignition temp. 290 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 3, H335,

P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 12.1 mg/l  
 ■ LD50 oral rat 540 mg/kg ■ LD50 dermal rabbit 582 mg/kg  
 ■ EC-Index-No. 612-003-00-X ■ LGK 3  
 ■ HS-No. 2921 19 50 ■ Disposal 3  
 ■ ADR-RID UN 1154 Diethylamin, 3 (8), II  
 ■ IMDG-Code UN 1154 DIETHYLAMINE, 3 (8), II  
 ■ IATA-DGR UN 1154 DIETHYLAMINE, 3 (8), II



### 803010 Diethylamine for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.703 - 0.705  
 Water (K. F.) ..... ≤ 0.10 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03010.0100	Glass bottle	100 ml	inquire
8.03010.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.03010.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03010.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.03010.9050	Steel barrel	50 l	inquire

### 845028 Diethylamine for pharmanythesis, non-GMP

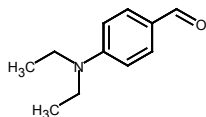
#### Specification

Colour (visual) ..... colourless to pale yellow  
 Appearance of substance (visual) ..... clear  
 Assay (GC, area%) ..... ≥ 99,5 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,703 - 0,705  
 Water (K. F.) ..... ≤ 0,10 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45028.0100	Glass bottle	100 ml	inquire
8.45028.1000	Glass bottle	1 l	inquire

Diethylamine hydrochloride → Diethylammonium chloride page 739

## 842985 4-Diethylaminobenzaldehyde for synthesis



C<sub>11</sub>H<sub>15</sub>NO  
 ■ CAS-No. 120-21-8 ■ EC-No. 204-377-4  
 ■ Spec. density 1.03 g/cm<sup>3</sup> ■ Flash point 165 °C  
 ■ Solub. in H<sub>2</sub>O 2.5 g/l (20 °C) ■ M = 177.25 g/mol  
 ■ Melting point 37 - 40 °C ■ Boiling point 174 °C

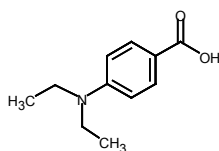
(9 hPa) ■ Ignition temp. 410 °C  
 ■ WGK 2  
 ■ LD50 oral rat 6400 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 39 00 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-DIETHYLAMINOBENZALDEHYD), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-DIETHYLAMINOBENZALDEHYDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-DIETHYLAMINOBENZALDEHYDE), 6.1, III

#### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 37 °C  
 Melting range (upper value) ..... ≤ 40 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42985.0010	Glass bottle	10 g	inquire
8.42985.0100	Glass bottle	100 g	inquire

## 814679 4-(Diethylamino)benzoic acid for synthesis



C<sub>11</sub>H<sub>15</sub>NO<sub>2</sub>  
 ■ CAS-No. 5429-28-7 ■ EC-No. 226-582-8

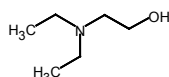
■ Spec. density 1 g/cm<sup>3</sup> ■ Flash point 175 °C  
 ■ Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C) ■ M = 193.24 g/mol  
 ■ Melting point 192 - 195 °C  
 ■ Bulk density 300 - 400 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LD50 oral rat 5210 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

#### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 192 °C  
 Melting range (upper value) ..... ≤ 195 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14679.0100	Plastic bottle	100 g	inquire

## 803273 2-(Diethylamino)-ethanol for synthesis



C<sub>6</sub>H<sub>15</sub>NO  
(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>OH  
*N,N*-Diethylethanolamine  
 ■ CAS-No. 100-37-8 ■ EC-No. 202-845-2  
 ■ Refractive index 1.4414 (20 °C, 589 nm)  
 ■ Vapour pressure 1.9 hPa (20 °C)  
 ■ Spec. density 0.88 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 0.7 % (V) ■ Flash point 51 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 117.19 g/mol  
 ■ pH value 11.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -70 °C ■ Boiling point 163 °C

(1013 hPa) ■ Ignition temp. 270 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1300 mg/kg ■ LD50 dermal rabbit 1109 mg/kg  
 ■ EC-Index-No. 603-048-00-6 ■ LGK 3  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 2686 2-Diethylaminoethanol, 8 (3), II ■ IMDG-Code UN 2686 2-

DIETHYLAMINOETHANOL, 8 (3), II  
 ■ IATA-DGR UN 2686 2-DIETHYLAMINOETHANOL, 8 (3), II

#### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,883 - 0,885  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... conforms

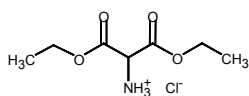
Ord.No.	Packaging	Quantity	Price
8.03273.0100	Glass bottle	100 ml	inquire
8.03273.1000	Glass bottle	1 l	inquire
8.03273.9027	Barrel PE/met	25 l	inquire

2-Diethylaminoethanol hydrochloride → *N,N*-Diethylethanolammonium chloride page 744

2-(Diethylamino)ethylamine → *N,N*-Diethylethylenediamine page 746

2-Diethylamino-ethylchloride hydrochloride → *N*-(2-Chloroethyl)-*N,N*-diethylammonium chloride page 611

## 818510 Diethyl aminomalonate hydrochloride for synthesis



$C_7H_{14}ClNO_4$   
 $(H_5C_2OOC)_2CHNH_2 \cdot HCl$

*Aminomalononic acid diethyl ester hydrochloride*  
 ■ CAS-No. 13433-00-6 ■ EC-No. 236-556-8  
 ■ Solub. in  $H_2O$  (20 °C) soluble ■ M = 211.64 g/mol  
 ■ Melting point 165 - 170 °C  
 ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13

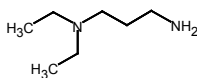
■ HS-No. 2922 49 85 ■ Disposal 3

**Specification**

Assay (argentometric)..... ≥ 99.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18510.0025	Glass bottle	25 g	inquire

## 814100 3-Diethylamino-1-propylamine for synthesis



$C_7H_{18}N_2$   
 $H_2NCH_2CH_2CH_2N(C_2H_5)_2$   
*N,N-Diethyl-1,3-diaminopropane*  
 ■ CAS-No. 104-78-9 ■ EC-No. 203-236-4  
 ■ Refractive index 1.4413 (20 °C, 589 nm)  
 ■ Vapour pressure 2.2 hPa (20 °C)  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 % (V) ■ Flash point 51 °C ■ Solub. in  $H_2O$  (20 °C) soluble ■ M = 130.23 g/mol  
 ■ pH value 11.7 (10 g/l,  $H_2O$ , 20 °C)

■ Melting point -60 °C ■ Boiling point 159.0 °C  
 ■ Ignition temp. 215 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 410 mg/kg ■ LD50 dermal rabbit 525 mg/kg  
 ■ EC-Index-No. 612-062-00-1 ■ LGK 3  
 ■ HS-No. 2921 29 00 ■ Disposal 3

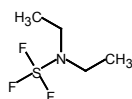
■ ADR-RID UN 2684 3-Diethylamino-Propylamin, 3 (8), III ■ IMDG-Code UN 2684 3-DIETHYLAMINOPROPYLAMINE, 3 (8), III  
 ■ IATA-DGR UN 2684 3-DIETHYLAMINOPROPYLAMINE, 3 (8), III

**Specification**

Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,824 - 0,827  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14100.0100	Glass bottle	100 ml	inquire
8.14100.1000	Glass bottle	1 l	inquire

## 818198 Diethylaminosulfur trifluoride for synthesis



$C_4H_{10}F_3NS$   
 $(C_2H_5)_2NSF_3$   
 DAST  
 ■ CAS-No. 38078-09-0 ■ EC-No. 253-771-2  
 ■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 23 °C ■ Solub. in  $H_2O$  (20 °C) (decomposition) ■ M = 161.19 g/mol

■ Boiling point 46 - 47 °C (13 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2930 90 99 ■ Disposal 23  
 ■ ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(DIETHYLAMINOSCHWEFELTRIFLUORID), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE

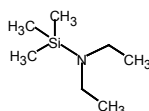
LIQUID, TOXIC, N.O.S.(DIETHYLAMINOSULFUR TRIFLUORIDE), 8 (6.1), II  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(DIETHYLAMINOSULFUR TRIFLUORIDE), 8 (6.1), II

**Specification**

Assay (Diethylamine titration)..... ≥ 90.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18198.0005	Glass bottle	5 ml	inquire

## 818152 Diethylaminotrimethylsilane for synthesis



$C_7H_{19}NSi$   
 $(C_2H_5)_2NSi(CH_3)_3$   
*N-Trimethylsilyl diethylamine*  
 ■ CAS-No. 996-50-9 ■ EC-No. 213-637-6  
 ■ Vapour pressure 0.83 hPa (20 °C)  
 ■ Spec. density 0.767 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 15 °C ■ M = 145.31 g/mol

■ Melting point -10 °C  
 ■ Boiling point 126 - 127 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 2931 90 90  
 ■ ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(N,N-DIETHYLAMINOTRIMETHYLSILAN), 3 (8), II ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N-DIETHYLAMINO

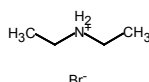
TRIMETHYLSILANE), 3 (8), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N-DIETHYLAMINO TRIMETHYLSILANE), 3 (8), II

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98.0 % (m)  
 Density (d 20 °C/ 4 °C)..... 0,764 - 0,766  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18152.0010	Glass bottle	10 ml	inquire

## 814863 Diethylammonium bromide for synthesis



$C_4H_{12}BrN$   
 $C_4H_{12}N^+Br^-$   
 ■ CAS-No. 6274-12-0 ■ EC-No. 228-466-2  
 ■ Solub. in  $H_2O$  (20 °C) soluble ■ M = 154.05 g/mol

mol ■ Melting point 215 - 218 °C  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 19 50 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

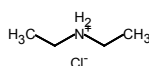
■ IATA-DGR No Dangerous Good

**Specification**

Assay (argentometric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 216 °C  
 Melting range (upper value)..... ≤ 219 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14863.0250	Glass bottle	250 g	inquire

## 820393 Diethylammonium chloride for synthesis



$C_4H_{12}ClN$   
 $(C_2H_5)_2NH_2Cl$   
*Diethylamine hydrochloride*  
 ■ CAS-No. 660-68-4 ■ EC-No. 211-541-9  
 ■ Solub. in  $H_2O$  (20 °C) soluble ■ M = 109.60 g/mol  
 ■ pH value 4.5 - 6.5 (10 g/l,  $H_2O$ , 20 °C)

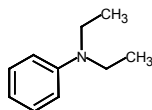
■ Melting point 222 °C ■ Bulk density 1100 kg/m<sup>3</sup>  
 ■ Boiling point 320 - 330 °C  
 ■ WGK 1  
 ■ LD50 oral rat 9900 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 19 50 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**

Assay (argentometric)..... ≥ 98.0 % (m)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20393.0005	Glass bottle	5 g	inquire
8.20393.0250	Plastic bottle	250 g	inquire
8.20393.1000	Plastic bottle	1 kg	inquire

## 820395 N,N-Diethylaniline for synthesis



C<sub>10</sub>H<sub>15</sub>N  
C<sub>6</sub>H<sub>5</sub>N(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>  
 ■ CAS-No. 91-66-7 ■ EC-No. 202-088-8  
 ■ Refractive index 1.5409 (20 °C, 589 nm)  
 ■ Vapour pressure 0.2 hPa (20 °C)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 5.3 % (V) ■ Flash point 79 °C ■ Solub. in H<sub>2</sub>O 0.13 g/l (20 °C) ■ M = 149.23 g/mol  
 ■ pH value 8 (0.1 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point -38.8 °C ■ Boiling point 217 °C (1013 hPa) ■ Ignition temp. 500 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LC50 rat 1.92 mg/l  
 ■ LD50 oral rat 610 mg/kg ■ LD50 dermal rat > 5000 mg/kg  
 ■ EC-Index-No. 612-054-00-8 ■ LGK 6.1 C  
 ■ HS-No. 2921 42 00 ■ Disposal 9

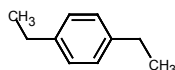
■ ADR-RID UN 2432 n,n-Diethylanilin, 6.1, III  
 ■ IMDG-Code UN 2432 N,N-DIETHYLANILINE, 6.1, III  
 ■ IATA-DGR UN 2432 N,N-DIETHYLANILINE, 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.933 - 0.934  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20395.0100	Glass bottle	100 ml	inquire
8.20395.1000	Glass bottle	1 l	inquire
8.20395.2500	Glass bottle	2.5 l	inquire

## 841003 1,4-Diethylbenzene for synthesis



C<sub>10</sub>H<sub>14</sub>  
 ■ CAS-No. 105-05-5 ■ EC-No. 203-265-2  
 ■ Vapour pressure 1.45 hPa (25 °C)  
 ■ Spec. density 0.862 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 % (V) ■ Flash point 55 °C ■ Solub. in H<sub>2</sub>O 24.8 mg/l (20 °C) ■ M = 134.22 g/mol

■ Melting point -43 °C  
 ■ Boiling point 182 - 184 °C  
 ■ Ignition temp. 430 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 2, H411, P210, P262, P273  
 ■ LGK 3  
 ■ HS-No. 2902 90 00 ■ Disposal 3  
 ■ ADR-RID UN 2049 Diethylbenzen, 3, III ■ IMDG-

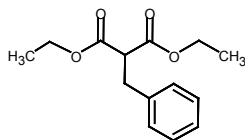
Code UN 2049 DIETHYLBENZENES, 3, III  
 ■ IATA-DGR UN 2049 DIETHYLBENZENE, 3, III

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.860 - 0.865  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41003.0005	Glass bottle	5 ml	inquire

## 801265 Diethyl benzylmalonate for synthesis



C<sub>14</sub>H<sub>18</sub>O<sub>4</sub>  
 C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH(COOC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>

*Benzylmalonic acid diethyl ester*  
 ■ CAS-No. 607-81-8 ■ EC-No. 210-142-7  
 ■ Refractive index 1.4868 (20 °C, 589 nm)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 250.29 g/mol  
 ■ Boiling point 162 °C (13 hPa)  
 ■ WGK 3  
 ■ LGK 10

■ HS-No. 2917 39 95 ■ Disposal 3

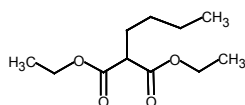
## Specification

Assay (GC, area%) ..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1.072 - 1.074  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01265.0025	Glass bottle	25 ml	inquire

Diethyl trans-butenedioate → Diethyl fumarate page 746

## 801274 Diethyl butylmalonate for synthesis



C<sub>11</sub>H<sub>20</sub>O<sub>4</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH(COOC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>  
*Butylmalonic acid diethyl ester*  
 ■ CAS-No. 133-08-4 ■ EC-No. 205-089-1

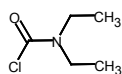
■ Refractive index 1.422 (20 °C, 589 nm)  
 ■ Spec. density 0.975 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 113 °C DIN 51758 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 216.27 g/mol ■ Boiling point 235 - 240 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat > 10000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2917 19 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.974 - 0.976  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01274.0250	Glass bottle	250 ml	inquire

## 843342 Diethylcarbamy chloride for synthesis



C<sub>5</sub>H<sub>10</sub>ClNO  
 ■ CAS-No. 88-10-8 ■ EC-No. 201-798-5  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 76 °C ■ Solub. in H<sub>2</sub>O (20 °C) Risk of violent reaction. ■ M = 135.59 g/mol  
 ■ Melting point -32 °C  
 ■ Boiling point 117 - 123 °C (133 hPa)  
 ■ Ignition temp. 400 °C  
 ■ WGK 1

■ GHS: Warning, Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313  
 ■ LD50 oral rat 2700 mg/kg  
 ■ EC-Index-No. 607-229-00-0 ■ LGK 8A  
 ■ HS-No. 2924 19 00 ■ Disposal 3  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(DIETHYLCARBAMYLCHEMORID), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DIETHYLCARBAMYL

CHLORIDE), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DIETHYLCARBAMYL CHLORIDE), 8, III

## Specification

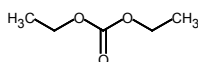
Assay (argentometric) ..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C) ..... 1.070 - 1.074  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43342.0010	Glass bottle	10 ml	inquire

Diethyl carbinol → 3-Pentanol page 1271

Diethyl Carbitol® → Diethylene glycol diethyl ether page 301

## 802898 Diethyl carbonate for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>3</sub>CO(OC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>

Carbonic acid diethyl ester

■ CAS-No. 105-58-8 ■ EC-No. 203-311-1

■ Refractive index 1.384 (20 °C) ■ Vapour

pressure 11 hPa (20 °C) ■ Spec. density 0.97 g/cm<sup>3</sup>

(20 °C) ■ Explosive limit 1.4 - 11.0 % (V)

■ Flash point 33 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 118.13 g/mol■ pH value 6.3 (1 g/l, H<sub>2</sub>O) ■ Melting point -43 °C

■ Boiling point 126 °C (1013 hPa)

■ Evaporation number 14 ■ Ignition temp. 445 °C

■ WGK 1

■ GHS: Warning, Flammable liquid, Category 3,

H226, P210

■ LD50 oral rat &gt; 4900 mg/kg

■ LGK 3

■ HS-No. 2920 90 10

■ ADR-RID UN 2366 Diethylcarbonat, 3, III

■ IMDG-Code UN 2366 DIETHYL CARBONATE,

3, III

■ IATA-DGR UN 2366 DIETHYL CARBONATE, 3, III

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %

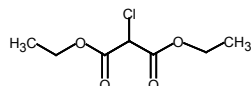
Density (d 20 °C/ 4 °C)..... 0,974 - 0,975

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02898.0100	Glass bottle	100 ml	inquire
8.02898.0500	Glass bottle	500 ml	inquire
8.02898.1000	Glass bottle	1 l	inquire

N,N-Diethyl-N-2-chloroethylammonium chloride → N-(2-Chloroethyl)-N,N-diethylammonium chloride page 611

## 818258 Diethyl chloromalonate for synthesis

C<sub>7</sub>H<sub>11</sub>ClO<sub>4</sub>ClCH(COOC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>

Chloromalononic acid diethyl ester

■ CAS-No. 14064-10-9 ■ EC-No. 237-913-0

■ Refractive index 1.4375 (24 °C, 589 nm)

■ Spec. density 1.18 g/cm<sup>3</sup> (20 °C)

■ Flash point 113 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 194.61 g/

mol ■ Boiling point 221 - 222 °C

■ WGK 3

■ GHS: Warning, Specific target organ toxicity -

single exposure, Category 3, H335; Skin irritation,

Category 2, H315; Eye irritation, Category 2,

H319; Acute aquatic toxicity, Category 1, H400,

P273, P302 + P352, P304 + P340, P305 + P351 +

P338

■ LGK 10 - 13

■ HS-No. 2917 19 90 ■ Disposal 3

■ ADR-RID UN 3082 Umweltgefährdender Stoff,

flüssig, n.a.g.(DIETHYLCHLORMALONAT), 9, III

■ IMDG-Code UN 3082 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIETHYL

CHLORMALONATE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIETHYL

CHLORMALONATE), 9, III

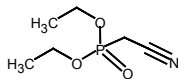
**Specification**

Assay (GC, area%)..... ≥ 89,0 % (a/a)

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18258.0025	Glass bottle	25 ml	inquire
8.18258.0100	Glass bottle	100 ml	inquire

## 818176 Diethyl cyanomethylphosphonate for synthesis

C<sub>6</sub>H<sub>12</sub>NO<sub>3</sub>PNCCH<sub>2</sub>P(=O)(OC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>

Cyanomethanephosphonic acid diethyl ester

■ CAS-No. 2537-48-6 ■ EC-No. 219-806-0

■ Refractive index 1.433 (20 °C, 589 nm)

■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)

■ M = 177.14 g/mol ■ Boiling point 120 - 121 °C

(2 hPa)

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97,0 % (a/a)

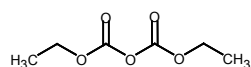
Density (d 20 °C/ 4 °C)..... 1,126 - 1,128

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18176.0010	Glass bottle	10 ml	inquire

N,N-Diethyl-1,3-diaminopropane → 3-Diethylamino-1-propylamine page 739

## 841751 Diethyl dicarbonate for synthesis

C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>

■ CAS-No. 1609-47-8 ■ EC-No. 216-542-8

■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)

■ Flash point 69 °C ■ M = 162.14 g/mol

■ Boiling point 93 - 94 °C (24 hPa)

■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302; Specific target organ toxicity - single

exposure, Category 3, H335; Eye irritation,

Category 2, H319, P260, P304 + P340, P305 +

P351 + P338

■ LD50 oral rat 850 mg/kg

■ LGK 10 ■ Store at +2°C to +8°C.

■ HS-No. 2920 90 85

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)

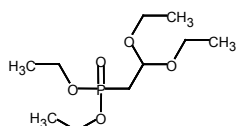
Density (d 20 °C/ 4 °C)..... 1,118 - 1,122

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41751.0005	Glass bottle	5 ml	inquire
8.41751.0025	Glass bottle	25 ml	inquire

Diethyldichlorosilane → Dichlorodiethylsilane page 720

## 841509 Diethyl 2,2-diethoxy-ethanephosphonate for synthesis

C<sub>10</sub>H<sub>23</sub>O<sub>5</sub>P

2,2-Diethoxyethylphosphonic acid diethyl ester

■ CAS-No. 7598-61-0 ■ EC-No. 231-504-0

■ Spec. density 1.052 g/cm<sup>3</sup> (20 °C)

■ Flash point &gt;110 °C ■ M = 254.26 g/mol

■ Boiling point 101 - 103 °C (10.7 hPa)

■ WGK 3

■ GHS: Warning, Specific target organ toxicity -

single exposure, Category 3, H335; Skin irritation,

Category 2, H315; Eye irritation, Category 2, H319,

P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13 ■ Store below +15°C.

■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 94,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.041 - 1.045

Identity (IR)..... passes test

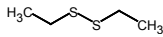
Ord.No.	Packaging	Quantity	Price
8.41509.0005	Glass bottle	5 ml	inquire

Diethyl diglycol → Diethylene glycol diethyl ether page 301



# Diethyl

## 843957 Diethyl disulfide for synthesis



C<sub>4</sub>H<sub>10</sub>S<sub>2</sub>  
 ■ CAS-No. 110-81-6 ■ EC-No. 203-805-7  
 ■ Vapour pressure 5.7 hPa (25 °C)  
 ■ Spec. density 0.993 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 40 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (25 °C)  
 ■ M = 122.25 g/mol  
 ■ WGK 2

■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 2030 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DIETHYLDISULFID), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(DIETHYL DISULPHIDE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(DIETHYL DISULPHIDE), 3, III

### Specification

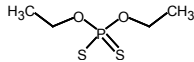
Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.992 - 0.996  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43957.0250	Glass bottle	250 ml	inquire
8.43957.1000	Glass bottle	1 l	inquire

Diethyldithiocarbamic acid silver salt → Silver diethyldithiocarbamate page 1421

Diethyldithiocarbamic acid sodium salt → Sodium diethyldithiocarbamate trihydrate page 1432

## 818087 O,O-Diethyl dithiophosphate for synthesis



C<sub>4</sub>H<sub>11</sub>O<sub>2</sub>PS<sub>2</sub>  
 (C<sub>2</sub>H<sub>5</sub>O)<sub>2</sub>P(=S)SH  
*Dithiophosphoric acid O,O-diethyl ester*  
 ■ CAS-No. 298-06-6 ■ EC-No. 206-055-9  
 ■ Refractive index 1.512 (20 °C, 589 nm) ■ Vapour pressure 0.66 hPa (57 °C) ■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C) ■ Flash point 87 °C ■ Solub. in H<sub>2</sub>O 330 g/l (25 °C) ■ M = 186.23 g/mol  
 ■ pH value 0.8 (100 g/l, H<sub>2</sub>O)  
 ■ Boiling point 105 - 108 °C (20 hPa)  
 ■ WGK 2

■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P304 + P340, P309 + P310  
 ■ LC50 rat 1.64 mg/l  
 ■ LD50 oral rat 1470 mg/kg ■ LD50 dermal rat >= 2150 mg/kg  
 ■ LGK 8A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2920 19 00 ■ Disposal 25  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(O,O-DIETHYLDITHIOPHOSPHAT), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC,

N.O.S.(O,O-DIETHYL PHOSPHORODITHIONIC ACID), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(O,O-DIETHYL PHOSPHORODITHIONIC ACID), 8, II

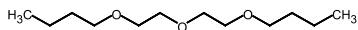
### Specification

Assay (acidimetric) ..... ≥ 97,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,172 - 1,176  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18087.0025	Glass bottle	25 ml	inquire
8.18087.0100	Glass bottle	100 ml	inquire
8.18087.0250	Glass bottle	250 ml	inquire

Diethylene glycol butyl ether acetate → [2-(2-Butoxyethoxy)ethyl] acetate page 299

## 802933 Diethylene glycol dibutyl ether for synthesis



C<sub>12</sub>H<sub>26</sub>O<sub>3</sub>  
 (CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>O  
 ■ CAS-No. 112-73-2 ■ EC-No. 204-001-9  
 ■ Vapour pressure 0.01 hPa (20 °C)  
 ■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 118 °C ■ Solub. in H<sub>2</sub>O 3 g/l (20 °C)

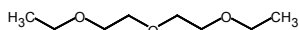
■ M = 218.33 g/mol ■ Melting point -60 °C  
 ■ Boiling point 254 °C (1013 hPa)  
 ■ Ignition temp. 190 °C  
 ■ WGK 1  
 ■ LD50 oral rat 3900 mg/kg ■ LD50 dermal rabbit 3555 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2909 19 90 ■ Disposal 1

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,882 - 0,884  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,005 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02933.0250	Glass bottle	250 ml	inquire
8.02933.1000	Glass bottle	1 l	inquire

## 802932 Diethylene glycol diethyl ether for synthesis



C<sub>8</sub>H<sub>18</sub>O<sub>3</sub>  
 (C<sub>2</sub>H<sub>5</sub>OCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>O  
*Diethyl diglycol, Bis(2-ethoxyethyl) ether, 2-Ethoxyethyl ether, Diethyl Carbitol®*  
 ■ CAS-No. 112-36-7 ■ EC-No. 203-963-7  
 ■ Refractive index 1.4115 (20 °C, 589 nm)  
 ■ Vapour pressure 0.5 hPa (20 °C)

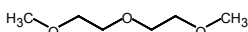
■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 71 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 162.22 g/mol ■ Melting point -44 °C  
 ■ Boiling point 189 °C (1013 hPa)  
 ■ Ignition temp. 174 °C  
 ■ WGK 1  
 ■ LD50 oral rat 4970 mg/kg ■ LD50 dermal rabbit 6097 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 19 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,906 - 0,908  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,005 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02932.0250	Glass bottle	250 ml	inquire
8.02932.1000	Glass bottle	1 l	inquire

## 802934 Diethylene glycol dimethyl ether (stabilised) for synthesis



C<sub>6</sub>H<sub>14</sub>O<sub>3</sub>  
*Dimethyl diglycol, Bis(2-methoxyethyl) ether, Diglyme*  
 ■ CAS-No. 111-96-6 ■ EC-No. 203-924-4  
 ■ Refractive index 1.4097 (20 °C, 589 nm)  
 ■ Vapour pressure 2 hPa (20 °C)  
 ■ Spec. density 0.944 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 7 (20 °C) ■ Explosive limit 1.4 - 17.4 % (V) ■ Flash point 51 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 134.17 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point -

64 °C ■ Boiling point 155 - 165 °C (1013 hPa)  
 ■ Evaporation number 90 ■ Ignition temp. 190 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Reproductive toxicity, Category 1B, H360FD, P201, P210, P308 + P313  
 ■ LC50 rat > 11 mg/l  
 ■ LD50 oral rat 4760 mg/kg  
 ■ EC-Index-No. 603-139-00-0 ■ LGK 3  
 ■ HS-No. 2909 19 90 ■ Disposal 9  
 ■ ADR-RID UN 3271 Ether, n.a.g.(DIETHYLENGLYCOLDIMETHYLETHER), 3, III  
 ■ IMDG-Code UN 3271 ETHERS, N.O.S.(DIETHYLENGLYCOLDIMETHYLETHER), 3, III

■ IATA-DGR UN 3271 ETHERS, N.O.S.(DIETHYLENGLYCOLDIMETHYLETHER), 3, III

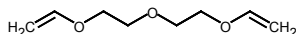
### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,943 - 0,945  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,005 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02934.0250	Glass bottle	250 ml	inquire
8.02934.1000	Glass bottle	1 l	inquire
8.02934.2500	Glass bottle	2.5 l	inquire



## 840144 Diethylene glycol divinyl ether for synthesis

C<sub>8</sub>H<sub>14</sub>O<sub>3</sub>

■ CAS-No. 764-99-8 ■ EC-No. 212-133-3

- Spec. density 0.97 g/cm<sup>3</sup> ■ M = 158.20 g/mol
- WGK 1
- HS-No. 2909 19 90 ■ Disposal 3

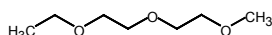
**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 0,968 - 0,972  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40144.0050	Glass bottle	50 ml	inquire

## 843827 Diethylene glycol methyl ethyl ether for synthesis

C<sub>7</sub>H<sub>16</sub>O<sub>3</sub>

- CAS-No. 1002-67-1 ■ EC-No. 213-690-5
- Spec. density 0.925 g/cm<sup>3</sup> ■ Flash point 82 °C
- Solub. in H<sub>2</sub>O 76 g/l (25 °C) ■ M = 148.2 g/mol
- Melting point -72 °C

- WGK 2
- LD50 oral rat 6000 mg/kg ■ LD50 dermal rabbit 6500 mg/kg
- LGK 10
- HS-No. 2909 19 90 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 96,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 0.923 - 0.927

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43827.0250	Glass bottle	250 ml	inquire
8.43827.1000	Glass bottle	1 l	inquire

## 803129 Diethylene glycol monobutyl ether for synthesis

C<sub>8</sub>H<sub>18</sub>O<sub>3</sub>HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>O(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>  
*Butyl carbitol, 2-(2-Butoxyethoxy)ethanol, Butyl diglycol*

- CAS-No. 112-34-5 ■ EC-No. 203-961-6
- Refractive index 1.4258 (27 °C, 589 nm)
- Vapour pressure 0.1 hPa (20 °C)
- Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 9.7 (20 °C) ■ Explosive limit 0.7 - 5.3 % (V) ■ Flash point 105 °C
- Kin. viscosity 6.2 mm<sup>2</sup>/s (20 °C) ■ Solub. in

- H<sub>2</sub>O (20 °C) soluble ■ M = 162.23 g/mol
- pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point - 68 °C ■ Boiling point 226 - 234 °C (1013 hPa)
- Evaporation number 1200
- Ignition temp. 225 °C

■ WGK 1

■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338

■ LD50 oral rat 5660 mg/kg ■ LD50 dermal rabbit 4120 mg/kg

■ EC-Index-No. 603-096-00-8 ■ LGK 10

■ HS-No. 2909 43 00 ■ Disposal 3

**Specification**

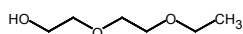
Assay (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 0,951 - 0,954  
Water (K. F.) ..... ≤ 0,20 % (m)  
Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,05 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03129.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03129.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.03129.9025	Steel barrel	25 l	inquire

Diethylene glycol monobutyl ether acetate → [2-(2-Butoxyethoxy)ethyl] acetate page 299

## 803127 Diethylene glycol monoethyl ether for synthesis

C<sub>6</sub>H<sub>14</sub>O<sub>3</sub>HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>3</sub>  
*Carbitol, 2-(2-Ethoxyethoxy)-ethanol, Ethyl diglycol*

- CAS-No. 111-90-0 ■ EC-No. 203-919-7
- Refractive index 1.4293 (20 °C, 589 nm)
- Vapour pressure 0.13 hPa (20 °C)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 12.6 (20 °C) ■ Explosive

- limit 1.8 - 12.2 % (V) ■ Flash point 94 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 134.17 g/mol
- Melting point -78 °C ■ Boiling point 202 °C (1013 hPa) ■ Evaporation number 1200
- Ignition temp. 204 °C

■ WGK 1

■ LD50 oral rat 5900 - 6100 mg/kg

■ LD50 dermal rabbit 8476 mg/kg

■ LGK 10

■ HS-No. 2909 44 00 ■ Disposal 3

**Specification**

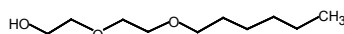
Assay (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 0,987 - 0,990  
Water (K. F.) ..... ≤ 0,20 % (m)  
Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,05 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03127.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03127.2500	Glass bottle	2.5 l	inquire
8.03127.9025	Steel barrel	25 l	inquire

Diethylene glycol monoethyl ether acetate → 2-(2-Ethoxyethoxy)ethyl acetate page 846

## 818382 Diethylene glycol mono-n-hexyl ether for synthesis

C<sub>10</sub>H<sub>22</sub>O<sub>3</sub>HO(CH<sub>2</sub>)<sub>2</sub>O(CH<sub>2</sub>)<sub>2</sub>O(CH<sub>2</sub>)<sub>5</sub>CH<sub>3</sub>  
*2-(2-n-Hexyloxyethoxy)ethanol*  
■ CAS-No. 112-59-4 ■ EC-No. 203-988-3  
■ Refractive index 1.4369 (20 °C, 589 nm)  
■ Vapour pressure < 0.01 hPa (20 °C)  
■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 6.3 % (V) ■ Flash point 123 °C ■ Solub. in H<sub>2</sub>O 17 g/l (20 °C) ■ M = 190.28 g/mol

- pH value 5 - 7 (200 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -41 - -39 °C
- Boiling point 260 °C (1013 hPa)
- Ignition temp. 210 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313
- LD50 oral rat 2400 mg/kg ■ LD50 dermal rabbit 1395 mg/kg
- EC-Index-No. 603-175-00-7 ■ LGK 10
- HS-No. 2909 44 00 ■ Disposal 3

**Specification**

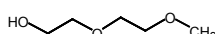
Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 0.932 - 0.934

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18382.0100	Glass bottle	100 ml	inquire
8.18382.0500	Glass bottle	500 ml	inquire

## 803128 Diethylene glycol monomethyl ether for synthesis

C<sub>5</sub>H<sub>12</sub>O<sub>3</sub>HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>  
*Methylene diglycol, 2-Hydroxy-2'-methoxy diethylether, 2-(2-Methoxyethoxy)-ethanol*  
■ CAS-No. 111-77-3 ■ EC-No. 203-906-6  
■ Refractive index 1.4264 (27 °C, 589 nm)  
■ Vapour pressure 0.3 hPa (20 °C)  
■ Spec. density 1.018 - 1.022 g/cm<sup>3</sup> (20 °C) DIN 51757 ■ Dielectricity constant 14.8 (20 °C)  
■ Explosive limit 1.6 % (V) ■ Flash point 91 °C

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 120.15 g/mol ■ pH value 4 - 7 (200 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -65 °C
- Boiling point 190 - 196 °C (1013 hPa)
- Evaporation number 900 ■ Ignition temp. 215 °C
- WGK 1
- GHS: Warning, Reproductive toxicity, Category 2, H361d, P281, P308 + P313
- LD50 oral rat 6500 mg/kg ■ LD50 dermal rat 6450 mg/kg
- EC-Index-No. 603-107-00-6 ■ LGK 10 - 13
- HS-No. 2909 44 00

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,018 - 1,022

Water (K. F.) ..... ≤ 0,20 % (m)

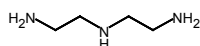
Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,05 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03128.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03128.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

# Diethy

## 803274 Diethylenetriamine for synthesis



C<sub>4</sub>H<sub>13</sub>N<sub>3</sub>  
(H<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>NH  
2,2'-Iminobis (ethylamine), Bis(2-aminoethyl) amine, 2,2'-Diaminodiethylamine  
 ■ CAS-No. 111-40-0 ■ EC-No. 203-865-4  
 ■ Refractive index 1.4826 (20 °C, 589 nm)  
 ■ Vapour pressure 0.5 hPa (20 °C)  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4.4 - 16.1 % (V) ■ Flash point 97 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 103.16 g/mol  
 ■ pH value >12 (100 g/l, H<sub>2</sub>O, 20 °C)

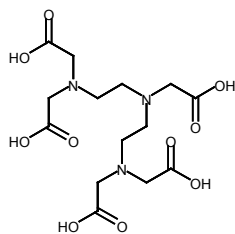
- Melting point -35 °C
- Boiling point 206 - 209 °C (1013 hPa)
- Ignition temp. 325 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1540 mg/kg ■ LD50 dermal rabbit 672 mg/kg
- EC-Index-No. 612-058-00-X ■ LGK 8A
- HS-No. 2921 29 00 ■ Disposal 3
- ADR-RID UN 2079 Diethyltriamin, 8, II

- IMDG-Code UN 2079 DIETHYLENTRIAMINE, 8, II, Segregation Group: 18 (Alkalis)
  - IATA-DGR UN 2079 DIETHYLENTRIAMINE, 8, II
- Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,949 - 0,952  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03274.0100	Glass bottle	100 ml	inquire
8.03274.1000	Glass bottle	1 l	inquire

Diethylenetriaminepentaacetic acid → Titriplex® V page 173

## 108390 Diethylenetriaminepentaacetic acid



C<sub>14</sub>H<sub>23</sub>N<sub>5</sub>O<sub>10</sub>  
 ■ CAS-No. 67-43-6 ■ EC-No. 200-652-8  
 ■ Spec. density 1.56 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 4.8 g/l (25 °C) ■ M = 393.34 g/mol ■ pH value 2 - 3 (H<sub>2</sub>O, 20 °C) (saturated solution)

- Melting point 220 - 222 °C decomposes
- Bulk density 580 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85

**Specification**  
 Assay (complexometric, calc. on anhydrous substance) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... conforms  
 pH-value (saturated solution) ..... 2.0 - 3.0  
 Ba (Barium) ..... ≤ 5 ppm  
 Ca (Calcium) ..... ≤ 10 ppm  
 Cd (Cadmium) ..... ≤ 5 ppm

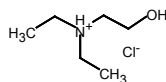
Co (Cobalt) ..... ≤ 5 ppm  
 Cr (Chromium) ..... ≤ 5 ppm  
 Cu (Copper) ..... ≤ 5 ppm  
 Fe (Iron) ..... ≤ 5 ppm  
 K (Potassium) ..... ≤ 50 ppm  
 Mg (Magnesium) ..... ≤ 5 ppm  
 Mn (Manganese) ..... ≤ 5 ppm  
 Na (Sodium) ..... ≤ 500 ppm  
 Ni (Nickel) ..... ≤ 5 ppm  
 Pb (Lead) ..... ≤ 5 ppm  
 Zn (Zinc) ..... ≤ 5 ppm  
 Sulfated ash ..... ≤ 0.2 %  
 Water (according to Karl Fischer) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.08390.0250	Plastic bottle	250 g	inquire

N,N-Diethylethanamine → page 1585

N,N,-Diethylethanolamine → 2-(Diethylamino)-ethanol page 738

## 820394 N,N-Diethylethanolammonium chloride for synthesis



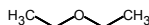
C<sub>6</sub>H<sub>16</sub>ClNO  
(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>OH \* HCl  
N,N-Diethyl-2-hydroxyethylammonium chloride, 2-Diethylaminoethanol hydrochloride

- CAS-No. 13989-32-7 ■ EC-No. 237-787-7
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 153.65 g/mol ■ Melting point 133 - 136 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**  
 Assay (argentometric) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20394.0250	Glass bottle	250 g	inquire
8.20394.1000	Glass bottle	1 kg	inquire

## Diethyl ether



C<sub>4</sub>H<sub>10</sub>O  
(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>O  
Et<sub>2</sub>O, Ethoxyethane, Ethyl ether, Ether  
 ■ CAS-No. 60-29-7 ■ EC-No. 200-467-2  
 ■ Vapour pressure 587 hPa (20 °C)  
 ■ Spec. density 0.71 g/cm<sup>3</sup> ■ Dielectricity constant 4.3 (20 °C) ■ El. dipole moment 1.25

- (20 °C) ■ Explosive limit 1.7 - 36 % (V)
- Flash point -40 °C ■ Solub. in H<sub>2</sub>O 69 g/l (20 °C)
- M = 74.12 g/mol ■ Saturation conc. 1776 g/m<sup>3</sup> (20 °C) Air ■ Melting point -116.3 °C
- Boiling point 34.6 °C (1013 hPa)
- Evaporation number 1 ■ Ignition temp. 180 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 1, H224; Acute toxicity, Category 4, Oral, H302;

Specific target organ toxicity - single exposure, Category 3, H336, P210, P304 + P340  
 ■ LD50 oral rat 1215 mg/kg  
 ■ EC-Index-No. 603-022-00-4 ■ LGK 3 ■ Store below +30 °C.  
 ■ HS-No. 2909 11 00 ■ Disposal 1  
 ■ ADR-RID UN 1155 Diethylether, 3, I ■ IMDG-Code UN 1155 DIETHYL ETHER, 3, I  
 ■ IATA-DGR UN 1155 DIETHYL ETHER, 3, I

## 100923 Diethyl ether EEMPLURA®

**Specification**  
 Purity (GC) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms  
 Free acid (as CH<sub>3</sub>COOH) ..... ≤ 0.002 %  
 Density (d 20 °C/ 4 °C) ..... 0.713 - 0.716  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.00003 %  
 Readily carbonizable substances ..... conforms

Water ..... ≤ 0.2 %  
 Stabilized with 5 - 10 ppm 2,6-Di-tert-butyl-4-methylphenol (BHT)

Ord.No.	Packaging	Quantity	Price
1.00923.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00923.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.00923.6025	Drum stainl. st.	25 l	inquire

## 107026 Diethyl ether absolute for analysis EMPARTA® ACS

**Specification**  
 Purity (GC) ..... ≥ 99.5 %  
 Identity (IR) ..... conforms  
 Appearance ..... clear  
 Colour ..... ≤ 10 Hazen  
 Titrable acid ..... ≤ 0.0002 meq/g  
 Boiling point ..... 34 - 35 °C  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.000015 %

Carbonyl compounds (as HCHO) ..... ≤ 0.001 %  
 Evaporation residue ..... ≤ 0.001 %  
 Water ..... ≤ 0.1 %  
 The product is stabilized with 5-10 ppm 2,6-Di-tert-butyl-4-methylphenol (BHT).

Ord.No.	Packaging	Quantity	Price
1.07026.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.07026.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.07026.5000	Alu bottle	5 l	inquire

**100921 Diethyl ether for analysis EMSURE® ACS,ISO,Reag. Ph Eur**

<b>Specification</b>		
Purity (GC).....	≥ 99.7 %	B (Boron)..... ≤ 0.000002 %
Identity (IR).....	conforms	Ba (Barium)..... ≤ 0.00001 %
Appearance.....	clear	Ca (Calcium)..... ≤ 0.00005 %
Colour.....	≤ 10 Hazen	Cd (Cadmium)..... ≤ 0.000005 %
Titration acid.....	≤ 0.0002 meq/g	Co (Cobalt)..... ≤ 0.000002 %
Alkalinity.....	≤ 0.0002 meq/g	Cr (Chromium)..... ≤ 0.000002 %
Density (d 20 °C/20 °C).....	0.713 - 0.715	Cu (Copper)..... ≤ 0.000002 %
Boiling point.....	34 - 35 °C	Fe (Iron)..... ≤ 0.00001 %
Chloride (Cl).....	≤ 0.00003 %	Mg (Magnesium)..... ≤ 0.00001 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.00003 %	Mn (Manganese)..... ≤ 0.000002 %
Acetone (GC).....	≤ 0.005 %	Ni (Nickel)..... ≤ 0.000002 %
Ethanol (GC).....	≤ 0.02 %	Pb (Lead)..... ≤ 0.00001 %
Methanol (GC).....	≤ 0.02 %	Sn (Tin)..... ≤ 0.00001 %
Peroxide (as H <sub>2</sub> O <sub>2</sub> ).....	≤ 0.000015 %	Zn (Zinc)..... ≤ 0.00001 %
Carbonyl compounds (as HCHO).....	≤ 0.001 %	Evaporation residue..... ≤ 0.0005 %
Carbonyl compounds (as CO).....	≤ 0.001 %	Water..... ≤ 0.03 %
Matter discoloured by H <sub>2</sub> SO <sub>4</sub> .....	≤ 10 Hazen	The product is stabilized with 5 - 10 ppm 2,6-Di-tert-butyl-4-methylphenol (BHT).
Al (Aluminium).....	≤ 0.00005 %	

Ord.No.	Packaging	Quantity	Price
1.00921.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00921.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00921.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.00921.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.00921.6010	Drum stainl. st.	10 l	inquire
1.00921.6025	Drum stainl. st.	25 l	inquire
1.00921.6190	Drum stainl. st.	190 l	inquire
1.00921.9025	Steel barrel	25 l	inquire
1.00921.9190	Steel barrel	190 l	inquire

**100929 Diethyl ether dried (max. 0.005 % H<sub>2</sub>O) SeccoSolv®**

<b>Specification</b>		
Purity (GC).....	≥ 99.9 %	Carbonyl compounds (as CO)..... ≤ 0.001 %
Identity (IR).....	conforms	Peroxide (as H <sub>2</sub> O <sub>2</sub> )..... ≤ 0.00003 %
Colour.....	≤ 10 Hazen	Evaporation residue..... ≤ 10 mg/l
Acidity.....	≤ 0.0005 meq/g	Water..... ≤ 0.005 %
Alkalinity.....	≤ 0.0002 meq/g	The product is stabilized with 5 - 10 ppm 2,6-Di-tert-butyl-4-methylphenol (BHT).
Acetone (GC).....	≤ 0.005 %	
Ethanol (GC).....	≤ 0.02 %	
Methanol (GC).....	≤ 0.02 %	
Aldehydes (as CH <sub>3</sub> CHO).....	≤ 0.001 %	

Ord.No.	Packaging	Quantity	Price
1.00929.0161	Septum bottle	150 ml	inquire
	Septum bottle	12 x 150 ml	inquire
1.00929.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.00929.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00929.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

**100931 Diethyl ether for gas chromatography ECD and FID SupraSolv®**

<b>Specification</b>		
Purity (GC).....	≥ 98.0 %	decachlorobiphenyl
Identity (IR).....	conforms	individual signals (lindane standard))..... ≤ 3 pg/ml
Evaporation residue.....	≤ 3.0 mg/l	GC/FID (retention range n-undecane - n-tetracontane
Water.....	≤ 0.05 %	individual signals (n- tetradecane standard)).....
Colour.....	≤ 10 Hazen	..... ≤ 3 ng/ml
GC/ECD (retention range 1,2,4-trichlorobenzene to		The product is stabilized with ca. 2 % ethanol.

Suitable for residue analysis

Ord.No.	Packaging	Quantity	Price
1.00931.1000	Glass bottle	1 l	inquire
	Glass bottle	2.5 l	inquire

**100930 Diethyl ether for spectroscopy Uvasol®**

<b>Specification</b>		
Purity (GC).....	≥ 98.0 %	Fluorescence (as quinine at 365 nm)..... ≤ 1.0 ppb
Evaporation residue.....	≤ 0.0003 %	Transmission (at 220 nm)..... ≥ 30 %
Water.....	≤ 0.03 %	Transmission (at 235 nm)..... ≥ 55 %
Colour.....	≤ 10 Hazen	Transmission (at 250 nm)..... ≥ 80 %
Acidity.....	≤ 0.0002 meq/g	Transmission (at 270 nm)..... ≥ 90 %
Alkalinity.....	≤ 0.0002 meq/g	Transmission (from 300 nm)..... ≥ 98 %
Peroxide.....	≤ 0.0005 %	Absorbance (at 220 nm)..... ≤ 0.52
Fluorescence (as quinine at 254 nm).....	≤ 1.0 ppb	Absorbance (at 235 nm)..... ≤ 0.26

Absorbance (at 250 nm).....	≤ 0.10
Absorbance (at 270 nm).....	≤ 0.05
Absorbance (from 300 nm).....	≤ 0.01
The product is stabilized with about 2% ethanol.	

Ord.No.	Packaging	Quantity	Price
1.00930.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

**107062 Diethyl ether for analysis, Ethanol stabilized EMPARTA® ACS**

C <sub>4</sub> H <sub>10</sub> O (C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub> O Ethyl ether, Ether, Et <sub>2</sub> O, Ethoxyethane	<ul style="list-style-type: none"> <li>■ CAS-No. 60-29-7 ■ EC-No. 200-467-2</li> <li>■ Vapour pressure 587 hPa (20 °C)</li> <li>■ Spec. density 0.71 g/cm<sup>3</sup> ■ Dielectricity constant 4.3 (20 °C) ■ El. dipole moment 1.25 (20 °C) ■ Explosive limit 1.7 - 36 % (V)</li> <li>■ Flash point -40 °C ■ Solub. in H<sub>2</sub>O 69 g/l (20 °C)</li> <li>■ M = 74.12 g/mol ■ Melting point -116.3 °C</li> </ul>	<ul style="list-style-type: none"> <li>■ Boiling point 34.6 °C (1013 hPa)</li> <li>■ Evaporation number 1 ■ Ignition temp. 180 °C</li> <li>■ WGK 1</li> <li>■ GHS: Danger, Flammable liquid, Category 1, H224; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H336, P210, P233, P240, P304 + P340</li> <li>■ LD50 oral rat 1215 mg/kg</li> <li>■ EC-Index-No. 603-022-00-4 ■ LGK 3</li> <li>■ Disposal 1</li> </ul>
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ADR-RID UN 1155 Diethylether, 3, I ■ IMDG-Code UN 1155 DIETHYL ETHER, 3, I  
IATA-DGR UN 1155 DIETHYL ETHER, 3, I

Ord.No.	Packaging	Quantity	Price
1.07062.4000	Glass bottle	4 l	inquire
	Glass bottle	4 l	inquire

**815031 Diethyl ether-D10 deuteration degree min. 99% for NMR spectroscopy MagniSolv™**

C <sub>4</sub> D <sub>10</sub> O CAS-No. 2679-89-2 ■ EC-No. 220-235-4	<ul style="list-style-type: none"> <li>■ Vapour pressure 587 hPa (20 °C)</li> <li>■ Spec. density 0.78 g/cm<sup>3</sup> ■ Explosive limit 1.7 - 36 % (V) ■ Flash point -40 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O 69 g/l (20 °C)</li> </ul>	<ul style="list-style-type: none"> <li>■ M = 84.18 g/mol ■ Melting point -116.3 °C</li> <li>■ Boiling point 34.6 °C (1013 hPa)</li> <li>■ Ignition temp. 180 °C DIN 51794</li> <li>■ WGK 1</li> <li>■ GHS: Danger, Flammable liquid, Category 1, H224; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H336, P210, P223, P240</li> <li>■ LD50 oral rat 1215 mg/kg</li> <li>■ LGK 3 ■ Store at -20 °C to 0 °C.</li> <li>■ HS-No. 2845 90 10 ■ Disposal 1</li> </ul>
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ADR-RID UN 1155 Diethylether, 3, I ■ IMDG-Code UN 1155 DIETHYL ETHER, 3, I  
IATA-DGR UN 1155 DIETHYL ETHER, 3, I

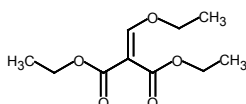
**Specification**  
Deuteration degree..... ≥ 99 %

Ord.No.	Packaging	Quantity	Price
8.15031.0001	Glass ampoule	1 ml	inquire

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

# Diethyl

## 801446 Diethyl ethoxymethylenemalonate for synthesis



$C_{10}H_{16}O_5$   
 $C_2H_5OCH=C(COOC_2H_5)_2$   
*Ethoxymethylenemalonate diethyl ester*  
 ■ CAS-No. 87-13-8 ■ EC-No. 201-725-7  
 ■ Refractive index 1.46 (20 °C, 589 nm) ■ Vapour pressure < 0.1 hPa ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Flash point 144 °C ■ Solub. in

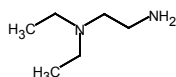
H<sub>2</sub>O (20 °C) insoluble ■ M = 216.23 g/mol  
 ■ Melting point -33 °C ■ Boiling point 280 °C (1013 hPa) (decomposition)  
 ■ Ignition temp. 215 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, H334; Skin sensitisation, Category 1, H317, P280, P302 + P350, P305 + P351 + P338, P304 + P341, P342 + P311

■ LD50 oral rat 925 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 99 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,079 - 1,081  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01446.0250	Glass bottle	250 ml	inquire
8.01446.1000	Glass bottle	1 l	inquire

## 803215 N,N-Diethylethylenediamine for synthesis



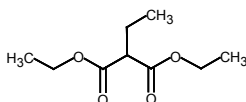
$C_6H_{16}N_2$   
 $(C_2H_5)_2NCH_2CH_2NH_2$   
*2-(Diethylamino)ethylaniline, 1-Amino-2-(diethylamino)ethane*  
 ■ CAS-No. 100-36-7 ■ EC-No. 202-844-7  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 8.4 % (V) ■ Flash point 36 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 116.21 g/mol  
 ■ Melting point -70 °C  
 ■ Boiling point 145 - 148 °C (1013 hPa)

■ Ignition temp. 245 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1A, H314, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 984 mg/kg ■ LD50 dermal rabbit 820 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2921 29 00  
 ■ ADR-RID UN 2685 n,n-Diethylethylenediamin, 8 (3), II ■ IMDG-Code UN 2685 N,N-

DIETHYLETHYLENEDIAMINE, 8 (3), II  
 ■ IATA-DGR UN 2685 N,N-DIETHYLETHYLENEDIAMINE, 8 (3), II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,817 - 0,819  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03215.0005	Glass bottle	5 ml	inquire
8.03215.0250	Glass bottle	250 ml	inquire

## 800906 Diethyl ethylmalonate for synthesis



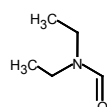
$C_9H_{16}O_4$   
 $C_2H_5CH(COOC_2H_5)_2$   
*Ethylmalonic acid diethyl ester*  
 ■ CAS-No. 133-13-1 ■ EC-No. 205-093-3

■ Refractive index 1.4158 (20 °C, 589 nm)  
 ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 88 °C ■ Solub. in H<sub>2</sub>O 2.87 g/l (20 °C) ■ M = 188.22 g/mol  
 ■ Boiling point 204 - 206 °C (1013 hPa)  
 ■ WGK 2  
 ■ LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10

■ HS-No. 2917 19 90 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,003 - 1,005  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00906.0250	Glass bottle	250 ml	inquire

## 821752 N,N-Diethylformamide for synthesis



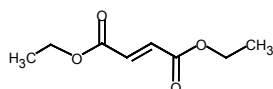
$C_5H_{11}NO$   
 $HCON(C_2H_5)_2$   
*Formic acid diethylamide*  
 ■ CAS-No. 617-84-5 ■ EC-No. 210-533-2

■ Refractive index 1.434 (20 °C, 589 nm)  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 65 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 101.15 g/mol ■ Boiling point 178 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,905 - 0,907  
 Water (K. F.) ..... ≤ 0,20 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21752.0010	Glass bottle	10 ml	inquire
8.21752.0100	Glass bottle	100 ml	inquire
8.21752.0250	Glass bottle	250 ml	inquire

## 800266 Diethyl fumarate for synthesis



$C_8H_{12}O_4$   
 $C_2H_5OOCCH=CHCOOC_2H_5$   
*Diethyl trans-butenedioate, Fumaric acid diethyl ester*  
 ■ CAS-No. 623-91-6 ■ EC-No. 210-819-7

■ Refractive index 1.4406 (20 °C, 589 nm)  
 ■ Vapour pressure 2.6 hPa (25 °C)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 91 °C ■ Solub. in H<sub>2</sub>O 3.1 g/l (25 °C)  
 ■ M = 172.18 g/mol ■ Melting point 1 - 2 °C  
 ■ Boiling point 219 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
 ■ LD50 oral rat 1780 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,051 - 1,053  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00266.0100	Glass bottle	100 ml	inquire
8.00266.0500	Glass bottle	500 ml	inquire

Diethyl glycol → Ethylene glycol diethyl ether page 303

Diethyl heptanedioate → Diethyl pimelate page 749

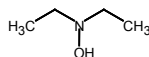
Diethyl hexanedioate → Diethyl adipate page 737

N,N-Diethyl-2-hydroxyethylammonium chloride →

N,N-Diethylethanolammonium chloride page 744



## 814671 N,N-Diethylhydroxylamine (85% solution in water) for synthesis



- Vapour pressure 43 hPa (25 °C)
- Spec. density 0.9 g/cm<sup>3</sup> (20 °C)
- Flash point 46 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- Boiling point 125 - 130 °C (1013 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation,

H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338

- LGK 3
- HS-No. 2928 00 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(N,N-DIETHYLHYDROXYLAMIN), 3, III
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(N,N-DIETHYL HYDROXYLAMINE), 3, III

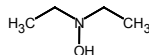
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(N,N-DIETHYL HYDROXYLAMINE), 3, III

## Specification

Assay (HClO<sub>4</sub>)..... 80,0 - 90,0 %  
Density (d 20 °C/ 4 °C) .....0,900 - 0,905

Ord.No.	Packaging	Quantity	Price
8.14671.0250	Glass bottle	250 ml	inquire
8.14671.1000	Glass bottle	1 l	inquire

## 818473 N,N-Diethylhydroxylamine for synthesis



- C<sub>4</sub>H<sub>11</sub>NO  
(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>NOH
- CAS-No. 3710-84-7 ■ EC-No. 223-055-4
  - Refractive index 1.4173 (25 °C, 589 nm)
  - Vapour pressure 33 hPa (20 °C)
  - Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 10 % (V) ■ Flash point 45 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 89.13 g/mol
  - pH value (H<sub>2</sub>O, 20 °C) strongly alkaline, Aqueous solution ■ Melting point -25 °C

■ Boiling point 125 - 130 °C (1013 hPa)

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338
- LD50 oral rat 2190 mg/kg ■ LD50 dermal rabbit 1300 mg/kg
- LGK 3
- HS-No. 2928 00 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

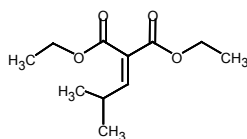
n.a.g.(N,N-DIETHYLHYDROXYLAMIN), 3, III  
■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(N,N-DIETHYL HYDROXYLAMINE), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(N,N-DIETHYL HYDROXYLAMINE), 3, III

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) .....0.868 - 0.872  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18473.0050	Glass bottle	50 ml	inquire

## 818389 Diethyl isobutylidenemalonate for synthesis



C<sub>11</sub>H<sub>18</sub>O<sub>4</sub>

(CH<sub>3</sub>)<sub>2</sub>CHCH=C(COOC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>  
*Isobutylidenemalonate diethyl ester*

- CAS-No. 5652-68-6
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 214.26 g/mol
- Boiling point 117 - 119 °C (17 hPa)
- WGK 3
- LGK 10 - 13

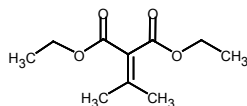
■ HS-No. 2917 19 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C) .....0.991 - 0.993  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18389.0050	Glass bottle	50 ml	inquire

## 818396 Diethyl isopropylidenemalonate for synthesis



C<sub>10</sub>H<sub>16</sub>O<sub>4</sub>

(CH<sub>3</sub>)<sub>2</sub>C=C(COOC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>

*Isopropylidenemalonate diethyl ester*

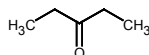
- CAS-No. 6802-75-1 ■ EC-No. 229-876-4
- Refractive index 1.4478 (25 °C, 589 nm)
- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 200.23 g/mol
- Boiling point 64 - 86 °C (24 hPa)
- WGK 3
- HS-No. 2917 19 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 95,0 % (a/a)  
Density (d 20 °C/ 4 °C) .....1.024 - 1.026  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18396.0010	Glass bottle	10 ml	inquire

## 803605 Diethyl ketone for synthesis



C<sub>5</sub>H<sub>10</sub>O

(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>CO

*3-Pentanone, Ethyl ketone*

- CAS-No. 96-22-0 ■ EC-No. 202-490-3
- Refractive index 1.3923 (20 °C, 589 nm)
- Vapour pressure 37.6 hPa (20 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 7.7 % (V) ■ Flash point 7 °C ■ Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 86.13 g/mol
- pH value 6.2 (50 g/l, H<sub>2</sub>O, 20 °C)

- Melting point -40 °C
- Boiling point 101 - 103 °C (1013 mbar)
- Ignition temp. 425 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Specific target organ toxicity - single exposure, Category 3, H336, P210
- LD50 oral rat 2900 mg/kg ■ LD50 dermal rabbit 16200 mg/kg
- EC-Index-No. 606-006-00-5 ■ LGK 3
- HS-No. 2914 19 90 ■ Disposal 3
- ADR-RID UN 1156 Diethylketon, 3, II ■ IMDG-

Code UN 1156 DIETHYL KETONE, 3, II

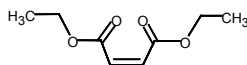
■ IATA-DGR UN 1156 DIETHYL KETONE, 3, II

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) .....0,813 - 0,815  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03605.0100	Glass bottle	100 ml	inquire
8.03605.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 800378 Diethyl maleate for synthesis



C<sub>8</sub>H<sub>12</sub>O<sub>4</sub>

C<sub>2</sub>H<sub>5</sub>OOCCH=CHCOOC<sub>2</sub>H<sub>5</sub>

*Maleic acid diethyl ester*

- CAS-No. 141-05-9 ■ EC-No. 205-451-9
- Refractive index 1.439 (20 °C, 589 nm) ■ Vapour pressure 1.33 hPa (57 °C) ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Flash point 93 °C ■ Solub. in H<sub>2</sub>O 14 mg/l (30 °C) ■ M = 172.18 g/mol

- Melting point -11 °C
- Boiling point 222 - 225 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P304 + P340
- LD50 oral rat 3200 mg/kg ■ LD50 dermal rabbit 4268 mg/kg
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

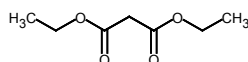
## Specification

Assay (GC, area%)..... ≥ 96,0 Area %  
Diethyl fumarate (GC, area%)..... ≤ 4,0 Area %  
Density (d 20 °C/ 4 °C) .....1,066 - 1,068  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00378.0250	Glass bottle	250 ml	inquire
8.00378.1000	Glass bottle	1 l	inquire

# Diethyl

## 800898 Diethyl malonate for synthesis



C<sub>7</sub>H<sub>12</sub>O<sub>4</sub>  
 CH<sub>2</sub>(COOC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>  
*Ethyl malonate, Malonic acid diethyl ester*  
 ■ CAS-No. 105-53-3 ■ EC-No. 203-305-9  
 ■ Refractive index 1.4135 (20 °C, 589 nm)  
 ■ Vapour pressure 1.3 hPa (40 °C)  
 ■ Spec. density 1.055 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 0.8 - 12.8 % (V) ■ Flash point 90 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 33.1 g/l (20 °C) (External MSDS) ■ M = 160.16 g/mol ■ Melting point -50 °C ■ Boiling point 199 °C (1013 hPa)  
 ■ Ignition temp. 435 °C DIN 51794  
 ■ WGK 1  
 ■ LD50 oral rat 15720 mg/kg  
 ■ LD50 dermal rabbit > 16000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2917 19 10 ■ Disposal 3

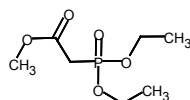
### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,054 - 1,055  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00898.0100	Glass bottle	100 ml	inquire
8.00898.0500	Glass bottle	500 ml	inquire
8.00898.1000	Glass bottle	1 l	inquire
8.00898.2500	Glass bottle	2.5 l	inquire

Diethyl methane → page 307

## 841004 Diethyl methoxycarbonylmethanephosphonate for synthesis



C<sub>7</sub>H<sub>15</sub>O<sub>5</sub>P  
*Diethylphosphonoacetic acid methyl ester, Methoxycarbonylmethanephosphonic acid diethyl ester*

■ CAS-No. 1067-74-9 ■ EC-No. 213-938-2  
 ■ Spec. density 1.145 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 110 °C ■ M = 210.16 g/mol  
 ■ Boiling point 126 - 128 °C (10.7 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13 ■ Store below +15°C.

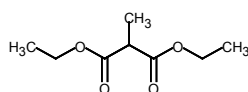
■ HS-No. 2931 90 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1,156 - 1,161  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41004.0005	Glass bottle	5 ml	inquire

## 841466 Diethyl methylmalonate for synthesis



C<sub>8</sub>H<sub>14</sub>O<sub>4</sub>  
*Methylmalonic acid diethyl ester*  
 ■ CAS-No. 609-08-5 ■ EC-No. 210-175-7  
 ■ Vapour pressure 0.26 hPa (20 °C)

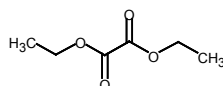
■ Spec. density 1.018 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 76 °C ■ Solub. in H<sub>2</sub>O 1000 mg/l (20 °C) ■ M = 174.19 g/mol ■ pH value 8 (1000 mg/l, H<sub>2</sub>O, 20 °C) ■ Boiling point 78 - 80 °C (13.3 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2917 19 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.020 - 1.024  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41466.0050	Glass bottle	50 ml	inquire
8.41466.0250	Glass bottle	250 ml	inquire

## Diethyl oxalate



C<sub>6</sub>H<sub>10</sub>O<sub>4</sub>  
 C<sub>2</sub>H<sub>5</sub>OOC-CO-OCH<sub>2</sub>H<sub>5</sub>  
*Oxalic acid diethyl ester*  
 ■ CAS-No. 95-92-1 ■ EC-No. 202-464-1

■ Refractive index 1.4096 (20 °C, 589 nm)  
 ■ Vapour pressure 0.27 hPa (20 °C)  
 ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.42 - 2.67 % (V) ■ Flash point 75 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition)  
 ■ M = 146.14 g/mol ■ Melting point -41 °C  
 ■ Boiling point 185.7 °C (1013 hPa)  
 ■ Ignition temp. 410 °C  
 ■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 400 mg/kg  
 ■ EC-Index-No. 607-147-00-5 ■ LGK 10  
 ■ HS-No. 2917 11 00 ■ Disposal 3  
 ■ ADR-RID UN 2525 Ethyloxalat, 6.1, III ■ IMDG-Code UN 2525 ETHYL OXALATE, 6.1, III  
 ■ IATA-DGR UN 2525 ETHYL OXALATE, 6.1, III

## 807059 Diethyl oxalate for synthesis

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,076 - 1,079  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07059.0100	Plastic bottle	100 ml	inquire
8.07059.0500	Plastic bottle	500 ml	inquire
8.07059.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.07059.9025	Plastic container	25 l	inquire

## 845051 Diethyl oxalate for pharma synthesis, non-GMP

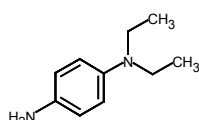
### Specification

Appearance of substance (visual)..... clear  
 Colour number (Hazen)..... ≤ 20  
 Assay (GC, area%)..... ≥ 99,0 Area %

Density (d 20 °C/ 4 °C)..... 1,076 - 1,079  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45051.0500	Plastic bottle	500 ml	inquire

## 820400 N,N-Diethyl-1,4-phenylenediamine for synthesis



C<sub>10</sub>H<sub>16</sub>N<sub>2</sub>  
 (C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>-4-(NH<sub>2</sub>)  
*p-Amino-N,N-diethylaniline*  
 ■ CAS-No. 93-05-0 ■ EC-No. 202-214-1  
 ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 139 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 164.24 g/mol

■ Melting point 23 °C ■ Boiling point 268 °C (1013 hPa) ■ Ignition temp. 460 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat > 200 mg/kg  
 ■ EC-Index-No. 612-080-00-X ■ LGK 6.1C  
 ■ HS-No. 2921 51 90 ■ Disposal 9  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(DIETHYL-1,4-PHENYLENDIAMIN), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID,

ORGANIC, N.O.S.(N,N-DIETHYL-1,4-PHENYLENEDIAMINE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(N,N-DIETHYL-1,4-PHENYLENEDIAMINE), 6.1, III

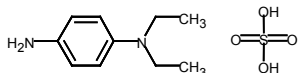
### Specification

Assay (HPLC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,997 - 1,000  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20400.0025	Glass bottle	25 ml	inquire
8.20400.0100	Glass bottle	100 ml	inquire



## 103121 N,N-Diethyl-1,4-phenylenediammonium sulfate GR for analysis

C<sub>10</sub>H<sub>18</sub>N<sub>2</sub>O<sub>4</sub>S

4-Amino-N,N-diethylaniline sulfate

- CAS-No. 6283-63-2 ■ EC-No. 228-500-6
- Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 262.33 g/mol
- pH value 2.0 - 2.2 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 184 - 186 °C
- Bulk density 580 kg/m<sup>3</sup>

- Boiling point 274 - 275 °C (1013 hPa)
- Ignition temp. 540 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 497 mg/kg
- LGK 10 - 13
- HS-No. 2921 51 90 ■ Disposal 3

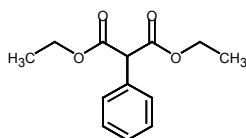
**Specification**

- Assay (acidimetric)..... ≥ 99.5 %
- Identity (IR-spectrum)..... passes test

- pH-value (5 %; water)..... 2.0 - 2.2
- Heavy metals (as Pb)..... ≤ 0.001 %
- Fe (Iron)..... ≤ 0.001 %
- Sulfated ash (600 °C)..... ≤ 0.05 %
- Water (according to Karl Fischer)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.03121.0100	Glass bottle	100 g	inquire

## 821002 Diethyl phenylmalonate for synthesis

C<sub>13</sub>H<sub>16</sub>O<sub>4</sub>C<sub>6</sub>H<sub>5</sub>CH(COOC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>

Phenylmalonic acid diethyl ester

- CAS-No. 83-13-6 ■ EC-No. 201-456-5
- Refractive index 1.4912 (20 °C, 589 nm)
- Spec. density 1.10 g/cm<sup>3</sup> (20 °C)
- Flash point 120 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 236.26 g/mol
- Melting point 16 °C ■ Boiling point 158 - 159 °C (13 hPa)
- WGK 3
- LGK 10
- HS-No. 2917 39 95 ■ Disposal 3

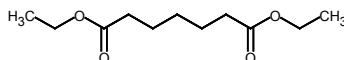
**Specification**

- Assay (GC, area%)..... ≥ 98.0 % (a/a)
- Density (d 20 °C/ 4 °C)..... 1.095 - 1.097
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21002.0005	Glass bottle	5 ml	inquire
8.21002.0250	Glass bottle	250 ml	inquire

Diethylphosphonoacetic acid methyl ester → Diethyl methoxycarbonylmethanephosphonate page 748

## 800663 Diethyl pimelate for synthesis

C<sub>11</sub>H<sub>20</sub>O<sub>4</sub>C<sub>2</sub>H<sub>5</sub>OOC(CH<sub>2</sub>)<sub>5</sub>COOC<sub>2</sub>H<sub>5</sub>

Diethyl heptanedioate, Pimelic acid diethyl ester

- CAS-No. 2050-20-6 ■ EC-No. 218-083-9

- Refractive index 1.428 (20 °C, 589 nm)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 216.27 g/mol
- Boiling point 192 - 194 °C (133 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

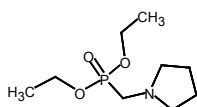
**Specification**

- Assay (GC, area%)..... ≥ 98,0 Area %
- Density (d 20 °C/ 4 °C)..... 0,993 - 0,995
- Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00663.0025	Glass bottle	25 ml	inquire
8.00663.0100	Glass bottle	100 ml	inquire

Diethyl pyrocarbonate → Diethyl dicarbonate page 741

## 818140 Diethyl pyrrolidinomethanephosphonate for synthesis

C<sub>9</sub>H<sub>20</sub>NO<sub>3</sub>P

Pyrrolidinomethanephosphonic acid diethyl ester

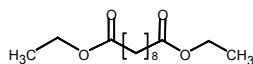
- CAS-No. 51868-96-3 ■ EC-No. 257-488-5
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 221.23 g/mol
- Boiling point 131 - 134 °C (16 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**

- Assay (GC, area%)..... ≥ 96,0 Area %
- Density (d 20 °C/ 4 °C)..... 1,062 - 1,065
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18140.0010	Glass bottle	10 ml	inquire

## 800757 Diethyl sebacate for synthesis

C<sub>14</sub>H<sub>26</sub>O<sub>4</sub>C<sub>2</sub>H<sub>5</sub>OOC(CH<sub>2</sub>)<sub>8</sub>COOC<sub>2</sub>H<sub>5</sub>

Sebacic acid diethyl ester, Decanedioic acid diethyl ester

- CAS-No. 110-40-7 ■ EC-No. 203-764-5

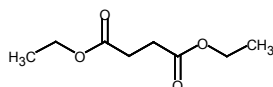
- Spec. density 0.97 g/cm<sup>3</sup> (20 °C)
- Flash point 71 °C ■ Kin. viscosity 6.2 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.08 g/l (20 °C)
- M = 258.35 g/mol ■ Melting point -3 °C
- Boiling point 312 °C (1013 hPa)
- WGK 2
- LD50 oral rat 14470 mg/kg
- LGK 10
- HS-No. 2917 13 90 ■ Disposal 3

**Specification**

- Assay (GC, area%)..... ≥ 95,0 Area %
- Density (d 20 °C/ 4 °C)..... 0,963 - 0,966
- Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00757.0250	Glass bottle	250 ml	inquire

## Diethyl succinate

C<sub>8</sub>H<sub>14</sub>O<sub>4</sub>C<sub>2</sub>H<sub>5</sub>OOCCH<sub>2</sub>CH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>*Succinic acid diethyl ester*

- CAS-No. 123-25-1 ■ EC-No. 204-612-0
- Refractive index 1.42 (20 °C, 589 nm) ■ Vapour pressure 1.33 hPa (55 °C) ■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Flash point 80 °C ■ Solub. in H<sub>2</sub>O 2.00 g/l (25 °C) ■ M = 174.19 g/mol
- Melting point -20 °C

- Boiling point 215 - 217 °C (1013 hPa)
- WGK 2
- LD50 oral rat 8530 mg/kg ■ LD50 dermal rat > 5000 mg/kg
- LGK 10
- HS-No. 2917 19 90 ■ Disposal 3

## 800680 Diethyl succinate for synthesis

**Specification**

- Assay (GC, area%)..... ≥ 99 %
- Density (d 20 °C/ 4 °C)..... 1.039 - 1.041
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00680.0005	Glass bottle	5 ml	inquire
8.00680.0250	Glass bottle	250 ml	inquire
8.00680.1000	Glass bottle	1 l	inquire

# Diethy

## 845009 Diethyl succinate for pharma synthesis, non-GMP

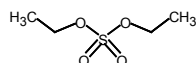
### Specification

Colour (visual).....colourless  
 Appearance of substance (visual).....clear  
 Assay (GC, area%).....≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C).....1,039 - 1,041

Acid value.....≤ 1,0  
 Identity (IR).....passes test  
 Ethanol.....lot specific result

Ord.No.	Packaging	Quantity	Price
8.45009.0250	Glass bottle	250 ml	inquire
8.45009.1000	Glass bottle	1 l	inquire

## 803105 Diethyl sulfate for synthesis



C<sub>4</sub>H<sub>10</sub>O<sub>6</sub>S

SO<sub>2</sub>(OC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>

*Sulfuric acid diethyl ester, Ethyl sulfate*

■ CAS-No. 64-67-5 ■ EC-No. 200-589-6  
 ■ Refractive index 1.3989 (20 °C, 589 nm)  
 ■ Vapour pressure 0.25 hPa (20 °C)  
 ■ Spec. density 1.18 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 12.2 % (V) ■ Flash point 104 °C ■ Solub. in H<sub>2</sub>O 7 g/l (20 °C) Hydrolysis ■ M = 154.18 g/mol ■ Melting point -25 °C ■ Boiling point 208 °C

(1013 hPa) (decomposition)  
 ■ Ignition temp. 436 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P201, P271, P308 + P313, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 1.6 - 3.2 mg/l  
 ■ LD50 oral rat 880 mg/kg ■ LD50 dermal rabbit 944 mg/kg

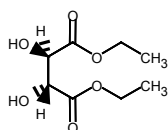
■ EC-Index-No. 016-027-00-6 ■ LGK 6.1A  
 ■ HS-No. 2920 90 10 ■ Disposal 9  
 ■ ADR-RID UN 1594 Diethylsulfat, 6.1, II ■ IMDG-Code UN 1594 DIETHYL SULPHATE, 6.1, II  
 ■ IATA-DGR UN 1594 DIETHYL SULPHATE, 6.1, II

### Specification

Assay (GC, area%).....≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C).....1,176 - 1,178  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.03105.0100	Glass bottle	100 ml	inquire
8.03105.1000	Glass bottle	1 l	inquire

## 821217 (2R,3R)-(+)-Diethyl tartrate for synthesis



C<sub>8</sub>H<sub>14</sub>O<sub>6</sub>

C<sub>2</sub>H<sub>5</sub>OOCCH(OH)CH(OH)COOC<sub>2</sub>H<sub>5</sub>

*L-(+)-Tartaric acid diethyl ester, DET, (+)-Diethyl-*

### L-tartrate

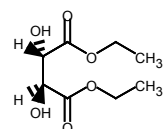
■ CAS-No. 87-91-2 ■ EC-No. 201-783-3  
 ■ Refractive index 1.446 (25 °C, 589 nm)  
 ■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 206.19 g/mol  
 ■ Boiling point 153 - 156 °C (16 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 13 00 ■ Disposal 3

### Specification

Assay (GC, area%).....≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C).....1.204 - 1.207  
 Spec. rotation [α<sub>20</sub>/D (undiluted)].....7.5 - 9.5 °  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.21217.0050	Glass bottle	50 ml	inquire
8.21217.0250	Glass bottle	250 ml	inquire

## 818685 (2S,3S)-(-)-Diethyl tartrate for synthesis



C<sub>8</sub>H<sub>14</sub>O<sub>6</sub>

C<sub>2</sub>H<sub>5</sub>OOC(CHOH)<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>

*L-(-)-Tartaric acid diethyl ester, DET, (-)-Diethyl-*

### D-tartrate

■ CAS-No. 13811-71-7 ■ EC-No. 237-458-8  
 ■ Refractive index 1.4467 (20 °C, 589 nm)  
 ■ Spec. density 1.20 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 206.19 g/mol ■ Melting point 17 °C  
 ■ Boiling point 162 °C (25 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2918 13 00 ■ Disposal 3

### Specification

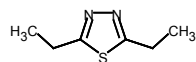
Assay (GC, area%).....≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C).....1.203 - 1.205  
 Spec. rotation [α<sub>20</sub>/D (c=1 in water)].....-27.0 - -24.0 °  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18685.0025	Glass bottle	25 ml	inquire

(+)-Diethyl-L-tartrate → (2R,3R)-(+)-Diethyl tartrate page 750

(-)-Diethyl-D-tartrate → (2S,3S)-(-)-Diethyl tartrate page 750

## 815100 2,5-Diethyl-1,3,4-thiadiazole for synthesis



C<sub>6</sub>H<sub>10</sub>N<sub>2</sub>S

■ CAS-No. 40928-84-5 ■ EC-No. 255-143-3

■ Spec. density 1.071 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 142.22 g/mol

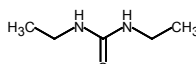
■ Boiling point 105 °C (18.7 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

### Specification

Assay (GC, area%).....≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C).....1,068 - 1,073  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.15100.0025	Glass bottle	25 ml	inquire

## 803520 N,N'-Diethylthiourea for synthesis



C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>S

(C<sub>2</sub>H<sub>5</sub>NH)<sub>2</sub>CS

*1,3-Diethylthiourea*

■ CAS-No. 105-55-5 ■ EC-No. 203-308-5

■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 186 °C ■ Solub. in H<sub>2</sub>O 38 g/l (20 °C)

■ M = 132.22 g/mol ■ pH value 7 (38 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 75 - 78 °C  
 ■ Bulk density 735 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Carcinogenicity, Category 2, H351; Skin sensitisation, Category 1, H317; Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P280, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LD50 oral rat 316 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3

### Specification

Assay (HPLC, area%).....≥ 98.0 % (a/a)  
 Melting range (lower value).....≥ 75 °C  
 Melting range (upper value).....≤ 78 °C  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.03520.0250	Plastic bottle	250 g	inquire

1,3-Diethylthiourea → N,N'-Diethylthiourea page 750

Di-(2-ethylhexyl) adipate → Bis(2-ethylhexyl) adipate page 470

Di-(2-ethylhexyl) phthalate → Bis(2-ethylhexyl) phthalate page 471

N,N-Diethyltrimethylsilylamine → Diethylaminotrimethylsilane page 739

Di-(2-ethylhexyl)-amin → Bis(2-ethylhexyl) amine page 470

Diferuloylmethane → Curcumin page 663

## 841641 Difluoroacetic acid for synthesis

C<sub>2</sub>H<sub>2</sub>F<sub>2</sub>O<sub>2</sub>CHF<sub>2</sub>COOH

- CAS-No. 381-73-7 ■ EC-No. 206-839-0
- Spec. density 1.526 g/cm<sup>3</sup> (20 °C)
- Flash point 78 °C ■ M = 96.03 g/mol
- pH value (H<sub>2</sub>O, 20 °C) acidic ■ Melting point -

- 1 °C ■ Boiling point 132 - 134 °C (1013 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1A, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(DIFLUORESSIGSAEURE), 8, II
- IMDG-Code UN 3265 CORROSIVE LIQUID,

ACIDIC, ORGANIC, N.O.S.(DIFLUOROACETIC ACID), 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DIFLUOROACETIC ACID), 8, II

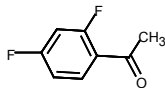
**Specification**

Assay (acidimetric)..... ≥ 97,0 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41641.0005	Glass bottle	5 ml	inquire

## 841166 2',4'-Difluoroacetophenone for synthesis

C<sub>8</sub>H<sub>6</sub>F<sub>2</sub>O

1-(2,4-Difluorophenyl)ethanone

- CAS-No. 364-83-0 ■ EC-No. 206-667-6
- Spec. density 1.23 g/cm<sup>3</sup> (20 °C)
- Flash point 66 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 156.13 g/mol
- Boiling point 80 - 81 °C (33 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

**Specification**

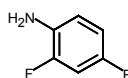
Assay (GC, area%)..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.240 - 1.246

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41166.0001	Glass bottle	1 ml	inquire
8.41166.0010	Glass bottle	10 ml	inquire

## 821421 2,4-Difluoroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>F<sub>2</sub>N2,4-(F)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>

1-Amino-2,4-difluorobenzene

- CAS-No. 367-25-9 ■ EC-No. 206-687-5
- Refractive index 1.5063 (20 °C, 589 nm)
- Spec. density 1.28 g/cm<sup>3</sup> (20 °C)
- Flash point 62 °C ■ Solub. in
- H<sub>2</sub>O (20 °C) insoluble ■ M = 129.1 g/mol
- Melting point -7 °C ■ Boiling point 170 - 171 °C

- (1013 hPa)
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302, P280, P302 + P352, P309 + P310
- LC50 rat 6.21 mg/l
- LD50 oral rat 820 mg/kg ■ LD50 dermal rat 672 mg/kg
- LGK 10
- HS-No. 2921 42 00 ■ Disposal 3
- ADR-RID UN 1602 Farbstoffzwischenprodukt, flüssig, giftig, n.a.g.(2,4-DIFLUORANILIN), 6.1, III
- IMDG-Code UN 1602 DYE INTERMEDIATE,

LIQUID, TOXIC, N.O.S.(2,4-DIFLUOROANILINE), 6.1, III

- IATA-DGR UN 1602 DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.(2,4-DIFLUOROANILINE), 6.1, III

**Specification**

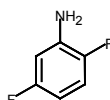
Assay (GC, area%)..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.280 - 1.283

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21421.0005	Glass bottle	5 ml	inquire

## 841374 2,5-Difluoroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>F<sub>2</sub>N

2,5-Difluorobenzaniline

- CAS-No. 367-30-6 ■ EC-No. 206-690-1
- Spec. density 1.285 g/cm<sup>3</sup> (20 °C)
- Flash point 68 °C ■ M = 129.1 g/mol
- Melting point 13 - 14 °C

- Boiling point 171 - 174 °C (1013 hPa)
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10
- HS-No. 2921 42 00 ■ Disposal 3
- ADR-RID UN 2941 Fluorobenzaniline, 6.1, III ■ IMDG-Code UN 2941 FLUOROANILINES, 6.1, III
- IATA-DGR UN 2941 FLUOROANILINES, 6.1, III

**Specification**

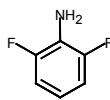
Assay (GC, area%)..... ≥ 99,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.282 - 1.287

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41374.0010	Glass bottle	10 ml	inquire

## 841261 2,6-Difluoroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>F<sub>2</sub>N

2,6-Difluorobenzaniline

- CAS-No. 5509-65-9 ■ EC-No. 226-853-0
- Spec. density 1.275 g/cm<sup>3</sup> (20 °C)
- Flash point 43 °C ■ M = 129.1 g/mol
- Boiling point 152 - 154 °C (1013 hPa)

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2921 42 00 ■ Disposal 3
- ADR-RID UN 2941 Fluorobenzaniline, 6.1, III ■ IMDG-Code UN 2941 FLUOROANILINES, 6.1, III

- IATA-DGR UN 2941 FLUOROANILINES, 6.1, III

**Specification**

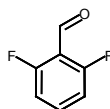
Assay (GC, area%)..... ≥ 97,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.273 - 1.278

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41261.0005	Glass bottle	5 ml	inquire

## 841212 2,6-Difluorobenzaldehyde for synthesis

C<sub>7</sub>H<sub>4</sub>F<sub>2</sub>O

- CAS-No. 437-81-0
- Spec. density 1.317 g/cm<sup>3</sup> (20 °C)
- Flash point 73 °C ■ M = 142.1 g/mol
- Boiling point 85 - 86 °C (26.7 hPa)
- WGK 2
- LGK 10
- HS-No. 2913 00 00 ■ Disposal 3

**Specification**

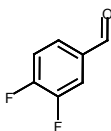
Assay (GC, area%)..... ≥ 96,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.321 - 1.329

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41212.0001	Glass bottle	1 ml	inquire

## 814965 3,4-Difluorobenzaldehyde for synthesis



C<sub>7</sub>H<sub>4</sub>F<sub>2</sub>O  
 ■ CAS-No. 34036-07-2 ■ EC-No. 422-180-3  
 ■ Spec. density 1.29 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 69 °C DIN 51758 ■ Solub. in

H<sub>2</sub>O 3.962 g/l (20 °C) ■ M = 142.1 g/mol  
 ■ Melting point -2 °C ■ Boiling point 80 - 82 °C (22.7 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P262, P273, P280, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 1112 mg/kg

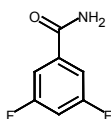
■ LGK 10 - 13  
 ■ HS-No. 2913 00 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,301 - 1,305  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14965.0010	Glass bottle	10 ml	inquire
8.14965.0050	Glass bottle	50 ml	inquire

## 841131 3,5-Difluorobenzamide for synthesis



C<sub>7</sub>H<sub>5</sub>F<sub>2</sub>NO  
 ■ CAS-No. 132980-99-5  
 ■ M = 157.11 g/mol

■ Melting point 156 - 158 °C (decomposition)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 29 98 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 96,0 % (a/a)  
 Melting range (lower value) ..... ≥ 155 °C  
 Melting range (upper value) ..... ≤ 158 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41131.0001	Plastic bottle	1 g	inquire

2,5-Difluorobenzaniline → 2,5-Difluoroaniline  
 page 751

2,6-Difluorobenzaniline → 2,6-Difluoroaniline  
 page 751

## 841159 1,2-Difluorobenzene for synthesis



C<sub>6</sub>H<sub>4</sub>F<sub>2</sub>  
*o*-Fluorobenzene  
 ■ CAS-No. 367-11-3 ■ EC-No. 206-680-7  
 ■ Vapour pressure 71.2 hPa (25 °C)  
 ■ Spec. density 1.171 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 2 °C ■ M = 114.09 g/mol

■ Boiling point 92 - 94 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
 ■ LGK 3  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,2-DIFLUORBENZOL), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,2-DIFLUORBENZENE), 3, II

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,2-DIFLUORBENZENE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.167 - 1.173  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41159.0010	Glass bottle	10 ml	inquire

## 841193 1,3-Difluorobenzene for synthesis



C<sub>6</sub>H<sub>4</sub>F<sub>2</sub>  
 ■ CAS-No. 372-18-9 ■ EC-No. 206-746-5  
 ■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 2 °C ■ Solub. in H<sub>2</sub>O 1.1 g/l (25 °C)  
 ■ M = 114.09 g/mol ■ Melting point -59 °C

■ Boiling point 82 - 83 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
 ■ LGK 3  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,3-DIFLUORBENZOL), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,3-DIFLUORBENZENE), 3, II

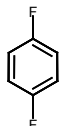
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,3-DIFLUORBENZENE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.156 - 1.162  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41193.0010	Glass bottle	10 ml	inquire

## 841259 1,4-Difluorobenzene for synthesis



C<sub>6</sub>H<sub>4</sub>F<sub>2</sub>  
 ■ CAS-No. 540-36-3 ■ EC-No. 208-742-9  
 ■ Spec. density 1.166 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 2 °C ■ Solub. in H<sub>2</sub>O 1.2 g/l (25 °C)

■ M = 114.09 g/mol ■ Melting point -13 °C  
 ■ Boiling point 88 - 89 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P262  
 ■ LGK 3  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,4-DIFLUORBENZOL), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,4-DIFLUORBENZENE), 3, II

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,4-DIFLUORBENZENE), 3, II

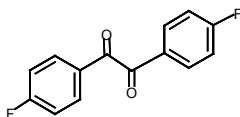
## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.167 - 1.172  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41259.0010	Glass bottle	10 ml	inquire

4,4'-Difluorobenzhydrol → Bis(4-fluorophenyl)-methanol page 471

## 814664 4,4'-Difluorobenzil for synthesis



C<sub>14</sub>H<sub>8</sub>F<sub>2</sub>O<sub>2</sub>  
 (FC<sub>6</sub>H<sub>4</sub>CO)<sub>2</sub>  
 ■ CAS-No. 579-39-5  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ M = 246.21 g/mol

■ Melting point 118 - 122 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 70 00 ■ Disposal 3

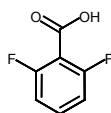
## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 118 °C  
 Melting range (upper value) ..... ≤ 122 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14664.0001	Glass bottle	1 g	inquire
8.14664.0005	Glass bottle	5 g	inquire

## 841630 2,6-Difluorobenzoic acid for synthesis

C<sub>7</sub>H<sub>4</sub>F<sub>2</sub>O<sub>2</sub>

■ CAS-No. 385-00-2 ■ EC-No. 206-856-3

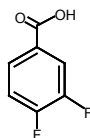
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 158.1 g/mol ■ Melting point 159 - 160 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 158 °C  
 Melting range (upper value)..... ≤ 160 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41630.0005	Plastic bottle	5 g	inquire

## 814717 3,4-Difluorobenzoic acid for synthesis

C<sub>7</sub>H<sub>4</sub>F<sub>2</sub>O<sub>2</sub>

■ CAS-No. 455-86-7 ■ EC-No. 207-249-6

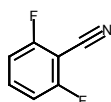
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 158.1 g/mol
- Melting point 119 - 122 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 119 °C  
 Melting range (upper value)..... ≤ 122 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14717.0001	Glass bottle	1 g	inquire
8.14717.0005	Glass bottle	5 g	inquire

## 841117 2,6-Difluorobenzonitrile for synthesis

C<sub>7</sub>H<sub>3</sub>F<sub>2</sub>N

■ CAS-No. 1897-52-5 ■ EC-No. 217-589-7  
 ■ Spec. density 1.246 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 90 °C ■ M = 139.1 g/mol  
 ■ Melting point 30 - 32 °C

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(2,6-DIFLUOROBENZONITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(2,6-DIFLUOROBENZONITRILE), 6.1, III

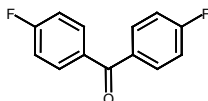
■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(2,6-DIFLUOROBENZONITRILE), 6.1, III

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41117.0010	Glass bottle	10 ml	inquire

## 840055 4,4'-Difluorobenzophenone for synthesis

C<sub>13</sub>H<sub>8</sub>F<sub>2</sub>O

Bis-(4-fluorophenyl)-ketone

■ CAS-No. 345-92-6 ■ EC-No. 206-466-3  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 218.20 g/mol

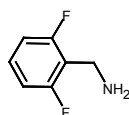
- Melting point 106 °C ■ Boiling point 200 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 106 °C  
 Melting range (upper value)..... ≤ 109 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40055.0010	Glass bottle	10 g	inquire

## 814919 2,6-Difluorobenzylamine for synthesis

C<sub>7</sub>H<sub>7</sub>F<sub>2</sub>NF<sub>2</sub>(C<sub>6</sub>H<sub>3</sub>)CH<sub>2</sub>NH<sub>2</sub>

■ CAS-No. 69385-30-4 ■ EC-No. 273-983-9  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 65 °C ■ M = 143.14 g/mol

- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2,6-DIFLUOROBENZYLAMIN), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2,6-DIFLUOROBENZYLAMINE), 8, II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2,6-DIFLUOROBENZYLAMINE), 8, II

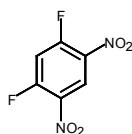
## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14919.0001	Glass bottle	1 ml	inquire
8.14919.0005	Glass bottle	5 ml	inquire

3,4-Difluorobromobenzene → 1-Bromo-3,4-difluorobenzene page 498

## 841376 1,5-Difluoro-2,4-dinitrobenzene for synthesis

C<sub>6</sub>H<sub>2</sub>F<sub>2</sub>N<sub>2</sub>O<sub>4</sub>

■ CAS-No. 327-92-4 ■ EC-No. 206-324-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 204.08 g/mol ■ Melting point 74 - 75 °C

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3,

- Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 50 mg/kg
- LGK 6.1A
- HS-No. 2904 90 95 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,5-DIFLUORO-2,4-DINITROBENZOL), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,5-DIFLUORO-2,4-DINITROBENZENE), 6.1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,5-DIFLUORO-2,4-DINITROBENZENE), 6.1, II

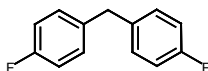
## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 72 °C  
 Melting range (upper value)..... ≤ 75 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41376.0005	Glass bottle	5 g	inquire



## 840056 4,4'-Difluorodiphenylmethane for synthesis



C<sub>13</sub>H<sub>10</sub>F<sub>2</sub>  
 Bis(4-fluorophenyl)methane  
 ■ CAS-No. 457-68-1 ■ EC-No. 207-274-2

- Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 204.22 g/mol
- Boiling point 265 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

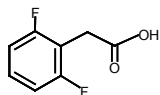
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,157 - 1,161  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40056.0010	Glass bottle	10 g	inquire

1-(2,4-Difluorophenyl)ethanone → 2',4'-Difluoroacetophenone page 751

## 814697 2,6-Difluorophenylacetic acid for synthesis



C<sub>8</sub>H<sub>6</sub>F<sub>2</sub>O<sub>2</sub>  
 ■ CAS-No. 85068-28-6 ■ EC-No. 285-289-3  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ M = 172.13 g/mol

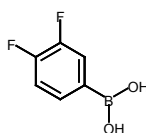
- Melting point 100 - 102 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 98,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14697.0001	Glass bottle	1 g	inquire
8.14697.0005	Glass bottle	5 g	inquire

## 814938 3,4-Difluorophenylboronic acid for synthesis



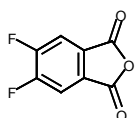
- C<sub>6</sub>H<sub>5</sub>BF<sub>2</sub>O<sub>2</sub>  
 ■ CAS-No. 168267-41-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 157.91 g/mol ■ Melting point 271 - 279 °C
- WGK 2
  - LGK 10 - 13
  - HS-No. 2931 90 90

## Specification

Assay (HPLC, area%) ..... ≥ 96,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14938.0005	Glass bottle	5 g	inquire
8.14938.0025	Glass bottle	25 g	inquire

## 814389 4,5-Difluorophthalic anhydride for synthesis



C<sub>8</sub>H<sub>2</sub>F<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 18959-30-3  
 ■ Spec. density 0.975 g/cm<sup>3</sup> ■ Flash point 73 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 184.09 g/mol  
 ■ Melting point 92 - 96 °C  
 ■ Boiling point 92 - 96 °C (14 hPa)  
 ■ WGK 3

- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 8A
- HS-No. 2917 39 95 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(4,5-DIFLUOROPHTALSÄUREANHYDRID), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4,5-DIFLUOROPHTHALIC ACID ANHYDRIDE), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

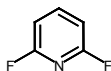
ORGANIC, N.O.S.(4,5-DIFLUOROPHTHALIC ACID ANHYDRIDE), 8, III

## Specification

Assay (morpholine method) ..... ≥ 96,0 %  
 Melting range (lower value) ..... ≥ 94 °C  
 Melting range (upper value) ..... ≤ 98 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14389.0001	Glass bottle	1 g	inquire

## 841445 2,6-Difluoropyridine for synthesis



C<sub>5</sub>H<sub>3</sub>F<sub>2</sub>N  
 ■ CAS-No. 1513-65-1 ■ EC-No. 216-152-8  
 ■ Vapour pressure 45.06 hPa (25 °C)  
 ■ Spec. density 1.268 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 33 °C ■ Solub. in H<sub>2</sub>O 10.5 g/l (25 °C) ■ M = 115.08 g/mol  
 ■ Boiling point 123 - 124 °C  
 ■ WGK 3

- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,6-DIFLUOROPYRIDIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,6-DIFLUOROPYRIDINE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2,6-DIFLUOROPYRIDINE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.262 - 1.268  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41445.0005	Glass bottle	5 ml	inquire

## 843835 2,3-Difluorotoluene for synthesis

C<sub>7</sub>H<sub>6</sub>F<sub>2</sub>  
 ■ CAS-No. 3828-49-7 ■ EC-No. 442-630-2  
 ■ Vapour pressure 15.1 hPa (20 °C)  
 ■ Spec. density 1.129 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 22 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O 0.24 g/l (20 °C) ■ M = 128.12 g/mol  
 ■ Melting point -73.6 °C ■ Boiling point 123.6 °C (1013 hPa) ■ Ignition temp. 620 °C DIN 51794  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Chronic

- aquatic toxicity, Category 2, H411, P210, P223, P262, P302 + P352
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
  - LGK 3
  - HS-No. 2903 99 90
  - ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,3-DIFLUOROTOLUEN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,3-DIFLUOROTOLUENE), 3, II
  - IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(2,3-DIFLUOROTOLUENE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.128 - 1.132  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43835.0001	Glass bottle	1 ml	inquire
8.43835.0005	Glass bottle	5 ml	inquire



## Digestion agents, sample preparation

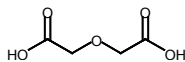
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
413	101188	Ammonium nitrate	1345	104928	Potassium carbonate	1430	106420	Sodium chlorate
414	101201	Ammonium peroxodisulfate	1346	106683	Potassium carbonate/sodium carbonate	1432	106336	Sodium dichromate dihydrate
425	100468	L(+)-Ascorbic Acid				1438	106352	Sodium hydrogen sulfate monohydrate
480	100165	Boric acid	1346	104944	Potassium chlorate			
167	100163	di-Boron trioxide	1347	104952	Potassium chromate	1439	106498	Sodium hydroxide
561	102067	Calcium carbonate	1348	104864	Potassium dichromate	1439	106495	Sodium hydroxide
641	100229	Chromium(VI) oxide	166	104865	Potassium dichromate	1439	106469	Sodium hydroxide
838	103162	Eschka's mixture	1350	105107	Potassium disulfate (Potassium pyrosulfate)	1440	105588	Sodium hydroxide solution min. 10% (1.11)
973	107209	Hydrogen peroxide 30%						
973	107210	Hydrogen peroxide 30%	1354	104885	Potassium hydrogen sulfate	1440	105593	Sodium hydroxide solution 21%
1067	117958	Kjeldahl tablets	1354	105033	Potassium hydroxide			
1067	110958	Kjeldahl tablets	1354	105021	Potassium hydroxide	1441	105591	Sodium hydroxide solution min. 27% (1.30)
1068	118348	Kjeldahl tablets	1354	105029	Potassium hydroxide			
1068	115348	Kjeldahl tablets	1355	105545	Potassium hydroxide solution 47%	1441	105590	Sodium hydroxide solution about 32%
1068	118469	Kjeldahl tablets						
1068	116469	Kjeldahl tablets	1358	105051	Potassium iodate	1441	111360	Sodium hydroxide solution min. 45%
173	107512	Lead(II) chromate	1360	105063	Potassium nitrate			
167	105699	di-Lithium tetraborate	1363	105092	Potassium peroxodisulfate	1442	158793	Sodium hydroxide solution 50%
			1363	105091	Potassium peroxodisulfate			
			1415	108030	Selenium reagent mixture	1445	106525	Sodium iodate
			1429	106392	Sodium carbonate	1446	106597	Sodium metaperiodate
						1447	106537	Sodium nitrate
						167	106563	Sodium peroxide
						167	106306	di-Sodium tetraborate

Digestion basis set → page 91

Digestion vessel 30 ml → page 91

Diglycol → page 301

## 841626 Diglycolic acid for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>5</sub>

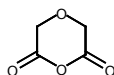
- CAS-No. 110-99-6 ■ EC-No. 203-823-5
- Solub. in H<sub>2</sub>O 417 g/l (25 °C) ■ M = 134.09 g/mol
- Melting point 144 - 145 °C

- WGK 1
  - GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
  - LD50 oral rat 500 mg/kg
  - LGK 10 - 13
  - HS-No. 2918 99 90 ■ Disposal 3
- Specification**  
Assay (acidimetric)..... ≥ 98,0 %(m)

- Melting range (lower value)..... ≥ 141 °C
- Melting range (upper value)..... ≤ 144 °C
- Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41626.0100	Plastic bottle	100 g	inquire

## 841741 Diglycolic anhydride for synthesis

C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>

- CAS-No. 4480-83-5 ■ EC-No. 224-761-5
- Solub. in H<sub>2</sub>O (20 °C) Hydrolysis, soluble
- M = 116.07 g/mol ■ Melting point 91 - 93 °C
- Boiling point 240 - 241 °C (1013 hPa)

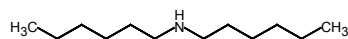
- WGK 1
  - GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
  - LGK 10 - 13
  - HS-No. 2918 99 90 ■ Disposal 3
- Specification**  
Assay (acidimetric)..... ≥ 96,0 %

- Melting range (lower value)..... ≥ 92 °C
- Melting range (upper value)..... ≤ 95 °C
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41741.0025	Glass bottle	25 g	inquire

Diglyme → Diethylene glycol dimethyl ether page 301

## 820465 Dihexylamine for synthesis

C<sub>12</sub>H<sub>27</sub>N

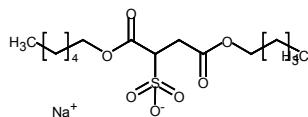
- CH<sub>3</sub>(CH<sub>2</sub>)<sub>5</sub>NH(CH<sub>2</sub>)<sub>5</sub>CH<sub>3</sub>
- CAS-No. 143-16-8 ■ EC-No. 205-588-4
- Refractive index 1.4345 (20 °C, 589 nm)
- Vapour pressure 0.05 hPa (20 °C)
- Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 5.9 %(V) ■ Flash point 103 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (25 °C) ■ M = 185.35 g/mol
- pH value 9.9 (0.3 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 3 °C ■ Boiling point 236 °C (1013 mbar) ■ Ignition temp. 250 °C
- WGK 2

- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1A, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.23 mg/l
- LD50 oral rat 42 mg/kg ■ LD50 dermal rabbit < 160 mg/kg
- LGK 6.1A
- HS-No. 2921 19 99 ■ Disposal 9
- ADR-RID UN 2927 Giftiger organischer flüssiger Stoff, ätzend, n.a.g.(DIHEXYLAMIN), 6.1 (8), II

- IMDG-Code UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(DIHEXYLAMIN), 6.1 (8), II, Segregation Group: 18 (Alkalis)
  - IATA-DGR UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(DIHEXYLAMIN), 6.1 (8), II
- Specification**  
Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,786 - 0,787  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20465.0050	Glass bottle	50 ml	inquire
8.20465.0100	Glass bottle	100 ml	inquire

## 113861 Dihexyl sodium sulfosuccinate for synthesis



C<sub>16</sub>H<sub>29</sub>NaO<sub>7</sub>S

2-Sulfosuccinic acid di-N-hexyl ester sodium salt

■ CAS-No. 3006-15-3 ■ EC-No. 221-109-1  
 ■ Solub. in H<sub>2</sub>O 364 g/l (25 °C) ■ M = 388.46 g

mol ■ pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 230 °C decomposes  
 ■ Bulk density 180 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1750 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 3402 11 90 ■ Disposal 3

### Specification

Assay (two-phase titration, cal. on anhydrous substance) ..... ≥ 98.5 %  
 Identity (IR-spectrum) ..... passes test  
 pH-value (5 %; water) ..... 5 - 7  
 Water (according to Karl Fischer) ..... 4 - 5%

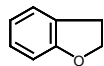
Ord.No.	Packaging	Quantity	Price
1.13861.0025	Plastic bottle	25 g	inquire

9,10-Dihydro-9,10-anthracenedione → Anthraquinone page 421

2,3-Dihydro-1,2-benzisothiazole-3-one-1,1-dioxidesodium salt dihydrate → Saccharin sodium salt dihydrate page 1409

1,3-Dihydrobenzo[c]furan-1-one → Phthalide page 1326

## 841658 2,3-Dihydrobenzo(b)furan for synthesis



C<sub>8</sub>H<sub>8</sub>O

Coumaran

■ CAS-No. 496-16-2 ■ EC-No. 207-817-3

■ Spec. density 1.082 g/cm<sup>3</sup> ■ Flash point 66 °C  
 ■ M = 120.15 g/mol ■ Melting point -21 °C  
 ■ Boiling point 188 - 189 °C (1013 hPa)  
 ■ WGK 1  
 ■ LGK 10  
 ■ HS-No. 2932 99 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1.080 - 1.084  
 Identity (IR) ..... conforms

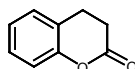
Ord.No.	Packaging	Quantity	Price
8.41658.0005	Glass bottle	5 ml	inquire

3,4-Dihydro-2H-1-benzopyran-2-one → Dihydrocoumarin page 756

1,4-Dihydro-2H-3,1-benzoxazin-2,4-dione → Isoato anhydride page 1040

Dihydrocholesterol → 5α-Cholestan-3β-ol page 639

## 818454 Dihydrocoumarin for synthesis



C<sub>9</sub>H<sub>8</sub>O<sub>2</sub>

3,4-Dihydro-2H-1-benzopyran-2-one

■ CAS-No. 119-84-6 ■ EC-No. 204-354-9  
 ■ Refractive index 1.5528 (25 °C, 589 nm)  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C)

■ Flash point > 100 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 148.16 g/mol  
 ■ Melting point 19 °C ■ Boiling point 272 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352  
 ■ LD50 oral rat 1460 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2932 20 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.189 - 1.191  
 Identity (IR) ..... passes test

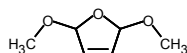
Ord.No.	Packaging	Quantity	Price
8.18454.0100	Glass bottle	100 ml	inquire

10,11-Dihydro-5H-dibenzo[b,f]azepine → Iminodibenzyl page 999

10,11-Dihydro-5H-dibenzo[a,d]cyclohepten-5-one → Dibenzosuberone page 700

1,4-Dihydro-1,4-diketonaphthalene → 1,4-Naphthoquinone page 1200

## 803509 2,5-Dihydro-2,5-dimethoxyfuran (mixture of cis- and trans isomers) for synthesis



C<sub>6</sub>H<sub>10</sub>O<sub>3</sub>

■ CAS-No. 332-77-4 ■ EC-No. 206-367-5

■ Refractive index 1.4339 (20 °C, 589 nm)  
 ■ Vapour pressure 2 hPa (20 °C)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 18.3 % (V) ■ Flash point 51 °C ■ Solub. in H<sub>2</sub>O 368 g/l (25 °C) ■ M = 130.14 g/mol  
 ■ pH value 6 - 7 (200 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point < -40 °C  
 ■ Boiling point 160 - 161 °C

■ Ignition temp. 285 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P210, P305 + P351 + P338  
 ■ LC50 rat 10.3 mg/l  
 ■ LD50 oral rat 1160 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2932 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,5-DIHYDRO-DIMETHOXYFURAN), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

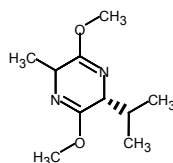
N.O.S.(2,5-DIHYDRO-2,5-DIMETHOXYFURANE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2,5-DIHYDRO-2,5-DIMETHOXYFURANE), 3, III

### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1.068 - 1.073  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03509.0025	Glass bottle	25 ml	inquire
8.03509.0100	Glass bottle	100 ml	inquire

## 818314 (2R,5SR)-(-)-2,5-Dihydro-3,6-dimethoxy-2-isopropyl-5-methylpyrazine for synthesis



C<sub>10</sub>H<sub>18</sub>N<sub>2</sub>O<sub>2</sub>

Schoellkopf-Hartwig-Reagent

■ CAS-No. 207923-14-6

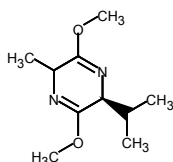
■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.26 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3

### Specification

Assay isomers (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.001 - 1.003  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18314.0005	Glass bottle	5 ml	inquire

### 818316 (2S,5SR)-(+)-2,5-Dihydro-3,6-dimethoxy-2-isopropyl- 5-methylpyrazine for synthesis

C<sub>10</sub>H<sub>18</sub>N<sub>2</sub>O<sub>2</sub>

Schoellkopf-Hartwig-Reagent, Bislactimether

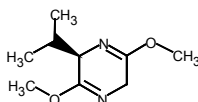
- CAS-No. 116907-51-8
- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.26 g/mol
- Boiling point 103 - 104 °C (21 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**

Assay isomers (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.001 - 1.003  
 Spec. rotation [α<sup>20</sup>/D (c=1 in ethanol)] 60.0 - 65.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18316.0001	Glass bottle	1 ml	inquire
8.18316.0005	Glass bottle	5 ml	inquire

### 818315 (2R)-(-)-2,5-Dihydro-3,6-dimethoxy-2-isopropylpyrazine for synthesis

C<sub>9</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>

Schoellkopf-Hartwig-Reagent, Bislactimether

- CAS-No. 109838-85-9
- Spec. density 1.03 g/cm<sup>3</sup> (20 °C)

- Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 184.23 g/mol
- Boiling point 100 - 102 °C (20 hPa)
- WGK 3
- LGK 10
- HS-No. 2933 99 80 ■ Disposal 3

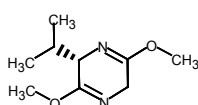
**Specification**

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.027 - 1.029

Spec. rotation [α<sup>20</sup>/D (c=1 in ethanol)] .....  
 ..... -109.0 - -105.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18315.0001	Glass bottle	1 ml	inquire
8.18315.0005	Glass bottle	5 ml	inquire
8.18315.8500	Glass bottle	500 µl	inquire

### 818317 (2S)-(+)-2,5-Dihydro-3,6-dimethoxy-2-isopropylpyrazine for synthesis

C<sub>9</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>

Schoellkopf-Hartwig-Reagent, Bislactimether

- CAS-No. 78342-42-4
- Spec. density 1.03 g/cm<sup>3</sup> (20 °C)

- M = 184.23 g/mol ■ Boiling point 103 - 104 °C (20 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.027 - 1.029  
 Spec. rotation [α<sup>20</sup>/D (c=1 in ethanol)] ..... 105.0 - 109.0 °

Identity (IR) ..... passes test  
 enantiomeric excess (NMR-spectrum) ..... ≥ 97.0 %

Ord.No.	Packaging	Quantity	Price
8.18317.0001	Glass bottle	1 ml	inquire
8.18317.0005	Glass bottle	5 ml	inquire

9,19-Dihydro-9,10-dioxo-anthracene-2-sulfonic acid sodium salt → Anthraquinone-2-sulfonic acid sodium salt page 421

Dihydrodiphosphopyridine nucleotide disodium salt → Dihyronicotinamide adenine dinucleotide disodium salt page 758

### 842309 2,3-Dihydrofuran for synthesis

C<sub>4</sub>H<sub>6</sub>O

- CAS-No. 1191-99-7 ■ EC-No. 214-747-7
- Vapour pressure 190 hPa (20 °C)
- Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Flash point - 24 °C ■ M = 70.09 g/mol
- Boiling point 54 - 55 °C (1013 hPa)

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319, P210, P305 + P351 + P338
- LGK 3
- HS-No. 2932 19 00 ■ Disposal 3
- ADR-RID UN 3271 Ether, n.a.g.(2,3-DIHYDROFURAN), 3, II ■ IMDG-Code UN 3271 ETHERS, N.O.S.(2,3-DIHYDROFURAN), 3, II
- IATA-DGR UN 3271 ETHERS, N.O.S.(2,3-

DIHYDROFURAN), 3, II

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Water (K. F.) ..... ≤ 0.30 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42309.0100	Glass bottle	100 ml	inquire
8.42309.0500	Glass bottle	500 ml	inquire

### 803635 2,5-Dihydrofuran for synthesis

C<sub>4</sub>H<sub>6</sub>O

3-Oxolene

- CAS-No. 1708-29-8 ■ EC-No. 216-957-4
- Refractive index 1.4318 (20 °C, 589 nm)
- Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Flash point - 17 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble
- M = 70.09 g/mol ■ Boiling point 67 - 69 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210
- LGK 3
- HS-No. 2932 19 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,5-DIHYDROFURAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,5-DIHYDROFURAN), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2,5-DIHYDROFURAN), 3, II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,945 - 0,948  
 Water (K. F.) ..... ≤ 1,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03635.0025	Glass bottle	25 ml	inquire
8.03635.0100	Glass bottle	100 ml	inquire

2,5-Dihydro-2-furanone → 2(5H)-Furanone page 918

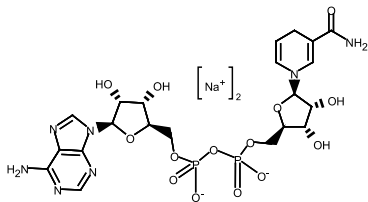
2,3-Dihydroindole-2,3-dione → Isatin page 1040

2,3-Dihydroindole → Indoline page 1004

Dihydroisophorol → 3,3,5-Trimethylcyclohexanol page 1603

# Dihydr

## 124644 Dihyronicotinamide adenine dinucleotide disodium salt for biochemistry NADH-Na<sub>2</sub>



C<sub>21</sub>H<sub>27</sub>N<sub>7</sub>Na<sub>2</sub>O<sub>14</sub>P<sub>2</sub>

NADH-Na<sub>2</sub>, Dihydrodiphosphopyridine nucleotide disodium salt, Nicotinamide adenine dinucleotide reduced disodium salt (NADH<sub>2</sub>)

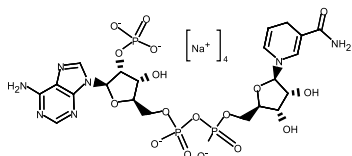
- CAS-No. 606-68-8 ■ EC-No. 210-123-3
  - M = 709.42 g/mol
  - WGK 1
  - LGK 10 - 13 ■ Store at +2°C to +8°C.
  - HS-No. 2934 99 90 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- NADH is sensitive to oxidation by air and oxidizing chemicals. Alkaline solutions are relatively stable (at pH 8-9 for several days); under acidic conditions NADH is oxidized rapidly. Store protected from light.

### Specification

Assay (enzymatically; calculated on solvent-free substance) ..... ≥ 97%  
 Identity (IR-spectrum) ..... passes test  
 Water (according to Karl Fischer) ..... ≤ 6%  
 Spec. Absorptivity A 1%/1cm (260 nm; 0.01 g/l; buffer pH 7.0; calculated on solvent-free substance) ..... 200 - 215  
 Ethanol (GC) ..... ≤ 6%  
 LDH-Inhibitors ..... passes test

Ord.No.	Packaging	Quantity	Price
1.24644.0001	Glass bottle	1 g	inquire
1.24644.0005	Glass bottle	5 g	inquire

## 124540 Dihyronicotinamide adenine dinucleotide phosphate tetrasodium salt for biochemistry NADPH-Na<sub>4</sub>



C<sub>21</sub>H<sub>26</sub>N<sub>7</sub>Na<sub>4</sub>O<sub>17</sub>P<sub>3</sub>

NADPH-Na<sub>4</sub>, Nicotinamide adenine dinucleotide phosphate reduced (NADPH<sub>2</sub>) tetrasodium salt

■ CAS-No. 2646-71-1 ■ EC-No. 220-163-3

- M = 833.35 g/mol
  - WGK 3
  - Store at +2°C to +8°C.
  - HS-No. 2934 99 90 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- NADPH is sensitive to oxidation by air and oxidizing chemicals. Alkaline solutions are relatively stable (at pH 8-9 for several days); under acidic conditions NADPH is oxidized rapidly. Store protected from light.

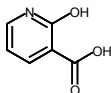
### Specification

Assay (enzymatically; calc. on dry substance) .. ≥ 95 β-NADPH-Na<sub>4</sub>%  
 Identity (IR-spectrum) ..... passes test  
 Spec. Absorptivity A 1%/1cm (260 nm; 0.001 %; buffer pH 7.0; calc. on dry substance) ..... 175 - 190  
 Ethanol (GC) ..... ≤ 2.0 %  
 Water (according to Karl Fischer) ..... ≤ 8.0 %

Ord.No.	Packaging	Quantity	Price
1.24540.0050	Glass bottle	50 mg	inquire
1.24540.0250	Glass bottle	250 mg	inquire

9,10-Dihydro-9-oxoanthracene → page 421

## 843930 1,2-Dihydro-2-oxonicotinic acid for synthesis



C<sub>6</sub>H<sub>5</sub>NO<sub>3</sub>

■ CAS-No. 609-71-2 ■ EC-No. 210-198-2  
 ■ M = 139.11 g/mol ■ Melting point 260 - 262 °C

- WGK 1
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

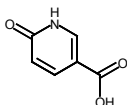
### Specification

Colour (visual) ..... white to pale yellow  
 Appearance of substance (visual) ..... powder  
 Assay (acidimetric) ..... ≥ 98,0 % (m)

Loss on drying ..... ≤ 1,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43930.0025	Plastic bottle	25 g	inquire
8.43930.0100	Plastic bottle	100 g	inquire

## 843932 1,6-Dihydro-6-oxo-3-pyridinecarboxylic acid for synthesis



C<sub>6</sub>H<sub>5</sub>NO<sub>3</sub>

■ CAS-No. 5006-66-6 ■ EC-No. 225-682-9  
 ■ Solub. in H<sub>2</sub>O 0.573 g/l ■ M = 139.11 g/mol  
 ■ WGK 1

- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

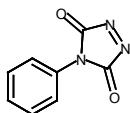
### Specification

Colour (visual) ..... white to beige

Appearance of substance (visual) ..... powder  
 Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43932.0025	Glass bottle	25 g	inquire
8.43932.0100	Glass bottle	100 g	inquire

## 807292 3,5-Dihydro-4-phenyl-4H-1,2,4-triazole-3,5-dione for synthesis



C<sub>8</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub>

4-Phenyl-3,5-dihydro-4H-1,2,4-triazole-3,5-

dione, PTAD

- CAS-No. 4233-33-4 ■ EC-No. 224-191-7
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 175.14 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

### Specification

Assay at N (Elemental analysis) ..... ≥ 95,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07292.0001	Glass bottle	1 g	inquire
8.07292.0005	Glass bottle	5 g	inquire

Dihydropinene → Pinane page 1328

## 802971 3,4-Dihydro-2H-pyran for synthesis



C<sub>5</sub>H<sub>8</sub>O

■ CAS-No. 110-87-2 ■ EC-No. 203-810-4  
 ■ Refractive index 1.441 (20 °C, 589 nm) ■ Vapour pressure 120 hPa (20 °C) ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 13.8 % (V)  
 ■ Flash point -9 °C ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C)  
 ■ M = 84.12 g/mol ■ pH value 7 (5 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -70 °C ■ Boiling point 89 °C

- Ignition temp. 240 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P223, P302 + P352, P305 + P351 + P338
- LC50 rat > 10.7 mg/l
- LD50 oral rat > 4000 mg/kg
- LGK 3
- HS-No. 2932 99 00 ■ Disposal 1
- ADR-RID UN 2376 2,3-Dihydropyran, 3, II

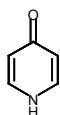
- IMDG-Code UN 2376 2,3-DIHYDROPYRAN, 3, II
- IATA-DGR UN 2376 2,3-DIHYDROPYRAN, 3, II

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,926 - 0,929  
 Water (GC) ..... ≤ 0,50 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02971.0100	Glass bottle	100 ml	inquire
8.02971.0250	Glass bottle	250 ml	inquire

## 822140 1,4-Dihydro-4-pyridinone for synthesis

C<sub>5</sub>H<sub>5</sub>NO

4(1H)-Pyridone

■ CAS-No. 108-96-3 ■ EC-No. 203-633-2

- Flash point 212 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 95.1 g/mol
- pH value 7.0 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 140 - 147 °C
- Bulk density 600 kg/m<sup>3</sup>
- Boiling point 170 - 172 °C (0.03 hPa)
- Ignition temp. 515 °C
- WGK 2
- LD50 oral rat 4600 mg/kg

- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

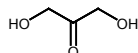
Assay (HClO<sub>4</sub>)..... ≥ 95,0 %  
 Sulfated ash..... ≤ 5,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22140.0050	Glass bottle	50 g	inquire

Dihydroresorcinol → 1,3-Cyclohexanedione page 671

2,5-Dihydrothiophene 1,1-dioxide → 3-Sulfolene page 1507

## 820482 Dihydroxyacetone for synthesis

C<sub>3</sub>H<sub>6</sub>O<sub>3</sub>HOCH<sub>2</sub>COCH<sub>2</sub>OH

1,3-Dihydroxidimethyl ketone, DHA, 1,3-Dihydroxidimethyl ketone

- CAS-No. 96-26-4 ■ EC-No. 202-494-5
- Vapour pressure < 0,01 Pa (20 °C)
- Spec. density 1.52 g/cm<sup>3</sup> (20 °C) OECD Test Guideline 109 ■ Solub. in H<sub>2</sub>O >250 g/l (20 °C)

- M = 90.07 g/mol ■ pH value 4 - 6 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 83 °C Monomer
- Boiling point 188 °C (decomposition), OECD Test Guideline 103
- WGK 1
- LC50 rat > 5.1 mg/l
- LD50 oral rat > 16000 mg/kg
- LGK 10 - 13 ■ Store at +2 °C to +8 °C.
- HS-No. 2914 40 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

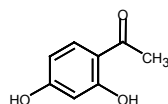
- IATA-DGR No Dangerous Good

**Specification**

Assay (periodotometric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20482.0100	Glass bottle	100 g	inquire
8.20482.0250	Glass bottle	250 g	inquire

## 822027 2',4'-Dihydroxyacetophenone for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>2,4-(OH)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COCH<sub>3</sub>

4-Acetylresorcinol, Resacetophenone

■ CAS-No. 89-84-9 ■ EC-No. 201-945-3

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.14 g/mol ■ pH value 5 (1 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 140 - 143 °C
- Bulk density 460 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 2830 mg/kg
- LGK 10 - 13

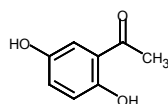
- HS-No. 2914 50 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 140 °C  
 Melting range (upper value)..... ≤ 143 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22027.0100	Plastic bottle	100 g	inquire

## 818284 2',5'-Dihydroxyacetophenone for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>2,5-(OH)<sub>2</sub>-C<sub>6</sub>H<sub>3</sub>COCH<sub>3</sub>

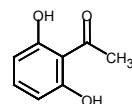
- CAS-No. 490-78-8 ■ EC-No. 207-716-4
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.15 g/mol ■ Melting point 199 - 202 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 200 °C  
 Melting range (upper value)..... ≤ 203 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18284.0010	Plastic bottle	10 g	inquire

## 820472 2',6'-Dihydroxyacetophenone for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>2,6-(OH)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COCH<sub>3</sub>

2-Acetylresorcinol

■ CAS-No. 699-83-2 ■ EC-No. 211-833-6

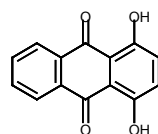
- Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 152.14 g/mol
- Melting point 155 - 158 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 155 °C  
 Melting range (upper value)..... ≤ 158 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20472.0010	Glass bottle	10 g	inquire

## 820259 1,4-Dihydroxyanthraquinone for synthesis

C<sub>14</sub>H<sub>8</sub>O<sub>4</sub>

Quinizarin

■ CAS-No. 81-64-1 ■ EC-No. 201-368-7

- Vapour pressure 1.3 hPa (197 °C)
- Flash point 222 °C ■ Solub. in H<sub>2</sub>O < 1 g/l (20 °C) ■ M = 240.21 g/mol ■ pH value 3 (110 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 195 - 198 °C
- Bulk density 350 kg/m<sup>3</sup> ■ Boiling point 450 °C (1013 hPa)
- WGK 1
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2914 69 90 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 97,0 %  
 Melting range (lower value)..... ≥ 195 °C  
 Melting range (upper value)..... ≤ 198 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20259.0005	Glass bottle	5 g	inquire
8.20259.0250	Glass bottle	250 g	inquire





# Dihydr

## 822028 1,8-Dihydroxyanthraquinone for synthesis

$C_{14}H_8O_4$   
**Chrysazin, Dantron**  
 ■ CAS-No. 117-10-2 ■ EC-No. 204-173-5  
 ■ Flash point >200 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 240.21 g/mol  
 ■ pH value 6.5 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 190 - 193 °C

■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 69 90 ■ Disposal 3

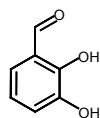
**Specification**  
 Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)

Melting range (lower value)..... ≥ 190 °C  
 Melting range (upper value)..... ≤ 194 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22028.0100	Glass bottle	100 g	inquire

2,2'-Dihydroxy-1,1'-azonaphthalene-3',4,6'-trisulfonic acidtrisodiumsalt → Hydroxynaphthol blue page 990

## 841427 2,3-Dihydroxybenzaldehyde for synthesis



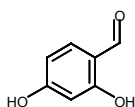
$C_7H_6O_3$   
 ■ CAS-No. 24677-78-9 ■ EC-No. 246-398-1  
 ■ M = 138.12 g/mol ■ Melting point 103 - 105 °C

■ Boiling point 235 °C (1005 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 49 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value)..... ≥ 103 °C  
 Melting range (upper value)..... ≤ 106 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41427.0005	Glass bottle	5 g	inquire

## 841551 2,4-Dihydroxybenzaldehyde for synthesis



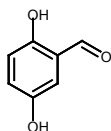
$C_7H_6O_3$   
***β*-Resorcyaldehyde**  
 ■ CAS-No. 95-01-2 ■ EC-No. 202-383-1  
 ■ M = 138.12 g/mol ■ Melting point 135 - 137 °C  
 ■ Boiling point 220 - 228 °C (29 hPa)

■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 400 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 49 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 134 °C  
 Melting range (upper value)..... ≤ 137 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41551.0025	Glass bottle	25 g	inquire

## 820474 2,5-Dihydroxybenzaldehyde for synthesis



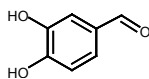
$C_7H_6O_3$   
 2,5-(OH)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CHO  
**Gentisaldehyde**

■ CAS-No. 1194-98-5 ■ EC-No. 214-789-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 138.12 g/mol ■ Melting point 98 - 100 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 49 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 97 °C  
 Melting range (upper value)..... ≤ 101 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20474.0005	Glass bottle	5 g	inquire
8.20474.0025	Glass bottle	25 g	inquire

## 820475 3,4-Dihydroxybenzaldehyde for synthesis



$C_7H_6O_3$   
 3,4-(OH)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CHO  
**Protocatechualdehyde**  
 ■ CAS-No. 139-85-5 ■ EC-No. 205-377-7  
 ■ Solub. in H<sub>2</sub>O 6.3 g/l (25 °C) ■ M = 138.12 g/mol

■ Melting point 152 - 156 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 49 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 152 °C  
 Melting range (upper value)..... ≤ 156 °C  
 Identity (IR)..... passes test

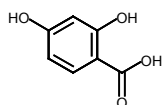
Ord.No.	Packaging	Quantity	Price
8.20475.0025	Plastic bottle	25 g	inquire
8.20475.0100	Plastic bottle	100 g	inquire

1,2-Dihydroxybenzene → Pyrocatechol page 1391

1,2-Dihydroxy-3,5-benzenedisulfonic acid disodium salt → 3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate page 172

2,5-Dihydroxybenzenesulfonic acid potassium salt → Hydroquinone monosulfonic acid potassium salt page 975

## 800738 2,4-Dihydroxybenzoic acid for synthesis



$C_7H_6O_4$   
 2,4-(OH)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COOH

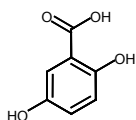
***β*-Resorcylic acid**  
 ■ CAS-No. 89-86-1 ■ EC-No. 201-946-9  
 ■ Solub. in H<sub>2</sub>O 8 g/l (25 °C) ■ M = 154.12 g/mol  
 ■ Bulk density 450 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 29 00 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00738.0100	Plastic bottle	100 g	inquire
8.00738.0250	Plastic bottle	250 g	inquire



## 841745 2,5-Dihydroxybenzoic acid for synthesis

C<sub>7</sub>H<sub>6</sub>O<sub>4</sub>

■ CAS-No. 490-79-9 ■ EC-No. 207-718-5

- Solub. in H<sub>2</sub>O 5 g/l (5 °C) soluble
- M = 154.12 g/mol ■ Melting point 202 - 206 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2918 29 00

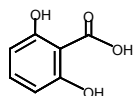
**Specification**

Assay (HPLC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 200 °C

Melting range (upper value) ..... ≤ 204 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41745.0050	Plastic bottle	50 g	inquire
8.41745.0250	Plastic bottle	250 g	inquire

## 814646 2,6-Dihydroxybenzoic acid for synthesis

C<sub>7</sub>H<sub>6</sub>O<sub>4</sub>*γ-Resorcylic Acid*

■ CAS-No. 303-07-1 ■ EC-No. 206-134-8  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 25 g/l

- (25 °C) ■ M = 154.12 g/mol
- Melting point 152 - 158 °C
  - Bulk density 450 kg/m<sup>3</sup>
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2918 29 00 ■ Disposal 3

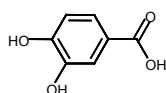
**Specification**

Assay (acidimetric)..... ≥ 97,0 %  
 Melting range (lower value)..... ≥ 152 °C

Melting range (upper value) ..... ≤ 158 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14646.0025	Plastic bottle	25 g	inquire
8.14646.0100	Plastic bottle	100 g	inquire

## 841533 3,4-Dihydroxybenzoic acid for synthesis

C<sub>7</sub>H<sub>6</sub>O<sub>4</sub>*Protocatechuic acid*

■ CAS-No. 99-50-3 ■ EC-No. 202-760-0

- Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 154.12 g/mol
- Melting point 202 - 203 °C (decomposition)
- WGK 1
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

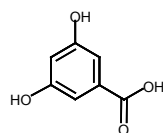
**Specification**

Assay (HPLC, area%) ..... ≥ 96,0 % (a/a)  
 Melting range (lower value)..... ≥ 199 °C

Melting range (upper value) ..... ≤ 203 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41533.0025	Plastic bottle	25 g	inquire
8.41533.0100	Plastic bottle	100 g	inquire

## 800737 3,5-Dihydroxybenzoic acid for synthesis

C<sub>7</sub>H<sub>6</sub>O<sub>4</sub>*5-Carboxyresorcinol*

■ CAS-No. 99-10-5 ■ EC-No. 202-730-7

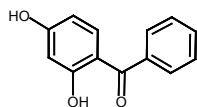
- Flash point >200 °C ■ Solub. in H<sub>2</sub>O 84 g/l (20 °C) ■ M = 154.12 g/mol
- pH value 2.3 (10 g/l, H<sub>2</sub>O, 25 °C) ■ Melting point 236 - 238 °C
- Bulk density 700 kg/m<sup>3</sup>
- Ignition temp. >500 °C DIN 51794
- WGK 1
- LD50 oral rat 4160 mg/kg
- LGK 10 - 13
- HS-No. 2918 29 00

**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 235 °C  
 Melting range (upper value) ..... ≤ 238 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00737.0100	Plastic bottle	100 g	inquire
8.00737.0250	Plastic bottle	250 g	inquire

## 818652 2,4-Dihydroxybenzophenone for synthesis

C<sub>13</sub>H<sub>10</sub>O<sub>3</sub>2,4-(OH)<sub>2</sub>-C<sub>6</sub>H<sub>3</sub>CO-C<sub>6</sub>H<sub>5</sub>

■ CAS-No. 131-56-6 ■ EC-No. 205-029-4

- Spec. density 1.32 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 214.22 g/mol
- pH value 5 (10 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 143 - 146 °C
- Bulk density 750 kg/m<sup>3</sup> ■ Boiling point 194 °C
- WGK 2
- GHS: P262
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13

- HS-No. 2914 50 00 ■ Disposal 3

**Specification**

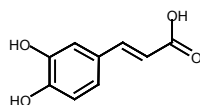
Assay (acidimetric)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 143 °C  
 Melting range (upper value) ..... ≤ 146 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18652.0250	Plastic bottle	250 g	inquire

(R)-(+)-2,2'-Dihydroxy-1,1'-binaphthyl → (R)-(+)-1,1'-Binaphthyl-2,2'-diol page 458

(S)-(-)-2,2'-Dihydroxy-1,1'-binaphthyl → (S)-(-)-1,1'-Binaphthyl-2,2'-diol page 459

## 822029 3,4-Dihydroxycinnamic acid for synthesis

C<sub>9</sub>H<sub>8</sub>O<sub>4</sub>(OH)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CHCHCOOH*Caffeic acid*

- CAS-No. 331-39-5 ■ EC-No. 206-361-2
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 180.15 g/mol
- Melting point 234 - 237 °C (decomposition)
- WGK 3
- GHS: Warning, Carcinogenicity, Category 2, H351, P281, P308 + P313
- LGK 10 - 13

- HS-No. 2918 29 00 ■ Disposal 4

**Specification**

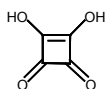
Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22029.0010	Glass bottle	10 g	inquire

6,7-Dihydroxycumarin-6β-D-glucopyranoside → page 111



## 803500 1,2-Dihydroxy-3,4-cyclobutenedione for synthesis

C<sub>4</sub>H<sub>2</sub>O<sub>4</sub>

## Quadratic acid

- CAS-No. 2892-51-5 ■ EC-No. 220-761-4
- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 1.82 g/cm<sup>3</sup> ■ Flash point 190 °C
- Solub. in H<sub>2</sub>O 20 g/l (30 °C) ■ M = 114.05 g/mol
- pH value 1 (1 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 293 °C decomposes
- Ignition temp. 400 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2914 40 90 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(1,2-DIHYDROXYCYCLOBUTENE-3,4-DION), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(1,2-

DIHYDROXYCYCLOBUTENE DIONE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(1,2-DIHYDROXYCYCLOBUTENE DIONE), 8, II

## Specification

Assay (acidimetric)..... ≥ 99,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03500.0005	Glass bottle	5 g	inquire

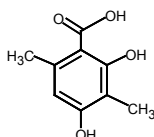
Dihydroxycyclyene → 2,5-Dimethylresorcinol page 801

2,2'-Dihydroxydiethylamine → page 301  
 β,β'-Dihydroxydiethylamine → page 316

2,2'-Dihydroxydiethyl ether → page 301

1,4-Dihydroxy-2,3-dicyano benzene → 2,3-Dicyanohydroquinone page 733

## 814703 2,4-Dihydroxy-3,6-dimethylbenzoic acid for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>4</sub>

## 3,6-Dimethyl-B-resorcylic acid

- CAS-No. 4707-46-4
- Spec. density 1 g/cm<sup>3</sup> ■ M = 182.17 g/mol
- Melting point 187 - 189 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 186 °C  
 Melting range (upper value) ..... ≤ 189 °C  
 Identity (IR)..... passes test

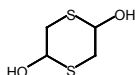
Ord.No.	Packaging	Quantity	Price
8.14703.0005	Glass bottle	5 g	inquire

2,2-Dihydroxy-1,3-dioxohydrindene → Ninhydrin page 1208

2,2'-Dihydroxydiphenyl → Biphenyl-2,2'-diol page 461

4,4'-Dihydroxydiphenyl sulfone → Bis(4-hydroxyphenyl) sulfone page 473

## 841420 2,5-Dihydroxy-1,4-dithiane for synthesis

C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>S<sub>2</sub>

## 1,4-Dithiane-2,5-diol

- CAS-No. 40018-26-6 ■ EC-No. 254-751-6
- Solub. in H<sub>2</sub>O 3.9 g/l (20 °C) ■ M = 152.24 g/mol
- pH value 4.9 (3.9 g/l, H<sub>2</sub>O)
- Melting point 110 °C (decomposition)
- Ignition temp. 310 °C
- WGK 2

- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 3, H412, P262, P273, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 200 - 2000 mg/kg
- LGK 6.1C
- HS-No. 2934 99 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,5-DIHYDROXY-1,4-DITHIAN), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

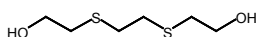
N.O.S.(2,5-DIHYDROXY-1,4-DITHIANE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,5-DIHYDROXY-1,4-DITHIANE), 6.1, III

## Specification

Assay (of S) ..... ≥ 95,0 %  
 Melting range (lower value)..... ≥ 110 °C  
 Melting range (upper value) ..... ≤ 115 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41420.0050	Glass bottle	50 g	inquire

## 814265 1,8-Dihydroxy-3,6-dithiaoctane for synthesis

C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>S<sub>2</sub>(HOCH<sub>2</sub>CH<sub>2</sub>SCH<sub>2</sub>)<sub>2</sub>

## 1,2-Bis(2-hydroxyethylmercapto) ethane

- CAS-No. 5244-34-8 ■ EC-No. 226-045-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 182.29 g/

- mol ■ Melting point 62 - 65 °C
- Boiling point 170 °C (1 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 63 °C

Melting range (upper value) ..... ≤ 66 °C  
 Identity (IR)..... conforms

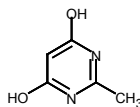
Ord.No.	Packaging	Quantity	Price
8.14265.0100	Plastic bottle	100 g	inquire

1,3-Dihydroxy-4-hexylbenzene → 4-Hexylresorcinol page 957

Dihydroxyhydrin-1,3-indandione → Ninhydrin page 1208

2,2-Dihydroxy-1,3-indandione → Ninhydrin page 1208

## 814866 4,6-Dihydroxy-2-methylpyrimidine for synthesis

C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>

- CAS-No. 40497-30-1 ■ EC-No. 254-941-9
- M = 126.12 g/mol ■ Melting point >300 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14866.0010	Glass bottle	10 g	inquire

1,5-Dihydroxynaphthalene → 1,5-Naphthalenediol page 1197

4,5-Dihydroxy-2,7-naphthalene disulfonic acid sodium salt → Chromotropic acid disodium salt dihydrate page 172

3,6-Dihydroxypyridazine → 3,6-Pyridazinediol page 1383

2,3-Dihydroxynaphthalene → 2,3-Naphthalenediol page 1197

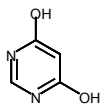
3,4-Dihydroxyphenacyl chloride → 2-Chloro-3',4'-dihydroxyacetophenone page 607

2,3-Dihydroxypyridine → 2,3-Pyridinediol page 1388

2,7-Dihydroxynaphthalene → 2,7-Naphthalenediol page 1197

4,4'-Dihydroxyphenyl sulfide → Bis(4-hydroxyphenyl)sulfide page 473

## 818503 4,6-Dihydroxypyrimidine for synthesis



C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>  
4,6-Pyrimidinediol

- CAS-No. 1193-24-4 ■ EC-No. 214-772-3
- Solub. in H<sub>2</sub>O 2.5 g/l (20 °C) ■ M = 112.09 g/mol
- Melting point >300 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

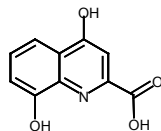
## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18503.0050	Plastic bottle	50 g	inquire

4,8-Dihydroxyquinaldic acid → 4,8-Dihydroxy-2-quinolinecarboxylic acid page 763

## 820480 4,8-Dihydroxy-2-quinolinecarboxylic acid for synthesis



C<sub>10</sub>H<sub>7</sub>NO<sub>4</sub>

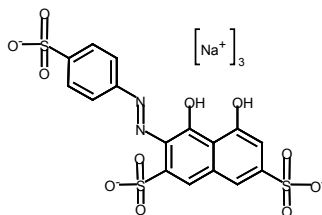
- 4,8-Dihydroxyquinaldic acid, Xanthurenic acid
- CAS-No. 59-00-7 ■ EC-No. 200-410-1
  - Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 205.16 g/mol
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2933 49 10 ■ Disposal 4

## Specification

Assay (acidimetric)..... ≥ 98.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20480.0001	Glass bottle	1 g	inquire
8.20480.0005	Glass bottle	5 g	inquire

## 107998 1,8-Dihydroxy-2-(4-sulfophenylazo)naphthalene-3,6-disulfonic acid trisodium salt GR for analysis (reagent for fluoride, zirconium, thorium)



C<sub>16</sub>H<sub>9</sub>N<sub>2</sub>Na<sub>3</sub>O<sub>11</sub>S<sub>3</sub>

- SPADNS
- CAS-No. 23647-14-5 ■ EC-No. 245-803-9
  - Solub. in H<sub>2</sub>O 220 g/l (22 °C) ■ M = 570.4 g/mol
  - pH value 6.0 (10 g/l, H<sub>2</sub>O, 22 °C)
  - Bulk density 810 kg/m<sup>3</sup>
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2927 00 00 ■ Disposal 3
- Use as metal indicator: 0.02 %-0.4 % in water

## Specification

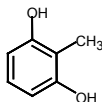
Identity (UV/VIS-Spectrum)..... passes test

Color change with zirconium ..... passes test  
pink - violet  
Absorption maximum λ<sub>max</sub> (buffer pH 7.0)..... 505 - 510 nm  
Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.02 g/l; buffer pH 7.0; calc. on dried substance) ..400 - 560  
Loss on drying (105 °C) ..... ≤ 10 %

Ord.No.	Packaging	Quantity	Price
1.07998.0025	Glass bottle	25 g	inquire

1,2-Dihydroxy-3,4,5,6-tetraoxo-1-cyclohexene disodium salt → Rhodizonic acid disodium salt page 1407

## 841766 2,6-Dihydroxytoluene for synthesis



C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>

- CAS-No. 608-25-3 ■ EC-No. 210-155-8
- Flash point 135 °C ■ Solub. in H<sub>2</sub>O 263 g/l (25 °C) ■ M = 124.13 g/mol
- Melting point 118 - 121 °C
- Boiling point 264 °C (1013 hPa)
- WGK 3

- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 200 mg/kg
- LGK 6.1C
- HS-No. 2907 29 00 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,6-DIHYDROXYTOLUEN), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

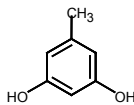
N.O.S.(2,6-DIHYDROXYTOLUENE), 6.1, III  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,6-DIHYDROXYTOLUENE), 6.1, III

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 119 °C  
Melting range (upper value) ..... ≤ 122 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41766.0025	Plastic bottle	25 g	inquire

## 820933 3,5-Dihydroxytoluene for synthesis



C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>

- 5-Methylresorcinol, Orcinol
- CAS-No. 504-15-4 ■ EC-No. 207-984-2
  - Flash point 159 °C ■ Solub. in H<sub>2</sub>O 80 g/l (20 °C)

- M = 124.14 g/mol ■ pH value < 7 (H<sub>2</sub>O, 20 °C)
- Melting point 109 °C ■ Boiling point 147 °C (7 hPa)
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2907 29 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
Identity (IR)..... conforms

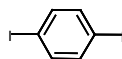
Ord.No.	Packaging	Quantity	Price
8.20933.0002	Glass bottle	2 g	inquire
8.20933.0005	Plastic bottle	5 g	inquire
8.20933.0025	Plastic bottle	25 g	inquire
8.20933.0100	Plastic bottle	100 g	inquire

2,5-Dihydroxytoluene → 2-Methylhydroquinone page 1155

3,4-Dihydroxytoluene → 4-Methylpyrocatechol page 1177

Diiodine pentoxide → di-Iodine pentoxide page 1006

## 841703 1,4-Diiodobenzene for synthesis



C<sub>6</sub>H<sub>4</sub>I<sub>2</sub>

- CAS-No. 624-38-4 ■ EC-No. 210-842-2
- M = 329.9 g/mol ■ Melting point 131 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 130 °C  
Melting range (upper value) ..... ≤ 133 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41703.0025	Glass bottle	25 g	inquire

# Diiodo

## Diiodomethane



CH<sub>2</sub>I<sub>2</sub>  
*Methylene iodide*  
 ■ CAS-No. 75-11-6 ■ EC-No. 200-841-5  
 ■ Spec. density 3.3 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O 0.8 g/l (25 °C) ■ M = 267.84 g/mol ■ Melting point 6 °C  
 ■ Boiling point 181 °C (1013 hPa) (decomposition)

■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P280, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 1.3 mg/l

■ LD50 oral rat 76 mg/kg  
 ■ LGK 6.1 D  
 ■ HS-No. 2903 39 90 ■ Disposal 3  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(DIODOMETHAN), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(DIODOMETHANE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(DIODOMETHANE), 6.1, III



### 818153 Diiodomethane for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 3,300 - 3,320  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18153.0025	Glass bottle	25 ml	inquire
8.18153.0050	Glass bottle	50 ml	inquire
	Glass bottle	6 x 50 ml	inquire/50 ml

### 106053 Diiodomethane for the separation of minerals

#### Specification

Assay (GC, area%) ..... ≥ 98.5 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 3.310 - 3.320  
 Water (K. F.) ..... ≤ 0.02 %

Free acid (as HI) ..... ≤ 0.005 %  
 Evaporation residue ..... ≤ 0.005 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.06053.0100	Glass bottle	100 ml	inquire

## 841396 1,3-Diiodopropane for synthesis



C<sub>3</sub>H<sub>5</sub>I<sub>2</sub>  
*Trimethylene diiodide*  
 ■ CAS-No. 627-31-6 ■ EC-No. 210-993-4  
 ■ Spec. density 2.57 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 295.88 g/mol ■ Boiling point 56 - 58 °C (0.1 hPa)

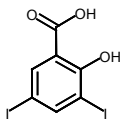
■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 39 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 2.567 - 2.573  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41396.0010	Glass bottle	10 ml	inquire

## 841653 3,5-Diiodosalicylic acid for synthesis



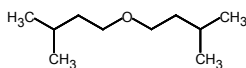
C<sub>7</sub>H<sub>4</sub>I<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 133-91-5 ■ EC-No. 205-124-0  
 ■ Solub. in H<sub>2</sub>O 0.192 g/l (25 °C) ■ M = 389.91 g/mol

mol ■ Melting point 232 - 233 °C decomposes  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 29 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 230 °C  
 Melting range (upper value) ..... ≤ 233 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41653.0025	Plastic bottle	25 g	inquire

## 810261 Diisoamyl ether (stabilized) for synthesis



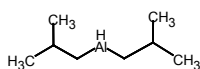
C<sub>10</sub>H<sub>22</sub>O  
*Diisopentyl ether, Isoamyl ether*  
 ■ CAS-No. 544-01-4 ■ EC-No. 208-857-4  
 ■ Vapour pressure 2.5 hPa (20 °C)  
 ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 46 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (20 °C)  
 ■ M = 158.28 g/mol ■ Melting point < -75 °C  
 ■ Boiling point 172 - 173 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LGK 3  
 ■ HS-No. 2909 19 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DIISOAMYLETHER), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(DIISOAMYLETHER), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(DIISOAMYLETHER), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,775 - 0,777  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,02 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.10261.0050	Glass bottle	250 ml	inquire
8.10261.1000	Glass bottle	1 l	inquire

## 818838 Diisobutylaluminium hydride (20% solution in n-hexane) for synthesis



*DIBAH*  
 ■ Vapour pressure 160 hPa (20 °C)  
 ■ Spec. density 0.70 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 7.4 % (V) ■ Flash point -22 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ Melting point -86 °C ■ Boiling point 68 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Substances, which in contact with water, emit flammable gases, Category 1, H260; Skin

corrosion, Category 1B, H314; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P240, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 4.3  
 ■ HS-No. 2931 90 90 ■ Disposal 26  
 ■ ADR-RID UN 3399 Mit Wasser reagierender metallorganischer flüssiger Stoff, entzündbar(DIISOBUTYLALUMINIUMHYDRIDLOESUNG), 4.3 (3), I  
 ■ IMDG-Code UN 3399 ORGANOMETALLIC

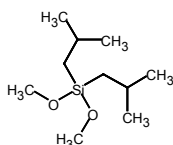
SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE(DIISOBUTYLALUMINIUM HYDRIDE), 4.3 (3), I  
 ■ IATA-DGR UN 3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE(DIISOBUTYLALUMINIUM HYDRIDE), 4.3 (3), I

**Specification**  
 Assay (out of Al) ..... 18,0 - 22,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18838.0100	Glass bottle	100 ml	inquire



## 814720 Diisobutyldimethoxysilane for synthesis

C<sub>10</sub>H<sub>24</sub>O<sub>2</sub>Si

Eurenor®

- CAS-No. 17980-32-4
- Vapour pressure 0.75 hPa (25 °C)
- Spec. density 0.863 g/cm<sup>3</sup> (20 °C)
- Flash point 62 °C ■ Solub. in H<sub>2</sub>O 13.4 mg/l (25 °C) Hydrolysis ■ M = 204.38 g/mol

- Melting point < -78 °C ■ Boiling point 188 °C (1025 hPa) ■ Ignition temp. 255 °C
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(DIISOBUTYLDIMETHOXYISILAN), 9, III
- IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIISOBUTYLDIMETHOXYISILANE), 9, III,

Marine Pollutant: P

- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIISOBUTYLDIMETHOXYISILANE), 9, III

## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,860 - 0,865  
Identity (IR) ..... passes test

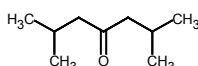
Ord.No.	Packaging	Quantity	Price
8.14720.0025	Glass bottle	25 ml	inquire
8.14720.0100	Glass bottle	100 ml	inquire

Diisobutylene → 2,4,4-Trimethylpentene page 1605

Di-iso-butyl ketone → Diisobutyl ketone page 302

Diisobutyl ketone → page 302

## 818831 Diisobutyl ketone for synthesis

C<sub>9</sub>H<sub>18</sub>O(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>COCH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>

Di-iso-butyl ketone, 2,6-Dimethyl-4-heptanone, Isobutyl ketone

- CAS-No. 108-83-8 ■ EC-No. 203-620-1
- Refractive index 1.4143 (20 °C, 589 nm)
- Vapour pressure 1.6 hPa (20 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 6.2 % (V) ■ Flash point 47 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 142.24 g/mol

- Saturation conc. 9 g/m<sup>3</sup> (20 °C) Air
- Melting point -41 °C
- Boiling point 163 - 173 °C (1013 hPa)
- Evaporation number 48 ■ Ignition temp. 345 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335, P210, P262
- LD50 oral rat 5750 mg/kg ■ LD50 dermal rabbit 16000 mg/kg
- EC-Index-No. 606-005-00-X ■ LGK 3
- HS-No. 2914 19 90 ■ Disposal 3
- ADR-RID UN 1157 Diisobutylketon, 3, III
- IMDG-Code UN 1157 DIISOBUTYL KETONE, 3, III

- IATA-DGR UN 1157 DIISOBUTYL KETONE, 3, III

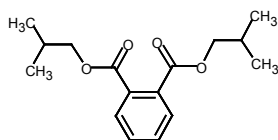
## Specification

Sum of 2,6-Dimethyl-4-heptanone and 2,4-Dimethyl-6-heptanone (GC, area%) ≥ 96,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.807 - 0.811  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18831.0100	Glass bottle	100 ml	inquire
8.18831.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

Diisobutylphenoxyethoxyethyl-dimethyl-benzylammonium chloride → page 1618

## 814157 Diisobutyl phthalate for synthesis

C<sub>16</sub>H<sub>22</sub>O<sub>4</sub>

Phthalic acid diisobutyl ester, DIBP

- CAS-No. 84-69-5 ■ EC-No. 201-553-2
- Refractive index 1.489 (20 °C, 589 nm) ■ Vapour

- pressure < 0.01 hPa (20 °C) ■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 3.2 % (V)
- Flash point 170 °C ■ Solub. in H<sub>2</sub>O 0.01 g/l (20 °C) ■ M = 278.34 g/mol
- pH value (H<sub>2</sub>O) neutral ■ Melting point -64 °C
- Boiling point 296.5 °C (1013 hPa)
- Ignition temp. 420 °C
- WGK 2
- GHS: Danger, Reproductive toxicity, Category 1B, H360Df, P201, P308 + P313
- LD50 oral rat 10400 mg/kg

- EC-Index-No. 607-623-00-2 ■ LGK 6.1A
- HS-No. 2917 34 00 ■ Disposal 3

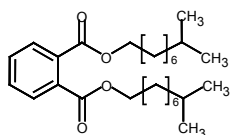
## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,037 - 1,039  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14157.0100	Plastic bottle	100 ml	inquire
8.14157.1000	Plastic bottle	1 l	inquire

1,6-Diisocyanatohexane → Hexamethylene diisocyanate page 951

## 814732 Diisodecyl phthalate for synthesis

C<sub>28</sub>H<sub>46</sub>O<sub>4</sub>

1,2-Benzenedicarboxylic acid diisodecyl ester

- CAS-No. 26761-40-0 ■ EC-No. 247-977-1
- Vapour pressure 0.1 hPa (20 °C)

- Spec. density 0.97 g/cm<sup>3</sup> (20 °C)
- Flash point 240 °C ■ Solub. in H<sub>2</sub>O 0.00028 g/l (24 °C) ■ M = 446.66 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point -50 °C
- Boiling point 250 - 267 °C (7 hPa)
- Ignition temp. 380 °C
- WGK 1
- GHS: Chronic aquatic toxicity, Category 4, H413, P273
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 3160 mg/kg

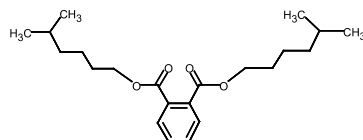
- LGK 10 - 13
- HS-No. 2917 34 00 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99,0 %  
Density (d 20 °C/ 4 °C) ..... 0.963 - 0.968  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14732.0100	Plastic bottle	100 ml	inquire
8.14732.1000	Plastic bottle	1 l	inquire

## 814177 Diisoheptyl phthalate for synthesis

C<sub>22</sub>H<sub>34</sub>O<sub>4</sub>

Phthalic acid diisoheptyl ester

- CAS-No. 71888-89-6 ■ EC-No. 276-158-1
- Refractive index 1.488 (20 °C, 589 nm) ■ Vapour

- pressure < 0.10 hPa (20 °C) ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Flash point 229 °C ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ M = 362.51 g/mol
- Melting point -40 °C ■ Boiling point > 300 °C (0.01 hPa) ■ Ignition temp. 380 °C
- WGK 1
- GHS: Danger, Reproductive toxicity, Category 1B, H360D, P201, P308 + P313
- LD50 oral rat > 10000 mg/kg
- LD50 dermal rabbit > 3160 mg/kg
- EC-Index-No. 607-483-00-2 ■ LGK 6.1A

- HS-No. 2917 34 00 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99,0 % (m)  
Density (d 20 °C/ 4 °C) ..... 0,991 - 0,993  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14177.0100	Glass bottle	100 ml	inquire
8.14177.1000	Glass bottle	1 l	inquire



# Diisoo

Diisooctyl adipate → Bis(2-ethylhexyl) adipate page 470

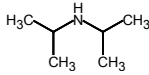
Diisooctylamine → Bis(2-ethylhexyl) amine page 470

Diisooctyl phthalate → Bis(2-ethylhexyl) phthalate page 471

Diisopentyl ether → Diisoamyl ether page 302

Diisopropanolamine → 1,1-Iminodi-2-propanol page 1000

## Diisopropyl amine



C<sub>6</sub>H<sub>15</sub>N  
(CH<sub>3</sub>)<sub>2</sub>CHNHCH(CH<sub>3</sub>)<sub>2</sub>  
 ■ CAS-No. 108-18-9 ■ EC-No. 203-558-5  
 ■ Refractive index 1.3915 (20 °C, 589 nm)  
 ■ Vapour pressure 69 hPa (20 °C)  
 ■ Spec. density 0.72 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 7.1 % (V) ■ Flash point -10 °C DIN

51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 101.19 g/mol ■ pH value 11.8 (6 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -96 °C  
 ■ Boiling point 83 - 84 °C (1013 hPa)  
 ■ Ignition temp. 295 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412, P210, P233, P240,

P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 4.8 mg/l  
 ■ LD50 oral rat 420 mg/kg ■ LD50 dermal rabbit 2900 mg/kg  
 ■ EC-Index-No. 612-129-00-5 ■ LGK 3  
 ■ HS-No. 2921 19 99 ■ Disposal 3  
 ■ ADR-RID UN 1158 Diisopropylamin, 3 (8), II  
 ■ IMDG-Code UN 1158 DIISOPROPYLAMINE, 3 (8), II  
 ■ IATA-DGR UN 1158 DIISOPROPYLAMINE, 3 (8), II



### 803646 Diisopropylamine for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,715 - 0,716  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03646.0100	Glass bottle	100 ml	inquire
8.03646.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03646.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

### 845036 Diisopropyl amine for pharma synthesis, non-GMP

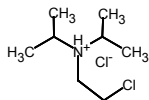
#### Specification

Appearance of substance (visual) ..... clear  
 Colour number (Hazen) ..... ≤ 20  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,715 - 0,716

Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45036.0100	Glass bottle	100 ml	inquire
8.45036.1000	Glass bottle	1 l	inquire

### 814553 2-(Diisopropylamino)-ethylchloride hydrochloride for synthesis



C<sub>8</sub>H<sub>19</sub>Cl<sub>2</sub>N  
*N*-(2-Chloroethyl)-diisopropylamine hydrochloride  
 ■ CAS-No. 4261-68-1 ■ EC-No. 224-238-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 200.15 g/mol ■ pH value 4.0 - 4.5 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 130 - 133 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 1, Inhalation, H330; Acute toxicity, Category 2,

Dermal, H310; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.012 mg/l  
 ■ LD50 oral rat 96.75 mg/kg ■ LD50 dermal rabbit 197 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2921 19 60 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-(DIISOPROPYLAMINO)-ETHYLCHLORIDHYDROCHLORID), 6.1, I ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-(DIISOPROPYLAMINO)-ETHYLCHLORIDE

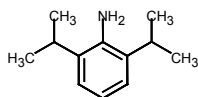
HYDROCHLORIDE), 6.1, I  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-(DIISOPROPYLAMINO)-ETHYLCHLORIDE HYDROCHLORIDE), 6.1, I

**Specification**  
 Assay (argentometric) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 130 °C  
 Melting range (upper value) ..... ≤ 133 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14553.0100	Glass bottle	100 g	inquire
8.14553.0250	Glass bottle	250 g	inquire

Diisopropylaminolithium → Lithiumdiisopropylamide page 1082

### 841095 2,6-Diisopropylaniline for synthesis



C<sub>12</sub>H<sub>19</sub>N  
 2,6-Bis(isopropyl)-benzenamine  
 ■ CAS-No. 24544-04-5 ■ EC-No. 246-305-4  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 125 °C ■ Solub. in H<sub>2</sub>O < 0.2 g/l

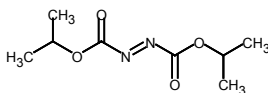
(20 °C) ■ M = 177.29 g/mol ■ Melting point -45 °C ■ Boiling point 257 °C (1013 hPa)  
 ■ Ignition temp. 400 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P305 + P351 + P338  
 ■ LD50 oral rat 4077 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2921 49 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 92,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.937 - 0.941  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41095.0100	Glass bottle	100 ml	inquire
8.41095.0500	Glass bottle	500 ml	inquire

### 814566 Diisopropylazodicarboxylate for synthesis



C<sub>8</sub>H<sub>14</sub>N<sub>2</sub>O<sub>4</sub>  
 (CH<sub>3</sub>)<sub>2</sub>CHO<sub>2</sub>CN=NCO<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>  
 ■ CAS-No. 2446-83-5 ■ EC-No. 219-502-8  
 ■ Vapour pressure 1.04 hPa (20 °C)  
 ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 106 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 202.2 g/mol  
 ■ Boiling point 75 °C (33.3 Pa)  
 ■ WGK 2

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LC50 rat 12000 mg/l  
 ■ LD50 dermal rabbit 2150 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2927 00 00  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(DIISOPROPYLAZODICARBOXYLAT), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

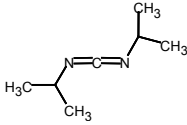
N.O.S.(DIISOPROPYLAZODICARBOXYLATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIISOPROPYLAZODICARBOXYLATE), 9, III

**Specification**  
 Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,038 - 1,048  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14566.0051	Glass bottle	50 ml	inquire



## 803649 N,N'-Diisopropylcarbodiimide for synthesis

C<sub>7</sub>H<sub>14</sub>N<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>CHN=C=NCH(CH<sub>3</sub>)<sub>2</sub>

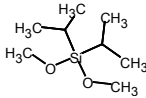
- CAS-No. 693-13-0 ■ EC-No. 211-743-7
- Refractive index 1.427 (20 °C, 589 nm)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C)
- Flash point 33 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 126.2 g/mol
- Boiling point 145 - 148 °C (1013 hPa)
- WGK 3

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation, H330; Serious eye damage, Category 1, H318; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P210, P280, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.1 mg/l
- LGK 3
- HS-No. 2925 29 00 ■ Disposal 9
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(N,N'-DIISOPROPYLCARBODIIMID), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(N,N'-

- DIISOPROPYLCARBODIIMIDE), 6.1 (3), II
  - IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(N,N'-DIISOPROPYLCARBODIIMIDE), 6.1 (3), II
- Specification**
- Assay (GC, area%)..... ≥ 99.0 % (a/a)
- Density (d 20 °C/ 4 °C).....0.813 - 0.815
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.03649.0010	Glass bottle	10 ml	inquire
8.03649.0025	Glass bottle	25 ml	inquire
8.03649.0100	Glass bottle	100 ml	inquire
8.03649.1000	Glass bottle	1 l	inquire

## 814719 Diisopropyldimethoxysilane for synthesis

C<sub>8</sub>H<sub>20</sub>O<sub>2</sub>Si

Eurenor® 5021

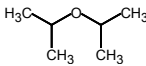
- CAS-No. 18230-61-0 ■ EC-No. 421-540-7
- Vapour pressure 2.14 hPa (20 °C)
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C)
- Flash point 44 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 176.33 g/mol
- Melting point < -72 °C

- Boiling point 164 °C (1013 hPa)
- Ignition temp. 240 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P210, P273, P280, P302 + P352
- LD50 dermal rat ≥ 2000 mg/kg
- EC-Index-No. 014-031-00-2 ■ LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DIISOPROPYLDIMETHOXSILAN), 3, III

- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(DIISOPROPYLDIMETHOXSILANE), 3, III
  - IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(DIISOPROPYLDIMETHOXSILANE), 3, III
- Specification**
- Assay (GC, area%)..... ≥ 95.0 % (a/a)
- Density (d 20 °C/ 4 °C).....0,877 - 0,882
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14719.0025	Glass bottle	25 ml	inquire

## Diisopropyl ether

C<sub>6</sub>H<sub>14</sub>O[(CH<sub>3</sub>)<sub>2</sub>CH]<sub>2</sub>O

Isopropyl ether, 2,2'-Oxybis[propane], 2,2-Propoxypropane

- CAS-No. 108-20-3 ■ EC-No. 203-560-6
- Refractive index 1.3679 (20 °C, 589 nm)
- Vapour pressure 175 hPa (20 °C)

- Spec. density 0.72 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 3.8 (25 °C) ■ El. dipole moment 1.3 (20 °C) ■ Explosive limit 1.0 - 21 % (V)
- Flash point -28 °C ■ Solub. in H<sub>2</sub>O 12 g/l (20 °C)
- M = 102.18 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Saturation conc. 751 g/m<sup>3</sup> (20 °C) Air ■ Melting point -86 °C
- Boiling point 67 - 70 °C (1013 hPa)
- Evaporation number 1.6
- Water absorption 60 g/kg (20 °C)
- Ignition temp. 405 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336, P210, P233, P240
- LD50 oral rat 5880 mg/kg ■ LD50 dermal rabbit > 20000 mg/kg
- EC-Index-No. 603-045-00-X ■ LGK 3
- HS-No. 2909 19 90 ■ Disposal 3
- ADR-RID UN 1159 Diisopropylether, 3, II
- IMDG-Code UN 1159 DIISOPROPYL ETHER, 3, II
- IATA-DGR UN 1159 DIISOPROPYL ETHER, 3, II

## 800866 Diisopropyl ether (stabilized with 2,6-di-tert-butyl-4-methylphenol (BHT)) for synthesis

## Specification

- Assay (GC, area%)..... ≥ 99 %
- Density (d 20 °C/ 4 °C).....0.722 - 0.724
- Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.005 %
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00866.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00866.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.00866.9040	Steel barrel	40 kg	inquire

## 100867 Diisopropyl ether for analysis EMSURE® ACS,Reag. Ph Eur

## Specification

- Purity (GC)..... ≥ 99.0 %
- Identity (IR)..... conforms
- Appearance..... clear
- Colour..... ≤ 10 Hazen
- Titration acid..... ≤ 0.0005 meq/g
- Alkalinity..... ≤ 0.0002 meq/g
- Density (d 20 °C/20 °C).....0.723 - 0.728
- Density (d 25 °C/25 °C).....0.716 - 0.720
- Boiling point..... 67 - 69 °C
- Peroxides..... conforms
- Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.001 %
- Al (Aluminium)..... ≤ 0.00005 %
- B (Boron)..... ≤ 0.000002 %

- Ba (Barium)..... ≤ 0.00001 %
- Ca (Calcium)..... ≤ 0.00005 %
- Cd (Cadmium)..... ≤ 0.000005 %
- Co (Cobalt)..... ≤ 0.000002 %
- Cr (Chromium)..... ≤ 0.000002 %
- Cu (Copper)..... ≤ 0.000002 %
- Fe (Iron)..... ≤ 0.00001 %
- Mg (Magnesium)..... ≤ 0.00001 %
- Mn (Manganese)..... ≤ 0.000002 %
- Ni (Nickel)..... ≤ 0.000002 %
- Pb (Lead)..... ≤ 0.00001 %
- Sn (Tin)..... ≤ 0.00001 %
- Zn (Zinc)..... ≤ 0.00001 %

- Evaporation residue..... ≤ 0.005 %
- Water..... ≤ 0.05 %
- The product is stabilized with about 10 ppm 2,6-Di-tert-butyl-4-methylphenol (BHT).

Ord.No.	Packaging	Quantity	Price
1.00867.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00867.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00867.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.00867.6010	Drum stainl. st.	10 l	inquire

## 845123 Diisopropyl ether (stabilised with BHT) for pharma synthesis, non-GMP

## Specification

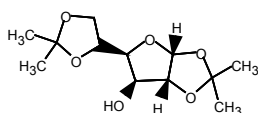
- Appearance of substance (visual)..... clear
- Colour number (Apha)..... ≤ 20
- Assay (GC, area%)..... ≥ 99.0 % (a/a)
- Water (K. F.)..... ≤ 0,10 %

- Density (d 20 °C/ 4 °C).....0,722 - 0,724
- Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0,005 %
- Identity (IR)..... passes test
- Ni (Nickel)..... lot specific result

Ord.No.	Packaging	Quantity	Price
8.45123.1000	Glass bottle	1 l	inquire
8.45123.2500	Glass bottle	2.5 l	inquire

# Diisop

## 818239 (-)-1,2:5,6-Di-O-isopropylidene- $\alpha$ -D-glucofuranose for synthesis



C<sub>12</sub>H<sub>20</sub>O<sub>6</sub>  
Diacetoneglucose

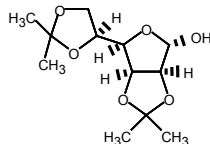
- CAS-No. 582-52-5 ■ EC-No. 209-486-0
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 260.29 g/mol ■ Melting point 106 - 109 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2940 00 00 ■ Disposal 3

Melting range (lower value)..... ≥ 106 °C  
Melting range (upper value)..... ≤ 109 °C  
Spec. rotation [ $\alpha$ '<sub>D</sub> (c=1 in chloroform)..... -12.0 - -11.0 °  
Identity (IR)..... passes test

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.18239.0025	Plastic bottle	25 g	inquire

## 818237 (+)-2,3:5,6-Di-O-isopropylidene- $\alpha$ -D-mannofuranose for synthesis



C<sub>12</sub>H<sub>20</sub>O<sub>6</sub>

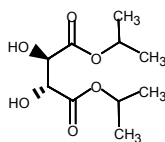
- Diaceton- $\alpha$ -D-mannofuranose*
- CAS-No. 14131-84-1
  - M = 260.28 g/mol ■ Melting point 121 - 124 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2932 99 00 ■ Disposal 3

Melting range (lower value)..... ≥ 121 °C  
Melting range (upper value)..... ≤ 124 °C  
Spec. rotation [ $\alpha$ '<sub>D</sub> (c=1 in Aceton).24.0 - 26.0 °  
Identity (IR)..... passes test

**Specification**  
Assay (DSC)..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
8.18237.0001	Glass bottle	1 g	inquire

## 818719 (2S,3S)-(-)-Diisopropyl tartrate for synthesis



C<sub>10</sub>H<sub>18</sub>O<sub>6</sub>  
(CH<sub>3</sub>)<sub>2</sub>CHOOCC(OH)<sub>2</sub>COOCH(CH<sub>3</sub>)<sub>2</sub>

- DIPT, D-(-)-Tartaric acid diisopropyl ester*
- CAS-No. 62961-64-2 ■ EC-No. 263-771-4
  - Refractive index 1.4385 (20 °C, 589 nm)
  - Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 234.25 g/mol
  - Boiling point 274 - 276 °C
  - WGK 3
  - LD50 oral rat 6000 mg/kg
  - HS-No. 2918 13 00 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.118 - 1.120  
Spec. rotation [ $\alpha$ '<sub>D</sub> (undiluted)..... -17.0 - -16.0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18719.0025	Glass bottle	25 ml	inquire

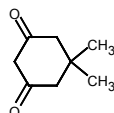
1,4-Diisothiocyanatobenzene → 1,4-Phenylene diisothiocyanate page 1301

2,5-Diketopiperazine → 2,5-Piperazinedione page 1330

Diketene-acetone adduct → 2,2,6-Trimethyl-1,3-dioxine-4-one page 1603

Diluted sodium hydroxide solution → page 170

## 106013 Dimedone GR for analysis (reagent for aldehydes)



C<sub>8</sub>H<sub>12</sub>O<sub>2</sub>  
5,5-Dimethyl-1,3-cyclohexanedione, 5,5-Dimethyldihydroresorcinol, 5,5-Dimethyl-1,3-dioxocyclohexane, Methone

- CAS-No. 126-81-8 ■ EC-No. 204-804-4
- Solub. in H<sub>2</sub>O 4.01 g/l (25 °C) ■ M = 140.18 g/mol ■ Melting point 146 - 148 °C (decomposition)
- Bulk density 545 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2914 29 00 ■ Disposal 3

Melting point..... 146 - 148 °C  
Water (K. F.)..... ≤ 1.0 %  
Sulfated ash..... ≤ 0.10 %  
Suitability for formaldehyde determination..... conforms  
Identity (IR)..... passes test

**Specification**  
Assay (acidimetric, calc. on anhydrous substance)..... ≥ 99.5 %

Ord.No.	Packaging	Quantity	Price
1.06013.0025	Plastic bottle	25 g	inquire

Dimercaprol → page 172

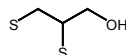
1,2-Dimercaptoethane → 1,2-Ethanedithiol page 838

1,3-Dimercaptoethane → 1,3-Propanedithiol page 1367

1,4-Dimercapto-2,3-butanediol → 1,4-Dithioerythritol page 824

1,5-Dimercaptopentane → 1,5-Pentanedithiol page 1269

## 2,3-Dimercapto-1-propanol



C<sub>3</sub>H<sub>6</sub>OS<sub>2</sub>  
HOCH<sub>2</sub>CH(SH)CH<sub>2</sub>SH  
*Dithioglycerine, Dimercaprol, BAL*  
■ CAS-No. 59-52-9 ■ EC-No. 200-433-7  
■ Vapour pressure 7.4 hPa (100 °C)  
■ Spec. density 1.24 g/cm<sup>3</sup> (20 °C)

- Flash point >112 °C ■ Solub. in H<sub>2</sub>O 87 g/l (20 °C) (slow decomposition) ■ M = 124.22 g/mol
- pH value 5.0 - 6.5 (H<sub>2</sub>O, 20 °C) (saturated solution) ■ Boiling point 63 - 68 °C (0.27 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 ■ Store at +2°C to +8°C.

■ HS-No. 2930 90 99 ■ Disposal 3  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2,3-DIMERCAPTO-1-PROPANOL), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2,3-DIMERCAPTO-1-PROPANOL), 6.1, III  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2,3-DIMERCAPTO-1-PROPANOL), 6.1, III

## 818757 2,3-Dimercapto-1-propanol for synthesis

**Specification**  
Assay (iodometric)..... ≥ 98,0 % (m)  
Density (d 20 °C/ 4 °C)..... 1,242 - 1,246  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18757.0002	Glass bottle	2 ml	inquire
8.18757.0005	Glass bottle	5 ml	inquire
8.18757.0025	Glass bottle	25 ml	inquire

## 103409 2,3-Dimercapto-1-propanol for complexometric determination

**Specification**  
Assay (iodometric)..... ≥ 98.5 %  
Suitability for complexometric determinations..... passes test

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
1.03409.0025	Glass bottle	25 ml	inquire

**840136 2,5-Dimercapto-1,3,4-thiadiazole for synthesis**C<sub>2</sub>H<sub>2</sub>N<sub>2</sub>S<sub>3</sub>*Bismuthiol I, 1,3,4-Thiadiazolidine-2,5-dithione*

■ CAS-No. 1072-71-5 ■ EC-No. 214-014-1

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. inH<sub>2</sub>O (20 °C) insoluble ■ M = 150.25 g/mol■ Melting point 157.9 °C ■ Bulk density 500 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 4, Oral,

H302; Serious eye damage, Category 1, H318,

P260, P280, P305 + P351 + P338, P313

■ LD50 oral rat 1616 mg/kg

■ LGK 10 - 13

■ HS-No. 2934 99 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

Identity (IR)..... passes test

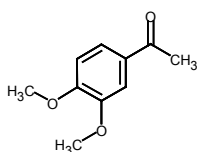
Ord.No.	Packaging	Quantity	Price
8.40136.0025	Glass bottle	25 g	inquire
8.40136.0100	Glass bottle	100 g	inquire

alpha,alpha-Dimethoxyacetone → Pyruvaldehyde

1,1-dimethyl acetal page 1395

α,α-Dimethoxyacetone → Pyruvaldehyde 1,1-

dimethyl acetal page 1395

**818276 3,4-Dimethoxyacetophenone for synthesis**C<sub>10</sub>H<sub>12</sub>O<sub>3</sub>3,4-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COCH<sub>3</sub>*Acetoveratron, 1-(3,4-Dimethoxyphenyl)-**ethanone*

■ CAS-No. 1131-62-0 ■ EC-No. 214-468-0

■ Flash point 113 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 180.20 g/mol

■ Melting point 46 - 49 °C

■ Boiling point 286 - 288 °C (1013 hPa)

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2914 50 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)

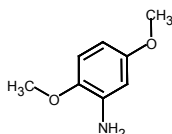
Melting range (lower value)..... ≥ 48 °C

Melting range (upper value)..... ≤ 51 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18276.0050	Plastic bottle	50 g	inquire
8.18276.0250	Plastic bottle	250 g	inquire

1,4-Dimethoxyacetylene → 2-Butyne-1,4-diol page 556

**800407 2,5-Dimethoxyaniline for synthesis**C<sub>8</sub>H<sub>11</sub>NO<sub>2</sub>

■ CAS-No. 102-56-7 ■ EC-No. 203-040-9

■ Flash point 130 °C ■ M = 153.18 g/mol

■ Melting point 78 - 80 °C

■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302

■ LD50 oral rat 578 mg/kg

■ LGK 6.1A

■ HS-No. 2922 29 00 ■ Disposal 9

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**

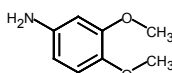
Assay (GC, area%)..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 77 °C

Melting range (upper value)..... ≤ 80 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00407.0050	Glass bottle	50 g	inquire
8.00407.0250	Glass bottle	250 g	inquire

**821771 3,4-Dimethoxyaniline for synthesis**C<sub>8</sub>H<sub>11</sub>NO<sub>2</sub>3,4-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>*4-Aminoveratrol, 4-Aminopyrocatechol dimethyl ether*

■ CAS-No. 6315-89-5 ■ EC-No. 228-647-6

■ Flash point &gt;110 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 153.18 g/mol

■ Melting point 85 - 88 °C

■ Boiling point 174 - 176 °C (29 hPa)

■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4,

Dermal, H312; Acute toxicity, Category 4, Oral,

H302, P302 + P352

■ LD50 oral rat 681 mg/kg

■ LGK 10 - 13

■ HS-No. 2922 29 00 ■ Disposal 3

■ ADR-RID UN 2930 Giftiger organischer fester

Stoff, entzündbar, n.a.g.(3,4-DIMETHOXYANILIN),

6.1 (4.1), II ■ IMDG-Code UN 2930 TOXIC SOLID,

FLAMMABLE, ORGANIC, N.O.S.(3,4-

DIMETHOXYANILINE), 6.1 (4.1), II

■ IATA-DGR UN 2930 TOXIC SOLID, FLAMMABLE,

ORGANIC, N.O.S.(3,4-DIMETHOXYANILINE), 6.1

(4.1), II

**Specification**

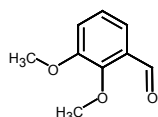
Assay (GC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 84 °C

Melting range (upper value)..... ≤ 88 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21771.0010	Glass bottle	10 g	inquire

**818351 2,3-Dimethoxybenzaldehyde for synthesis**C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>2,3-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CHO

■ CAS-No. 86-51-1 ■ EC-No. 201-677-7

■ Flash point 113 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 166.17 g/mol

■ Melting point 51 - 54 °C

■ Boiling point 132 - 137 °C (16 hPa)

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2912 49 00 ■ Disposal 3

**Specification**

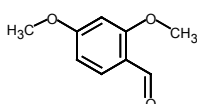
Assay (GC, area%)..... ≥ 97.0 % (a/a)

Melting range (lower value)..... ≥ 49 °C

Melting range (upper value)..... ≤ 53 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18351.0025	Plastic bottle	25 g	inquire

**820486 2,4-Dimethoxybenzaldehyde for synthesis**C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>2,4-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CHO

■ CAS-No. 613-45-6 ■ EC-No. 210-342-4

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 166.18 g/mol

■ Melting point 67 - 70 °C

■ Boiling point 165 °C (13 hPa)

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2912 49 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 67 °C

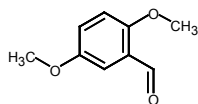
Melting range (upper value)..... ≤ 70 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20486.0025	Glass bottle	25 g	inquire

# Dimeth

## 841546 2,5-Dimethoxybenzaldehyde for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>  
 ■ CAS-No. 93-02-7 ■ EC-No. 202-211-5

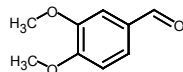
- Flash point 113 °C ■ Solub. in H<sub>2</sub>O 795 mg/l (25 °C) ■ M = 166.17 g/mol
- Melting point 49 - 51 °C ■ Boiling point 146 °C (13 hPa)
- WGK 2
- LD50 oral rat > 3200 mg/kg
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 48 °C  
 Melting range (upper value)..... ≤ 50 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41546.0025	Glass bottle	25 g	inquire

## 808525 3,4-Dimethoxybenzaldehyde for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>  
 3,4-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CHO  
*Veratraldehyde*  
 ■ CAS-No. 120-14-9 ■ EC-No. 204-373-2  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 6.3 g/l (25 °C) ■ M = 166.17 g/mol

- Melting point 40 - 43 °C ■ Boiling point 281 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
- LD50 oral rat 2000 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

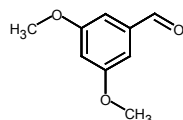
■ IATA-DGR No Dangerous Good

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 40 °C  
 Melting range (upper value)..... ≤ 44 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08525.0100	Plastic bottle	100 g	inquire

## 820488 3,5-Dimethoxybenzaldehyde for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>  
 3,5-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CHO

- CAS-No. 7311-34-4 ■ EC-No. 230-772-6
- Flash point >112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 166.17 g/mol
- Melting point 44 - 47 °C ■ Boiling point 151 °C (21 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 44 °C  
 Melting range (upper value)..... ≤ 47 °C  
 Identity (IR)..... passes test

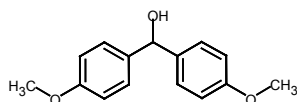
Ord.No.	Packaging	Quantity	Price
8.20488.0005	Glass bottle	5 g	inquire

1,2-Dimethoxybenzene → Pyrocatechol dimethyl ether page 1391

1,3-Dimethoxybenzene → Resorcinol dimethyl ether page 1405

1,4-Dimethoxybenzene → Hydroquinone dimethyl ether page 975

## 841482 4,4'-Dimethoxybenzhydrol for synthesis



C<sub>15</sub>H<sub>16</sub>O<sub>3</sub>  
*Bis(4-methoxyphenyl)carbinol*

- CAS-No. 728-87-0 ■ EC-No. 211-975-9
- M = 244.29 g/mol ■ Melting point 68 - 70 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2909 49 80 ■ Disposal 3

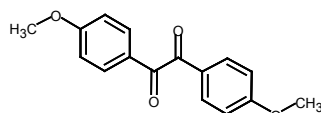
Melting range (lower value)..... ≥ 69 °C  
 Melting range (upper value)..... ≤ 72 °C  
 Identity (IR)..... passes test

### Specification

Assay (HPLC, area%)..... ≥ 99,0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.41482.0005	Glass bottle	5 g	inquire

## 820104 4,4'-Dimethoxybenzil for synthesis



C<sub>16</sub>H<sub>14</sub>O<sub>4</sub>  
 4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>COCOC<sub>6</sub>H<sub>4</sub>-4-(OCH<sub>3</sub>)

### *p*-Anisil, Di-*p*-anisoyl

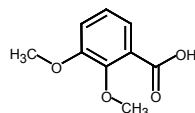
- CAS-No. 1226-42-2 ■ EC-No. 214-960-5
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 270.28 g/mol ■ Melting point 128 - 131 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 130 °C  
 Melting range (upper value)..... ≤ 133 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20104.0025	Glass bottle	25 g	inquire

## 814000 2,3-Dimethoxybenzoic acid for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>4</sub>  
 2,3-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COOH

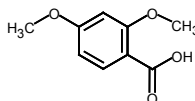
- CAS-No. 1521-38-6 ■ EC-No. 216-188-4
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 182.17 g/mol ■ Melting point 121 - 124 °C
- WGK 1
- GHS: P260, P262
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 121 °C  
 Melting range (upper value)..... ≤ 124 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14000.0010	Glass bottle	10 g	inquire

## 818893 2,4-Dimethoxybenzoic acid for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>4</sub>  
 2,4-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COOH  
 ■ CAS-No. 91-52-1 ■ EC-No. 202-074-1

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 182.17 g/mol ■ Melting point 107 - 110 °C
- WGK 1
- GHS: P260, P262
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

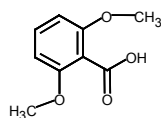
Melting range (lower value)..... ≥ 107 °C  
 Melting range (upper value)..... ≤ 110 °C  
 Identity (IR)..... conforms

### Specification

Assay (acidimetric)..... ≥ 99,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18893.0025	Plastic bottle	25 g	inquire

## 822032 2,6-Dimethoxybenzoic acid for synthesis



$C_9H_{10}O_4$   
2,6-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COOH

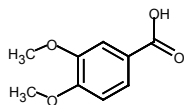
- CAS-No. 1466-76-8 ■ EC-No. 215-985-4
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 182.17 g/mol
- Melting point 185 - 188 °C
- WGK 1
- GHS: P260, P262
- LGK 10 - 13
- HS-No. 2918 99 40 ■ Disposal 4

**Specification**

Assay (acidimetric)..... ≥ 98,0 %  
Melting range (lower value)..... ≥ 184 °C  
Melting range (upper value)..... ≤ 188 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22032.0025	Plastic bottle	25 g	inquire

## 3,4-Dimethoxybenzoic acid



$C_9H_{10}O_4$   
3,4-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COOH  
*Veratric acid*  
■ CAS-No. 93-07-2 ■ EC-No. 202-215-7

- Solub. in H<sub>2</sub>O 0.5 g/l (14 °C) ■ M = 182.17 g/mol
- Melting point 179 - 182 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 4

## 808526 3,4-Dimethoxybenzoic acid for synthesis

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08526.0100	Plastic bottle	100 g	inquire

## 845140 3,4-Dimethoxybenzoic acid for pharma synthesis, non-GMP

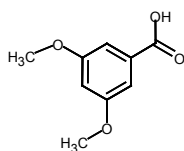
**Specification**

Colour (visual)..... white  
Appearance of substance (visual)..... powder  
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Water (K. F.)..... ≤ 1,0 %

Identity (IR)..... passes test  
1,2-dichloroethane..... lot specific result

Ord.No.	Packaging	Quantity	Price
8.45140.0250	Plastic bottle	250 g	inquire
8.45140.1000	Plastic bottle	1 kg	inquire

## 820490 3,5-Dimethoxybenzoic acid for synthesis



3,5-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COOH  
■ CAS-No. 1132-21-4 ■ EC-No. 214-473-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 182.17 g/mol
- Melting point 181 - 185 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 4

**Specification**

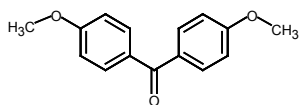
Assay (acidimetric)..... ≥ 98,0 %  
Melting range (lower value)..... ≥ 181 °C  
Melting range (upper value)..... ≤ 185 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20490.0050	Plastic bottle	50 g	inquire

$C_9H_{10}O_4$

4,4'-Dimethoxybenzoin → p-Anisoin page 420

## 820491 4,4'-Dimethoxybenzophenone for synthesis



$C_{15}H_{14}O_3$   
4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>COC<sub>6</sub>H<sub>4</sub>-4-(OCH<sub>3</sub>)  
*Bis(p-methoxyphenyl) ketone*

■ CAS-No. 90-96-0 ■ EC-No. 202-028-0
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 242.27 g/mol
- Melting point 142 - 145 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

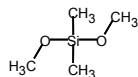
Melting range (lower value)..... ≥ 141 °C  
Melting range (upper value)..... ≤ 144 °C  
Identity (IR)..... passes test

**Specification**  
Assay (GC, area%)..... ≥ 97.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.20491.0025	Glass bottle	25 g	inquire

4,4-Dimethoxybutanone → Acetoacetaldehyde-1,1-dimethyl acetal page 337

## 843345 Dimethoxydimethylsilane for synthesis



$C_4H_{12}O_2Si$   
■ CAS-No. 1112-39-6 ■ EC-No. 214-189-4
- Spec. density 0.864 g/cm<sup>3</sup> ■ Flash point 10 °C
- M = 120.23 g/mol ■ Boiling point 81 °C (1013 hPa)
- WGK 2

■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P262
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DIMETHOXYDIMETHYLSILAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(DIMETHOXYDIMETHYLSILANE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(DIMETHOXYDIMETHYLSILANE), 3, II

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.862 - 0.866  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43345.0025	Glass bottle	25 ml	inquire

1,1-Dimethoxyethane → page 331

1,2-Dimethoxyethane → Ethylene glycol dimethyl ether page 303

2,2-Dimethoxyethylamine → Aminoacetaldehyde dimethyl acetal page 376

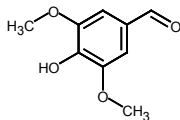
3,4-Dimethoxyhydrocinnamic acid → 3-(3,4-Dimethoxyphenyl)-propionic acid page 772





# Dimeth

## 818353 3,5-Dimethoxy-4-hydroxybenzaldehyde for synthesis



**Syringaldehyde**  
 ■ CAS-No. 134-96-3 ■ EC-No. 205-167-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 182.17 g/mol  
 ■ Melting point 109 - 112 °C  
 ■ Boiling point 192 - 193 °C (19 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 49 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)  
 Melting range (lower value) ..... ≥ 109 °C  
 Melting range (upper value) ..... ≤ 112 °C  
 Identity (IR) ..... passes test

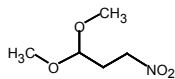
C<sub>9</sub>H<sub>10</sub>O<sub>4</sub>  
 3,5-(CH<sub>3</sub>O)<sub>2</sub>-4-(OH)C<sub>6</sub>H<sub>3</sub>CHO

Ord.No.	Packaging	Quantity	Price
8.18353.0010	Glass bottle	10 g	inquire

3,5-Dimethoxy-4-hydroxybenzoic acid → 4-Hydroxy-3,5-dimethoxybenzoic acid page 980  
 Dimethoxyisobutylisopropylsilane → Isobutylisopropylidimethoxysilane page 1044

Dimethoxymethane → page 910  
 2,2-Dimethoxy-N-methylethylamine → (Methylamino)acetaldehyde dimethyl acetal page 1130

## 814137 1,1-Dimethoxy-3-nitropropane for synthesis



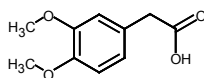
■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 90 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 149.14 g/mol  
 ■ Boiling point 96 °C (20 hPa)  
 ■ WGK 2  
 ■ LGK 10  
 ■ HS-No. 2911 00 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 96.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,125 - 1,130  
 Identity (IR) ..... conforms

C<sub>5</sub>H<sub>11</sub>NO<sub>4</sub>  
 O<sub>2</sub>N-CH<sub>2</sub>-CH<sub>2</sub>-CH(OCH<sub>3</sub>)<sub>2</sub>  
 3-Nitropropionaldehyde dimethyl acetal  
 ■ CAS-No. 72447-81-5

Ord.No.	Packaging	Quantity	Price
8.14137.0001	Glass bottle	1 ml	inquire

## 800298 3,4-Dimethoxyphenylacetic acid for synthesis



■ M = 196.20 g/mol ■ Melting point 97 - 99 °C  
 ■ WGK 2  
 ■ GHS: P260, P262  
 ■ LD50 oral rat > 3000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 99 90 ■ Disposal 4

Melting range (upper value) ..... ≤ 98 °C  
 Identity (IR) ..... conforms

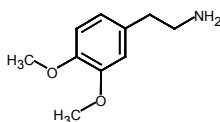
C<sub>10</sub>H<sub>12</sub>O<sub>4</sub>  
 3,4-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CH<sub>2</sub>COOH  
 Homoveratric acid  
 ■ CAS-No. 93-40-3 ■ EC-No. 202-244-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

**Specification**  
 Assay (acidimetric) ..... ≥ 98.0 % (m)  
 Melting range (lower value) ..... ≥ 95 °C

Ord.No.	Packaging	Quantity	Price
8.00298.0025	Plastic bottle	25 g	inquire
8.00298.0100	Plastic bottle	100 g	inquire

1,1-Dimethoxy-2-phenylethane → Phenylacetaldehyde dimethyl acetal page 1295

## 818438 2-(3,4-Dimethoxyphenyl)ethylamine for synthesis



limit 0.1 - 1.7 % (V) ■ Flash point 125 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 181.23 g/mol  
 ■ pH value 11.4 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 12 - 15 °C ■ Boiling point 188 °C (20 hPa) ■ Ignition temp. 380 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313  
 ■ LC50 rat > 5.5 mg/l  
 ■ LD50 oral rat 720 mg/kg ■ LD50 dermal rat

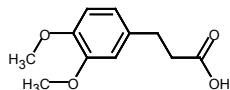
2800 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 29 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.091 - 1.093  
 Identity (IR) ..... passes test

C<sub>10</sub>H<sub>15</sub>NO<sub>2</sub>  
 3,4-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>  
 Homoveratrylamine  
 ■ CAS-No. 120-20-7 ■ EC-No. 204-376-9  
 ■ Refractive index 1.5464 (20 °C, 589 nm)  
 ■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Explosive

Ord.No.	Packaging	Quantity	Price
8.18438.0050	Glass bottle	50 ml	inquire

## 841127 3-(3,4-Dimethoxyphenyl)-propionic acid for synthesis



■ M = 210.22 g/mol ■ Melting point 99 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 99 90 ■ Disposal 3

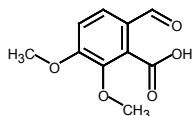
Identity (IR) ..... passes test

C<sub>11</sub>H<sub>14</sub>O<sub>4</sub>  
 3,4-Dimethoxyhydrocinnamic acid  
 ■ CAS-No. 2107-70-2 ■ EC-No. 218-288-3

**Specification**  
 Assay (acidimetric) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 97 °C  
 Melting range (upper value) ..... ≤ 99 °C

Ord.No.	Packaging	Quantity	Price
8.41127.0005	Glass bottle	5 g	inquire
8.41127.0050	Glass bottle	50 g	inquire

## 818274 5,6-Dimethoxyphthalaldehydic acid for synthesis



**6-Formyl-2,3-dimethoxybenzoic acid, Opianic acid**  
 ■ CAS-No. 519-05-1 ■ EC-No. 208-261-4  
 ■ Solub. in H<sub>2</sub>O 2.5 g/l (20 °C) ■ M = 210.18 g/mol  
 ■ Melting point 145 - 148 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 99 90 ■ Disposal 4

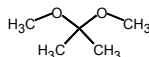
**Specification**  
 Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 145 °C  
 Melting range (upper value) ..... ≤ 148 °C  
 Identity (IR) ..... passes test

C<sub>10</sub>H<sub>10</sub>O<sub>5</sub>  
 2-(OHC)-5,6-(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>2</sub>COOH

Ord.No.	Packaging	Quantity	Price
8.18274.0005	Plastic bottle	5 g	inquire



## 802936 2,2-Dimethoxypropane for synthesis

C<sub>5</sub>H<sub>12</sub>O<sub>2</sub>

Acetone dimethyl acetal

■ CAS-No. 77-76-9 ■ EC-No. 201-056-0  
 ■ Refractive index 1.378 (20 °C, 589 nm) ■ Vapour pressure 60 hPa (16 °C) ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 6 - 31 % (V)  
 ■ Flash point -10 °C ■ Solub. in H<sub>2</sub>O 180 g/l (20 °C) ■ M = 104.15 g/mol ■ Melting point -47 °C ■ Boiling point 80 °C

■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319, P210, P305 + P351 + P338  
 ■ LD50 oral rat > 2260 mg/kg ■ LD50 dermal rat > 2100 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2911 00 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,2-DIMETHOXYPROPAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,2-DIMETHOXYPROPANE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(2,2-DIMETHOXYPROPANE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,850 - 0,851  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02936.0100	Glass bottle	100 ml	inquire
8.02936.0500	Glass bottle	500 ml	inquire
8.02936.1000	Glass bottle	1 l	inquire

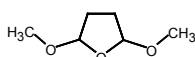
1,1-Dimethoxy-2-propanone → Pyruvaldehyde 1,1-dimethyl acetal page 1395

1,2-Dimethoxy-4-(1-propenyl) benzene → Methylisoeugenol page 1158

1,2-Dimethoxy-4-(2-propenyl)benzene → Eugenol methyl ether page 889

6,7-Dimethoxyquinazoline-2,4-dione → 1,2,3,4-Tetrahydro-6,7-dimethoxyquinazoline-2,4-dione page 1532

## 802961 2,5-Dimethoxytetrahydrofuran (mixture of cis- and trans isomers) for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>(OCH<sub>3</sub>)<sub>2</sub>C<sub>4</sub>H<sub>6</sub>O

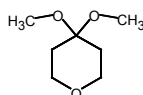
■ CAS-No. 696-59-3 ■ EC-No. 211-797-1  
 ■ Refractive index 1.418 (20 °C, 589 nm) ■ Vapour pressure 5 hPa (20 °C) ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.0 - 12.3 % (V)  
 ■ Flash point 35 °C ■ Solub. in H<sub>2</sub>O 300 g/l (20 °C) ■ M = 132.15 g/mol ■ pH value 5 (300 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -45 °C

■ Boiling point 145 - 148 °C (1.013 hPa)  
 ■ Ignition temp. >205 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319, P210, P305 + P351 + P338  
 ■ LD50 oral rat 2040 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2932 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DIMETHOXYTETRAHYDROFURAN), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,5-DIMETHOXYTETRAHYDROFURANE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2,5-DIMETHOXYTETRAHYDROFURANE), 3, III  
 Specification  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,022 - 1,024  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02961.0025	Glass bottle	25 ml	inquire
8.02961.0050	Glass bottle	50 ml	inquire
8.02961.0250	Glass bottle	250 ml	inquire

## 818266 4,4-Dimethoxy-tetrahydro-4H-pyran for synthesis

C<sub>7</sub>H<sub>14</sub>O<sub>3</sub>

■ CAS-No. 28218-71-5

■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 64 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 146.19 g/mol ■ Boiling point 64 - 66 °C (20 hPa)  
 ■ WGK 1  
 ■ HS-No. 2932 99 00 ■ Disposal 1

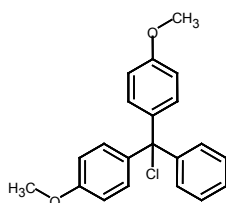
## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.041 - 1.043  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18266.0005	Glass bottle	5 ml	inquire

α,α-Dimethoxytoluene → Benzaldehyde dimethyl acetal page 434

## 818616 4,4'-Dimethoxytriphenylmethyl chloride for synthesis

C<sub>21</sub>H<sub>19</sub>ClO<sub>2</sub>C<sub>6</sub>H<sub>5</sub>(CH<sub>3</sub>OC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>CCl

4,4'-Dimethoxytrityl chloride

■ CAS-No. 40615-36-9 ■ EC-No. 255-002-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 338.83 g/mol ■ Melting point 120 - 123 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 30 90 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 121 °C  
 Melting range (upper value) ..... ≤ 125 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18616.0005	Glass bottle	5 g	inquire
8.18616.0025	Glass bottle	25 g	inquire

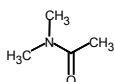
4,4'-Dimethoxytrityl chloride → 4,4'-

Dimethoxytriphenylmethyl chloride page 773

Dimethyl acetal → page 331

# Dimeth

## 100399 N,N-Dimethylacetamide for headspace gas chromatography SupraSolv®



C<sub>4</sub>H<sub>9</sub>NO  
 CH<sub>3</sub>CON(CH<sub>3</sub>)<sub>2</sub>  
**DMA, DMA**  
 ■ CAS-No. 127-19-5 ■ EC-No. 204-826-4  
 ■ Refractive index 1.423 (20 °C, 589 nm) ■ Vapour pressure 1.76 hPa (20 °C) ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 37.8 (25 °C)  
 ■ El. dipole moment 3.8 (20 °C) ■ Explosive limit 1.7 - 11.5 % (V) ■ Flash point 64 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 87.12 g/mol  
 ■ pH value 4 (200 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Saturation conc. 12 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -20 °C  
 ■ Boiling point 165 - 166 °C (1013 hPa)

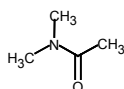
■ Ignition temp. 400 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Eye irritation, Category 2, H319; Reproductive toxicity, Category 1B, H360D, P201, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LC50 rat 8.97 mg/l  
 ■ LD50 oral rat 5830 mg/kg ■ LD50 dermal rabbit 2240 mg/kg  
 ■ EC-Index-No. 616-011-00-4 ■ LGK 6.1 C  
 ■ HS-No. 2924 19 00 ■ Disposal 9

**Specification**  
 Purity (GC)..... ≥ 99.8 %  
 Identity (IR)..... conforms  
 Evaporation residue..... ≤ 3.0 mg/l  
 Water..... ≤ 0.05 %  
 Colour..... ≤ 10 Hazen

GC/HS (Every residual solvent of class 1 acc. ICH)..... ≤ 1 µg/g  
 GC/HS (Every residual solvent of class 2 acc. ICH \*)..... ≤ 10 µg/g  
 GC/HS (N,N-Dimethylformamide)..... ≤ 20 µg/g  
 GC/HS (Every residual solvent of class 3 acc. ICH)..... ≤ 50 µg/g  
 Suitable as solvent for the analysis of residual solvents of ICH classes 1, 2 and 3 according to Ph Eur and USP. \*Excluded N,N-Dimethylformamide. Formic acid and acetic acid are not detected.

Ord.No.	Packaging	Quantity	Price
1.00399.0500	Glass bottle	0.5 l	inquire
	Glass bottle	6 x 0.5 l	inquire
1.00399.1000	Glass bottle	1 l	inquire

## 803235 N,N-Dimethylacetamide for synthesis



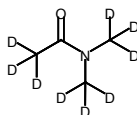
C<sub>4</sub>H<sub>9</sub>NO  
 CH<sub>3</sub>CON(CH<sub>3</sub>)<sub>2</sub>  
**Acetic acid dimethylamide, Acetyldimethylamine, DMA**  
 ■ CAS-No. 127-19-5 ■ EC-No. 204-826-4  
 ■ Refractive index 1.423 (20 °C, 589 nm) ■ Vapour pressure 1.76 hPa (20 °C) ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 37.8 (25 °C)  
 ■ El. dipole moment 3.8 (20 °C) ■ Explosive limit 1.7 - 11.5 % (V) ■ Flash point 64 °C ■ Solub.

in H<sub>2</sub>O (20 °C) soluble ■ M = 87.12 g/mol  
 ■ pH value 4 (200 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Saturation conc. 12 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -20 °C  
 ■ Boiling point 165 - 166 °C (1013 hPa)  
 ■ Ignition temp. 400 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Eye irritation, Category 2, H319; Reproductive toxicity, Category 1B, H360D, P201, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LC50 rat 8.97 mg/l  
 ■ LD50 oral rat 5830 mg/kg ■ LD50 dermal rabbit 2240 mg/kg

■ EC-Index-No. 616-011-00-4 ■ LGK 6.1 C  
 ■ HS-No. 2924 19 00  
**Specification**  
 Assay (GC, area%)..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C)..... 0.940 - 0.942  
 Water (K. F.)..... ≤ 0.30 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03235.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03235.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.03235.9026	Plastic container	25 l	inquire

## 815032 N,N-Dimethylacetamide-D9 deuteration degree min. 99% for NMR spectroscopy MagniSolv™



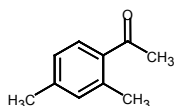
C<sub>4</sub>D<sub>9</sub>NO  
 ■ CAS-No. 16727-10-9  
 ■ Vapour pressure 1.76 hPa (20 °C)  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 11.5 % (V) ■ Flash point 64 °C ■ Solub.

in H<sub>2</sub>O (20 °C) soluble ■ M = 96.18 g/mol  
 ■ pH value 4 (200 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -20 °C  
 ■ Boiling point 165 - 166 °C (1013 hPa)  
 ■ Ignition temp. 400 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Eye irritation, Category 2, H319; Reproductive toxicity, Category 1B, H360D, P201, P302 + P352, P305 + P351 + P338, P308 + P313

■ LC50 rat 8.97 mg/l  
 ■ LD50 oral rat 5830 mg/kg ■ LD50 dermal rabbit 2240 mg/kg  
 ■ LGK 6.1 A  
 ■ HS-No. 2845 90 10 ■ Disposal 9  
**Specification**  
 Deuteration degree..... ≥ 99 %

Ord.No.	Packaging	Quantity	Price
8.15032.0001	Glass ampoule	1 ml	inquire

## 816117 2,4-Dimethylacetophenone for synthesis



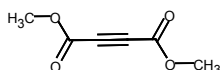
C<sub>10</sub>H<sub>12</sub>O

■ CAS-No. 89-74-7 ■ EC-No. 201-935-9  
 ■ Spec. density 0.998 g/cm<sup>3</sup> (20 °C)  
 ■ M = 148.21 g/mol  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C)..... 0.996 - 1.000  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16117.0050	Glass bottle	50 ml	inquire

## 800029 Dimethyl acetylenedicarboxylate for synthesis

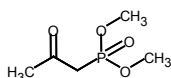


C<sub>6</sub>H<sub>6</sub>O<sub>4</sub>  
**Acetylenedicarboxylic acid dimethyl ester**  
 ■ CAS-No. 762-42-5 ■ EC-No. 212-098-4  
 ■ Refractive index 1.447 (20 °C, 589 nm)  
 ■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 142.11 g/mol  
 ■ Melting point -17.78 °C  
 ■ Boiling point 195 - 198 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 A ■ Store below +15 °C.  
 ■ HS-No. 2917 19 90 ■ Disposal 3  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(DIMETHYL-ACETYLENEDICARBOXYLATE), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DIMETHYL-ACETYLENEDICARBOXYLATE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DIMETHYL-ACETYLENEDICARBOXYLATE), 8, II  
**Specification**  
 Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C)..... 1.157 - 1.165  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00029.0025	Glass bottle	25 ml	inquire

**841199 Dimethyl acetylmethylphosphonate for synthesis**C<sub>5</sub>H<sub>11</sub>O<sub>4</sub>P

(2-Oxo-propyl)-phosphonic acid dimethyl ester

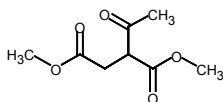
■ CAS-No. 4202-14-6 ■ EC-No. 224-110-5

- Spec. density 1.2 g/cm<sup>3</sup> (20 °C)
- Flash point 93 °C ■ M = 166.11 g/mol
- Boiling point 121 - 123 °C (14.7 hPa)
- WGK 3
- LGK 10
- HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.205 - 1.210  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41199.0005	Glass bottle	5 ml	inquire

**814153 Dimethyl acetylsuccinate for synthesis**C<sub>8</sub>H<sub>12</sub>O<sub>5</sub>CH<sub>3</sub>OOCCH<sub>2</sub>CH(COCH<sub>3</sub>)COOCH<sub>3</sub>

Acetylsuccinic acid dimethyl ester

■ CAS-No. 10420-33-4 ■ EC-No. 233-897-4

■ Vapour pressure &lt; 1 hPa (20 °C)

- Spec. density 1.16 g/cm<sup>3</sup> (20 °C) OECD Test Guideline 109 ■ Explosive limit 0.72 - 11.1 % (V)
- Flash point 128 °C ■ Solub. in H<sub>2</sub>O 30 g/l (20 °C) OECD Test Guideline 105 ■ M = 188.18 g/mol
- Melting point 28 - 31 °C
- Boiling point 248 °C (981 hPa)
- Ignition temp. 340 °C DIN 51794
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13

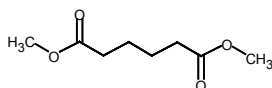
■ HS-No. 2918 30 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 28 °C  
 Melting range (upper value) ..... ≤ 31 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14153.0100	Plastic bottle	100 g	inquire

trans-2,3-Dimethylacrylic acid → Tiglic acid page 1556

**800097 Dimethyl adipate for synthesis**C<sub>8</sub>H<sub>14</sub>O<sub>4</sub>CH<sub>3</sub>OOC(CH<sub>2</sub>)<sub>4</sub>COOCH<sub>3</sub>

Dimethyl hexanedioate, Adipic acid dimethyl ester

■ CAS-No. 627-93-0 ■ EC-No. 211-020-6

■ Refractive index 1.4285 (20 °C, 589 nm)

■ Vapour pressure 0.06 hPa (20 °C)

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.81 - 8.1 % (V) ■ Flash point 107 °C
- Kin. viscosity 2.5 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O < 1 g/l (20 °C) ■ M = 174.19 g/mol
- Melting point 8 - 11 °C
- Boiling point 215 - 225 °C (1013 hPa)
- Ignition temp. 360 °C
- WGK 1
- LD50 oral rat 8191 mg/kg ■ LD50 dermal rabbit > 2250 mg/kg
- LGK 10

■ HS-No. 2917 12 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,060 - 1,063  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00097.0250	Glass bottle	250 ml	inquire
8.00097.1000	Glass bottle	1 l	inquire

**814499 Dimethyl adipate/Dimethyl glutarate/Dimethyl succinate (mixture of the esters 16:63:21) for synthesis****Imso**

- Refractive index 1.423 - 1.425 (20 °C) ■ Vapour pressure 0.1 hPa (20 °C) ■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 8.0 % (V)
- Flash point 102 °C ■ Solub. in H<sub>2</sub>O 53 g/l (20 °C)
- Melting point -20 °C
- Boiling point 196 - 225 °C
- Water absorption 37 g/kg (20 °C)
- Ignition temp. 370 °C

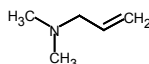
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10
- HS-No. 3824 90 97 ■ Disposal 3

**Specification**

Assay complete test mixture (GC, area%) .....  
 ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,086 - 1,090  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14499.1000	Glass bottle	1 l	inquire
8.14499.2500	Glass bottle	2.5 l	inquire

**818197 N,N-Dimethylallylamine for synthesis**C<sub>5</sub>H<sub>11</sub>NCH<sub>2</sub>=CHCH<sub>2</sub>N(CH<sub>3</sub>)<sub>2</sub>

N-Allyldimethylamine

■ CAS-No. 2155-94-4 ■ EC-No. 218-458-7

■ Refractive index 1.3998 (20 °C, 589 nm)

■ Spec. density 0.730 g/cm<sup>3</sup> (20 °C)■ Flash point 8 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

■ M = 85.14 g/mol ■ Boiling point 62 - 64 °C

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P210, P223, P302 + P352, P305 + P351 + P338
- LGK 3
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(N,N-DIMETHYLALLYLAMIN), 3 (8), II
- IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N-DIMETHYLALLYLAMINE), 3 (8), II, Segregation Group: 18 (Alkalis)

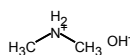
■ IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N-DIMETHYLALLYLAMINE), 3 (8), II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.718 - 0.722  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18197.0025	Glass bottle	25 ml	inquire

Dimethylamine/carbon dioxide complex → Dimethyl ammonium dimethylcarbamate page 780

**822033 Dimethylamine (40% aqueous solution) for synthesis**

- Refractive index 1.37 (20 °C, 589 nm) ■ Vapour pressure 263 hPa (20 °C) ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.6 - 12.3 % (V)
- Flash point -18.5 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O)
- Melting point -38 °C ■ Boiling point 51 - 100 °C
- Ignition temp. 415 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2,

H225; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 1000 mg/kg ■ LD50 dermal rat 3900 mg/kg

■ LGK 3

■ HS-No. 2921 11 00 ■ Disposal 3

■ ADR-RID UN 1160 Dimethylamin, wässrige Lösung, 3 (8), II ■ IMDG-Code UN 1160 DIMETHYLAMINE AQUEOUS SOLUTION, 3 (8), II,

Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 1160 DIMETHYLAMINE AQUEOUS SOLUTION, 3 (8), II

**Specification**

Assay (acidimetric) ..... 39,0 - 41,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,890 - 0,900

Ord.No.	Packaging	Quantity	Price
8.22033.1000	Glass bottle	1 l	inquire
8.22033.2500	Glass bottle	2.5 l	inquire

# Dimeth

Dimethylamine hydrochloride → page 780

N,N-Dimethylaminoacetic acid hydrochloride → N,

N-Dimethylglycine hydrochloride page 791

4-Dimethylaminoazobenzene-2'-carboxylic acid →

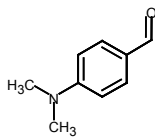
Methyl red (C.I. 13020) page 1179

4-(Dimethylamino)azobenzene-1,2'-carboxylic acid sodium salt → Methyl red sodium salt (C.I. 13020) page 1179

4-Dimethylaminoazobenzene-4'-sulfonic acid

sodium salt → Methyl orange (C.I. 13025) page 1166

## 4-(Dimethylamino)benzaldehyde



C<sub>9</sub>H<sub>11</sub>NO

4-[(CH<sub>3</sub>)<sub>2</sub>N]C<sub>6</sub>H<sub>4</sub>CHO

*p*-Formyldimethylaniline, Ehrlich's reagent

■ CAS-No. 100-10-7 ■ EC-No. 202-819-0

■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (20 °C) ■ M = 149.19 g/mol

■ Melting point 72 - 75 °C ■ Bulk density 350 kg/m<sup>3</sup> ■ Boiling point 176 - 177 °C (23 hPa)

■ Ignition temp. 445 °C

■ WGK 1

■ LD50 oral rat > 6400 mg/kg

■ LGK 10 - 13

■ HS-No. 2922 39 00 ■ Disposal 3

Reagent for the detection of urobilinogen and other nitrogen-containing compounds (e.g. LSD).

### 803057 4-(Dimethylamino)benzaldehyde for synthesis

Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)

Assay (GC, area%)..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 70 °C

Melting range (upper value)..... ≤ 75 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03057.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
8.03057.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
8.03057.1000	Plastic bottle	1 kg	inquire

### 103058 4-(Dimethylamino)benzaldehyde GR for analysis Reag. Ph Eur

Specification

Assay (perchloric acid titration)..... ≥ 99 %

Identity (IR-spectrum)..... passes test

Melting point..... 73 - 75 °C

Heavy metals (as Pb)..... ≤ 0,001 %

Fe (Iron)..... ≤ 0,001 %

Readily carbonisable substance..... passes test

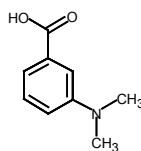
Sulfated ash..... ≤ 0,1 %

Loss on drying..... ≤ 0,5 %

Ord.No.	Packaging	Quantity	Price
1.03058.0025	Plastic bottle	25 g	inquire
1.03058.0100	Plastic bottle	100 g	inquire
1.03058.1000	Plastic bottle	1 kg	inquire

Dimethylaminobenzene → N,N-Dimethylaniline page 782

## 814112 3-Dimethylaminobenzoic acid for synthesis



C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub>

3-((CH<sub>3</sub>)<sub>2</sub>N)C<sub>6</sub>H<sub>4</sub>COOH

■ CAS-No. 99-64-9 ■ EC-No. 202-775-2

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 165.19 g/mol

■ Melting point 149 - 152 °C

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2922 49 85 ■ Disposal 3

Specification

Assay (acidimetric)..... ≥ 97,0 % (m)

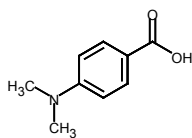
Melting range (lower value)..... ≥ 149 °C

Melting range (upper value)..... ≤ 152 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14112.0025	Plastic bottle	25 g	inquire

## 814678 4-Dimethylaminobenzoic acid for synthesis



C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub>

■ CAS-No. 619-84-1 ■ EC-No. 210-615-8

■ Spec. density 1 g/cm<sup>3</sup> ■ Flash point 170 °C

■ M = 165.19 g/mol ■ Melting point 240 - 242 °C

■ Bulk density 450 - 500 kg/m<sup>3</sup>

■ WGK 3

■ LD50 oral rat > 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2922 49 85 ■ Disposal 3

Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 235 °C

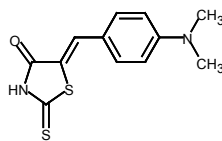
Melting range (upper value)..... ≤ 240 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14678.0100	Plastic bottle	100 g	inquire

4-Dimethylaminobenzoic acid ethyl ester → Ethyl 4-dimethylaminobenzoate page 859

## 103059 5-(4-Dimethylaminobenzylidene)-rhodanine GR for analysis (reagent for silver)



C<sub>12</sub>H<sub>12</sub>N<sub>2</sub>OS<sub>2</sub>

■ CAS-No. 536-17-4 ■ EC-No. 208-625-2

■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble

■ M = 264.37 g/mol

■ Melting point 275 - 280 °C decomposes

■ Bulk density 225 kg/m<sup>3</sup>

■ WGK 2

■ LGK 10 - 13

■ HS-No. 2934 10 00 ■ Disposal 3

Specification

Assay (of S)..... ≥ 98,0 %

Identity (IR)..... passes test

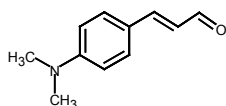
Substance insoluble in Aceton..... passes test

Suitability for silver determination..... passes test

Ord.No.	Packaging	Quantity	Price
1.03059.0005	Glass bottle	5 g	inquire

Dimethylaminoborane → Boron hydride dimethylamine page 482

## 822034 4-(Dimethylamino)-cinnamaldehyde for synthesis

C<sub>11</sub>H<sub>13</sub>NO4-[(CH<sub>3</sub>)<sub>2</sub>N]C<sub>6</sub>H<sub>4</sub>CH=CHCHO

- CAS-No. 6203-18-5 ■ EC-No. 228-267-0
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 175.22 g/l

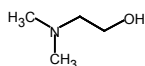
- mol ■ Melting point 135 - 138 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 39 00 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 137 °C  
 Melting range (upper value)..... ≤ 140 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22034.0002	Glass bottle	2 g	inquire
8.22034.0010	Glass bottle	10 g	inquire

## 803237 2-(Dimethylamino)-ethanol for synthesis

C<sub>4</sub>H<sub>11</sub>NO(CH<sub>3</sub>)<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>OH*N,N*-Dimethylethanolamine

- CAS-No. 108-01-0 ■ EC-No. 203-542-8
- Refractive index 1.4294 (20 °C, 589 nm)
- Vapour pressure 6.12 hPa (20 °C)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 12.2 % (V) ■ Flash point 39 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 89.14 g/mol ■ pH value 10.5 - 11 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -59 °C
- Boiling point 132 - 135 °C (1013 hPa)

- Ignition temp. 245 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 6.1 mg/l
- LD50 oral rat 2130 mg/kg ■ LD50 dermal rabbit 1220 mg/kg
- EC-Index-No. 603-047-00-0 ■ LGK 3
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2051 2-Dimethylaminoethanol, 8 (3), II ■ IMDG-Code UN 2051 2-

DIMETHYLAMINOETHANOL, 8 (3), II  
 ■ IATA-DGR UN 2051 2-  
 DIMETHYLAMINOETHANOL, 8 (3), II

## Specification

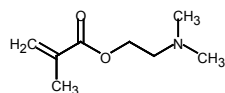
Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,886 - 0,887  
 Water (K. F.)..... ≤ 0,30 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03237.0100	Glass bottle	100 ml	inquire
8.03237.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.03237.9025	Barrel PE/met	25 kg	inquire

2-(Dimethylamino)ethylamine → N,N-Dimethylethylenediamine page 787

Dimethylaminoethyl chloride hydrochloride → N-(2-Chloroethyl)-N,N-dimethylammonium chloride page 611

## 840083 (2-Dimethylaminoethyl) methacrylate (stabilised with hydroquinone monomethyl ether) for synthesis

C<sub>8</sub>H<sub>15</sub>NO<sub>2</sub>

2-Propenoic acid-2-methyl-(2-dimethylamino) ethylester

- CAS-No. 2867-47-2 ■ EC-No. 220-688-8
- Vapour pressure 1 hPa (20 °C)
- Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.20 % (V) ■ Flash point 65 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 157.21 g/mol
- Melting point -50 °C
- Boiling point 182 - 192 °C (1013 hPa)

- Ignition temp. 255 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338
- LD50 oral rat 1751 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- EC-Index-No. 607-132-00-3 ■ LGK 10 ■ Store at +2 °C to +8 °C.
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2522 2-Dimethylaminoethylmethacrylat, 6.1, II ■ IMDG-

Code UN 2522 2-DIMETHYLAMINOETHYL

METHACRYLATE, 6.1, II

■ IATA-DGR UN 2522 2-DIMETHYLAMINOETHYL  
 METHACRYLATE, 6.1, II

## Specification

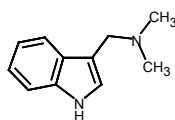
Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,930 - 0,934  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.40083.0025	Glass bottle	25 ml	inquire
8.40083.0250	Glass bottle	250 ml	inquire
8.40083.1000	Glass bottle	1 l	inquire

1-Dimethylaminoisopropyl chloride hydrochloride → N-(2-Chloropropyl)-N,N-dimethylammonium chloride page 633

3-Dimethylamino-7-methylamino-phenthiazonium-tetrafluoroborate → page 191

## 804242 3-(Dimethylaminomethyl)-indole for synthesis

C<sub>11</sub>H<sub>14</sub>N<sub>2</sub>

■ CAS-No. 87-52-5 ■ EC-No. 201-749-8

- Vapour pressure < 0.0001 hPa (20 °C)
- Flash point 167 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 174.24 g/mol
- Melting point 133 - 134 °C
- Bulk density 330 kg/m<sup>3</sup> ■ Ignition temp. 505 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80

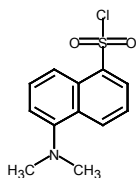
## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)  
 Melting range (lower value)..... ≥ 128 °C  
 Melting range (upper value)..... ≤ 131 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04242.0050	Glass bottle	50 g	inquire



## 103094 5-Dimethylaminonaphthalene-1-sulfonyl chloride for biochemistry

C<sub>12</sub>H<sub>12</sub>ClNO<sub>2</sub>S

Dansyl chloride

- CAS-No. 605-65-2 ■ EC-No. 210-092-6
- Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 269.75 g/mol
- Melting point 69.0 - 73.0 °C
- WGK 3
- GHS: Danger, Corrosive to metals, Category 1,

H290; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8A ■ Store at +2 °C to +8 °C.
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.((DIMETHYLAMINO)-NAPHTHALIN-SULFONYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.((DIMETHYLAMINO)-NAPHTHALEN-SULFONYLCHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.((DIMETHYLAMINO)-NAPHTHALEN-SULFONYLCHLORIDE), 8, II

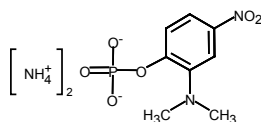
Soluble in chloroform and dimethylformamide. Labelling of proteins and N-terminal aminoacids.

**Specification**

Assay (DSC (differential scanning calorimetry))..... ≥ 98,0 %  
 Identity (IR-spectrum) ..... passes test  
 Melting point (DSC (differential scanning calorimetry)) ..... 69.0 - 73.0 °C  
 Self-fluorescence (Chinin) ..... ≤ 1.0 ppb

Ord.No.	Packaging	Quantity	Price
1.03094.0001	Glass bottle	1 g	inquire
1.03094.0010	Glass bottle	10 g	inquire

## 818130 (2-Dimethylamino-4-nitrophenyl) phosphoric acid diammonium salt monohydrate for synthesis

C<sub>8</sub>H<sub>17</sub>N<sub>4</sub>O<sub>6</sub>P \* H<sub>2</sub>O

Phosphoric acid 2-dimethylamino-4-nitrophenyl

ester diammonium salt

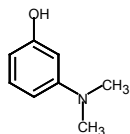
- CAS-No. 84787-89-3 ■ EC-No. 284-131-0
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 296.22 g/mol
- Bulk density 350 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2922 29 00 ■ Disposal 3

**Specification**

Assay (ex N) ..... ≥ 98,0 % (m)  
 Water (K. F.) ..... 5,0 - 6,0 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18130.0001	Glass bottle	1 g	inquire

## 841786 3-(Dimethylamino)-phenol for synthesis

C<sub>8</sub>H<sub>11</sub>NO

- CAS-No. 99-07-0 ■ EC-No. 202-727-0
- Flash point 141 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 137.18 g/mol

- pH value 7 (10 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 81 - 84 °C ■ Boiling point 140 °C (12 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

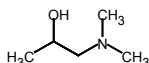
- HS-No. 2922 29 00

**Specification**

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 81 °C  
 Melting range (upper value) ..... ≤ 84 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41786.0025	Glass bottle	25 g	inquire

## 803247 1-(Dimethylamino)-2-propanol for synthesis

C<sub>5</sub>H<sub>13</sub>NOCH<sub>3</sub>CH(OH)CH<sub>2</sub>N(CH<sub>3</sub>)<sub>2</sub>

N-(2-Hydroxypropyl)-N,N-dimethylamine, N,N-Dimethylisopropanolamine

- CAS-No. 108-16-7 ■ EC-No. 203-556-4
- Refractive index 1.4193 (20 °C, 589 nm)
- Vapour pressure 17.5 hPa (20 °C)
- Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.7 - 11.1 % (V) ■ Flash point 26 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 103.16 g/mol
- pH value 11 (100 g/l, H<sub>2</sub>O, 20 °C)

- Melting point -85 °C
- Boiling point 125 - 127 °C (1013 hPa)
- Ignition temp. 225 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1360 mg/kg ■ LD50 dermal rabbit 1040 mg/kg
- EC-Index-No. 603-077-00-4 ■ LGK 3
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(1-(DIMETHYLAMINO)-2-PROPANOL), 8 (3), II ■ IMDG-Code UN 2734

AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(1-(DIMETHYLAMINO)-2-PROPANOL), 8 (3), II, Segregation Group: 18 (Alkalis)

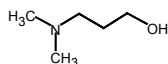
- IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(1-(DIMETHYLAMINO)-2-PROPANOL), 8 (3), II

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,849 - 0,850  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03247.0100	Glass bottle	100 ml	inquire
8.03247.0500	Glass bottle	500 ml	inquire

## 803643 3-(Dimethylamino)-1-propanol for synthesis

C<sub>5</sub>H<sub>13</sub>NO(CH<sub>3</sub>)<sub>2</sub>N(CH<sub>2</sub>)<sub>3</sub>OH

N,N-Dimethylpropanolamine

- CAS-No. 3179-63-3 ■ EC-No. 221-659-2
- Refractive index 1.436 (20 °C, 589 nm) ■ Vapour pressure 3.9 hPa (20 °C) ■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 11.2 % (V)
- Flash point 58 °C ■ Kin. viscosity 7.0 mm<sup>2</sup>/s (23 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 103.16 g/mol ■ pH value 11.3 (10 g/l, H<sub>2</sub>O,

- 20 °C) ■ Melting point -35 °C
- Boiling point 159 °C ■ Ignition temp. 235 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314; Acute toxicity, Category 4, Oral, H302, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1860 mg/kg
- LGK 3
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(3-(DIMETHYLAMINO)-1-PROPANOL), 8 (3), II ■ IMDG-Code UN 2734

AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(3-(DIMETHYLAMINO)-1-PROPANOL), 8 (3), II, Segregation Group: 18 (Alkalis)

- IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(3-(DIMETHYLAMINO)-1-PROPANOL), 8 (3), II

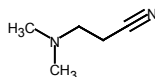
**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,884 - 0,886  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03643.0250	Glass bottle	250 ml	inquire



## 803224 3-(Dimethylamino)propionitrile for synthesis

C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>CH<sub>3</sub>)<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>CN

DMAPN

- CAS-No. 1738-25-6 ■ EC-No. 217-090-4
- Refractive index 1.4258 (20 °C, 589 nm)
- Vapour pressure 2.4 hPa (30 °C)
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 1.6 - 11.4 % (V) ■ Flash point 64 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 98.14 g/mol
- pH value 10.8 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -45 °C
- Boiling point 171 - 172 °C (1013 hPa)
- Ignition temp. 290 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338

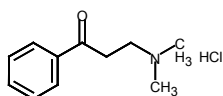
- LD50 oral rat 1293 - 2240 mg/kg
- LD50 dermal rabbit 1212 mg/kg
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,870 - 0,873  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03224.0250	Glass bottle	250 ml	inquire

## 841828 3-(Dimethylamino)-propiophenone hydrochloride for synthesis

C<sub>11</sub>H<sub>16</sub>ClNO

- CAS-No. 879-72-1 ■ EC-No. 212-909-1
- M = 213.7 g/mol ■ Melting point 155 - 156 °C
- WGK 3

- LGK 10 - 13
- HS-No. 2922 39 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-(DIMETHYLAMINO)-PROPIONHYDROCHLORID), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-(DIMETHYLAMINOPROPIOPHENONE HYDROCHLORIDE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(2-(DIMETHYLAMINOPROPIOPHENONE HYDROCHLORIDE), 6.1, II

## Specification

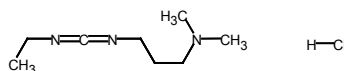
Assay (argentometric) ..... ≥ 99,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41828.0025	Plastic bottle	25 g	inquire

3-Dimethylaminopropylamine → N,N-Dimethyltrimethylenediamine page 807

3-Dimethylaminopropyl chloride hydrochloride → N-(3-Chloropropyl)-N,N-dimethylammonium chloride page 633

## 800907 N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride for synthesis

C<sub>8</sub>H<sub>18</sub>ClN<sub>3</sub>C<sub>8</sub>H<sub>17</sub>N<sub>3</sub>\*HCl

- CAS-No. 25952-53-8 ■ EC-No. 247-361-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 191.70 g/mol ■ Melting point 110 - 115 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319,

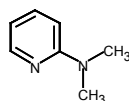
- P302 + P352, P305 + P351 + P338
- LGK 10 - 13 ■ Store below +15 °C.
- HS-No. 2925 29 00
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1-(3-DIMETHYLAMINOPROPYL)-3-ETHYLCARBODIIMID, HYDROCHLORID), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-(3-DIMETHYLAMINOPROPYL)-3-ETHYLCARBODIIMIDE HYDROCHLORIDE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-(3-DIMETHYLAMINOPROPYL)-3-ETHYLCARBODIIMIDE HYDROCHLORIDE), 6.1, II

## Specification

Assay (argentometric) ..... ≥ 99,0 %  
 Melting range (lower value) ..... ≥ 108 °C  
 Melting range (upper value) ..... ≤ 115 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00907.0001	Glass bottle	1 g	inquire
8.00907.0005	Glass bottle	5 g	inquire
	Glass bottle	6 x 5 g	inquire/5 g
8.00907.0025	Glass bottle	25 g	inquire
8.00907.8500	Glass bottle	500 mg	inquire

## 814107 2-(Dimethylamino)pyridine for synthesis

C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>

■ CAS-No. 5683-33-0 ■ EC-No. 227-147-5

- Refractive index 1.559 (20 °C, 589 nm)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point 47 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 122.16 g/mol ■ pH value 8.5 (H<sub>2</sub>O, 20 °C) suspension
- Boiling point 191 °C (1013 hPa)

- Ignition temp. 430 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-DIMETHYLAMINOPYRIDIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-

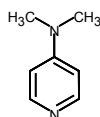
DIMETHYLAMINOPYRIDINE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-DIMETHYLAMINOPYRIDINE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,010 - 1,015  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14107.0010	Glass bottle	10 ml	inquire

## 820499 4-(Dimethylamino)pyridine for synthesis

C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>

■ CAS-No. 1122-58-3 ■ EC-No. 214-353-5

- Flash point 124 °C ■ Solub. in H<sub>2</sub>O 60 g/l (20 °C)
- M = 122.17 g/mol ■ pH value 11 (60 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 110 - 112 °C
- Bulk density 520 kg/m<sup>3</sup>
- Boiling point 138 - 140 °C (24 hPa)
- Ignition temp. 420 °C
- WGK 3

- GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 140 mg/kg ■ LD50 dermal rabbit 90 mg/kg
- LGK 6.1A
- HS-No. 2933 39 99
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-(DIMETHYLAMINO)-PYRIDIN), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-(DIMETHYLAMINO)PYRIDINE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-(DIMETHYLAMINO)PYRIDINE), 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 110 °C  
 Melting range (upper value) ..... ≤ 113 °C  
 Identity (IR) ..... passes test

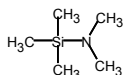
Ord.No.	Packaging	Quantity	Price
8.20499.0005	Glass bottle	5 g	inquire
8.20499.0025	Plastic bottle	25 g	inquire
	Plastic bottle	6 x 25 g	inquire
8.20499.0100	Plastic bottle	100 g	inquire
8.20499.0250	Plastic bottle	250 g	inquire

4-Dimethylaminotoluene → N,N-Dimethyl-p-toluidine page 806

Dimethylaminotrimethylsilane → Dimethylaminotrimethylsilane page 780

# Dimeth

## 814282 Dimethylaminotrimethylsilane for synthesis



$C_5H_{15}NSi$   
 $(CH_3)_3SiN(CH_3)_2$   
*Dimethylaminotrimethylsilane, TMSDMA, N-Trimethylsilyldimethylamine*  
 ■ CAS-No. 2083-91-2 ■ EC-No. 218-222-3  
 ■ Refractive index 1.3984 (20 °C, 589 nm)  
 ■ Vapour pressure 30 hPa (0 °C)  
 ■ Spec. density 0.74 g/cm<sup>3</sup> (20 °C) ■ Flash point -12 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 117.26 g/mol ■ Boiling point 84 - 86 °C

(1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(N,N-DIMETHYLTRIMETHYLSILYLAMIN), 3 (8), II ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N-DIMETHYLTRIMETHYLSILYLAMINE), 3 (8), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N-DIMETHYLTRIMETHYLSILYLAMINE), 3 (8), II

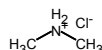
**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 97,0 % (m)  
 Density (d 20 °C/ 4 °C)..... 0,743 - 0,746  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14282.0010	Glass bottle	10 ml	inquire
8.14282.0050	Glass bottle	50 ml	inquire

1,3-Dimethyl-4-aminouracil → 4-Amino-1,3-dimethyluracil page 386

3,3'-Dimethyl-4,4'-bis[5-amino-4-hydroxy-2,7-disulfonaphthyl-3-azo]-[1,1'-biphenyl] tetrasodium salt → page 192

## Dimethylammonium chloride



$C_2H_8ClN$   
 $(CH_3)_2NH^+ Cl^-$   
 ■ CAS-No. 506-59-2 ■ EC-No. 208-046-5

■ Vapour pressure < 0.1 hPa (25 °C) (calculated)  
 ■ Solub. in H<sub>2</sub>O 3000 g/l (20 °C) ■ M = 81.54 g/mol ■ pH value 5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 160 °C ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262

■ LD50 oral rat 1070 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 11 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

## 803052 Dimethylammonium chloride for synthesis

**Specification**  
 Assay (argentometric)..... ≥ 99,0 % (m)  
 Identity (IR)..... conforms

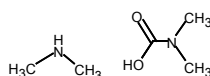
Ord.No.	Packaging	Quantity	Price
8.03052.0005	Glass bottle	5 g	inquire
8.03052.0250	Plastic bottle	250 g	inquire
8.03052.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

## 845029 Dimethylammonium chloride for pharma synthesis, non-GMP

**Specification**  
 Colour (visual)..... white  
 Appearance of substance (visual)..... powder  
 Assay (argentometric)..... ≥ 99,0 % (m)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45029.0250	Plastic bottle	250 g	inquire
8.45029.1000	Plastic bottle	1 kg	inquire

## 814616 Dimethyl ammonium dimethylcarbamate for synthesis



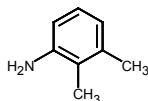
$C_5H_{14}N_2O_2$   
*Dimethylamine/carbon dioxide complex, N,N-Dimethylcarbamido acid dimethyl ammonium salt*  
 ■ CAS-No. 4137-10-4  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 13 °C DIN 51758 ■ M = 134.18 g/mol ■ Boiling point 60 - 61 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation,

H332; Serious eye damage, Category 1, H318; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P313  
 ■ LGK 3  
 ■ HS-No. 2942 00 00 ■ Disposal 3  
 ■ ADR-RID UN 2733 Polyamine, entzündbar, ätzend, n.a.g.(DIMETHYLAMMONIUMDIMETHYLCARBAMAT), 3 (8), II ■ IMDG-Code UN 2733 POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.(DIMETHYLAMMONIUM DIMETHYLCARBAMATE), 3 (8), II, Segregation

Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2733 POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.(DIMETHYLAMMONIUM DIMETHYLCARBAMATE), 3 (8), II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,045 - 1,055  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14616.0025	Glass bottle	25 ml	inquire
8.14616.0100	Glass bottle	100 ml	inquire

## 821222 2,3-Dimethylaniline for synthesis



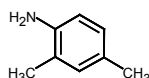
$C_8H_{11}N$   
 $2,3-(CH_3)_2C_6H_4NH_2$   
*vic.-o-Xylidine*  
 ■ CAS-No. 87-59-2 ■ EC-No. 201-755-0  
 ■ Refractive index 1.5685 (20 °C, 589 nm)  
 ■ Vapour pressure 0.13 hPa (25 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 2.7 % (V) ■ Flash point 96 °C ■ Solub. in

H<sub>2</sub>O 1.5 g/l (20 °C) ■ M = 121.18 g/mol  
 ■ Melting point 2 °C ■ Boiling point 224 °C  
 ■ Ignition temp. 545 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, Oral, H373; Chronic aquatic toxicity, Category 2, H411, P280, P273, P304 + P340, P302 + P352, P309 + P310  
 ■ LD50 oral rat 933 mg/kg  
 ■ EC-Index-No. 612-027-00-0 ■ LGK 6.1A

■ HS-No. 2921 49 00 ■ Disposal 9  
 ■ ADR-RID UN 1711 Xylidine, flüssig, 6.1, II  
 ■ IMDG-Code UN 1711 XYLIDINES, LIQUID, 6.1, II  
 ■ IATA-DGR UN 1711 XYLIDINES, LIQUID, 6.1, II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,991 - 0,993  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21222.0005	Glass bottle	5 ml	inquire
8.21222.0250	Glass bottle	250 ml	inquire

## 821223 2,4-Dimethylaniline for synthesis

C<sub>8</sub>H<sub>11</sub>N2,4-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>5</sub>NH<sub>2</sub>*asym.-m-Xylidine*

- CAS-No. 95-68-1 ■ EC-No. 202-440-0
- Refractive index 1.5558 (15 °C, 589 nm)
- Vapour pressure 0.11 hPa (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 7.0 % (V) ■ Flash point 98 °C ■ Solub. in H<sub>2</sub>O 5 g/l (20 °C) ■ M = 121.18 g/mol
- pH value 7 (22 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -

- 16 °C ■ Boiling point 214 °C (1013 hPa)
- Ignition temp. 520 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P309 + P310, P304 + P340
- LD50 oral rat 467 mg/kg
- EC-Index-No. 612-027-00-0 ■ LGK 6.1A
- HS-No. 2921 49 00 ■ Disposal 9
- ADR-RID UN 1711 Xylidine, flüssig, 6.1, II

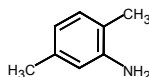
- IMDG-Code UN 1711 XYLIDINES, LIQUID, 6.1, II
- IATA-DGR UN 1711 XYLIDINES, LIQUID, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.975 - 0.977  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21223.0005	Glass bottle	5 ml	inquire
8.21223.0250	Glass bottle	250 ml	inquire
8.21223.1000	Glass bottle	1 l	inquire

## 808672 2,5-Dimethylaniline for synthesis

C<sub>8</sub>H<sub>11</sub>N2,5-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>5</sub>NH<sub>2</sub>*p-Xylidine*

- CAS-No. 95-78-3 ■ EC-No. 202-451-0
- Refractive index 1.5592 (20 °C, 589 nm)
- Vapour pressure 13 hPa (96 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 97 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 121.18 g/mol ■ pH value 7 (H<sub>2</sub>O,

- 20 °C) ■ Melting point 15 °C
- Boiling point 218 °C (1013 hPa)
- Ignition temp. 520 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P280, P273, P304 + P340, P302 + P352, P309 + P310
- LD50 oral rat 1297 mg/kg
- EC-Index-No. 612-027-00-0 ■ LGK 6.1A

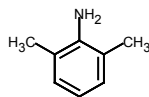
- HS-No. 2921 49 00 ■ Disposal 9
- ADR-RID UN 1711 Xylidine, flüssig, 6.1, II
- IMDG-Code UN 1711 XYLIDINES, LIQUID, 6.1, II
- IATA-DGR UN 1711 XYLIDINES, LIQUID, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.975 - 0.976  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08672.0250	Glass bottle	250 ml	inquire

## 808671 2,6-Dimethylaniline for synthesis

C<sub>8</sub>H<sub>11</sub>N2,6-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>5</sub>NH<sub>2</sub>*vic.-m-Xylidine*

- CAS-No. 87-62-7 ■ EC-No. 201-758-7
- Refractive index 1.5601 (20 °C, 589 nm)
- Vapour pressure 0.2 hPa (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 6.9 % (V) ■ Flash point 92 °C ■ Solub. in H<sub>2</sub>O 13 g/l (20 °C) ■ M = 121.18 g/mol
- pH value 12.5 (100 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 10 - 12 °C ■ Boiling point 216 °C (1013 hPa) ■ Ignition temp. 490 °C
- WGK 3
- GHS: Warning, Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P260, P262, P273, P280, P281, P302 + P352, P304 + P340, P308 + P313
- LC50 rat > 0.75 mg/l
- LD50 oral rat 1290 mg/kg
- EC-Index-No. 612-161-00-X ■ LGK 6.1A

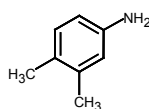
- HS-No. 2921 49 00 ■ Disposal 9
- ADR-RID UN 1711 Xylidine, flüssig, 6.1, II
- IMDG-Code UN 1711 XYLIDINES, LIQUID, 6.1, II
- IATA-DGR UN 1711 XYLIDINES, LIQUID, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.978 - 0.981  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08671.0005	Glass bottle	5 ml	inquire
8.08671.0250	Glass bottle	250 ml	inquire
8.08671.1000	Glass bottle	1 l	inquire

## 808670 3,4-Dimethylaniline for synthesis

C<sub>8</sub>H<sub>11</sub>N3,4-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>5</sub>NH<sub>2</sub>*asym.-o-Xylidine*

- CAS-No. 95-64-7 ■ EC-No. 202-437-4
- Vapour pressure 0.04 hPa (25 °C)
- Spec. density 1.076 g/cm<sup>3</sup> (17 °C)
- Flash point 98 °C ■ Solub. in H<sub>2</sub>O < 1 g/l (24 °C)
- M = 121.18 g/mol ■ pH value 7 (H<sub>2</sub>O,

- 20 °C) (saturated solution)
- Melting point 48 - 51 °C ■ Bulk density 560 kg/m<sup>3</sup> ■ Boiling point 226 °C (1013 hPa)
- Ignition temp. 580 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, Inhalation, H373; Chronic aquatic toxicity, Category 2, H411, P280, P273, P304 + P340, P302 + P352, P309 + P310
- LD50 oral rat 812 mg/kg
- EC-Index-No. 612-027-00-0 ■ LGK 6.1A

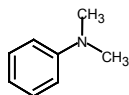
- HS-No. 2921 49 00 ■ Disposal 9
- ADR-RID UN 3452 Xylidine, fest, 6.1, II ■ IMDG-Code UN 3452 XYLIDINES, SOLID, 6.1, II
- IATA-DGR UN 3452 XYLIDINES, SOLID, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Melting range (lower value) ..... ≥ 48 °C  
 Melting range (upper value) ..... ≤ 51 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08670.0005	Glass bottle	5 g	inquire
8.08670.0250	Glass bottle	250 g	inquire

## 803060 N,N-Dimethylaniline for synthesis



C<sub>8</sub>H<sub>11</sub>N  
C<sub>6</sub>H<sub>5</sub>N(CH<sub>3</sub>)<sub>2</sub>  
*Dimethylaminobenzene*  
■ CAS-No. 121-69-7 ■ EC-No. 204-493-5  
■ Refractive index 1.5582 (20 °C, 589 nm)  
■ Vapour pressure 0.53 hPa (20 °C)  
■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 7 % (V) ■ Flash point 75 °C ■ Solub. in H<sub>2</sub>O 1.2 g/l (20 °C) ■ M = 121.18 g/mol  
■ pH value 7.4 (1.2 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 2.5 °C

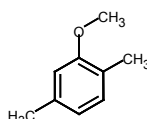
■ Boiling point 192 - 195 °C (1013 hPa)  
■ Ignition temp. 370 °C DIN 51794  
■ WGK 3  
■ GHS: Danger, Carcinogenicity, Category 2, H351; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 2, H411, P273, P281, P302 + P352, P304 + P340, P309 + P310  
■ LC50 rat > 5.1 mg/l  
■ LD50 oral rat 1120 mg/kg ■ LD50 dermal rabbit 1700 mg/kg  
■ EC-Index-No. 612-016-00-0 ■ LGK 6.1A  
■ HS-No. 2921 42 00  
■ ADR-RID UN 2253 n,n-Dimethylanilin, 6.1, II  
■ IMDG-Code UN 2253 N,N-DIMETHYLANILINE,

6.1, II  
■ IATA-DGR UN 2253 N,N-DIMETHYLANILINE, 6.1, II

**Specification**  
Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,955 - 0,957  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03060.0100	Glass bottle	100 ml	inquire
8.03060.0500	Glass bottle	500 ml	inquire
8.03060.1000	Glass bottle	1 l	inquire
8.03060.2500	Glass bottle	2.5 l	inquire

## 814972 2,5-Dimethylanisole for synthesis



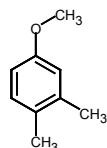
C<sub>9</sub>H<sub>12</sub>O

*1,4-Dimethyl-2-methoxybenzene*  
■ CAS-No. 1706-11-2 ■ EC-No. 216-943-8  
■ Spec. density 0.963 g/cm<sup>3</sup> (20 °C)  
■ M = 136.2 g/mol  
■ WGK 1  
■ LGK 10 - 13  
■ HS-No. 2909 30 90 ■ Disposal 3

**Specification**  
Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14972.0025	Glass bottle	25 ml	inquire
8.14972.0100	Glass bottle	100 ml	inquire

## 3,4-Dimethylanisole



C<sub>9</sub>H<sub>12</sub>O  
■ CAS-No. 4685-47-6 ■ EC-No. 225-142-2  
■ Spec. density 0.970 g/cm<sup>3</sup> ■ Flash point 76 °C

■ Solub. in H<sub>2</sub>O 0.171 g/l (25 °C) (Lit.)  
■ M = 136.19 g/mol  
■ WGK 3  
■ LGK 10  
■ HS-No. 2909 30 90 ■ Disposal 3

## 842675 3,4-Dimethylanisole for synthesis

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.968 - 0.972  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42675.0050	Glass bottle	50 ml	inquire

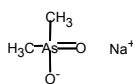
## 845116 3,4-Dimethylanisole for pharma synthesis, non-GMP

**Specification**  
Appearance of substance (visual) ..... clear  
Colour number (Hazen) ..... ≤ 50  
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,968 - 0,972  
Identity (IR) ..... passes test  
Dichloromethane (GC) ..... lot specific result

Ord.No.	Packaging	Quantity	Price
8.45116.0250	Glass bottle	250 ml	inquire

Dimethylarsinic acid sodium salt → Cacodylic acid sodium salt trihydrate page 559

## 820670 Dimethylarsinic acid sodium salt trihydrate for synthesis



C<sub>2</sub>H<sub>6</sub>AsNaO<sub>2</sub> \* 3 H<sub>2</sub>O  
C<sub>2</sub>H<sub>6</sub>AsO<sub>2</sub>Na \* 3 H<sub>2</sub>O  
*Dimethylarsinic acid sodium salt, Cacodylic acid sodium salt*  
■ CAS-No. 6131-99-3 ■ EC-No. 204-708-2  
■ Solub. in H<sub>2</sub>O 2000 g/l (20 °C) ■ M = 214.05 g/mol  
■ pH value 9.0 - 9.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 60 °C ■ Bulk density 870 kg/m<sup>3</sup>

■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P309 + P310  
■ LD50 oral rat 2600 mg/kg  
■ EC-Index-No. 033-002-00-5 ■ LGK 6.1B  
■ HS-No. 2931 90 90 ■ Disposal 9  
■ ADR-RID UN 1688 Natriumkakodylat, 6.1, II  
■ IMDG-Code UN 1688 SODIUM CACODYLATE, 6.1, II

■ IATA-DGR UN 1688 SODIUM CACODYLATE, 6.1, II  
**Specification**  
Assay (HClO<sub>4</sub>) ..... ≥ 97,0 % (m)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20670.0025	Plastic bottle	25 g	inquire
8.20670.0100	Plastic bottle	100 g	inquire
8.20670.0250	Plastic bottle	250 g	inquire

## 842116 1,3-Dimethylbarbituric acid for synthesis

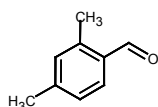


C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>  
■ CAS-No. 769-42-6 ■ EC-No. 212-211-7  
■ Solub. in H<sub>2</sub>O 60 g/l (20 °C) ■ M = 156.14 g/mol  
■ pH value 2.5 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
■ Melting point 120 - 124 °C  
■ Bulk density 500 kg/m<sup>3</sup>  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 4, Oral,

H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313  
■ LD50 oral rat 1780 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2933 54 00  
**Specification**  
Assay (acidimetric) ..... ≥ 98,0 % (m)

Melting range (lower value) ..... ≥ 120 °C  
Melting range (upper value) ..... ≤ 124 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.42116.0005	Glass bottle	5 g	inquire
8.42116.0100	Glass bottle	100 g	inquire

**821461 2,4-Dimethylbenzaldehyde** for synthesis

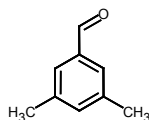
C<sub>9</sub>H<sub>10</sub>O  
2,4-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CHO  
■ CAS-No. 15764-16-6 ■ EC-No. 239-856-7

- Refractive index 1.5492 (20 °C, 589 nm)
- Vapour pressure 1 hPa (20 °C)
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point 88 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 134.18 g/mol ■ Melting point -9 °C
- Boiling point 215 - 216 °C
- WGK 3
- LGK 10
- HS-No. 2912 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.016 - 1.018  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21461.0010	Glass bottle	10 ml	inquire
8.21461.0100	Glass bottle	100 ml	inquire

**841281 3,5-Dimethylbenzaldehyde** for synthesis

C<sub>9</sub>H<sub>10</sub>O

1,3-Dimethylbenzene → page 309  
1,2-Dimethylbenzene → page 44

- CAS-No. 5779-95-3
- Spec. density 1.09 g/cm<sup>3</sup> ■ M = 134.17 g/mol
- Boiling point 220 - 222 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2912 29 00 ■ Disposal 3

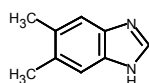
**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.002 - 1.007  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41281.0001	Glass bottle	1 ml	inquire
8.41281.0005	Glass bottle	5 ml	inquire

1,4-Dimethylbenzene → page 44

Dimethyl 1,4-benzenedicarboxylate → Dimethyl terephthalate page 805

**841278 5,6-Dimethylbenzimidazole** for synthesis

C<sub>9</sub>H<sub>10</sub>N<sub>2</sub>

■ CAS-No. 582-60-5 ■ EC-No. 209-488-1

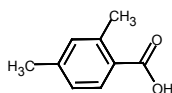
- M = 146.19 g/mol ■ Melting point 202 - 206 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
Melting range (lower value) ..... ≥ 203 °C

Melting range (upper value) ..... ≤ 206 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41278.0025	Plastic bottle	25 g	inquire
8.41278.0100	Plastic bottle	100 g	inquire

**841460 2,4-Dimethylbenzoic acid** for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>

■ CAS-No. 611-01-8 ■ EC-No. 210-246-2

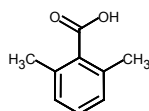
- M = 150.17 g/mol ■ Melting point 123 - 124 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (acidimetric) ..... ≥ 98.0 %  
Melting range (lower value) ..... ≥ 122 °C

Melting range (upper value) ..... ≤ 125 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41460.0010	Glass bottle	10 g	inquire

**841363 2,6-Dimethylbenzoic acid** for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>

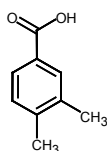
- CAS-No. 632-46-2 ■ EC-No. 211-177-0
- M = 150.17 g/mol ■ Melting point 115 - 116 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)

Melting range (lower value) ..... ≥ 115 °C  
Melting range (upper value) ..... ≤ 117 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41363.0001	Plastic bottle	1 g	inquire
8.41363.0005	Plastic bottle	5 g	inquire

**841678 3,4-Dimethylbenzoic acid** for synthesis

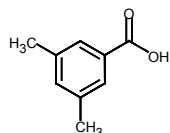
C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>

- CAS-No. 619-04-5 ■ EC-No. 210-576-7
- M = 150.17 g/mol ■ Melting point 163 - 164 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 96.0 Area %  
Melting range (lower value) ..... ≥ 163 °C  
Melting range (upper value) ..... ≤ 165 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41678.0050	Plastic bottle	50 g	inquire

**814805 3,5-Dimethylbenzoic acid** for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>

**Mesitylenic acid**

- CAS-No. 499-06-9 ■ EC-No. 207-876-5
- Solub. in H<sub>2</sub>O 0.126 g/l (25 °C) (calculated)
- M = 150.17 g/mol ■ Melting point 172 - 174 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 4

**Specification**

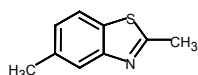
Assay (acidimetric) ..... ≥ 98.0 %  
Melting range (lower value) ..... ≥ 169 °C  
Melting range (upper value) ..... ≤ 172 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14805.0005	Glass bottle	5 g	inquire



# Dimeth

## 841567 2,5-Dimethylbenzothiazole for synthesis



C<sub>9</sub>H<sub>9</sub>NS

- CAS-No. 95-26-1 ■ EC-No. 202-404-4
- M = 163.23 g/mol ■ Melting point 40 - 42 °C
- WGK 3

- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 957 mg/kg
- LGK 10 - 13
- HS-No. 2934 20 80 ■ Disposal 3

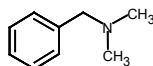
### Specification

- Assay (GC, area%) ..... ≥ 97.0 % (a/a)
- Melting range (lower value) ..... ≥ 39 °C

Melting range (upper value) ..... ≤ 42 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41567.0005	Glass bottle	5 g	inquire

## 803206 N,N-Dimethylbenzylamine for synthesis



C<sub>9</sub>H<sub>13</sub>N

C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>N(CH<sub>3</sub>)<sub>2</sub>

*N*-Benzyl dimethylamine, BDMA

- CAS-No. 103-83-3 ■ EC-No. 203-149-1
- Refractive index 1.5011 (20 °C, 589 nm)
- Vapour pressure 2.4 hPa (20 °C)
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 6.3 % (V) ■ Flash point 55 °C ■ Solub. in H<sub>2</sub>O 8 g/l (20 °C) ■ M = 135.21 g/mol
- pH value 10 (10 g/l, H<sub>2</sub>O, 20 °C) (saturated solution) ■ Melting point -75 °C
- Boiling point 180 - 183 °C (1013 hPa)

- Ignition temp. 410 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412, P210, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 2.05 mg/l
- LD50 oral rat 290 mg/kg ■ LD50 dermal rat 695 mg/kg
- EC-Index-No. 612-074-00-7 ■ LGK 3
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2619 Benzyl dimethylamin, 8 (3), II

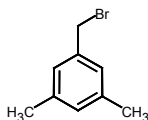
- IMDG-Code UN 2619 BENZYL DIMETHYLAMINE, 8 (3), II
- IATA-DGR UN 2619 BENZYL DIMETHYLAMINE, 8 (3), II

### Specification

- Assay (GC, area%) ..... ≥ 98 %
- Density (d 20 °C / 4 °C) ..... 0.898 - 0.901
- Water (K. F.) ..... ≤ 0.5 %
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03206.0250	Glass bottle	250 ml	inquire
8.03206.1000	Glass bottle	1 l	inquire

## 841234 3,5-Dimethylbenzyl bromide for synthesis



C<sub>9</sub>H<sub>11</sub>Br

*α*-Bromomesitylene

- CAS-No. 27129-86-8
- Solub. in H<sub>2</sub>O (20 °C) (slow decomposition)
- M = 199.08 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) acidic
- Melting point 37 - 40 °C

- Boiling point 109 - 110 °C (19 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(3,5-DIMETHYLBENZYL BROMID), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3,5-DIMETHYLBENZYL BROMIDE), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3,5-DIMETHYLBENZYL BROMIDE), 8, III

### Specification

- Assay (GC, area%) ..... ≥ 97.0 % (a/a)
- Melting range (lower value) ..... ≥ 35 °C
- Melting range (upper value) ..... ≤ 40 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41234.0005	Glass bottle	5 g	inquire

Dimethyl benzyl carbinol → 2-Methyl-1-phenyl-2-propanol page 1170

*α,α*-Dimethylbenzyl hydroperoxide → Cumene hydroperoxide page 662

## 843814 4,4'-Dimethylbiphenyl for synthesis

C<sub>14</sub>H<sub>14</sub>

- CAS-No. 613-33-2 ■ EC-No. 210-337-7
- Solub. in H<sub>2</sub>O (25 °C) practically insoluble
- M = 182.27 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point 118 - 122 °C
- Boiling point 295 °C (1013 hPa)
- WGK 3

- LGK 10 - 13
- HS-No. 2902 90 00 ■ Disposal 3

### Specification

- Assay (GC, area%) ..... ≥ 99.0 % (a/a)
- Melting range (lower value) ..... ≥ 118 °C
- Melting range (upper value) ..... ≤ 122 °C

Identity (IR) ..... passes test

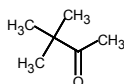
Ord.No.	Packaging	Quantity	Price
8.43814.0001	Glass bottle	1 g	inquire
8.43814.0005	Glass bottle	5 g	inquire

3,4-Dimethylbromobenzene → 4-Bromo-*o*-xylene page 519

3,5-Dimethylbromobenzene → 5-Bromo-*m*-xylene page 519

1-Dimethylbutane → 2-Methylpentane page 306

## 841645 3,3-Dimethyl-2-butanone for synthesis



C<sub>6</sub>H<sub>12</sub>O

*Pinacolone, Pinacolone, 1,1,1-Trimethylacetone, tert-Butyl methyl ketone*

- CAS-No. 75-97-8 ■ EC-No. 200-920-4
- Vapour pressure 33 hPa (20 °C)
- Spec. density 0.808 g/cm<sup>3</sup> (20 °C)
- Flash point 5 °C ■ Solub. in H<sub>2</sub>O 19 g/l (25 °C)

- M = 100.16 g/mol ■ Melting point -53 °C
- Boiling point 105 - 106 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302, P210, P223
- LD50 oral rat 610 mg/kg
- LGK 3
- HS-No. 2914 19 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3,3-DIMETHYL-2-BUTANON), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3,3-

DIMETHYL-2-BUTANONE), 3, II

- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3,3-DIMETHYL-2-BUTANONE), 3, II

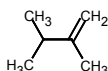
### Specification

- Assay (GC, area%) ..... ≥ 97.0 Area %
- Density (d 20 °C / 4 °C) ..... 0.806 - 0.810
- Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41645.0100	Glass bottle	100 ml	inquire
8.41645.0500	Glass bottle	500 ml	inquire



## 841855 2,3-Dimethyl-1-butene for synthesis

C<sub>6</sub>H<sub>12</sub>

- CAS-No. 563-78-0 ■ EC-No. 209-262-2
- Vapour pressure 272 hPa (20 °C)
- Spec. density 0.68 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 % (V) ■ Flash point -17 °C ■ Solub. in H<sub>2</sub>O 0.079 g/l (25 °C) ■ M = 84.16 g/mol
- Melting point -158 °C ■ Boiling point 56 °C

- (1013 hPa) ■ Ignition temp. 360 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304, P301 + P310, P331
- LGK 3
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 3295 Kohlenwasserstoffe, flüssig, n.a.g., 3, II ■ IMDG-Code UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, II
- IATA-DGR UN 3295 HYDROCARBONS, LIQUID,

N.O.S., 3, II

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,677 - 0,681  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41855.0005	Glass bottle	5 ml	inquire

## 841695 2,3-Dimethyl-2-butene (stabilized) for synthesis

C<sub>6</sub>H<sub>12</sub>

- CAS-No. 563-79-1 ■ EC-No. 209-263-8
- Vapour pressure 133 hPa (20 °C)
- Spec. density 0.71 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 % (V) ■ Flash point -8 °C ■ Solub. in H<sub>2</sub>O 0.071 g/l (25 °C) ■ M = 84.16 g/mol
- Melting point -75 °C ■ Boiling point 73 °C

- (1013 hPa) ■ Ignition temp. 401 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304, P210, P223, P301 + P310, P331
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 3295 Kohlenwasserstoffe, flüssig, n.a.g., 3, II ■ IMDG-Code UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, II
- IATA-DGR UN 3295 HYDROCARBONS, LIQUID,

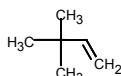
N.O.S., 3, II

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,708 - 0,713  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41695.0025	Glass bottle	25 ml	inquire

## 841279 3,3-Dimethyl-1-butene for synthesis

C<sub>6</sub>H<sub>12</sub>

Neohexene

- CAS-No. 558-37-2 ■ EC-No. 209-195-9
- Vapour pressure 1004 hPa (38 °C)
- Spec. density 0.653 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 % (V) ■ Flash point -28 °C ■ M = 84.16 g/mol

- mol ■ Melting point -115 °C
- Boiling point 40 - 41 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304, P210, P301 + P310, P331
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3,3-DIMETHYL-1-BUTEN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3,3-

DIMETHYLBUT-1-ENE), 3, II

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3,3-DIMETHYLBUT-1-ENE), 3, II

## Specification

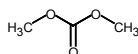
Assay (GC, area%) ..... ≥ 94,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.650 - 0.660  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41279.0050	Glass bottle	50 ml	inquire

N,N-Dimethylcarbamido acid dimethyl ammonium salt → Dimethyl ammonium dimethylcarbamate page 780

Dimethyl carbinol → page 293

## 845152 Dimethyl carbonate for pharma synthesis, non-GMP

C<sub>3</sub>H<sub>6</sub>O<sub>3</sub>(CH<sub>3</sub>O)<sub>2</sub>CO

DMC, Methyl carbonate, Carbonic acid dimethyl ester

- CAS-No. 616-38-6 ■ EC-No. 210-478-4
- Vapour pressure 53 hPa (20 °C)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4.22 - 12.87 % (V) ■ Flash point 16.7 °C
- Solub. in H<sub>2</sub>O 139 g/l (20 °C) ■ M = 90.08 g/mol
- pH value (H<sub>2</sub>O, 20 °C) no data available

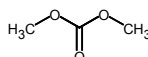
- Melting point 0.5 - 4.7 °C ■ Boiling point 90 °C (1016 hPa) ■ Ignition temp. 458 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P240
- LC50 rat > 140 mg/l
- LD50 oral rat 9000 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- EC-Index-No. 607-013-00-6 ■ LGK 3
- HS-No. 2920 90 10 ■ Disposal 3
- ADR-RID UN 1161 Dimethylcarbonat, 3, II
- IMDG-Code UN 1161 DIMETHYL CARBONATE, 3, II
- IATA-DGR UN 1161 DIMETHYL CARBONATE, 3, II

## Specification

Appearance of substance (visual) ..... liquid  
 Colour number (Hazen) ..... ≤ 20  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,068 - 1,070  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45152.0100	Glass bottle	100 ml	inquire
8.45152.1000	Glass bottle	1 l	inquire
8.45152.2500	Glass bottle	2.5 l	inquire

## 803525 Dimethyl carbonate for synthesis

C<sub>3</sub>H<sub>6</sub>O<sub>3</sub>(CH<sub>3</sub>O)<sub>2</sub>CO

DMC, Methyl carbonate, Carbonic acid dimethyl ester

- CAS-No. 616-38-6 ■ EC-No. 210-478-4
- Vapour pressure 53 hPa (20 °C)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4.22 - 12.87 % (V) ■ Flash point 16.7 °C
- Solub. in H<sub>2</sub>O 139 g/l (20 °C) ■ M = 90.08 g/mol

- pH value (H<sub>2</sub>O, 20 °C) no data available
- Melting point 0.5 - 4.7 °C ■ Boiling point 90 °C (1016 hPa) ■ Ignition temp. 458 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P240
- LC50 rat > 140 mg/l
- LD50 oral rat 9000 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- EC-Index-No. 607-013-00-6 ■ LGK 3
- HS-No. 2920 90 10 ■ Disposal 3
- ADR-RID UN 1161 Dimethylcarbonat, 3, II
- IMDG-Code UN 1161 DIMETHYL CARBONATE, 3,

II

■ IATA-DGR UN 1161 DIMETHYL CARBONATE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.068 - 1.070  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03525.0100	Glass bottle	100 ml	inquire
8.03525.1000	Glass bottle	1 l	inquire
8.03525.2500	Glass bottle	2.5 l	inquire

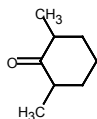
N,N-Dimethyl-2-chloroacetamide → 2-Chloro-N,N-dimethylacetamide page 607

Dimethylchlorosilane → Chlorodimethylsilane page 608

N,N-Dimethyl-N-2-chloroethylammonium chloride → N-(2-Chloroethyl)-N,N-dimethylammonium chloride page 611

5,5-Dimethyl-1,3-cyclohexanedione → Dimedone page 768

## 841223 2,6-Dimethylcyclohexanone (mixture of cis and trans isomers) for synthesis



C<sub>8</sub>H<sub>14</sub>O  
 ■ CAS-No. 2816-57-1 ■ EC-No. 220-570-6  
 ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 51 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 126.19 g/mol

- Boiling point 174 - 176 °C (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2914 29 00 ■ Disposal 3
- ADR-RID UN 1224 Ketone, flüssig, n.a.g.(2,6-DIMETHYLCYCLOHEXANON), 3, III ■ IMDG-Code UN 1224 KETONES, LIQUID, N.O.S.(2,6-DIMETHYLCYCLOHEXANONE), 3, III
- IATA-DGR UN 1224 KETONES, LIQUID,

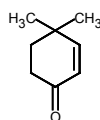
N.O.S.(2,6-DIMETHYLCYCLOHEXANONE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.910 - 0.914  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41223.0025	Glass bottle	25 ml	inquire
8.41223.0100	Glass bottle	100 ml	inquire

## 843787 4,4-Dimethyl-2-cyclohexen-1-one for synthesis



C<sub>8</sub>H<sub>12</sub>O

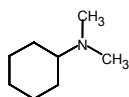
- CAS-No. 1073-13-8
- Spec. density 0.930 - 0.935 g/cm<sup>3</sup> (20 °C)
- Flash point 64 °C ■ M = 124.18 g/mol
- Boiling point 72 - 73 °C (27 hPa)
- WGK 3
- LGK 10
- HS-No. 2914 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.930 - 0.935  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43787.0005	Glass bottle	5 ml	inquire

## 818638 N,N-Dimethylcyclohexylamine for synthesis



C<sub>8</sub>H<sub>17</sub>N  
 C<sub>8</sub>H<sub>17</sub>N(CH<sub>3</sub>)<sub>2</sub>  
*N-Cyclohexyldimethylamine*  
 ■ CAS-No. 98-94-2 ■ EC-No. 202-715-5  
 ■ Refractive index 1.4522 (25 °C, 589 nm)  
 ■ Vapour pressure 3.6 hPa (20 °C)  
 ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive  
 limit 3.6 - 19 % (V) ■ Flash point 41 °C ■ Solub. in  
 H<sub>2</sub>O 13.4 g/l (20 °C) ■ M = 127.22 g/mol  
 ■ pH value 12 (5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -

- 60 °C ■ Boiling point 160 - 161 °C (1013 hPa)
- Ignition temp. 215 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 4.45 mg/l
- LD50 oral rat 272 mg/kg ■ LD50 dermal rat > 400 mg/kg
- LGK 3

- HS-No. 2921 30 10 ■ Disposal 3
- ADR-RID UN 2264 n,n-Dimethylcyclohexylamin, 8 (3), II ■ IMDG-Code UN 2264 N,N-DIMETHYLCYCLOHEXYLAMINE, 8 (3), II
- IATA-DGR UN 2264 N,N-DIMETHYLCYCLOHEXYLAMINE, 8 (3), II

**Specification**

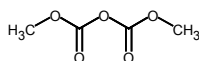
Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.848 - 0.849  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18638.0100	Glass bottle	100 ml	inquire
8.18638.1000	Glass bottle	1 l	inquire

N,N-Dimethyl-1,3-dianinopropane → N,N-Dimethyltrimethylenediamine page 807

2,3-Dimethyl-1,4-diazine → 2,3-Dimethylpyrazine page 800

## 818758 Dimethyl dicarbonate for synthesis



C<sub>4</sub>H<sub>6</sub>O<sub>5</sub>  
 (CH<sub>3</sub>OCO)<sub>2</sub>O  
*Dimethyl pyrocarbonate, Pyrocarbonic acid dimethyl ester*  
 ■ CAS-No. 4525-33-1 ■ EC-No. 224-859-8  
 ■ Refractive index 1.395 (20 °C, 589 nm) ■ Vapour  
 pressure 0.7 hPa (20 °C) ■ Spec. density 1.25 g/  
 cm<sup>3</sup> (20 °C) ■ Explosive limit 3 - 29.9 % (V)  
 ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O 35 g/l  
 (20 °C) (decomposition) ■ M = 134.09 g/mol

- Melting point 15 - 17 °C ■ Boiling point 172 °C (1013 hPa) decomposes ■ Ignition temp. 465 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.711 mg/l
- LD50 oral rat 335 mg/kg ■ LD50 dermal rat > 1250 mg/kg
- LGK 6.1A
- HS-No. 2920 90 10 ■ Disposal 9
- ADR-RID UN 2927 Giftiger organischer flüssiger

Stoff, ätzend, n.a.g.(DIMETHYLDICARBONAT), 6.1 (8), II ■ IMDG-Code UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(DIMETHYLDICARBONATE), 6.1 (8), II

■ IATA-DGR UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(DIMETHYLDICARBONATE), 6.1 (8), II

**Specification**

Assay (acidimetric) ..... ≥ 99.0 %  
 Density (d 20 °C/ 4 °C) ..... 1.253 - 1.255  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18758.0100	Glass bottle	100 ml	inquire

Dimethyldichlorosilane → Dichlorodimethylsilane page 720

Dimethyl diglycol → Diethylene glycol dimethyl ether page 301

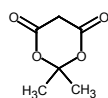
Dimethyl-N,N-diisopropylphosphoramidite → page 258

N,N-Dimethyldiethoxymethylamine → N,N-Dimethylformamide diethyl acetal page 790

5,5-Dimethyldihydroresorcinol → Dimedone page 768

N,N-Dimethyldimethoxymethylamine → N,N-Dimethylformamide dimethyl acetal page 790

## 843960 2,2-Dimethyl-1,3-dioxane-4,6-dione for synthesis



C<sub>6</sub>H<sub>8</sub>O<sub>4</sub>  
 ■ CAS-No. 2033-24-1 ■ EC-No. 217-992-8  
 ■ Solub. in H<sub>2</sub>O 25 g/l (20 °C) ■ M = 144.12 g/mol  
 ■ Melting point 92 - 96 °C  
 ■ WGK 3

- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2932 20 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

Water (K. F.) ..... ≤ 0.50 %  
 Identity (IR) ..... passes test

**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 91 °C  
 Melting range (upper value) ..... ≤ 95 °C

Ord.No.	Packaging	Quantity	Price
8.43960.0050	Glass bottle	50 g	inquire
8.43960.0250	Glass bottle	250 g	inquire

1,3-Dimethyl-2,6-dioxo-4-aminotetrahydropyrimidine → 4-Amino-1,3-dimethyluracil page 386

5,5-Dimethyl-1,3-dioxocyclohexane → Dimedone page 768

## 814533 2,2-Dimethyl-1,3-dioxolan for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>

Acetone ethylene acetal

- CAS-No. 2916-31-6 ■ EC-No. 220-842-4
- Spec. density 0.94 g/cm<sup>3</sup> (20 °C)
- Flash point 6 °C ■ Solub. in H<sub>2</sub>O 300 g/l (20 °C)

2,2-Dimethyl-1,3-dioxolane-4-methanol → 1,2-O-Isopropylidenediglycerol page 1054

- M = 102.13 g/mol ■ Boiling point 92 - 93 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P223
- LGK 3
- HS-No. 2932 99 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,2-DIMETHYL-1,3-DIOXOLAN), 3, II
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,2-DIMETHYL-1,3-DIOXOLANE), 3, II

2,9-Dimethyl-4,7-diphenyl-1,10-phenanthrolinedisulfonic acid disodiumsalt → Bathocuproinedisulfonic acid disodium salt page 434

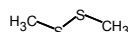
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2,2-DIMETHYL-1,3-DIOXOLANE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,942 - 0,944  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14533.0025	Glass bottle	25 ml	inquire

## 820791 Dimethyl disulfide for synthesis

C<sub>2</sub>H<sub>6</sub>S<sub>2</sub>CH<sub>3</sub>SSCH<sub>3</sub>

Methyl disulfide

- CAS-No. 624-92-0 ■ EC-No. 210-871-0
- Refractive index 1.525 (20 °C, 589 nm) ■ Vapour pressure 28 hPa (20 °C) ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 16.1 % (V)
- Flash point 16 °C ■ Solub. in H<sub>2</sub>O 2.5 g/l (20 °C)
- M = 94.20 g/mol ■ Melting point -85 °C
- Boiling point 110 °C (1013 hPa)
- Ignition temp. 370 °C

N,N-Dimethylethanolamine → 2-(Dimethylamino)-ethanol page 777

- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P210, P233, P262, P273, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 3.1 mg/l
- LD50 oral rat 290 - 500 mg/kg
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 2381 Dimethyldisulfid, 3 (6.1), II
- IMDG-Code UN 2381 DIMETHYL DISULPHIDE, 3, II

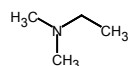
- 3, II
- IATA-DGR UN 2381 DIMETHYL DISULPHIDE, 3 (6.1), II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,059 - 1,063  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20791.0005	Glass bottle	5 ml	inquire
8.20791.0250	Glass bottle	250 ml	inquire
8.20791.1000	Glass bottle	1 l	inquire

## 840018 N,N-Dimethylethylamine for synthesis

C<sub>4</sub>H<sub>11</sub>N

Ethyl dimethylamine

- CAS-No. 598-56-1 ■ EC-No. 209-940-8
- Vapour pressure 527 hPa (20 °C)
- Spec. density 0.675 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 11.2 % (V) ■ Flash point -45.5 °C
- Solub. in H<sub>2</sub>O (20 °C) miscible ■ M = 73.14 g/mol ■ pH value 12.0 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -140 °C ■ Boiling point 36.5 °C (1013 hPa) ■ Ignition temp. 190 °C

2-(Dimethylethyl)-aniline → 2-sec-Butylaniline page 540

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 606 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 612-076-00-8 ■ LGK 3
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(N,N-DIMETHYLETHYLAMIN), 3 (8), II
- IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N-DIMETHYLETHYLAMINE), 3

- (8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N-DIMETHYLETHYLAMINE), 3 (8), II

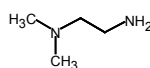
## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,673 - 0,676  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40018.0100	Glass bottle	100 ml	inquire
8.40018.0500	Glass bottle	500 ml	inquire

Dimethyl ethyl carbinol → tert-Amyl alcohol page 299

## 803779 N,N-Dimethylethylenediamine for synthesis

C<sub>4</sub>H<sub>12</sub>N<sub>2</sub>

2-(Dimethylamino)ethylamine, 1-Amino-2-dimethylaminoethane

- CAS-No. 108-00-9 ■ EC-No. 203-541-2
- Vapour pressure 29 hPa (20 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 10.8 % (V) ■ Flash point 12.5 °C
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 88.15 g/mol
- pH value 11.4 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point < -70 °C

- Boiling point 107 - 109 °C (1013 hPa)
- Ignition temp. 225 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1A, H314, P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1135 mg/kg
- EC-Index-No. 612-075-00-2 ■ LGK 3
- HS-No. 2921 29 00
- ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(N,N-DIMETHYLETHYLENDIAMIN), 3 (8), II

- IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N-DIMETHYLETHYLENE DIAMINE), 3 (8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N-DIMETHYLETHYLENE DIAMINE), 3 (8), II

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.806 - 0.809  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03779.0100	Glass bottle	100 ml	inquire

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

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W

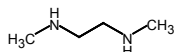
X

Y

Z

# Dimeth

## 841792 N,N'-Dimethylethylenediamine for synthesis



C<sub>4</sub>H<sub>12</sub>N<sub>2</sub>  
 ■ CAS-No. 110-70-3 ■ EC-No. 203-793-3  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 26 °C ■ M = 88.15 g/mol  
 ■ Boiling point 119 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 2921 29 00  
 ■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(N,N'-DIMETHYLETHYLENEDIAMIN), 8 (3), II ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(SYM-DIMETHYLETHYLENEDIAMINE), 8 (3), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(SYM-DIMETHYLETHYLENEDIAMINE), 8 (3), II

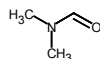
### Specification

Assay (GC, area%) ..... ≥ 80,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41792.0005	Glass bottle	5 ml	inquire
8.41792.0025	Glass bottle	25 ml	inquire

Dimethylethylene urea → 1,3-Dimethyl-2-imidazolidinone page 302

## 100397 N,N-Dimethylformamide for peptide synthesis



C<sub>3</sub>H<sub>7</sub>NO  
 HCON(CH<sub>3</sub>)<sub>2</sub>  
 DMF, N,N-Dimethylmethanamide, Formic acid dimethylamide  
 ■ CAS-No. 68-12-2 ■ EC-No. 200-679-5  
 ■ Refractive index 1.43 ■ Vapour pressure 3.77 hPa (20 °C) ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ El. dipole moment 3.82 ■ Explosive limit 2.2 - 16 % (V) ■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 73.09 g/mol  
 ■ pH value 7 (200 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -61 °C ■ Boiling point 153 °C (1013 hPa) ■ Ignition temp. 410 °C

■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Eye irritation, Category 2, H319; Reproductive toxicity, Category 1B, H360D, P201, P210, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313  
 ■ LC50 rat > 5.85 mg/l  
 ■ LD50 oral rat 3010 mg/kg ■ LD50 dermal rabbit 1500 mg/kg  
 ■ EC-Index-No. 616-001-00-X ■ LGK 3  
 ■ HS-No. 2924 19 00 ■ Disposal 9  
 ■ ADR-RID UN 2265 n,n-Dimethylformamid, 3, III  
 ■ IMDG-Code UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III  
 ■ IATA-DGR UN 2265 N,N-DIMETHYLFORMAMIDE,

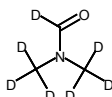
3, III

### Specification

Purity (GC) ..... ≥ 99.9 %  
 Identity (IR) ..... conforms  
 Colour ..... ≤ 10 Hazen  
 Acidity ..... ≤ 0.0005 meq/g  
 Alkalinity ..... ≤ 0.0002 meq/g  
 Amines (Dimethylamine) ..... ≤ 10 ppm  
 Evaporation residue ..... ≤ 10 mg/l  
 Water ..... ≤ 300 ppm

Ord.No.	Packaging	Quantity	Price
1.00397.2500	Glass bottle	2.5 l	inquire
1.00397.4004	Glass bottle	4 x 4 l	inquire
1.00397.6025	Drum stainl. st.	25 l	inquire

## 111656 Dimethylformamide-D7 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™



C<sub>3</sub>D<sub>7</sub>NO  
 Heptadeuterodimethylformamide  
 ■ CAS-No. 4472-41-7 ■ EC-No. 224-745-8  
 ■ Vapour pressure 3.77 hPa (20 °C)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 - 16 % (V) ■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 80.14 g/mol  
 ■ Melting point -60 °C ■ Boiling point 152 °C  
 ■ Ignition temp. 440 °C

■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Reproductive toxicity, Category 1B, H360D; Eye irritation, Category 2, H319; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Dermal, H312, P201, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 9 - 15 mg/l  
 ■ LD50 oral rat 2800 mg/kg ■ LD50 dermal rabbit 1500 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2845 90 10 ■ Disposal 9  
 ■ ADR-RID UN 2265 n,n-Dimethylformamid, 3, III  
 ■ IMDG-Code UN 2265 N,N-

DIMETHYLFORMAMIDE, 3, III

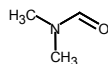
■ IATA-DGR UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III

### Specification

Deuteration degree ..... ≥ 99.50 %  
 Water (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O) ..... ≤ 0.050 %  
 Performance test (NMR-spectrum) ..... passes test  
 Water (NMR, H<sub>2</sub>O) ..... ≤ 0.030 %

Ord.No.	Packaging	Quantity	Price
1.11656.0001	Glass ampoule	1 ml	inquire
1.11656.0009	Glass ampoule	10x0.75 ml	inquire

## N,N-Dimethylformamide



C<sub>3</sub>H<sub>7</sub>NO  
 HCON(CH<sub>3</sub>)<sub>2</sub>  
 DMF, N,N-Dimethylmethanamide, Formic acid dimethylamide  
 ■ CAS-No. 68-12-2 ■ EC-No. 200-679-5  
 ■ Refractive index 1.43 ■ Vapour pressure 3.77 hPa (20 °C) ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ El. dipole moment 3.82 ■ Explosive

limit 2.2 - 16 % (V) ■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 73.09 g/mol  
 ■ pH value 7 (200 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -61 °C ■ Boiling point 153 °C (1013 hPa) ■ Ignition temp. 410 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Eye irritation, Category 2, H319; Reproductive toxicity, Category 1B, H360D, P201, P210, P302 + P352, P304 + P340, P305 + P351 + P338, P308 +

P313

■ LC50 rat > 5.85 mg/l  
 ■ LD50 oral rat 3010 mg/kg ■ LD50 dermal rabbit 1500 mg/kg  
 ■ EC-Index-No. 616-001-00-X ■ LGK 3  
 ■ HS-No. 2924 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2265 n,n-Dimethylformamid, 3, III  
 ■ IMDG-Code UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III  
 ■ IATA-DGR UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III

## 822275 N,N-Dimethylformamide EEMPLURA®

### Specification

Purity (GC) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms  
 Density (d 20 °C/ 4 °C) ..... 0.948 - 0.949  
 Water ..... ≤ 0.10 %

Ord.No.	Packaging	Quantity	Price
8.22275.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.22275.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.22275.6010	Drum stainl. st.	10 l	inquire
8.22275.6025	Drum stainl. st.	25 l	inquire



**103034 N,N-Dimethylformamide EMPARTA®**

<b>Specification</b>	Water.....	≤ 0.1 %
Purity (GC).....	≥ 99.5 %	
Identity (IR).....	conforms	
Density (d 20 °C/ 4 °C).....	0.948 - 0.949	
Acidity.....	≤ 0.0005 meq/g	
Alkalinity.....	≤ 0.0002 meq/g	
Heavy metals.....	≤ 0.0002 %	
Evaporation residue.....	≤ 0.001 %	

Ord.No.	Packaging	Quantity	Price
1.03034.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.03034.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.03034.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.03034.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.03034.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.03034.6025	Drum stainl. st.	25 l	inquire

**103053 N,N-Dimethylformamide for analysis EMSURE® ACS,ISO,Reag. Ph Eur**

<b>Specification</b>	Co (Cobalt).....	≤ 0.000002 %
Purity (GC).....	≥ 99.8 %	
Identity (IR).....	conforms	
Appearance.....	clear	
Colour.....	≤ 10 Hazen	
Titration acid.....	≤ 0.0005 meq/g	
Titration base.....	≤ 0.003 meq/g	
Density (d 20 °C/20 °C).....	0.949 - 0.952	
Refractive index (n 20/D).....	1.429 - 1.431	
Boiling point.....	152 - 154 °C	
Al (Aluminium).....	≤ 0.00005 %	
B (Boron).....	≤ 0.000002 %	
Ba (Barium).....	≤ 0.00001 %	
Ca (Calcium).....	≤ 0.00005 %	
Cd (Cadmium).....	≤ 0.000005 %	
	Cr (Chromium).....	≤ 0.000002 %
	Cu (Copper).....	≤ 0.000002 %
	Fe (Iron).....	≤ 0.00001 %
	Mg (Magnesium).....	≤ 0.00001 %
	Mn (Manganese).....	≤ 0.000002 %
	Ni (Nickel).....	≤ 0.000002 %
	Pb (Lead).....	≤ 0.00001 %
	Sn (Tin).....	≤ 0.00001 %
	Zn (Zinc).....	≤ 0.00001 %
	Evaporation residue.....	≤ 0.001 %
	Water.....	≤ 0.10 %

Ord.No.	Packaging	Quantity	Price
1.03053.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.03053.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.03053.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.03053.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.03053.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.03053.6010	Drum stainl. st.	10 l	inquire
1.03053.6025	Drum stainl. st.	25 l	inquire

**102375 N,N-Dimethylformamide dried (max. 0.003% H<sub>2</sub>O) SeccoSolv®**

<b>Specification</b>	Alkalinity.....	≤ 0.0002 meq/g
Purity (GC).....	≥ 99.9 %	
Identity (IR).....	conforms	
Dimethylamine.....	≤ 3 ppm	
Colour.....	≤ 10 Hazen	
Acidity.....	≤ 0.0005 meq/g	
	Evaporation residue.....	≤ 10 mg/l
	Water.....	≤ 0.003 %

Ord.No.	Packaging	Quantity	Price
1.02375.0161	Septum bottle	150 ml	inquire
1.02375.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire
1.02375.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**110983 N,N-Dimethylformamide for gas chromatography ECD and FID SupraSolv®**

<b>Specification</b>	chlorobenzene to decachlorobiphenyle, individual signals (lindane standard)).....	≤ 3 pg/ml
Purity (GC).....	≥ 99.8 %	
Identity (IR).....	conforms	
Evaporation residue.....	≤ 3.0 mg/l	
Water.....	≤ 0.05 %	
Colour.....	≤ 10 Hazen	
GC/ECD (retention range 1,2,4-tri- suitable for residue analysis	(n- tetradecane standard)).....	≤ 3 ng/ml

Ord.No.	Packaging	Quantity	Price
1.10983.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.10983.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**100202 N,N-Dimethylformamide for headspace gas chromatography SupraSolv®**

<b>Specification</b>	GC/HS (Every residual solvent of class 2 acc. ICH).....	≤ 10 µg/g
Purity (GC).....	≥ 99.8 %	
Identity (IR).....	conforms	
Evaporation residue.....	≤ 3.0 mg/l	
Water.....	≤ 0.05 %	
Colour.....	≤ 10 Hazen	
GC/HS (Every residual solvent of class 1 acc. ICH).....	≤ 1 µg/g	
	GC/HS (Every residual solvent of class 3 acc. ICH).....	≤ 50 µg/g
	Suitable as solvent for the analysis of residual solvents of ICH classes 1,2 and 3 according to Ph Eur und USP. Formic acid and acetic acid are not detected.	

Ord.No.	Packaging	Quantity	Price
1.00202.0500	Glass bottle	0.5 l	inquire
	Glass bottle	6 x 0.5 l	inquire
1.00202.1000	Glass bottle	1 l	inquire
1.00202.2500	Glass bottle	2.5 l	inquire

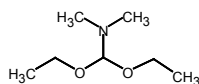
**102937 N,N-Dimethylformamide for spectroscopy Uvasol®**

<b>Specification</b>	Transmission (at 290 nm).....	≥ 80 %
Purity (GC).....	≥ 99.9 %	
Evaporation residue.....	≤ 0.0002 %	
Water.....	≤ 0.02 %	
Colour.....	≤ 10 Hazen	
Acidity.....	≤ 0.0002 meq/g	
Alkalinity.....	≤ 0.0002 meq/g	
Fluorescence (as quinine at 365 nm).....	≤ 1.0 ppb	
Transmission (at 270 nm).....	≥ 25 %	
Transmission (at 275 nm).....	≥ 60 %	
	Transmission (at 300 nm).....	≥ 90 %
	Transmission (from 330 nm).....	≥ 98 %
	Absorbance (at 270 nm).....	≤ 0.60
	Absorbance (at 275 nm).....	≤ 0.22
	Absorbance (at 290 nm).....	≤ 0.10
	Absorbance (at 300 nm).....	≤ 0.05
	Absorbance (from 330 nm).....	≤ 0.01
	Meet the requirements of "Specific use spectroscopy" according ACS	

Ord.No.	Packaging	Quantity	Price
1.02937.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.02937.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

# Dimeth

## 803066 N,N-Dimethylformamide diethyl acetal for synthesis



$C_7H_{17}NO_2$   
 $(C_2H_5O)_2CHN(CH_3)_2$   
*N,N-Dimethyldiethoxymethylamine*  
 ■ CAS-No. 1188-33-6 ■ EC-No. 214-707-9  
 ■ Refractive index 1.4007 (20 °C, 589 nm)  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 23 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow

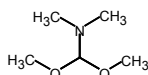
decomposition) ■ M = 147.21 g/mol  
 ■ Boiling point 130 - 133 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210, P262  
 ■ LGK 3  
 ■ HS-No. 2922 50 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(N,N-DIMETHYLFORMAMID-DIETHYLACETAL), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(N,N-DIMETHYLFORMAMIDE DIETHYLACETAL), 3, II

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(N,N-DIMETHYLFORMAMIDE DIETHYLACETAL), 3, II

**Specification**  
 Assay (HClO<sub>4</sub>).....≥ 90,0 % (m)  
 Density (d 20 °C / 4 °C).....0,859 - 0,866  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.03066.0025	Glass bottle	25 ml	inquire

## 803068 N,N-Dimethylformamide dimethyl acetal for synthesis



$C_5H_{13}NO_2$   
 $(CH_3O)_2CHN(CH_3)_2$   
*N,N-Dimethyldimethoxymethylamine, DMF-DMA*  
 ■ CAS-No. 4637-24-5 ■ EC-No. 225-063-3  
 ■ Refractive index 1.3972 (20 °C, 589 nm)  
 ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 17.7 % (V) ■ Flash point 6 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition) ■ M = 119.16 g/mol ■ pH value 7 (H<sub>2</sub>O) ■ Melting point -85 °C  
 ■ Boiling point 107 - 108 °C  
 ■ Ignition temp. 155 °C

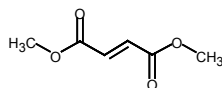
■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Reproductive toxicity, Category 1B, H360D; Acute toxicity, Category 4, Inhalation, H332; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317, P201, P210, P281, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LC50 rat 12.16 mg/l  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2922 50 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(N,N-DIMETHYLFORMAMID-DIMETHYLACETAL), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(N,N-

DIMETHYLFORMAMIDE DIMETHYLACETAL), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(N,N-DIMETHYLFORMAMIDE DIMETHYLACETAL), 3, II

**Specification**  
 Assay (HClO<sub>4</sub>).....≥ 96,0 % (m)  
 Density (d 20 °C / 4 °C).....0,893 - 0,897  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.03068.0001	Glass bottle	1 ml	inquire
8.03068.0025	Glass bottle	25 ml	inquire
8.03068.0100	Glass bottle	100 ml	inquire
8.03068.0500	Glass bottle	500 ml	inquire

## 820583 Dimethyl fumarate for synthesis



$C_6H_8O_4$   
 $CH_3OOCCH=CHCOOCH_3$   
*Fumaric acid dimethyl ester*  
 ■ CAS-No. 624-49-7 ■ EC-No. 210-849-0  
 ■ Vapour pressure 5 hPa (25 °C) (calculated)  
 ■ Spec. density 1.37 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 1.6 g/l (20 °C) ■ M = 144.13 g/mol ■ pH value 4.0 - 6.0

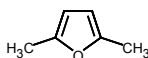
(10 g/l, H<sub>2</sub>O, 20 °C) suspension  
 ■ Melting point 102 °C ■ Boiling point 193 °C (1013 mbar)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Specific target organ toxicity - single exposure, Category 3, H335; Skin sensitisation, Category 1, H317; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 2240 mg/kg ■ LD50 dermal rabbit 1250 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%).....≥ 99,0 % (a/a)  
 Melting range (lower value).....≥ 102 °C  
 Melting range (upper value).....≤ 104 °C  
 Heavy metals (as Pb).....≤ 0.002 %  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.20583.0100	Plastic bottle	100 g	inquire
8.20583.0250	Plastic bottle	250 g	inquire

## 841596 2,5-Dimethylfuran for synthesis



$C_6H_8O$   
 ■ CAS-No. 625-86-5 ■ EC-No. 210-914-3  
 ■ Refractive index 1.438 - 1.443 ■ Vapour pressure 50 hPa (20 °C) ■ Spec. density 0.903 g/cm<sup>3</sup> (20 °C) ■ Flash point 1 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 96.12 g/mol  
 ■ Melting point -62 °C ■ Boiling point 92 - 93 °C (1013 hPa)  
 ■ WGK 2

■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P210, P260, P280, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 1238 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2932 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,5-DIMETHYLFURAN), 3, II ■ IMDG-

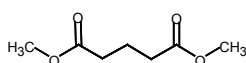
Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,5-DIMETHYLFURAN), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2,5-DIMETHYLFURAN), 3, II

**Specification**  
 Assay (GC, area%).....≥ 98,0 % (a/a)  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41596.0025	Glass bottle	25 ml	inquire

3,4-Dimethyl-2,5-furandione → 2,3-Dimethylmaleic anhydride page 794

## 814659 Dimethyl glutarate for synthesis



$C_7H_{12}O_4$   
 $CH_3-OOC-(CH_2)_3-COO-CH_3$   
*Pentanedioic acid dimethyl ester*  
 ■ CAS-No. 1119-40-0 ■ EC-No. 214-277-2  
 ■ Vapour pressure 0.13 hPa (20 °C)  
 ■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 7.9 % (V) ■ Flash point 107 °C

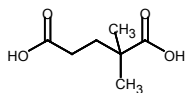
■ Kin. viscosity 2.5 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O 4.3 g/l (20 °C) ■ M = 160.16 g/mol  
 ■ Melting point -37 °C  
 ■ Boiling point 210 - 215 °C (1013 hPa)  
 ■ Ignition temp. 365 °C  
 ■ WGK 1  
 ■ GHS: P262  
 ■ LD50 oral rat 8191 mg/kg ■ LD50 dermal rabbit > 2250 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%).....≥ 99,0 % (a/a)  
 Density (d 20 °C / 4 °C).....1,085 - 1,090  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.14659.0250	Glass bottle	250 ml	inquire
8.14659.1000	Glass bottle	1 l	inquire



## 841561 2,2-Dimethylglutaric acid for synthesis



C<sub>7</sub>H<sub>12</sub>O<sub>4</sub>  
2,2-Dimethylpentanedioic acid

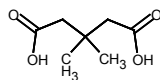
- CAS-No. 681-57-2 ■ EC-No. 211-655-9
- M = 160.16 g/mol ■ Melting point 83 - 84 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

**Specification**  
Assay (acidimetric)..... ≥ 98.0 %

Melting range (lower value)..... ≥ 82 °C  
Melting range (upper value)..... ≤ 85 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41561.0025	Plastic bottle	25 g	inquire

## 820508 3,3-Dimethylglutaric acid for synthesis



C<sub>7</sub>H<sub>12</sub>O<sub>4</sub>  
HOOCCH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>COOH  
2,2-Dimethylpropane-1,3-dicarboxylic acid  
■ CAS-No. 4839-46-7 ■ EC-No. 225-425-0

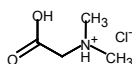
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 160.17 g/mol
- Melting point 98 - 101 °C
- Boiling point 89 - 90 °C (3 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 4

**Specification**  
Assay (acidimetric)..... ≥ 99.0 %

Melting range (lower value)..... ≥ 98 °C  
Melting range (upper value)..... ≤ 101 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20508.0025	Glass bottle	25 g	inquire

## 818448 N,N-Dimethylglycine hydrochloride for synthesis



C<sub>4</sub>H<sub>10</sub>ClNO<sub>2</sub>  
(CH<sub>3</sub>)<sub>2</sub>NCH<sub>2</sub>COOH \* HCl  
N,N-Dimethylaminoacetic acid hydrochloride

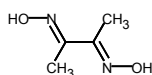
- CAS-No. 2491-06-7 ■ EC-No. 219-648-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 139.58 g/mol
- Melting point 190 - 193 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**  
Assay (argentometric)..... ≥ 99.0 %  
Melting range (lower value)..... ≥ 190 °C  
Melting range (upper value)..... ≤ 193 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18448.0010	Glass bottle	10 g	inquire

Dimethyl glycol → Ethylene glycol dimethyl ether page 303

## 103062 Dimethylglyoxime GR for analysis (reagent for nickel) ACS, Reag. Ph Eur



C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>  
(CH<sub>3</sub>CNOH)<sub>2</sub>  
Diacylglyoxime, 2,3-Butanedionedioxime disodium salt  
■ CAS-No. 95-45-4 ■ EC-No. 202-420-1

- Solub. in H<sub>2</sub>O 0.6 g/l (20 °C) ■ M = 116.11 g/mol
- Melting point 239 - 243 °C (decomposition)

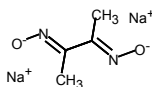
- Bulk density 620 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Flammable solid, Category 2, H228
- LGK 4.1B
- HS-No. 2928 00 90 ■ Disposal 3
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(DIMETHYLGLYOXIM), 4.1, III
- IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(DIMETHYLGLYOXIME), 4.1, III
- IATA-DGR UN 1325 FLAMMABLE SOLID,

ORGANIC, N.O.S.(DIMETHYLGLYOXIME), 4.1, III

**Specification**  
Assay (gravimetrically)..... ≥ 99%  
Identity (IR-spectrum)..... passes test  
Matter insoluble in ethanol..... ≤ 0.02 %  
Melting range..... 239 - 243 °C  
Sulfated ash..... ≤ 0.05 %  
Suitability as reagent (at Nickel)..... passes test

Ord.No.	Packaging	Quantity	Price
1.03062.0100	Plastic bottle	100 g	inquire

## 103061 Dimethylglyoxime disodium salt octahydrate GR for analysis



C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>2</sub> \* 8 H<sub>2</sub>O  
(CH<sub>3</sub>CNOH)<sub>2</sub> \* 8 H<sub>2</sub>O  
2,3-Butanedionedioxime disodium salt  
■ CAS-No. 75006-64-3 ■ EC-No. 262-523-2

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 304.21 g/mol
- Bulk density 300 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

Reagent for nickel.  
**Specification**  
Assay (Perchloric acid titration, calc. on anhydrous substance)..... ≥ 99%

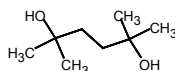
Identity (IR-spectrum)..... conforms  
Substances insoluble in water..... conforms  
Water (according to Karl Fischer)..... 44 - 48%  
Sensitivity test (at Nickel)..... conforms

Ord.No.	Packaging	Quantity	Price
1.03061.0100	Plastic bottle	100 g	inquire
1.03061.0500	Plastic bottle	500 g	inquire

2,6-Dimethyl-4-heptanone → Diisobutyl ketone  
page 302

Dimethyl hexanedioate → Dimethyl adipate page  
302

## 822036 2,5-Dimethyl-2,5-hexanediol for synthesis



C<sub>8</sub>H<sub>18</sub>O<sub>2</sub>  
(CH<sub>3</sub>)<sub>2</sub>C(OH)CH<sub>2</sub>CH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>OH  
■ CAS-No. 110-03-2 ■ EC-No. 203-731-5

- Vapour pressure < 1 hPa (20 °C)
- Spec. density 0.898 g/cm<sup>3</sup> (20 °C)
- Flash point 127 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 146.23 g/mol

- Melting point 85 - 88 °C ■ Bulk density 500 kg/m<sup>3</sup>
- Boiling point 214 - 215 °C
- Ignition temp. 420 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 9000 mg/kg
- LGK 10 - 13
- HS-No. 2905 39 95 ■ Disposal 3

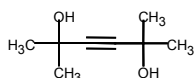
**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Melting range (lower value)..... ≥ 85 °C  
Melting range (upper value)..... ≤ 88 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22036.0250	Plastic bottle	250 g	inquire
8.22036.1000	Plastic bottle	1 kg	inquire



# Dimeth

## 818587 2,5-Dimethyl-3-hexyne-2,5-diol for synthesis



$C_8H_{14}O_2$   
 ■ CAS-No. 142-30-3 ■ EC-No. 205-533-4  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 % (V) ■ Solub. in H<sub>2</sub>O 240 g/l (20 °C)

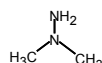
- M = 142.19 g/mol ■ Melting point 93 - 95 °C
- Boiling point 205 °C (1013 hPa)
- WGK 2
- LGK 10 - 13
- HS-No. 2905 39 95 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 93 °C

Melting range (upper value) ..... ≤ 95 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18587.0100	Plastic bottle	100 g	inquire

## 810408 N,N-Dimethylhydrazine for synthesis



$C_2H_6N_2$   
 (CH<sub>3</sub>)<sub>2</sub>NNH<sub>2</sub>  
 1,1-Dimethylhydrazine, UDMH  
 ■ CAS-No. 57-14-7 ■ EC-No. 200-316-0  
 ■ Refractive index 1.4075 (20 °C, 589 nm)  
 ■ Vapour pressure 164 hPa (20 °C)  
 ■ Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 45 % (V) ■ Flash point 1 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 60.09 g/mol  
 ■ pH value (H<sub>2</sub>O) strongly alkaline  
 ■ Melting point -58 °C ■ Boiling point 63 - 64 °C  
 ■ Ignition temp. 249 °C

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 2, H411, P210, P280, P201, P273, P304 + P340, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 0.6 mg/l
- LD50 oral rat 122 mg/kg ■ LD50 dermal rabbit 1060 mg/kg
- EC-Index-No. 007-012-00-5 ■ LGK 3 ■ Store at +2 °C to +8 °C
- HS-No. 2928 00 90 ■ Disposal 9
- ADR-RID UN 1163 Dimethylhydrazin,

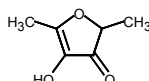
asymmetrisch, 6.1 (3, 8), I ■ IMDG-Code UN 1163 DIMETHYLHYDRAZINE, UNSYMMETRICAL, 6.1 (3, 8), I, Marine Pollutant: P, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1163 DIMETHYLHYDRAZINE, UNSYMMETRICAL, 6.1 (3, 8),

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,790 - 0,792  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.10408.0100	Glass bottle	100 ml	inquire
8.10408.0500	Glass bottle	500 ml	inquire

1,1-Dimethylhydrazine → N,N-Dimethylhydrazine page 792

## 843802 2,5-Dimethyl-4-hydroxy-(2H)-furan-3-on for synthesis



$C_6H_8O_3$   
 ■ CAS-No. 3658-77-3 ■ EC-No. 222-908-8

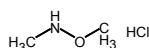
- M = 128.13 g/mol ■ Melting point 73 - 77 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2932 19 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 73 °C

Melting range (upper value) ..... ≤ 80 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43802.0025	Glass bottle	25 g	inquire

## 840074 N,O-Dimethylhydroxylamine hydrochloride for synthesis



$C_2H_6ClNO$   
 $C_2H_7NO^+HCl^-$   
 N-Methoxymethanamine hydrochloride  
 ■ CAS-No. 6638-79-5 ■ EC-No. 229-642-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 97.54 g/mol  
 ■ Melting point 112 - 116 °C

- WGK 3
  - GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
  - LGK 10 - 13
  - HS-No. 2928 00 90 ■ Disposal 3
- Specification**  
 Assay (argentometric) ..... ≥ 95,0 % (m)

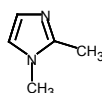
Melting range (lower value) ..... ≥ 112 °C  
 Melting range (upper value) ..... ≤ 116 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.40074.0010	Glass bottle	10 g	inquire
8.40074.0050	Glass bottle	50 g	inquire

2,2-Dimethyl-4-hydroxymethyl-1,3-dioxolane →  
 1,2-O-Isopropylidene glycerol page 1054

(R)-(-)-2,2-Dimethyl-4-hydroxymethyl-1,3-dioxolane → (R)-(-)-1,2-O-Isopropylidene glycerol page 1054

## 1,2-Dimethylimidazole



$C_5H_8N_2$   
 ■ CAS-No. 1739-84-0 ■ EC-No. 217-101-2  
 ■ Vapour pressure 1 hPa (20 °C)

- Spec. density 0.99 g/cm<sup>3</sup> (40 °C)
- Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 96.13 g/mol ■ pH value 12.6 (500 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 30 - 40 °C
- Boiling point 205 °C (1013 hPa)
- Ignition temp. 480 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral,

H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313  
 ■ LD50 oral rat 1300 mg/kg  
 ■ EC-Index-No. 613-034-00-1 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90 ■ Disposal 3

## 803245 1,2-Dimethylimidazole for synthesis

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 30 °C  
 Melting range (upper value) ..... ≤ 40 °C  
 Identity (IR) ..... passes test

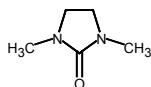
Ord.No.	Packaging	Quantity	Price
8.03245.0100	Glass bottle	100 ml	inquire
8.03245.0500	Glass bottle	500 ml	inquire

## 845034 1,2-Dimethylimidazole for pharma synthesis, non-GMP

**Specification**  
 Colour (visual) ..... white to yellow  
 Appearance (visual) ..... crystalline mass  
 Assay (GC, area%) ..... ≥ 96,0 Area %  
 1-Methylimidazole (GC, area%) ..... lot specific result  
 Melting range (lower value) ..... ≥ 30 °C  
 Melting range (upper value) ..... ≤ 40 °C  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45034.0100	Glass bottle	100 ml	inquire
8.45034.1000	Glass bottle	1 l	inquire

## 818212 1,3-Dimethyl-2-imidazolidinone for synthesis

C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>O

Dimethylethylene urea, DMI, DMEU

- CAS-No. 80-73-9 ■ EC-No. 201-304-8
- Refractive index 1.472 (20 °C, 589 nm) ■ Vapour pressure < 1 hPa (20 °C) ■ Spec. density 1.056 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 8.4 % (V)
- Flash point 114 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 114.14 g/mol
- pH value (H<sub>2</sub>O) neutral ■ Melting point 8.2 °C

- Boiling point 104 °C (20 hPa)
- Ignition temp. 305 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1261 mg/kg ■ LD50 dermal rabbit 986 mg/kg
- LGK 10
- HS-No. 2933 29 90 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1,3-DIMETHYL-2-IMIDAZOLIDINON), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID,

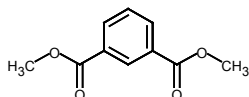
ORGANIC, N.O.S.(1,3-DIMETHYL-2-IMIDAZOLIDINONE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,3-DIMETHYL-2-IMIDAZOLIDINONE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.055 - 1.057  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18212.0100	Glass bottle	100 ml	inquire
8.18212.0500	Glass bottle	500 ml	inquire

## 804791 Dimethyl isophthalate for synthesis

C<sub>10</sub>H<sub>10</sub>O<sub>4</sub>

Isophthalic acid dimethyl ester

- CAS-No. 1459-93-4 ■ EC-No. 215-951-9
- Flash point 138 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 194.18 g/mol
- Melting point 65 - 68 °C ■ Boiling point 124 °C (16 hPa)
- WGK 3
- LD50 oral rat 4390 mg/kg
- LGK 10 - 13
- HS-No. 2917 39 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 65 °C  
 Melting range (upper value) ..... ≤ 68 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04791.0100	Plastic bottle	100 g	inquire
8.04791.0500	Plastic bottle	500 g	inquire

N,N-Dimethylisopropanolamine → 1-(Dimethylamino)-2-propanol page 778

## 814842 N,N-Dimethyl isopropylamine for synthesis

C<sub>5</sub>H<sub>13</sub>N

- CAS-No. 996-35-0 ■ EC-No. 213-635-5
- Vapour pressure 180 hPa (20 °C)
- Spec. density 0.72 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 8.1 % (V) ■ Flash point -27 °C
- Kin. viscosity 0.6 mm<sup>2</sup>/s (23 °C) ■ Solub. in H<sub>2</sub>O (20 °C) miscible in all proportions
- M = 87.16 g/mol ■ pH value 11.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -70 °C
- Boiling point 66.25 °C (1013 hPa)
- Ignition temp. 190 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation,

- H331; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314; Chronic aquatic toxicity, Category 2, H411, P210, P233, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P304 + P340, P309 + P310
- LD50 oral rat 684 mg/kg
- LGK 3
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(N,N-DIMETHYLISOPROPYLAMIN), 8 (3), I ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(N,N-DIMETHYLISOPROPYLAMINE), 8 (3), I, Segregation

Group: 18 (Alkalis)

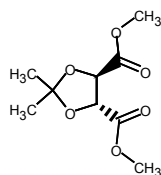
■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(N,N-DIMETHYLISOPROPYLAMINE), 8 (3), I

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,714 - 0,716  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14842.0100	Glass bottle	100 ml	inquire
8.14842.0500	Glass bottle	500 ml	inquire

## 818225 (2R,3R)-(-)-Dimethyl-2,3-O-isopropylidene tartrate for synthesis

C<sub>9</sub>H<sub>14</sub>O<sub>6</sub>

4R-trans-Dimethyl 2,2-dimethyl-1,3-dioxolane-4,5-dicarboxylate, 2,3-O-Isopropylidene-L-tartaric acid dimethyl ester

- CAS-No. 37031-29-1
- Refractive index 1.4372 (20 °C, 589 nm)
- Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 218.2 g/mol
- WGK 3
- LGK 10 - 13

- HS-No. 2932 99 00 ■ Disposal 3

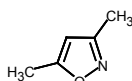
## Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.193 - 1.195  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)..... -64.0 - -62.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18225.0005	Glass bottle	5 ml	inquire

1,4α-Dimethyl-7-isopropyl-1,2,3,4,4α,9,10,10α-octahydro-1-phenanthrenemethylamine → Dehydroabietylamine page 688

## 814187 3,5-Dimethylisoxazole for synthesis

C<sub>5</sub>H<sub>7</sub>NO

- CAS-No. 300-87-8 ■ EC-No. 206-100-2
- Refractive index 1.4439 (15 °C, 589 nm)
- Vapour pressure 6.9 hPa (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 31 °C ■ Solub. in H<sub>2</sub>O 50.9 g/l

- (20 °C) ■ M = 97.11 g/mol ■ pH value 4.5 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -14 °C
- Boiling point 141 - 143 °C (1013 hPa)
- Ignition temp. 520 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2934 99 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3,5-DIMETHYLISOXAZOL), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3,5-DIMETHYLISOXAZOLE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3,5-DIMETHYLISOXAZOLE), 3, III

## Specification

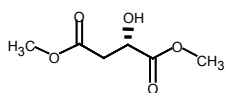
Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,982 - 0,983  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14187.0050	Glass bottle	50 ml	inquire

Dimethyl ketone → page 2

# Dimeth

## 818267 (S)-(-)-Dimethyl malate for synthesis



C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>  
 H<sub>3</sub>COOCCH(OH)CH<sub>2</sub>COOCH<sub>3</sub>  
*L-(-)-Malic acid dimethyl ester*  
 ■ CAS-No. 617-55-0  
 ■ Refractive index 1.4366 (20 °C, 589 nm)  
 ■ Spec. density 1.23 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 110 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 162.14 g/mol  
 ■ Boiling point 104 - 108 °C (1.33 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317, P210, P280, P302 + P352, P305 + P351 + P338, P313  
 ■ EC-Index-No. 607-643-00-1 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2918 19 98 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

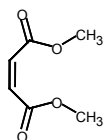
■ IATA-DGR No Dangerous Good

### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.231 - 1.233  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=10 in methanol) ..... -9.0 - -7.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18267.0005	Glass bottle	5 ml	inquire

## 841681 Dimethyl maleate for synthesis



C<sub>6</sub>H<sub>8</sub>O<sub>4</sub>  
 ■ CAS-No. 624-48-6 ■ EC-No. 210-848-5  
 ■ Spec. density 1.151 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 95 °C ■ Solub. in H<sub>2</sub>O 80 g/l (25 °C)

■ M = 144.12 g/mol ■ Melting point -19 °C  
 ■ Boiling point 204 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302, P280, P302 + P352, P309 + P310  
 ■ LD50 oral rat 1410 mg/kg ■ LD50 dermal rabbit 610 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2917 19 90 ■ Disposal 3  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger

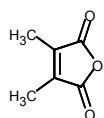
Stoff, n.a.g.(DIMETHYLMALEINAT), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(DIMETHYL MALEATE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(DIMETHYL MALEATE), 6.1, III

### Specification

Assay (HPLC, area%) ..... ≥ 90,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41681.0250	Glass bottle	250 ml	inquire

## 841502 2,3-Dimethylmaleic anhydride for synthesis



C<sub>6</sub>H<sub>6</sub>O<sub>3</sub>  
 3,4-Dimethyl-2,5-furandione  
 ■ CAS-No. 766-39-2 ■ EC-No. 212-165-8

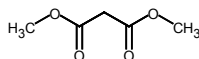
■ Spec. density 1.107 g/cm<sup>3</sup> (100 °C)  
 ■ M = 126.11 g/mol ■ Melting point 96 °C  
 ■ Boiling point 223 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 92 °C  
 Melting range (upper value) ..... ≤ 95 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41502.0005	Plastic bottle	5 g	inquire

## 800899 Dimethyl malonate for synthesis



C<sub>5</sub>H<sub>8</sub>O<sub>4</sub>  
 CH<sub>2</sub>(COOCH<sub>3</sub>)<sub>2</sub>  
*Malonic acid dimethyl ester*  
 ■ CAS-No. 108-59-8 ■ EC-No. 203-597-8  
 ■ Refractive index 1.4135 (20 °C, 589 nm)  
 ■ Vapour pressure 0.15 hPa (20 °C)  
 ■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Explosive

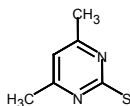
limit 1.3 - 17.4 % (V) ■ Flash point 90 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 132.11 g/mol  
 ■ Melting point -62 °C  
 ■ Boiling point 181 - 183 °C (1013 hPa)  
 ■ Ignition temp. 440 °C  
 ■ WGK 1  
 ■ LD50 oral rat 5331 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2917 19 10 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,151 - 1,154  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00899.0100	Glass bottle	100 ml	inquire
8.00899.0500	Glass bottle	500 ml	inquire
8.00899.1000	Glass bottle	1 l	inquire

## 841337 4,6-Dimethyl-2-mercaptopyrimidine for synthesis



C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>S

4,6-Dimethyl-2-pyrimidinethiol  
 ■ CAS-No. 22325-27-5 ■ EC-No. 244-911-3  
 ■ M = 140.2 g/mol ■ Melting point 208 - 211 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 59 95 ■ Disposal 3

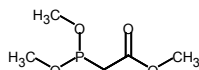
### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 208 °C  
 Melting range (upper value) ..... ≤ 211 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41337.0010	Plastic bottle	10 g	inquire

1,4-Dimethyl-2-methoxybenzene → 2,5-Dimethylanisole page 782

## 841287 Dimethyl methoxycarbonylmethanephosphonate for synthesis



C<sub>5</sub>H<sub>11</sub>O<sub>4</sub>P  
*Phosphonoacetic acid trimethyl ester, Trimethyl phosphonoacetate*

■ CAS-No. 5927-18-4 ■ EC-No. 227-663-0  
 ■ Spec. density 1.263 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 70 °C ■ M = 166.11 g/mol  
 ■ Boiling point 119 - 120 °C (1.33 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2931 90 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.260 - 1.266  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41287.0025	Glass bottle	25 ml	inquire

(1S)-6,6-Dimethyl-2-methylenebicyclo[3.1.1]heptane → (1S)-(-)-B-Pinene page 1329

2,2-Dimethyl-3-methylenebicyclo[2.2.1]heptane → (+)-Camphene page 566

2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine) → 4,4'-Methylenebis(2-methylcyclohexylamine) page 1149

818115 **N,N-Dimethyl-methyleneiminium chloride** for synthesisC<sub>3</sub>H<sub>8</sub>ClN*Eschenmoser salt*

- CAS-No. 30354-18-8 ■ EC-No. 250-142-4
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 93.56 g/mol ■ Melting point 120 - 125 °C
- Bulk density 300 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Flammable solid, Category 2, H228; Specific target organ toxicity - single

- exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338, P370 + P378
- LGK 4.1B
  - HS-No. 2925 29 00 ■ Disposal 3
  - ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(N,N-DIMETHYLMETHYLENIMINIUMCHLORID), 4.1, III
  - IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(N,N-DIMETHYLMETHYLENIMINIUM CHLORIDE), 4.1, III
  - IATA-DGR UN 1325 FLAMMABLE SOLID,

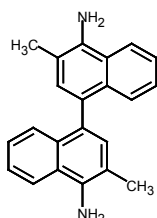
ORGANIC, N.O.S.(N,N-DIMETHYLMETHYLENIMINIUM CHLORIDE), 4.1, III

**Specification**

Assay (argentometric).....≥ 96,5 %(m)  
 Melting range (lower value).....≥ 120 °C  
 Melting range (upper value).....≤ 125 °C  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18115.0010	Glass bottle	10 g	inquire

3,3-Dimethyl-2-methylenenorcamphane → (+)-Camphene page 566

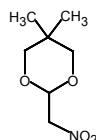
103122 **3,3'-Dimethylnaphthidine** metal indicatorC<sub>22</sub>H<sub>20</sub>N<sub>2</sub>

- 4,4'-Diamino-3,3'-dimethyl-1,1'-binaphthyl
- CAS-No. 13138-48-2 ■ EC-No. 236-069-0
  - Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 312.42 g/mol
  - Melting point 228 - 233 °C
  - Bulk density 380 kg/m<sup>3</sup>
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2921 59 90 ■ Disposal 3
- Use as metal indicator: 1 % in glacial acetic acid

**Specification**

Appearance of solution.....conforms  
 Loss on drying (110 °C).....≤ 1.00 %  
 Suitability as indicator (for metal titration).....conforms

Ord.No.	Packaging	Quantity	Price
1.03122.0001	Glass bottle	1 g	inquire

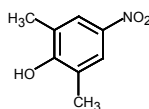
2,3-Dimethylnitrobenzene → 3-Nitro-o-xylene  
page 12322,6-Dimethylnitrobenzene → 2-Nitro-m-xylene  
page 12312,4-Dimethylnitrobenzene → 4-Nitro-m-xylene  
page 12323,4-Dimethylnitrobenzene → 4-Nitro-o-xylene  
page 1232814204 **5,5-Dimethyl-2-nitromethyl-1,3-dioxane** for synthesisC<sub>7</sub>H<sub>13</sub>NO<sub>4</sub>

- CAS-No. 33884-29-6
- Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 175.18 g/mol
- Boiling point 67 - 69 °C (1 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (GC, area%).....≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C).....1,135 - 1,140  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14204.0001	Glass bottle	1 ml	inquire

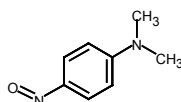
814216 **2,6-Dimethyl-4-nitrophenol** for synthesisC<sub>8</sub>H<sub>9</sub>NO<sub>3</sub>4-(NO<sub>2</sub>)<sub>2</sub>,6(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>2</sub>OH**4-Nitro-2,6-xyleneol**

- CAS-No. 2423-71-4 ■ EC-No. 219-353-9
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 167.16 g/mol
- Melting point 166 - 169 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2908 99 00 ■ Disposal 3

**Specification**

Assay (GC, area%).....≥ 98,0 Area %  
 Melting range (lower value).....≥ 166 °C  
 Melting range (upper value).....≤ 169 °C  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14216.0005	Glass bottle	5 g	inquire

820515 **N,N-Dimethyl-4-nitrosoaniline** for synthesisC<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O4-(NO)C<sub>6</sub>H<sub>4</sub>N(CH<sub>3</sub>)<sub>2</sub>*4-Nitroso-N,N-dimethylaniline*

- CAS-No. 138-89-6 ■ EC-No. 205-343-1
- Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 150.18 g/mol
- Melting point 84 - 87 °C

- WGK 3
- GHS: Danger, Self-heating substances and mixtures, Category 1, H251; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301, P280, P309 + P310, P302 + P352, P304 + P340
- LD50 oral rat 65 mg/kg
- LGK 4.2
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 1369 p-Nitrosodimethylanilin, 4.2, II ■ IMDG-Code UN 1369 P-

NITROSODIMETHYLANILINE, 4.2, II  
■ IATA-DGR UN 1369 P-NITROSODIMETHYLANILINE, 4.2, II**Specification**

Assay (HClO<sub>4</sub>).....≥ 98,0 %  
 Melting range (lower value).....≥ 82 °C  
 Melting range (upper value).....≤ 86 °C  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.20515.0025	Glass bottle	25 g	inquire

3,7-Dimethyl-2,6-octadienal → Citral page 645

3,7-Dimethyl-6-octenal → Citronellal page 646

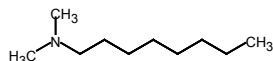
3,7-Dimethyl-1,6-octadien-3-ol → Linalool page 1078

3,7-Dimethyl-6-octen-1-ol → Citronellol page 646

(S)-(-)-3,7-Dimethyl-6-octen-1-ol → (S)-(-)-β-Citronellol page 646



## 841863 N,N-Dimethyloctylamine for synthesis

C<sub>10</sub>H<sub>23</sub>N

- CAS-No. 7378-99-6 ■ EC-No. 230-939-3
- Refractive index 1.4243 ■ Vapour pressure 1.066 hPa (25 °C)
- Spec. density 0.765 g/cm<sup>3</sup> (20 °C)
- Flash point 65 °C ■ M = 157.30 g/mol
- Melting point -57 °C ■ Boiling point 195 °C (1013 hPa)
- WGK 1

- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 162 mg/kg
- LGK 6.1A
- HS-No. 2921 19 99 ■ Disposal 9
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(N,N-DIMETHYLOCTYLAMIN), 8 (6.1), II
- IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(N,N-DIMETHYLOCTYLAMINE), 8 (6.1), II
- IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(N,N-DIMETHYLOCTYLAMINE), 8 (6.1), II

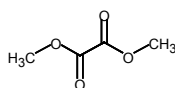
## Specification

Assay (GC, area%)..... ≥ 94,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,764 - 0,769  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41863.0002	Glass bottle	2 ml	inquire
8.41863.0025	Glass bottle	25 ml	inquire
8.41863.0100	Glass bottle	100 ml	inquire

1,4-Dimethylolcyclohexane → 1,4-Bis(hydroxymethyl)-cyclohexane page 472

## 822115 Dimethyl oxalate for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>4</sub>CH<sub>3</sub>OOCCOOCH<sub>3</sub>

Oxalic acid dimethyl ester, Methyl oxalate

- CAS-No. 553-90-2 ■ EC-No. 209-053-6
- Vapour pressure 3 hPa (20 °C)

- Spec. density 1.15 g/cm<sup>3</sup> (54 °C)
- Flash point 75 °C ■ Solub. in H<sub>2</sub>O 60 g/l (25 °C, 20 °C) ■ Melting point 50 - 53 °C
- M = 118.08 g/mol ■ pH value 1 (60 g/l, H<sub>2</sub>O, 20 °C)
- Boiling point 163 - 164 °C (1013 hPa)
- Ignition temp. 480 °C
- WGK 3
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 2917 11 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 52 °C  
 Melting range (upper value)..... ≤ 55 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22115.0250	Plastic bottle	250 g	inquire
8.22115.1000	Plastic bottle	1 kg	inquire

## 818107 4,4-Dimethyl-2-oxazoline for synthesis

C<sub>5</sub>H<sub>9</sub>NO

CAS-No. 30093-99-3 ■ EC-No. 250-045-7

- Spec. density 0.94 g/cm<sup>3</sup> (20 °C)
- Flash point 1 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 99.13 g/mol

- Boiling point 99 - 100 °C (1013 hPa)
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210
- LGK 3
- HS-No. 2934 99 90 ■ Disposal 1
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4,4-DIMETHYL-2-OXAZOLIN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4,4-DIMETHYL-2-OXAZOLINE), 3, II

- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(4,4-DIMETHYL-2-OXAZOLINE), 3, II

## Specification

Assay (GC, area%)..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.935 - 0.939  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18107.0005	Glass bottle	5 ml	inquire

## 840145 2,2-Dimethyloxirane for synthesis

C<sub>4</sub>H<sub>8</sub>O

1,2-Epoxy-2-methylpropane

- CAS-No. 558-30-5 ■ EC-No. 209-193-8
- Vapour pressure 313 hPa (20 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 13.5 % (V) ■ Flash point -32.5 °C
- Kin. viscosity 0.513 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 30 g/l (20 °C) ■ M = 72.1 g/mol
- pH value 6 - 7 (H<sub>2</sub>O) ■ Boiling point 50.5 °C
- Ignition temp. 345 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P223, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 3890 mg/kg ■ LD50 dermal rat > 4000 mg/kg
- LGK 3
- HS-No. 2910 90 00 ■ Disposal 3
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(2,2-DIMETHYLOXIRAN), 3 (8), II
- IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(2,2-DIMETHYLOXIRANE), 3 (8), II

- IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(2,2-DIMETHYLOXIRANE), 3 (8), II

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0,801 - 0,804  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40145.0050	Glass bottle	50 ml	inquire
8.40145.0250	Glass bottle	250 ml	inquire

2,5-Dimethyl paradiazine → 2,5-Dimethylpyrazine page 800

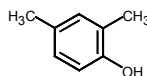
2,2-Dimethylpentanedioic acid → 2,2-Dimethylglutaric acid page 791

2,6-Dimethyl paradiazine → 2,6-Dimethylpyrazine page 800

2,9-Dimethyl-1,10-phenanthroline → Neocuproine page 1203

α,α-Dimethyl phenethyl alcohol → 2-Methyl-1-phenyl-2-propanol page 1170

## 803770 2,4-Dimethylphenol for synthesis

C<sub>8</sub>H<sub>10</sub>O2,4-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH

2,4-DMP, asym.-m-Xylenol

- CAS-No. 105-67-9 ■ EC-No. 203-321-6
- Refractive index 1.54 (20 °C, 589 nm) ■ Vapour pressure < 1.33 hPa ■ Spec. density 1.016 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 1.4 % (V)
- Flash point 80 - 95 °C ■ Solub. in H<sub>2</sub>O 5.0 g/l (20 °C) ■ M = 122.16 g/mol ■ Melting point 25 °C

- Boiling point 211 °C (1013 hPa)
- Ignition temp. 480 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 2, H411, P280, P273, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 3200 mg/kg ■ LD50 dermal rat 1040 mg/kg
- EC-Index-No. 604-006-00-X ■ LGK 6.1A
- HS-No. 2907 19 10 ■ Disposal 9

- ADR-RID UN 3430 Xylenole, flüssig, 6.1, II
- IMDG-Code UN 3430 XYLENOLS, LIQUID, 6.1, II
- IATA-DGR UN 3430 XYLENOLS, LIQUID, 6.1, II

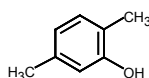
## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,018 - 1,020  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03770.0005	Glass bottle	5 ml	inquire
8.03770.0250	Glass bottle	250 ml	inquire
8.03770.1000	Glass bottle	1 l	inquire



## 803771 2,5-Dimethylphenol for synthesis

C<sub>8</sub>H<sub>10</sub>O2,5-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH2,5-DMP, *p*-Xylenol

■ CAS-No. 95-87-4 ■ EC-No. 202-461-5

■ Vapour pressure 0.208 hPa (25 °C)

■ Spec. density 0.9 g/cm<sup>3</sup> (75 °C) ■ Explosive

■ limit 1.4 % (V) ■ Flash point 80 - 95 °C ■ Solub. in

H<sub>2</sub>O (20 °C) slightly soluble ■ M = 122.16 g/mol

■ Melting point 75 °C ■ Boiling point 211 °C

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin

corrosion, Category 1B, H314; Chronic aquatic

toxicity, Category 2, H411, P273, P280, P309 +

P310, P302 + P352, P305 + P351 + P338

■ EC-Index-No. 604-006-00-X ■ LGK 6.1A

■ HS-No. 2907 19 10 ■ Disposal 9

■ ADR-RID UN 2261 Xylenole, fest, 6.1, II ■ IMDG-

Code UN 2261 XYLENOLS, SOLID, 6.1, II

■ IATA-DGR UN 2261 XYLENOLS, SOLID, 6.1, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %

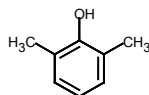
Melting range (lower value)..... ≥ 73 °C

Melting range (upper value)..... ≤ 76 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03771.0005	Glass bottle	5 g	inquire
8.03771.0250	Glass bottle	250 g	inquire

## 2,6-Dimethylphenol

C<sub>8</sub>H<sub>10</sub>O2,6-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH

2,6-DMP

■ CAS-No. 576-26-1 ■ EC-No. 209-400-1

■ Vapour pressure 0.2 hPa (20 °C)

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.4 % (V) ■ Flash point 73 °C ■ Solub. in

H<sub>2</sub>O 8 g/l (20 °C) ■ M = 122.16 g/mol■ pH value 6 - 7 (8 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 45 - 48 °C ■ Boiling point 203 °C

■ Ignition temp. 555 °C

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Dermal, H311;

Skin corrosion, Category 1B, H314; Chronic

aquatic toxicity, Category 2, H411, P280, P273,

P302 + P352, P301 + P330 + P331, P305 + P351

+ P338, P309 + P310

■ LD50 oral rat 296 mg/kg ■ LD50 dermal rabbit

1000 mg/kg

■ EC-Index-No. 604-006-00-X ■ LGK 6.1A

■ HS-No. 2907 19 10 ■ Disposal 9

■ ADR-RID UN 2261 Xylenole, fest, 6.1, II ■ IMDG-

Code UN 2261 XYLENOLS, SOLID, 6.1, II

■ IATA-DGR UN 2261 XYLENOLS, SOLID, 6.1, II

For the determination of nitrates in water

analysis.

## 803772 2,6-Dimethylphenol for synthesis

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 42 °C

Melting range (upper value)..... ≤ 45 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03772.0005	Glass bottle	5 g	inquire
8.03772.0250	Glass bottle	250 g	inquire
8.03772.1000	Glass bottle	1 kg	inquire

## 103768 2,6-Dimethylphenol GR for analysis

## Specification

Purity (GC)..... ≥ 99 % (a/a)

Identity (IR-spectrum)..... passes test

Melting point..... 45 - 48 °C

Heavy metals (as Pb)..... ≤ 0.001 %

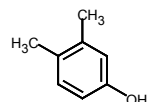
Fe (Iron)..... ≤ 0.001 %

Sulfated ash..... ≤ 0.05 %

Water (according to Karl Fischer)..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.03768.0100	Glass bottle	100 g	inquire

## 803773 3,4-Dimethylphenol for synthesis

C<sub>8</sub>H<sub>10</sub>O3,4-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH3,4-DMP, *asym.*-*o*-Xylenol

■ CAS-No. 95-65-8 ■ EC-No. 202-439-5

■ Explosive limit 1.4 % (V) ■ Flash point 80 - 95 °C

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

■ M = 122.16 g/mol ■ Melting point 62 - 65 °C

■ Boiling point 227 °C (1013 hPa)

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin

corrosion, Category 1B, H314; Chronic aquatic

toxicity, Category 2, H411, P273, P280, P301 +

P330 + P331, P302 + P352, P305 + P351 + P338,

P309 + P310

■ LD50 oral rat 727 mg/kg

■ EC-Index-No. 604-006-00-X ■ LGK 6.1A

■ HS-No. 2907 19 10 ■ Disposal 9

■ ADR-RID UN 2261 Xylenole, fest, 6.1, II ■ IMDG-

Code UN 2261 XYLENOLS, SOLID, 6.1, II

■ IATA-DGR UN 2261 XYLENOLS, SOLID, 6.1, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %

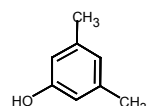
Melting range (lower value)..... ≥ 61 °C

Melting range (upper value)..... ≤ 65 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03773.0100	Glass bottle	100 g	inquire
8.03773.0250	Glass bottle	250 g	inquire

## 821221 3,5-Dimethylphenol for synthesis

C<sub>8</sub>H<sub>10</sub>O3,5-(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH*sym.*-*m*-Xylenol

■ CAS-No. 108-68-9 ■ EC-No. 203-606-5

■ Refractive index 1.513 (75 °C, 589 nm) ■ Vapour

pressure &lt; 0.1 hPa (20 °C) ■ Spec. density 1.11 g/

cm<sup>3</sup> (25 °C) ■ Explosive limit 1.4 % (V)■ Flash point 82 °C ■ Solub. in H<sub>2</sub>O 5.3 g/l (25 °C)■ M = 122.16 g/mol ■ pH value 6 (5 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point 61 - 64 °C

■ Boiling point 222 °C (1013 hPa)

■ Ignition temp. &gt;500 °C

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin

corrosion, Category 1B, H314, P280, P301 + P330

+ P331, P302 + P352, P305 + P351 + P338, P309

+ P310

■ LD50 oral rat 608 mg/kg

■ EC-Index-No. 604-037-00-9 ■ LGK 6.1A

■ HS-No. 2907 19 10 ■ Disposal 9

■ ADR-RID UN 2261 Xylenole, fest, 6.1, II ■ IMDG-

Code UN 2261 XYLENOLS, SOLID, 6.1, II

■ IATA-DGR UN 2261 XYLENOLS, SOLID, 6.1, II

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 61 °C

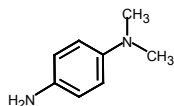
Melting range (upper value)..... ≤ 64 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21221.0005	Glass bottle	5 g	inquire
8.21221.0250	Glass bottle	250 g	inquire

2',2''-Dimethylphenolsulfonphthalein → m-Cresol purple page 658

## 822038 N,N-Dimethyl-1,4-phenylenediamine for synthesis

C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>1-[(CH<sub>3</sub>)<sub>2</sub>N]C<sub>6</sub>H<sub>4</sub>-4-(NH<sub>2</sub>)

4-Amino-N,N-dimethylaniline

■ CAS-No. 99-98-9 ■ EC-No. 202-807-5

■ Vapour pressure 0.00414 hPa (20 °C)

■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C)■ Flash point 130 °C ■ Solub. in H<sub>2</sub>O 11 g/l (20 °C)

■ M = 136.19 g/mol ■ Melting point 35 °C

- Boiling point 262 °C (1013 hPa)
- Ignition temp. 539 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 50 mg/kg
- EC-Index-No. 612-031-00-2 ■ LGK 6.1A
- HS-No. 2921 51 90 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N,N-DIMETHYL-1,4-PHENYLENDIAMIN), 6.1, II ■ IMDG-Code UN 2811

TOXIC SOLID, ORGANIC, N.O.S.(N,N-DIMETHYL-P-PHENYLENE DIAMINE), 6.1, II

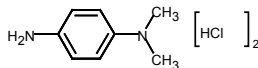
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N,N-DIMETHYL-P-PHENYLENE DIAMINE), 6.1, II

**Specification**

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 34 °C  
 Melting range (upper value) ..... ≤ 37 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22038.0100	Glass bottle	100 g	inquire
8.22038.0250	Glass bottle	250 g	inquire

## 103067 N,N-Dimethyl-1,4-phenylenediammonium dichloride GR for analysis

C<sub>8</sub>H<sub>14</sub>Cl<sub>2</sub>N<sub>2</sub>C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>\*2HCl

4-Amino-N,N-dimethylaniline dihydrochloride

■ CAS-No. 536-46-9 ■ EC-No. 208-635-7

■ Solub. in H<sub>2</sub>O 2000 g/l (20 °C) ■ M = 209.11 g/mol■ pH value 1.6 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 208 - 212 °C (decomposition)

■ Bulk density 500 kg/m<sup>3</sup>

■ WGK 3

- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A
- HS-No. 2921 51 90 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(DIMETHYL-1,4-PHENYLENDIAMONIUMCHLORID), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(DIMETHYL-1,4-PHENYLENDIAMONIUM DICHLORIDE), 6.1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(DIMETHYL-1,4-PHENYLENDIAMONIUM DICHLORIDE), 6.1, II

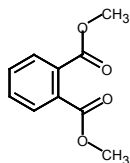
Reagent for chlorine, sulfate, sulfide.

**Specification**

Assay (acidimetric) ..... ≥ 99.5 %  
 Identity (Raman-spectrum) ..... passes test  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Sulfated ash ..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.03067.0025	Glass bottle	25 g	inquire

## 800918 Dimethyl phthalate for synthesis

C<sub>10</sub>H<sub>10</sub>O<sub>4</sub>C<sub>6</sub>H<sub>4</sub>-1,2-(COOCH<sub>3</sub>)<sub>2</sub>

Phthalic acid dimethyl ester

■ CAS-No. 131-11-3 ■ EC-No. 205-011-6

■ Refractive index 1.5137 (25 °C, 589 nm)

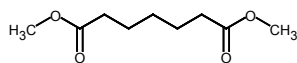
- Vapour pressure 0.008 hPa (20 °C)
- Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 9.5 % (V) ■ Flash point 150 °C ■ Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C) ■ M = 194.18 g/mol
- pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point 6 °C
- Boiling point 283 °C (1013 hPa)
- Ignition temp. 460 °C DIN 51794
- WGK 1
- LC50 rat > 10.4 mg/l
- LD50 oral rat 5120 mg/kg ■ LD50 dermal rabbit > 12000 mg/kg
- LGK 10
- HS-No. 2917 34 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,188 - 1,191  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00918.0100	Plastic bottle	100 ml	inquire
8.00918.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.00918.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

## 841252 Dimethyl pimelate for synthesis

C<sub>9</sub>H<sub>16</sub>O<sub>4</sub>

Pimelic acid dimethyl ester, Heptanedioic acid dimethyl ester

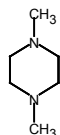
- CAS-No. 1732-08-7 ■ EC-No. 217-057-4
- Spec. density 1.041 g/cm<sup>3</sup> (20 °C)
- Flash point > 110 °C ■ M = 188.22 g/mol
- Boiling point 98 - 99 °C (3.33 hPa)
- WGK 3
- LGK 10
- HS-No. 2917 19 90 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.037 - 1.042  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41252.0005	Glass bottle	5 ml	inquire

## 803580 1,4-Dimethylpiperazine for synthesis

C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>

■ CAS-No. 106-58-1 ■ EC-No. 203-412-0

■ Refractive index 1.4463 (20 °C, 589 nm)

■ Vapour pressure 20 hPa (20 °C)

■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 9.6 % (V) ■ Flash point 21.5 °C ■ Solub. in H<sub>2</sub>O (20 °C) miscible ■ M = 114.19 g/mol

- pH value 10 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -1 °C ■ Boiling point 130 - 133 °C (1013 hPa) ■ Ignition temp. 180 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P210, P233, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2800 mg/kg ■ LD50 dermal rabbit 3000 mg/kg
- LGK 3
- HS-No. 2933 59 95 ■ Disposal 3
- ADR-RID UN 2733 Amine, entzündbar, ätzend,

n.a.g.(1,4-DIMETHYLPYPERAZIN), 3 (8), II ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(1,4-DIMETHYLPYPERAZINE), 3 (8), II,

Segregation Group: 18 (Alkalies)

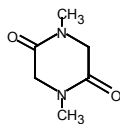
■ IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(1,4-DIMETHYLPYPERAZINE), 3 (8), II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,849 - 0,851  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03580.0100	Glass bottle	100 ml	inquire

## 814589 1,4-Dimethylpiperazine-2,5-dione for synthesis

C<sub>6</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>*Sarcosine anhydride*

- CAS-No. 5076-82-4 ■ EC-No. 225-788-5
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in

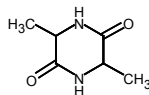
- H<sub>2</sub>O (20 °C) soluble ■ M = 142.15 g/mol
- Melting point 143 - 146 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 143 °C  
 Melting range (upper value) ..... ≤ 146 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14589.0005	Glass bottle	5 g	inquire

## 814228 3,6-Dimethylpiperazine-2,5-dione for synthesis

C<sub>6</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>*Alanine anhydride*

1,3-Dimethyl propane → page 307

N,N-Dimethyl-1,3-propanediamine → N,N-Dimethyltrimethylenediamine page 807

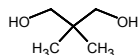
2,2-Dimethylpropane-1,3-dicarboxylic acid → 3,3-Dimethylglutaric acid page 791

## Specification

Assay (ex N) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 272 °C  
 Melting range (upper value) ..... ≤ 275 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14228.0010	Plastic bottle	10 g	inquire

## 803507 2,2-Dimethyl-1,3-propanediol for synthesis

C<sub>5</sub>H<sub>12</sub>O<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>C(CH<sub>2</sub>OH)<sub>2</sub>*Neopentyl glycol*

- CAS-No. 126-30-7 ■ EC-No. 204-781-0
- Vapour pressure < 1 hPa (20 °C) ■ Explosive limit 1.1 - 11.4 % (V) ■ Flash point 103 °C ■ Solub. in H<sub>2</sub>O 830 g/l (20 °C) ■ M = 104.14 g/mol
- Melting point 125 - 130 °C

- Bulk density 510 - 570 kg/m<sup>3</sup>
- Boiling point 208 - 209 °C (1013 hPa)
- Ignition temp. 375 °C
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LD50 oral rat > 6400 mg/kg
- LGK 10 - 13
- HS-No. 2905 39 95 ■ Disposal 3

## Specification

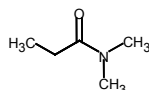
Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 126 °C  
 Melting range (upper value) ..... ≤ 130 °C  
 Water (K. F.) ..... ≤ 0.30 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03507.0100	Plastic bottle	100 g	inquire
8.03507.1000	Plastic bottle	1 kg	inquire

N,N-Dimethylpropanolamine → 3-(Dimethylamino)-1-propanol page 778

## 814885 N,N-Dimethylpropionamide for synthesis

C<sub>5</sub>H<sub>11</sub>NOC<sub>2</sub>H<sub>5</sub>CON(CH<sub>3</sub>)<sub>2</sub>

- CAS-No. 758-96-3 ■ EC-No. 212-064-9
- Spec. density 0.926 g/cm<sup>3</sup> (20 °C)

- Flash point 62 °C ■ M = 101.15 g/mol
- Melting point -45 °C
- Boiling point 174 - 175 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,924 - 0,928  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14885.0025	Glass bottle	25 g	inquire
8.14885.0100	Glass bottle	100 g	inquire

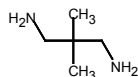
2,2-Dimethylpropionic acid → Pivalic acid page 1333

2,2-Dimethylpropionic acid ethyl ester → Ethyl pivalate page 882

2,2-Dimethylpropionic acid anhydride → Pivalic anhydride page 1333

2,2-Dimethylpropionyl chloride → Pivaloyl chloride page 1333

## 818434 2,2-Dimethylpropylenediamine for synthesis

C<sub>5</sub>H<sub>14</sub>N<sub>2</sub>NH<sub>2</sub>CH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>*Neopentanediamine*

- CAS-No. 7328-91-8 ■ EC-No. 230-819-0
- Refractive index 1.4566 (20 °C, 589 nm)
- Vapour pressure 2.8 hPa (20 °C)
- Spec. density 0.851 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 1.4 - 8.7 % (V) ■ Flash point 52 °C
- Kin. viscosity 6.88 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) miscible ■ M = 102.18 g/mol
- pH value 11.2 (10.1 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 28 - 30 °C ■ Boiling point 153 °C

- (1013 hPa) ■ Ignition temp. 380 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1020 mg/kg ■ LD50 dermal rabbit > 1000 - < 2000 mg/kg
- LGK 3
- HS-No. 2921 29 00 ■ Disposal 3
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(2,2-DIMETHYL-PROPYLENDIAMIN), 8 (3), II ■ IMDG-Code UN

2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(2,2-DIMETHYL-PROPYLENE DIAMINE), 8 (3), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(2,2-DIMETHYL-PROPYLENE DIAMINE), 8 (3), II

## Specification

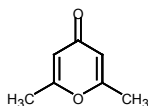
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 20 °C  
 Melting range (upper value) ..... ≤ 23 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18434.0100	Glass bottle	100 ml	inquire

Dimethylpropyleneurea → 1,3-Dimethyltetrahydro-2(1H)-pyrimidinone page 805

# Dimeth

## 841649 2,6-Dimethyl-4H-pyran-4-one for synthesis



- CAS-No. 1004-36-0 ■ EC-No. 213-719-1
- M = 124.13 g/mol ■ Melting point 132 - 135 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

### Specification

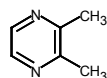
Assay (GC, area%) ..... ≥ 99,0 Area %

Melting range (lower value) ..... ≥ 133 °C  
 Melting range (upper value) ..... ≤ 135 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41649.0010	Plastic bottle	10 g	inquire
8.41649.0050	Plastic bottle	50 g	inquire

C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>

## 814477 2,3-Dimethylpyrazine for synthesis



- Boiling point 156 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210
- LD50 oral rat 613 mg/kg
- LGK 3
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,3-DIMETHYLPYRAZIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,3-DIMETHYLPYRAZINE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(2,3-DIMETHYLPYRAZINE), 3, III

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,002 - 1,004  
 Identity (IR) ..... conforms

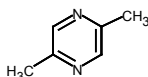
Ord.No.	Packaging	Quantity	Price
8.14477.0010	Glass bottle	10 ml	inquire

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>

### 2,3-Dimethyl-1,4-diazine

- CAS-No. 5910-89-4 ■ EC-No. 227-630-0
- Refractive index 1.507 (20 °C, 589 nm) ■ Vapour pressure 4 hPa (20 °C) ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Flash point 54 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 108.14 g/mol
- pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point -12 °C

## 814569 2,5-Dimethylpyrazine for synthesis



- M = 108.14 g/mol ■ pH value 7 (H<sub>2</sub>O)
- Melting point 15 °C ■ Boiling point 152 - 154 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1020 mg/kg
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

Density (d 20 °C/ 4 °C) ..... 0,987 - 0,989  
 Identity (IR) ..... conforms

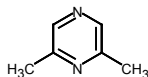
Ord.No.	Packaging	Quantity	Price
8.14569.0005	Glass bottle	5 ml	inquire
8.14569.0025	Glass bottle	25 ml	inquire

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>

### 2,5-Dimethyl pyradiazine

- CAS-No. 123-32-0 ■ EC-No. 204-618-3
- Vapour pressure 4 hPa (20 °C)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C)
- Flash point 64 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

## 814618 2,6-Dimethylpyrazine for synthesis



- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Flammable solid, Category 2, H228, P262, P370 + P378
- LD50 oral rat 880 mg/kg
- LGK 4.1B
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(2,6-DIMETHYLPYRAZIN), 4.1, II
- IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(2,6-DIMETHYLPYRAZINE), 4.1, II
- IATA-DGR UN 1325 FLAMMABLE SOLID,

ORGANIC, N.O.S.(2,6-DIMETHYLPYRAZINE), 4.1, II

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 38 °C  
 Melting range (upper value) ..... ≤ 42 °C  
 Identity (IR) ..... conforms

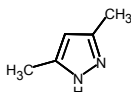
Ord.No.	Packaging	Quantity	Price
8.14618.0005	Glass bottle	5 g	inquire

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>

### 2,6-Dimethyl pyradiazine

- CAS-No. 108-50-9 ■ EC-No. 203-589-4
- Vapour pressure 4 hPa (20 °C)
- Flash point 52 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 108.14 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C)
- Melting point 38 - 42 °C ■ Boiling point 155 °C (1013 hPa)

## 814523 3,5-Dimethylpyrazol for synthesis



- pH value 6.7 (14 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 104 - 107 °C
- Bulk density 340 kg/m<sup>3</sup> ■ Boiling point 212 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2933 19 90 ■ Disposal 3

Melting range (upper value) ..... ≤ 107 °C  
 Identity (IR) ..... conforms

### Specification

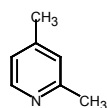
Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 104 °C

Ord.No.	Packaging	Quantity	Price
8.14523.0025	Plastic bottle	25 g	inquire
8.14523.0100	Plastic bottle	100 g	inquire

C<sub>5</sub>H<sub>8</sub>N<sub>2</sub>

- CAS-No. 67-51-6 ■ EC-No. 200-657-5
- Vapour pressure < 1 hPa (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 96.13 g/mol

## 805734 2,4-Dimethylpyridine for synthesis



- Flash point 50 °C ■ Solub. in H<sub>2</sub>O 350 g/l (25 °C)
- M = 107.16 g/mol ■ Melting point -60 °C
- Boiling point 158 - 160 °C (1013 hPa)
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301, P210, P262, P309 + P310
- LD50 oral rat 200 mg/kg
- LGK 3
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(2,4-DIMETHYLPYRIDIN), 3 (6.1), III
- IMDG-Code UN 1992 FLAMMABLE LIQUID,

TOXIC, N.O.S.(2,4-DIMETHYLPYRIDINE), 3 (6.1), III  
 ■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(2,4-DIMETHYLPYRIDINE), 3 (6.1), III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,930 - 0,932  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05734.0100	Glass bottle	100 ml	inquire
8.05734.0500	Glass bottle	500 ml	inquire

C<sub>7</sub>H<sub>8</sub>N

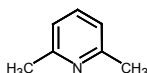
2,4-(CH<sub>3</sub>)<sub>2</sub>C<sub>5</sub>H<sub>3</sub>N

### 2,4-Lutidine

- CAS-No. 108-47-4 ■ EC-No. 203-586-8
- Refractive index 1.4991 (20 °C, 589 nm)
- Vapour pressure 4.2 hPa (25 °C) (experimental)
- Spec. density 0.931 g/cm<sup>3</sup> (20 °C)



## 805650 2,6-Dimethylpyridine for synthesis

C<sub>7</sub>H<sub>9</sub>N2,6-(CH<sub>3</sub>)<sub>2</sub>C<sub>5</sub>H<sub>5</sub>N

2,6-Lutidine

- CAS-No. 108-48-5 ■ EC-No. 203-587-3
- Refractive index 1.4976 (20 °C, 589 nm)
- Vapour pressure 5.5 hPa (20 °C)
- Spec. density 0.923 g/cm<sup>3</sup> (20 °C)
- Flash point 33 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 107.15 g/mol ■ Melting point -6 °C

- Boiling point 144 °C (1013 hPa)
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P260, P302 + P352, P305 + P351 + P338
- LD50 oral rat 400 mg/kg ■ LD50 dermal rabbit > 1000 mg/kg
- LGK 3
- HS-No. 2933 39 99
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,6-DIMETHYLPYRIDIN), 3, III ■ IMDG-

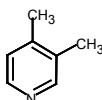
Code UN 1993 FLAMMABLE LIQUID, N.O.S.(DIMETHYLPYRIDINE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(DIMETHYLPYRIDINE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98 %  
 Density (d 20 °C/ 4 °C) ..... 0.922 - 0.924  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.05650.0250	Glass bottle	250 ml	inquire

## 841437 3,4-Dimethylpyridine for synthesis

C<sub>7</sub>H<sub>9</sub>N

3,4-Lutidine

- CAS-No. 583-58-4 ■ EC-No. 209-511-5
- Vapour pressure 2 hPa (20 °C)
- Spec. density 0.955 g/cm<sup>3</sup> (20 °C)
- Flash point 53 °C ■ Solub. in H<sub>2</sub>O 33 g/l (20 °C)
- M = 107.15 g/mol ■ Melting point -6 °C
- Boiling point 163 - 164 °C

- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 4, Oral, H302, P210, P280, P302 + P352, P309 + P310
- LD50 oral rat 678 mg/kg ■ LD50 dermal rabbit 134 mg/kg
- LGK 3
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(3,4-DIMETHYLPYRIDIN), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(3,4-

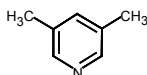
DIMETHYLPYRIDINE), 6.1 (3), II  
 ■ IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(3,4-DIMETHYLPYRIDINE), 6.1 (3), II

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.954 - 0.960  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41437.0100	Glass bottle	100 ml	inquire

## 805652 3,5-Dimethylpyridine for synthesis

C<sub>7</sub>H<sub>9</sub>N3,5-(CH<sub>3</sub>)<sub>2</sub>C<sub>5</sub>H<sub>5</sub>N

3,5-Lutidine

- CAS-No. 591-22-0 ■ EC-No. 209-708-6
- Refractive index 1.5049 (20 °C, 589 nm)
- Vapour pressure 2 hPa (20 °C)
- Spec. density 0.94 g/cm<sup>3</sup> (20 °C)
- Flash point 54.5 °C ■ Solub. in H<sub>2</sub>O 33 g/l

- (20 °C) ■ M = 107.15 g/mol ■ Melting point -9 °C
- Boiling point 169 - 170 °C (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2933 39 99
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

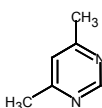
n.a.g.(3,5-DIMETHYLPYRIDIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3,5-DIMETHYLPYRIDINE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3,5-DIMETHYLPYRIDINE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.941 - 0.943  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05652.0100	Glass bottle	100 ml	inquire

## 841055 4,6-Dimethylpyrimidine for synthesis

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>

CAS-No. 1558-17-4 ■ EC-No. 216-314-8

Spec. density 0.98 g/cm<sup>3</sup> (20 °C)Flash point 46 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

M = 108.14 g/mol ■ Boiling point 153 - 155 °C

- (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2933 59 95 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4,6-DIMETHYLPYRIMIDIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4,6-DIMETHYLPYRIMIDINE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(4,6-DIMETHYLPYRIMIDINE), 3, III

## Specification

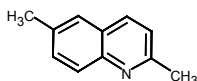
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.988 - 0.995  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41055.0001	Glass bottle	1 ml	inquire
8.41055.0010	Glass bottle	10 ml	inquire

4,6-Dimethyl-2-pyrimidinethiol → 4,6-Dimethyl-2-mercaptopyrimidine page 794

Dimethyl pyrocarbonate → Dimethyl dicarbonate page 786

## 820505 2,6-Dimethylquinoline for synthesis

C<sub>11</sub>H<sub>11</sub>N

CAS-No. 877-43-0 ■ EC-No. 212-891-5

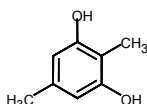
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 157.22 g/mol ■ Melting point 54 - 58 °C
- Boiling point 266 - 267 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 49 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 54 °C  
 Melting range (upper value) ..... ≤ 58 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20505.0010	Glass bottle	10 g	inquire

## 814691 2,5-Dimethylresorcinol for synthesis

C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>

B-Orcinol, Dihydroxycylene

- CAS-No. 488-87-9 ■ EC-No. 207-688-3
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 138.17 g/mol
- Melting point 161 - 164 °C
- Boiling point 277 - 280 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 161 °C  
 Melting range (upper value) ..... ≤ 164 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14691.0001	Glass bottle	1 g	inquire

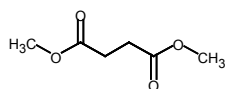
# Dimeth

3,6-Dimethyl- $\beta$ -resorcylic acid  $\rightarrow$  2,4-Dihydroxy-3,6-dimethylbenzoic acid page 762

3,6-Dimethyl- $\beta$ -resorcylic acid methyl ester  $\rightarrow$  Methyl 2,4-dihydroxy-3,6-dimethylbenzoate page 1147

Dimethylsilyl chloride  $\rightarrow$  Chlorodimethylsilane page 608

## 820150 Dimethyl succinate for synthesis



$C_6H_{10}O_4$   
**Succinic acid dimethyl ester**  
 ■ CAS-No. 106-65-0 ■ EC-No. 203-419-9  
 ■ Refractive index 1.419 (20 °C, 589 nm) ■ Vapour pressure 0.2 hPa (20 °C) ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 8.5 % (V)

- Flash point 94 °C ■ Solub. in H<sub>2</sub>O 75 g/l (20 °C)
- M = 146.14 g/mol ■ Melting point 18 - 19 °C
- Boiling point 196 °C (1013 hPa)
- Ignition temp. 365 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

### Specification

Assay (GC, area%) .....  $\geq$  95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.119 - 1.120  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20150.0250	Glass bottle	250 ml	inquire
8.20150.1000	Glass bottle	1 l	inquire

## 803526 N,N-Dimethylsulfamoyl chloride for synthesis



$C_2H_6ClNO_2S$   
 ■ CAS-No. 13360-57-1 ■ EC-No. 236-412-4  
 ■ Refractive index 1.4518 (20 °C, 589 nm)  
 ■ Vapour pressure 3 hPa (44 °C)  
 ■ Spec. density 1.35 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 44 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 143.59 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) acidic ■ Melting point -13 - -10 °C ■ Boiling point 182 - 184 °C (1013 hPa) (decomposition)  
 ■ Ignition temp. 410 °C  
 ■ WGK 3

- GHS: Danger, Flammable liquid, Category 3, H226; Carcinogenicity, Category 1B, H350; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P201, P210, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.35 mg/l
- LD50 oral rat 1450 mg/kg ■ LD50 dermal rat 1070 mg/kg
- EC-Index-No. 016-033-00-9 ■ LGK 3
- HS-No. 2929 90 00 ■ Disposal 9
- ADR-RID UN 2927 Giftiger organischer flüssiger Stoff, ätzend, n.a.g.(N,N-DIMETHYLSULFAMOYLCHLORID), 6.1 (8), II
- IMDG-Code UN 2927 TOXIC LIQUID, CORROSIVE,

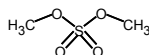
ORGANIC, N.O.S.(N,N-DIMETHYLSULFAMOYL CHLORIDE), 6.1 (8), II  
 ■ IATA-DGR UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(N,N-DIMETHYLSULFAMOYL CHLORIDE), 6.1 (8), II

### Specification

Assay (morpholine method) .....  $\geq$  98,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,347 - 1,350  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03526.0025	Glass bottle	25 ml	inquire
8.03526.0100	Glass bottle	100 ml	inquire

## 803071 Dimethyl sulfate for synthesis



$C_2H_6O_4S$   
 $(CH_3O)_2SO_2$   
**Sulfuric acid dimethyl ester**  
 ■ CAS-No. 77-78-1 ■ EC-No. 201-058-1  
 ■ Vapour pressure 0.35 hPa (20 °C)  
 ■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.6 - 23.2 % (V) ■ Flash point 83 °C ■ Solub. in H<sub>2</sub>O 28 g/l (18 °C) Hydrolysis ■ M = 126.13 g/mol ■ Melting point -31.8 °C  
 ■ Boiling point 188.5 °C (1013 hPa) (decomposition)

- Ignition temp. 450 °C
- WGK 2
- GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P201, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 45 mg/m<sup>3</sup>
- LD50 oral rat 106.4 mg/kg
- EC-Index-No. 016-023-00-4 ■ LGK 6.1 A
- HS-No. 2920 90 10
- ADR-RID UN 1595 Dimethylsulfat, 6.1 (8), I

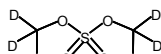
■ IMDG-Code UN 1595 DIMETHYL SULPHATE, 6.1 (8), I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1595 DIMETHYL SULPHATE, 6.1 (8), I

### Specification

Assay (GC, area%) .....  $\geq$  99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,325 - 1,327  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03071.0500	Glass bottle	500 ml	inquire
8.03071.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 815034 Dimethyl sulfate-D6 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™



$C_2D_6O_4S$   
 ■ CAS-No. 15199-43-6 ■ EC-No. 239-257-0  
 ■ Vapour pressure 0.65 hPa (20 °C)  
 ■ Spec. density 1.39 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.6 - 23.2 % (V) ■ Flash point 83 °C ■ Solub. in H<sub>2</sub>O 28 g/l (18 °C) Hydrolysis ■ M = 132.17 g/mol ■ Melting point -32 °C ■ Boiling point 188 °C (1013 hPa) (decomposition)  
 ■ Ignition temp. 470 °C

- WGK 2
- GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P201, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 45 mg/m<sup>3</sup>
- LD50 oral rat 106.4 mg/kg
- LGK 6.1 A
- HS-No. 2845 90 10 ■ Disposal 9

■ ADR-RID UN 1595 Dimethylsulfat, 6.1 (8), I  
 ■ IMDG-Code UN 1595 DIMETHYL SULPHATE, 6.1 (8), I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1595 DIMETHYL SULPHATE, 6.1 (8), I

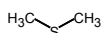
### Specification

Deuteration degree .....  $\geq$  99,50 % (m)

Ord.No.	Packaging	Quantity	Price
8.15034.0005	Glass ampoule	5 ml	inquire



## 820833 Dimethyl sulfide for synthesis



C<sub>2</sub>H<sub>6</sub>S  
(CH<sub>3</sub>)<sub>2</sub>S  
*Methyl sulfide*  
■ CAS-No. 75-18-3 ■ EC-No. 200-846-2  
■ Refractive index 1.4351 (20 °C, 589 nm)  
■ Vapour pressure 530 hPa (25 °C)  
■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 - 19.7 % (V) ■ Flash point -48 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 62.14 g/mol  
■ Melting point -98 °C ■ Boiling point 37 °C (1013 hPa) ■ Ignition temp. 205 °C

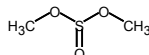
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P233, P260, P302 + P352, P305 + P351 + P338  
■ LC50 rat 103.98 mg/l  
■ LD50 oral rat 535 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
■ LGK 3 ■ Store at +2°C to +8°C.  
■ HS-No. 2930 90 99 ■ Disposal 6  
■ ADR-RID UN 1164 Dimethylsulfid, 3, II ■ IMDG-Code UN 1164 DIMETHYL SULPHIDE, 3, II  
■ IATA-DGR UN 1164 DIMETHYL SULPHIDE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,847 - 0,849  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20833.0005	Glass bottle	5 ml	inquire
8.20833.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.20833.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.20833.9045	Steel barrel	45 kg	inquire

## 803639 Dimethyl sulfite for synthesis



C<sub>2</sub>H<sub>6</sub>O<sub>3</sub>S  
(CH<sub>3</sub>)<sub>2</sub>SO  
*Sulfurous acid dimethyl ester, Methyl sulfite*  
■ CAS-No. 616-42-2 ■ EC-No. 210-481-0  
■ Refractive index 1.4083 (20 °C, 589 nm)  
■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C)  
■ Flash point 31 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 110.13 g/mol  
■ Boiling point 126 - 127 °C (1013 hPa)

■ WGK 3  
■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 3 ■ Store below +15°C.  
■ HS-No. 2920 90 85 ■ Disposal 3  
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DIMETHYLSULFIT), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(DIMETHYL SULFITE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(DIMETHYL SULFITE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,209 - 1,212  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03639.0025	Glass bottle	25 ml	inquire
8.03639.0100	Glass bottle	100 ml	inquire

## 803284 Dimethyl sulfone for synthesis



C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S  
(CH<sub>3</sub>)<sub>2</sub>SO<sub>2</sub>  
*Methyl sulfone*  
■ CAS-No. 67-71-0 ■ EC-No. 200-665-9  
■ Refractive index 1.4226 (20 °C, 589 nm)  
■ Spec. density 1.45 g/cm<sup>3</sup> (26 °C)

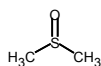
■ Flash point 143 °C ■ Solub. in H<sub>2</sub>O 150 g/l (20 °C) ■ M = 94.13 g/mol  
■ Melting point 107 - 110 °C  
■ Bulk density 880 kg/m<sup>3</sup> ■ Boiling point 238 °C (1013 hPa)  
■ WGK 1  
■ LD50 oral rat 17000 mg/kg  
■ LD50 dermal rabbit > 5000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2930 90 99 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Melting range (lower value) ..... ≥ 107 °C  
Melting range (upper value) ..... ≤ 110 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03284.0005	Glass bottle	5 g	inquire
8.03284.0250	Plastic bottle	250 g	inquire

## Dimethyl sulfoxide



C<sub>2</sub>H<sub>6</sub>O  
(CH<sub>3</sub>)<sub>2</sub>SO  
*Methanesulfinylmethane, Methyl sulfoxide, Dimethyl(oxido)sulfur, DMSO*  
■ CAS-No. 67-68-5 ■ EC-No. 200-664-3  
■ Refractive index 1.48 (20 °C) ■ Vapour

pressure 0.6 hPa (20 °C) ■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 48.9 (20 °C)  
■ El. dipole moment 3.9 (20 °C) ■ Explosive limit 1.8 - 63.0 % (V) ■ Flash point 87 °C  
■ Kin. viscosity 2.14 mm<sup>2</sup>/s ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 78.13 g/mol  
■ Saturation conc. 8.0 g/m<sup>3</sup> (20 °C)  
■ Melting point 18.4 °C ■ Boiling point 189 °C (1013 hPa) ■ Ignition temp. 300 - 302 °C  
■ WGK 1

■ GHS: Warning, Flammable liquid, Category 4, H227  
■ LD50 oral rat 14500 mg/kg ■ LD50 dermal rat 40000 mg/kg  
■ LGK 10  
■ HS-No. 2930 90 99 ■ Disposal 1  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
■ IATA-DGR No Dangerous Good

## 802912 Dimethyl sulfoxide for synthesis

**Specification**  
Purity (GC) ..... ≥ 99,0 %  
Identity (IR) ..... conforms  
Density (d 20 °C/ 4 °C) ..... 1.099 - 1.101  
Water ..... ≤ 0,20 %

Ord.No.	Packaging	Quantity	Price
8.02912.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

## 116743 Dimethyl sulfoxide EMPLURA®

**Specification**  
Purity (GC) ..... ≥ 99,0 %  
Identity (IR) ..... conforms  
Free acid (as CH<sub>3</sub>COOH) ..... ≤ 0,001 %  
Density (d 20 °C/ 4 °C) ..... 1.099 - 1.101  
Refractive index (n 20/D) ..... 1.478 - 1.479  
Melting point ..... ≥ 18,0 °C  
Absorption ..... conforms  
Related substances (GC) ..... conforms  
Readily carbonizable substances ..... conforms  
Water ..... ≤ 0,2 %

Ord.No.	Packaging	Quantity	Price
1.16743.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.16743.6025	Drum stainl. st.	25 l	inquire

# Dimeth

## 102952 Dimethyl sulfoxide for analysis EMSURE® ACS

<b>Specification</b>	Heavy metals (as Pb)..... ≤ 0.0001 %
Purity (GC)..... ≥ 99.9 %	Fe (Iron)..... ≤ 0.0001 %
Identity (IR)..... conforms	Related substances (GC)..... conforms
Appearance..... clear	Readily carbonizable substances..... conforms
Colour..... ≤ 10 Hazen	Evaporation residue..... ≤ 0.001 %
Titration acid..... ≤ 0.0002 meq/g	Water..... ≤ 0.1 %
Density (d 20 °C/20 °C)..... 1.101 - 1.103	
Refractive index (n 20/D)..... 1.478 - 1.479	
Melting point..... ≥ 18.0 °C	
Boiling point..... 188 - 190 °C	
Absorption..... conforms	

Ord.No.	Packaging	Quantity	Price
1.02952.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02952.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.02952.2500	Glass bottle	2.5 l	inquire
1.02952.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.02952.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.02952.9025	Barrel PE/met	25 l	inquire

## 102931 Dimethyl sulfoxide dried (max. 0.025% H<sub>2</sub>O) SeccoSolv®

<b>Specification</b>	Purity (GC)..... ≥ 99.9 %
Identity (IR)..... conforms	Colour..... ≤ 10 Hazen
Acidity..... ≤ 0.0005 meq/g	Alkalinity..... ≤ 0.0002 meq/g
Evaporation residue..... ≤ 10 mg/l	Water..... ≤ 0.025 %

Ord.No.	Packaging	Quantity	Price
1.02931.0161	Septum bottle	150 ml	inquire
	Septum bottle	12 x 150 ml	inquire
1.02931.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.02931.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02931.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire
1.02931.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.02931.9033	Barrel stainl. st.	30 l	inquire

## 101900 Dimethyl sulfoxide for headspace gas chromatography SupraSolv®

<b>Specification</b>	GC/HS (Every residual solvent of class 2 acc. ICH)..... ≤ 10 µg/g
Purity (GC)..... ≥ 99.8 %	GC/HS (Every residual solvent of class 3 acc. ICH)..... ≤ 50 µg/g
Identity (IR)..... conforms	Suitable as solvent for the analysis of residual solvents of ICH classes 1,2 and 3 according to Ph Eur and USP. Formic acid, acetic acid, dimethylacetamide and cumene are not detected.
Evaporation residue..... ≤ 3.0 mg/l	
Water..... ≤ 0.05 %	
Colour..... ≤ 10 Hazen	
GC/HS (Every residual solvent of class 1 acc. ICH)..... ≤ 1 µg/g	

Ord.No.	Packaging	Quantity	Price
1.01900.0500	Glass bottle	0.5 l	inquire
	Glass bottle	6 x 0.5 l	inquire
1.01900.1000	Glass bottle	1 l	inquire
1.01900.2500	Glass bottle	2.5 l	inquire

## 102950 Dimethyl sulfoxide for spectroscopy Uvasol®

<b>Specification</b>	Transmission (at 280 nm)..... ≥ 50 %
Purity (GC)..... ≥ 99.8 %	Transmission (at 310 nm)..... ≥ 80 %
Evaporation residue..... ≤ 0.0004 %	Transmission (at 330 nm)..... ≥ 90 %
Water..... ≤ 0.05 %	Transmission (from 350 nm)..... ≥ 97 %
Colour..... ≤ 10 Hazen	Absorbance (at 270 nm)..... ≤ 0.46
Acidity..... ≤ 0.0002 meq/g	Absorbance (at 280 nm)..... ≤ 0.30
Alkalinity..... ≤ 0.0002 meq/g	Absorbance (at 310 nm)..... ≤ 0.10
Fluorescence (as quinine at 365 nm)..... ≤ 7.0 ppb	Absorbance (at 330 nm)..... ≤ 0.05
Transmission (at 270 nm)..... ≥ 35 %	

Absorbance (from 350 nm)..... ≤ 0.013

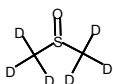
Ord.No.	Packaging	Quantity	Price
1.02950.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.02950.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 109678 Dimethyl sulfoxide for gas chromatography

<b>Specification</b>	Water..... ≤ 0.3 %
Assay (GC)..... ≥ 99.7 %	
Identity (IR)..... conforms	

Ord.No.	Packaging	Quantity	Price
1.09678.0100	Glass bottle	100 ml	inquire

## Dimethyl sulfoxide-D<sub>6</sub>



C<sub>2</sub>D<sub>6</sub>O<sub>S</sub>  
(CD<sub>3</sub>)<sub>2</sub>SO  
Hexadeuterodimethyl sulfoxide, DMSO deuterated

- CAS-No. 2206-27-1 ■ EC-No. 218-617-0
- Refractive index 1.48 (20 °C) ■ Vapour pressure 2.5 hPa (20 °C) ■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 63 % (V)
- Flash point 88 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 84.17 g/mol ■ Saturation conc. 8.0 g/m<sup>3</sup> (20 °C) ■ Melting point 20.2 °C
- Boiling point 190 °C ■ Ignition temp. 270 °C

- WGK 1
- GHS: Warning, Flammable liquid, Category 4, H227
- LD50 oral rat 14500 mg/kg ■ LD50 dermal rat 40000 mg/kg
- LGK 10 - 13
- HS-No. 2845 90 10 ■ Disposal 1

## 103562 Dimethyl sulfoxide-D<sub>6</sub> deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™

<b>Specification</b>	Deuteration degree..... ≥ 99.96 %
Water (K. Fischer, H <sub>2</sub> O + D <sub>2</sub> O)..... ≤ 0.020 %	Performance test (NMR-spectrum)..... passes test
Water (NMR, H <sub>2</sub> O)..... ≤ 0.010 %	

Ord.No.	Packaging	Quantity	Price
1.03562.0005	Glass ampoule	10x 0.5 ml	inquire
1.03562.0009	Glass ampoule	10x0.75 ml	inquire
1.03562.0010	Glass ampoule	10 ml	inquire
1.03562.0025	Glass bottle	25 ml	inquire

**103424 Dimethyl sulfoxide-D6** deuteration degree min. 99.8% for NMR spectroscopy MagniSolv™**Specification**

Deuteration degree.....	≥ 99.80 %
Water (K. Fischer, H <sub>2</sub> O + D <sub>2</sub> O).....	≤ 0.030 %
Performance test (NMR-spectrum).....	passes test
Water (NMR, H <sub>2</sub> O).....	≤ 0.020 %

Ord.No.	Packaging	Quantity	Price
1.03424.0005	Glass ampoule	10x 0.5 ml	inquire
1.03424.0009	Glass ampoule	10x0.75 ml	inquire
1.03424.0010	Septum ampoule	10 ml	inquire
1.03424.0011	Glass ampoule	10 ml	inquire
1.03424.0025	Glass bottle	25 ml	inquire
1.03424.0050	Glass bottle	50 ml	inquire
1.03424.0100	Glass bottle	100 ml	inquire

**103587 Dimethyl sulfoxide-D6 with TMS (0.1 vol.%), deuteration degree min. 99.9% for NMR spectroscopy MagniSolv™****Specification**

Deuteration degree.....	≥ 99.9 %
Water (K. Fischer, H <sub>2</sub> O + D <sub>2</sub> O).....	≤ 0.03 %
Tetramethylsilane (NMR-spectrum) .....	≤ 0.1%
Water (NMR, H <sub>2</sub> O).....	≤ 0.02 %

Performance test (NMR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.03587.0006	Glass ampoule	10x0.6 ml	inquire
1.03587.0025	Glass bottle	25 ml	inquire
1.03587.0100	Glass bottle	100 ml	inquire

**103592 Dimethyl sulfoxide-D6 with TMS (0.03 vol.%), deuteration degree min. 99.96% for NMR spectroscopy MagniSolv™****Specification**

Deuteration degree.....	≥ 99.96 %
Water (K. Fischer, H <sub>2</sub> O + D <sub>2</sub> O).....	≤ 0.02 %
Performance test (NMR-spectrum).....	passes test

Water (NMR, H<sub>2</sub>O)..... ≤ 0.01 %  
Tetramethylsilane (NMR-spectrum) ..... ≤ 0.03 %

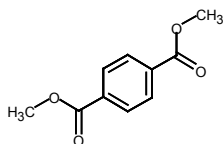
Ord.No.	Packaging	Quantity	Price
1.03592.0005	Glass ampoule	5 ml	inquire
1.03592.0025	Glass bottle	25 ml	inquire

**103591 Dimethyl sulfoxide-D6 with TMS (0.03 vol.%), deuteration degree min. 99.8% for NMR spectroscopy MagniSolv™****Specification**

Deuteration degree.....	≥ 99.8 %
Water (K. Fischer, H <sub>2</sub> O + D <sub>2</sub> O).....	≤ 0.03 %
Performance test (NMR-spectrum).....	passes test

Water (NMR, H<sub>2</sub>O)..... ≤ 0.02 %  
Tetramethylsilane (NMR-spectrum) ..... 0.03%

Ord.No.	Packaging	Quantity	Price
1.03591.0050	Glass bottle	50 ml	inquire
1.03591.0100	Glass bottle	100 ml	inquire

**808177 Dimethyl terephthalate** for synthesisC<sub>10</sub>H<sub>10</sub>O<sub>4</sub>C<sub>6</sub>H<sub>4</sub>-1,4-(COOCH<sub>3</sub>)<sub>2</sub>

Dimethyl 1,4-benzenedicarboxylate, Terephthalic acid dimethyl ester, DMT

■ CAS-No. 120-61-6 ■ EC-No. 204-411-8

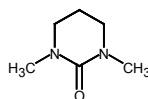
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 1.35 g/cm<sup>3</sup> (20 °C)
- Explosive limit 0.8 - 11.8 % (V)
- Flash point 154 °C (External MSDS)
- Solub. in H<sub>2</sub>O 0.036 g/l (20 °C)
- M = 194.19 g/mol
- Melting point 139 - 141 °C
- Bulk density 500 kg/m<sup>3</sup>
- Boiling point 282 °C (1013 hPa)
- Ignition temp. 520 °C DIN 51794
- WGK 1
- LD50 oral rat 3200 mg/kg
- LGK 10 - 13
- HS-No. 2917 37 00
- Disposal 3

**Specification**

Assay (GC, area%).....	≥ 99.0 Area %
Melting range (lower value).....	≥ 139 °C
Melting range (upper value).....	≤ 142 °C
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
8.08177.0100	Plastic bottle	100 g	inquire
8.08177.1000	Plastic bottle	1 kg	inquire
8.08177.2500	Plastic bottle	2.5 kg	inquire

Dimethyl tetraglycol → Tetraethylene glycol dimethyl ether page 308

**818214 1,3-Dimethyltetrahydro-2(1H)-pyrimidinone** for synthesisC<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O

Dimethylpropyleneurea, DMPU

■ CAS-No. 7226-23-5 ■ EC-No. 230-625-6

■ Vapour pressure 0.5 hPa (57 °C)

■ Spec. density 1.064 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 9.3 % (V) ■ Flash point 121 °C ■ Solub.

- in H<sub>2</sub>O (20 °C) soluble
- M = 128.17 g/mol
- pH value 11 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -24 °C
- Boiling point 247 °C (1013 hPa)
- Ignition temp. 255 °C
- WGK 2
- GHS: Danger, Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P281, P305 + P351 + P338, P313
- LD50 oral rat 1770 mg/kg
- EC-Index-No. 613-280-00-X
- LGK 10 - 13

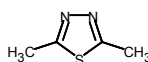
■ HS-No. 2933 59 95 ■ Disposal 3

**Specification**

Assay (GC, area%).....	≥ 99.0 % (a/a)
Density (d 20 °C / 4 °C).....	1.062 - 1.066
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.18214.0100	Glass bottle	100 ml	inquire
8.18214.0500	Glass bottle	500 ml	inquire

(1S)-(-)-10,10-Dimethyl-3-thia-4-azatricyclo[5.2.1.εpsilon-5]-dec-4-en 3,3-dioxide → D-(-)-Camphorsulfonylimine page 568

**815101 2,5-Dimethyl-1,3,4-thiadiazole** for synthesisC<sub>4</sub>H<sub>6</sub>N<sub>2</sub>S

■ CAS-No. 27464-82-0 ■ EC-No. 248-473-4

■ M = 114.17 g/mol ■ Melting point 61 - 64 °C

■ Boiling point 202 °C (1013 hPa)

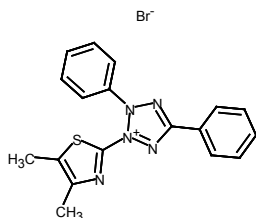
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P305 + P351 + P338
- LD50 oral rat 1000 mg/kg
- LGK 10 - 13
- HS-No. 2934 99 90
- Disposal 3

**Specification**

Assay (GC, area%).....	≥ 98.0 Area %
Melting range (lower value).....	≥ 60 °C
Melting range (upper value).....	≤ 64 °C
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.15101.0025	Glass bottle	25 g	inquire

## 111714 3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium bromide for biochemistry



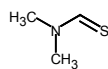
$C_{18}H_{16}BrN_5S$   
 Thiazolyl blue, MTT  
 ■ CAS-No. 298-93-1 ■ EC-No. 206-069-5  
 ■ Solub. in  $H_2O$  10 g/l (20 °C) ■ M = 414.32 g/mol  
 ■ Melting point 195 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 10 00 ■ Disposal 3  
 Used as electron acceptor in determination of  $NAD(P)^+$  dependent dehydrogenases.

## Specification

Assay (argentometric)..... ≥ 98%  
 Identity (IR-spectrum)..... passes test  
 Spec. Absorptivity A 1%/1cm (242 nm; 0.001 %; 1 cm; methanol)..... 480 - 530  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Sulfated ash..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.11714.0001	Glass bottle	1 g	inquire
1.11714.0010	Glass bottle	10 g	inquire

## 810167 N,N-Dimethylthioformamide for synthesis



$C_3H_7NS$   
 HCSN(CH<sub>3</sub>)<sub>2</sub>  
 Thioformic acid dimethylamide  
 ■ CAS-No. 758-16-7 ■ EC-No. 212-060-7

■ Refractive index 1.5757 (20 °C, 589 nm)  
 ■ Vapour pressure 0.12 hPa (25 °C)  
 ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 99 °C ■ Solub. in  $H_2O$  (20 °C) soluble  
 ■ M = 89.16 g/mol ■ Boiling point 225 °C (1013 hPa)  
 ■ WGK 3  
 ■ LGK 10

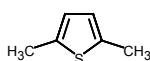
■ HS-No. 2930 90 99 ■ Disposal 6

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,029 - 1,031  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.10167.0100	Glass bottle	100 ml	inquire

## 841440 2,5-Dimethylthiophene for synthesis



$C_6H_6S$   
 ■ CAS-No. 638-02-8 ■ EC-No. 211-313-9  
 ■ Vapour pressure 3.8 hPa ■ Spec. density 0.984 g/cm<sup>3</sup> (20 °C) ■ Flash point 24 °C ■ M = 112.18 g/mol  
 ■ Boiling point 134 - 136 °C  
 ■ WGK 3

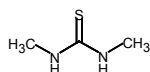
■ GHS: Warning, Flammable liquid, Category 3, H226, P210, P260, P262  
 ■ LGK 3  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,5-DIMETHYLTHIOPHEN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,5-DIMETHYLTHIOPHENE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2,5-DIMETHYLTHIOPHENE), 3, II

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.982 - 0.988  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41440.0010	Glass bottle	10 ml	inquire

## 821399 N,N'-Dimethylthiourea for synthesis



$C_3H_8N_2S$   
 CH<sub>3</sub>NHCSNHCH<sub>3</sub>  
 1,3-Dimethylthiourea  
 ■ CAS-No. 534-13-4 ■ EC-No. 208-588-2  
 ■ Solub. in  $H_2O$  1000 g/l (20 °C) (experimental)

■ M = 104.16 g/mol ■ pH value 6.5 (100 g/l,  $H_2O$ , 20 °C) ■ Melting point 60 - 64 °C  
 ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 155 °C (1 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Skin sensitisation, Category 1, H317, P262, P280, P302 + P352  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3

## Specification

Assay (iodometric)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 60 °C  
 Melting range (upper value)..... ≤ 64 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21399.0005	Glass bottle	5 g	inquire
8.21399.0250	Plastic bottle	250 g	inquire

1,3-Dimethylthiourea → N,N'-Dimethylthiourea page 806

## 804193 Dimethyltin dichloride for synthesis



$C_2H_6Cl_2Sn$   
 (CH<sub>3</sub>)<sub>2</sub>SnCl<sub>2</sub>  
 Dichlorodimethyltin, Dichlorodimethylstannane  
 ■ CAS-No. 753-73-1 ■ EC-No. 212-039-2  
 ■ Solub. in  $H_2O$  20 g/l (20 °C) ■ M = 219.66 g/mol  
 ■ Melting point 102 - 106 °C  
 ■ Boiling point 188 - 190 °C (1013 hPa)  
 ■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P260, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 74 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 15  
 ■ ADR-RID UN 3146 Organische Zinnverbindung, fest, n.a.g.(DIMETHYLZINN-DICHLORID), 6.1, II  
 ■ IMDG-Code UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(DIMETHYL TIN DICHLORIDE), 6.1, II, Marine Pollutant: P

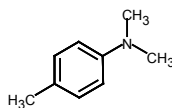
■ IATA-DGR UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(DIMETHYL TIN DICHLORIDE), 6.1, II

## Specification

Assay (argentometric)..... ≥ 97,0 % (m)  
 Melting range (lower value)..... ≥ 102 °C  
 Melting range (upper value)..... ≤ 106 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04193.0025	Glass bottle	25 g	inquire

## 822040 N,N-Dimethyl-p-toluidine for synthesis



$C_9H_{13}N$   
 4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>N(CH<sub>3</sub>)<sub>2</sub>  
 4-Dimethylaminotoluene  
 ■ CAS-No. 99-97-8 ■ EC-No. 202-805-4  
 ■ Refractive index 1.546 (20 °C, 589 nm) ■ Vapour pressure 0.1 hPa (20 °C) ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Flash point 76 °C ■ Solub. in  $H_2O$  0.65 g/l (37 °C) ■ M = 135.21 g/mol  
 ■ Melting point -15 °C ■ Boiling point 215 °C

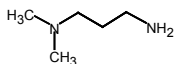
(1013 hPa) ■ Ignition temp. 425 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LC50 rat 1.400 mg/l  
 ■ LD50 oral rat 1650 mg/kg  
 ■ EC-Index-No. 612-056-00-9 ■ LGK 6.1A  
 ■ HS-No. 2921 43 00 ■ Disposal 9  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(N,N-DIMETHYL-P-TOLUIDIN), 6.1, II

■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(N,N-DIMETHYL-P-TOLUIDINE), 6.1, II  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(N,N-DIMETHYL-P-TOLUIDINE), 6.1, II

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.935 - 0.937  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22040.0005	Glass bottle	5 ml	inquire
8.22040.0250	Glass bottle	250 ml	inquire
8.22040.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

803503 *N,N*-Dimethyltrimethylenediamine for synthesisC<sub>5</sub>H<sub>14</sub>N<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>N(CH<sub>2</sub>)<sub>3</sub>NH<sub>2</sub>3-Dimethylaminopropylamine, *N,N*-Dimethyl-1,3-propanediamine, *N,N*-Dimethyl-1,3-diaminopropane

- CAS-No. 109-55-7 ■ EC-No. 203-680-9
- Refractive index 1.4415 (20 °C, 589 nm)
- Vapour pressure 17 hPa (30 °C)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.3 - 12.35 % (V) ■ Flash point 32 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 102.17 g/mol
- pH value 12.7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point < -50 °C

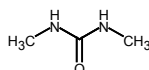
- Boiling point 132 - 140 °C (1013 hPa)
- Ignition temp. 215 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat > 4.31 mg/l
- LD50 oral rat 1640 mg/kg ■ LD50 dermal rabbit 490 mg/kg
- EC-Index-No. 612-061-00-6 ■ LGK 3
- HS-No. 2921 29 00 ■ Disposal 3
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(*N,N*-DIMETHYLTRIMETHYLENDIAMIN), 8 (3), II

- IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(*N,N*-DIMETHYLTRIMETHYLENDIAMINE), 8 (3), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(*N,N*-DIMETHYLTRIMETHYLENDIAMINE), 8 (3), II

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.817 - 0.819  
 Water (K. F.) ..... ≤ 0.50 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03503.0100	Glass bottle	100 ml	inquire
8.03503.1000	Glass bottle	1 l	inquire

803244 *N,N'*-Dimethylurea for synthesisC<sub>3</sub>H<sub>8</sub>N<sub>2</sub>OCH<sub>3</sub>NHCONHCH<sub>3</sub>

1,3-Dimethylurea

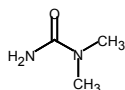
- CAS-No. 96-31-1 ■ EC-No. 202-498-7
- Vapour pressure 6 hPa (115 °C)
- Spec. density 1.14 g/cm<sup>3</sup> (20 °C)
- Flash point 154 °C DIN 51758 ■ Solub. in

- H<sub>2</sub>O 765 g/l (21.5 °C) ■ M = 88.11 g/mol
- pH value 9.0 - 9.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 105 - 108 °C
- Bulk density 500 kg/m<sup>3</sup>
- Boiling point 268 - 270 °C (1013 hPa)
- Ignition temp. 400 °C
- WGK 1
- LD50 oral rat 4000 mg/kg
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 102 °C  
 Melting range (upper value) ..... ≤ 107 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03244.0100	Plastic bottle	100 g	inquire
8.03244.1000	Plastic bottle	1 kg	inquire

820509 *N,N*-Dimethylurea for synthesisC<sub>3</sub>H<sub>8</sub>N<sub>2</sub>O(CH<sub>3</sub>)<sub>2</sub>NCONH<sub>2</sub>

1,1-Dimethylurea

- CAS-No. 598-94-7 ■ EC-No. 209-957-0
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 88.11 g/mol
- Melting point 180 - 183 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

## Specification

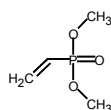
Assay (HClO<sub>4</sub>) ..... ≥ 98 %  
 Identity (IR-spectrum) ..... passes test  
 Melting range ..... 180 - 183 °C

Ord.No.	Packaging	Quantity	Price
8.20509.0050	Plastic bottle	50 g	inquire

1,1-Dimethylurea → *N,N*-Dimethylurea page 8071,3-Dimethylurea → *N,N'*-Dimethylurea page 807

Dimethyl vinyl carbinol → 2-Methyl-3-buten-2-ol page 1139

## 843916 Dimethyl vinylphosphonate for synthesis

C<sub>4</sub>H<sub>9</sub>O<sub>3</sub>P

- CAS-No. 4645-32-3 ■ EC-No. 225-076-4
- Spec. density 1.13 g/cm<sup>3</sup> (20 °C)
- Flash point 101 °C ■ M = 136.09 g/mol

- Melting point < -30 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 602 - 858 mg/kg
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

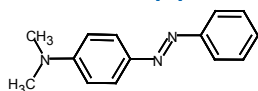
## Specification

Assay (GC, area%) ..... ≥ 90.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43916.0005	Glass bottle	5 ml	inquire
8.43916.0025	Glass bottle	25 ml	inquire

Dimethyl yellow → Dimethylyellow (C.I. 11020) page 807

## 103055 Dimethylyellow (C.I. 11020) indicator

C<sub>14</sub>H<sub>15</sub>N<sub>3</sub>

Dimethyl yellow, Solvent yellow 2, Methyl yellow

- CAS-No. 60-11-7 ■ EC-No. 200-455-7
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 225.29 g/mol ■ pH value 5 - 7 (10 g/l, H<sub>2</sub>O, 20 °C) (filtered slurry)
- Melting point 110 - 116 °C (decomposition)
- Bulk density 190 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Carcinogenicity, Category 2, H351, P281,

- P309 + P310
- LD50 oral rat 200 mg/kg
- LGK 6.1C
- HS-No. 2927 00 00 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-(DIMETHYLAMINO)-AZOBENZOL), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-(DIMETHYLAMINO)-AZOBENZENE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-(DIMETHYLAMINO)-AZOBENZENE), 6.1, III
- Use as pH indicator: 0.1-0.5 g in 100 ml ethanol (90%)

## Specification

Identity (UV/VIS-Spectrum) ..... passes test  
 Melting point ..... 110 - 116 °C

Transition range...pH 3.0 - pH 4.0 pink - brownish-yellow  
 Absorption maximum λ 1 (buffer pH 3.0) .....  
 ..... 508 - 511 nm  
 Absorption maximum λ 2 (buffer pH 4.0) .....  
 ..... 455 - 460 nm  
 Absorption maximum λ 3 (Ethanol)... 403 - 407 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>3max</sub>; 0.005 g/l; ethanol; calc. on dried substances) .....  
 ..... 1100 - 1300  
 Loss on drying (40 °C; ≤ 1 hPa) ..... ≤ 5 %

Ord.No.	Packaging	Quantity	Price
1.03055.0010	Glass bottle	10 g	inquire

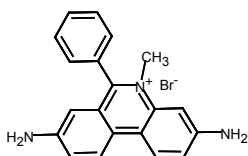
3,3'-(3,3'-Dimethoxy-4,4'-biphenylene)bis [2-(4-nitrophenyl)-5-phe nyl-2H-tetrazolium chloride] → page 191

1-(3,4-Dimethoxyphenyl)-ethanone → 3,4-Dimethoxyacetophenone page 769

2-[(4-Dimethylamino)phenylazo]benzoic acid sodium salt → Methyl red sodium salt (C.I. 13020) page 1179



## 112130 Dimidium bromide for surfactant tests

C<sub>20</sub>H<sub>18</sub>BrN<sub>3</sub>

3,8-Diamino-5-methyl-6-phenylphenanthridinium bromide  
 ■ CAS-No. 518-67-2 ■ EC-No. 208-256-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 380.28 g/mol  
 ■ Melting point 242 °C ■ Bulk density 380 kg/m<sup>3</sup>

m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(DIMIDIUMBROMID), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(DIMIDIUM BROMIDE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(DIMIDIUM BROMIDE), 6.1, II

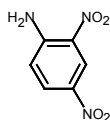
## Specification

Dye content (spectrophotometrically) ..... ≥ 95 %  
 Identity (UV/VIS-Spectrum)..... passes test  
 Absorption maximum λ max (Methanol)..... 523 - 528 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.0005 %; methanol)..... 168 - 177  
 TLC-Test..... passes test  
 Loss on drying (110 °C)..... ≤ 5 %

Ord.No.	Packaging	Quantity	Price
1.12130.0001	Glass bottle	1 g	inquire
1.12130.0005	Glass bottle	5 g	inquire

Dinicotinic acid → Pyridine-3,5-dicarboxylic acid page 1388

## 803248 2,4-Dinitroaniline for synthesis



■ Vapour pressure < 0.001 hPa (25 °C)  
 ■ Flash point 224 °C ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C)  
 ■ pH value 7 (1 g/l, H<sub>2</sub>O)  
 ■ Melting point 177 - 180 °C  
 ■ Bulk density 800 kg/m<sup>3</sup>  
 ■ Boiling point >300 °C decomposes

■ Ignition temp. >365 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2921 42 00 ■ Disposal 9  
 ■ ADR-RID UN 1596 Dinitroaniline, 6.1, II

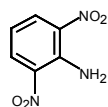
■ IMDG-Code UN 1596 DINITROANILINES, 6.1, II  
 ■ IATA-DGR UN 1596 DINITROANILINES, 6.1, II

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 177 °C  
 Melting range (upper value)..... ≤ 180 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03248.0005	Glass bottle	5 g	inquire
8.03248.0250	Glass bottle	250 g	inquire

## 841646 2,6-Dinitroaniline for synthesis

C<sub>6</sub>H<sub>5</sub>N<sub>3</sub>O<sub>4</sub>

(NO<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>  
 ■ CAS-No. 606-22-4 ■ EC-No. 210-108-1  
 ■ Flash point >100 °C ■ M = 183.12 g/mol  
 ■ Melting point 136 °C (decomposition)

■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2921 42 00 ■ Disposal 9  
 ■ ADR-RID UN 1596 Dinitroaniline, 6.1, II

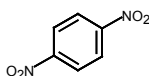
■ IMDG-Code UN 1596 DINITROANILINES, 6.1, II  
 ■ IATA-DGR UN 1596 DINITROANILINES, 6.1, II

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 136 °C  
 Melting range (upper value)..... ≤ 140 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41646.0005	Plastic bottle	5 g	inquire

## 803120 1,4-Dinitrobenzene for synthesis

C<sub>6</sub>H<sub>4</sub>N<sub>2</sub>O<sub>4</sub>

1,4-(NO<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>  
 ■ CAS-No. 100-25-4 ■ EC-No. 202-833-7  
 ■ Flash point 150 °C ■ Solub. in H<sub>2</sub>O 0.069 g/l (25 °C) ■ M = 168.1 g/mol ■ Melting point 174 °C  
 ■ Boiling point 299 °C (1013 hPa)  
 ■ WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ EC-Index-No. 609-004-00-2 ■ LGK 6.1A  
 ■ HS-No. 2904 20 00 ■ Disposal 9  
 ■ ADR-RID UN 3443 Dinitrobenzene, fest, 6.1, II

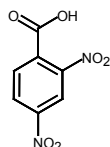
■ IMDG-Code UN 3443 DINITROBENZENES, SOLID, 6.1, II  
 ■ IATA-DGR UN 3443 DINITROBENZENES, SOLID, 6.1, II

## Specification

Assay (HPLC, area%) ..... ≥ 94,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03120.0010	Glass bottle	10 g	inquire

## 841366 2,4-Dinitrobenzoic acid for synthesis

C<sub>7</sub>H<sub>4</sub>N<sub>2</sub>O<sub>6</sub>(NO<sub>2</sub>)<sub>2</sub>(C<sub>6</sub>H<sub>3</sub>)COOH

■ CAS-No. 610-30-0 ■ EC-No. 210-219-5  
 ■ Solub. in H<sub>2</sub>O 18.5 g/l (25 °C) ■ M = 212.12 g/mol  
 ■ Melting point 179 - 183 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 3

## Specification

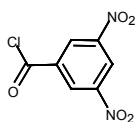
Assay (acidimetric)..... ≥ 97,0 %  
 Melting range (lower value)..... ≥ 179 °C  
 Melting range (upper value)..... ≤ 183 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41366.0005	Plastic bottle	5 g	inquire

3,5-Dinitrobenzoic acid chloride → 3,5-Dinitrobenzoyl chloride page 809



## 803075 3,5-Dinitrobenzoyl chloride for synthesis

C<sub>7</sub>H<sub>5</sub>ClN<sub>2</sub>O<sub>5</sub>3,5-(NO<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>COCl

3,5-Dinitrobenzoic acid chloride

■ CAS-No. 99-33-2 ■ EC-No. 202-750-6

■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)

■ M = 230.56 g/mol ■ Melting point 67 - 70 °C

- Boiling point 196 °C (15 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(3,5-DINITROBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3,5-DINITROBENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

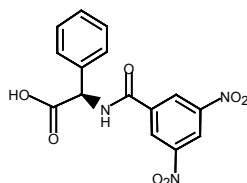
■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3,5-DINITROBENZOYL CHLORIDE), 8, II

**Specification**

Assay (morpholine method) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 67 °C  
 Melting range (upper value) ..... ≤ 70 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03075.0100	Glass bottle	100 g	inquire
8.03075.0250	Glass bottle	250 g	inquire

## 814248 (R)-(-)-N-(3,5-Dinitrobenzoyl) phenylglycine for synthesis

C<sub>15</sub>H<sub>11</sub>N<sub>3</sub>O<sub>7</sub>

■ CAS-No. 74927-72-3

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 345.26 g/mol ■ Melting point 217 - 218 °C

■ WGK 2

■ LGK 10 - 13

■ HS-No. 2924 29 98 ■ Disposal 3

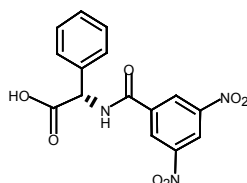
**Specification**

Assay (HPLC, area%) ..... ≥ 97,0 Area %

Melting range (lower value) ..... ≥ 218 °C  
 Melting range (upper value) ..... ≤ 221 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14248.0001	Glass bottle	1 g	inquire
8.14248.0005	Glass bottle	5 g	inquire

## 814401 (S)-(+)-N-(3,5-Dinitrobenzoyl) phenylglycine for synthesis

C<sub>15</sub>H<sub>11</sub>N<sub>3</sub>O<sub>7</sub>

■ CAS-No. 90761-62-9

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 345.26 g/mol

■ Melting point 215 - 220 °C

■ WGK 3

■ LGK 10 - 13

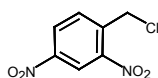
■ HS-No. 2924 29 98 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in THF) ... 98,0 - 102,0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14401.0001	Glass bottle	1 g	inquire
8.14401.0005	Glass bottle	5 g	inquire

## 820292 2,4-Dinitrobenzyl chloride for synthesis

C<sub>7</sub>H<sub>5</sub>ClN<sub>2</sub>O<sub>4</sub>2,4-(NO<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CH<sub>2</sub>Cl

■ CAS-No. 610-57-1 ■ EC-No. 210-230-5

■ Flash point 109 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 216.58 g/mol

■ Melting point 28 - 31 °C

■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8A

■ HS-No. 2904 90 95 ■ Disposal 3

■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2,4-DINITROBENZYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID,

ACIDIC, ORGANIC, N.O.S.(2,4-DINITROBENZYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

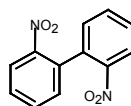
ORGANIC, N.O.S.(2,4-DINITROBENZYL CHLORIDE), 8, II

**Specification**

Assay (ex Cl) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 28 °C  
 Melting range (upper value) ..... ≤ 31 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20292.0010	Glass bottle	10 g	inquire

## 822041 2,2'-Dinitrophenyl for synthesis

C<sub>12</sub>H<sub>8</sub>N<sub>2</sub>O<sub>4</sub>2-(NO<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>4</sub>-2-(NO<sub>2</sub>)

■ CAS-No. 2436-96-6 ■ EC-No. 219-435-4

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 244.21 g/mol ■ Melting point 123 - 125 °C

■ Boiling point 305 °C

■ WGK 3

■ GHS: P260

■ LGK 10 - 13

■ HS-No. 2904 20 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 123 °C  
 Melting range (upper value) ..... ≤ 125 °C  
 Identity (IR) ..... passes test

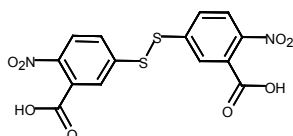
Ord.No.	Packaging	Quantity	Price
8.22041.0010	Glass bottle	10 g	inquire

1,3-Dinitro-4-chlorobenzene → page 608

2,4-Dinitro-1-chlorobenzene → page 608

4,6-Dinitro-o-cresol → 2-Methyl-4,6-dinitrophenol page 1147

## 103291 2,2'-Dinitro-5,5'-dithiodibenzoic acid for biochemistry

C<sub>14</sub>H<sub>8</sub>N<sub>2</sub>O<sub>8</sub>S<sub>2</sub>

5,5'-Dithiobis(2-nitrobenzoic acid), DTNB, Ellmans' reagent

■ CAS-No. 69-78-3 ■ EC-No. 200-714-4

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

■ M = 396.35 g/mol ■ Melting point 240 - 244 °C

■ Bulk density 290 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 3

Determination of SH groups and S-S linkages  
 measurement of the reactivity of the SH groups in proteins. δ (412 nm, pH 8.0) = 1.36 × 10<sup>4</sup> cm<sup>2</sup>·mol<sup>-1</sup> M<sup>-2</sup>·s<sup>-1</sup>

**Specification**

Assay (acidimetric) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... passes test

Melting point ..... 240 - 244 °C

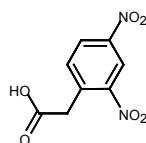
Spec. Absorptivity A 1%/1cm (307 nm; 0.001 %;

methanol) ..... 330 - 370  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.001 %  
 TLC-Test ..... passes test  
 Sulfated ash (600 °C) ..... ≤ 0.1 %  
 Water (according to Karl Fischer) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.03291.0001	Glass bottle	1 g	inquire
1.03291.0005	Glass bottle	5 g	inquire
1.03291.0025	Glass bottle	25 g	inquire

# Dinitr

## 841307 2,4-Dinitrophenylacetic acid for synthesis



- M = 226.14 g/mol ■ Melting point 179 - 180 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

### Specification

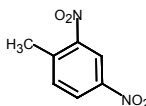
Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 185 °C  
 Melting range (upper value)..... ≤ 191 °C  
 Identity (IR)..... passes test

C<sub>8</sub>H<sub>6</sub>N<sub>2</sub>O<sub>6</sub>

■ CAS-No. 643-43-6 ■ EC-No. 211-398-2

Ord.No.	Packaging	Quantity	Price
8.41307.0025	Glass bottle	25 g	inquire

## 803515 2,4-Dinitrotoluene for synthesis



- Ignition temp. 420 °C
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 268 mg/kg ■ LD50 dermal rat > 2500 mg/kg
- EC-Index-No. 609-007-00-9 ■ LGK 6.1A

- HS-No. 2904 20 00 ■ Disposal 9
- ADR-RID UN 3454 Dinitrotoluene, fest, 6.1, II
- IMDG-Code UN 3454 DINITROTOLUENES, SOLID, 6.1, II
- IATA-DGR UN 3454 DINITROTOLUENES, SOLID, 6.1, II

### Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
 Melting range (lower value)..... ≥ 67 °C  
 Melting range (upper value)..... ≤ 71 °C  
 Identity (IR)..... conforms

C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>O<sub>4</sub>

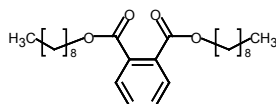
1-Methyl-2,4-dinitrobenzene

■ CAS-No. 121-14-2 ■ EC-No. 204-450-0

- Vapour pressure 0.0001 hPa (20 °C)
- Spec. density 1.52 g/cm<sup>3</sup> (20 °C)
- Flash point 155 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (20 °C) ■ M = 182.14 g/mol
- Melting point 67 - 71 °C
- Boiling point 300 °C (decomposition)

Ord.No.	Packaging	Quantity	Price
8.03515.0100	Glass bottle	100 g	inquire

## 109669 Dinonyl phthalate for gas chromatography



- Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O < 1 g/l (20 °C) ■ M = 418.61 g/mol
- pH value (H<sub>2</sub>O) neutral
- Boiling point 279 - 287 °C (1013 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2917 33 00 ■ Disposal 3

McReynolds constant (Butanol)..... 150 - 200  
 McReynolds constant (Benzene)..... 80 - 100  
 McReynolds constant (Nitropropane)..... 180 - 240  
 Thermogravimetry (thermogravimetric) ... < 2% lost of weight at 180°C

C<sub>26</sub>H<sub>42</sub>O<sub>4</sub>

DNP, Phthalic acid dinonyl ester

■ CAS-No. 84-76-4 ■ EC-No. 201-560-0

### Specification

Identity (IR-spectrum)..... corresponds

Ord.No.	Packaging	Quantity	Price
1.09669.0100	Glass bottle	100 ml	inquire

## DIN-Reagents

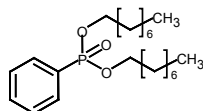
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
433	101748	Barium sulfate	756	113861	Dihexyl sodium sulfosuccinate	1106	104413	Mercury(II) sulfate solution 200 g/l
563	102111	Calcium hydroxide	892	101771	FAM Benzene	169	105544	Potassium hydroxide solution in isopropanol
590	102216	Charcoal activated	13	115037	HPTLC Silica gel 60 RP-18 with concentrating zone 20 x 2.5 cm	1423	101574	Silver sulfate solution 80 g/l
654	109288	Copper(II) ethylenediamine solution	169	100326	Hydrochloric acid in 2-propanol			

N,N-Di-n-octylmethylamine → N-Methyldioctylamine page 1147

N,N-Dioctyl-1-octanamine → page 1609

Dioctyloxostannane → Dioctyltin oxide page 811

## 841038 Di-n-octyl phenylphosphonate for synthesis



- CAS-No. 1754-47-8 ■ EC-No. 217-142-6
- Spec. density 0.932 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ M = 382.52 g/mol
- Boiling point 219 - 220 °C (0.93 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 96.5 % (a/a)  
 Density (d 20 °C / 4 °C)..... 0.966 - 0.972  
 Identity (IR)..... passes test

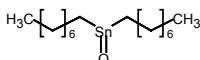
C<sub>22</sub>H<sub>39</sub>O<sub>3</sub>P  
 DOPP

Ord.No.	Packaging	Quantity	Price
8.41038.0005	Glass bottle	5 ml	inquire

Dioctyl phthalate → Bis(2-ethylhexyl) phthalate page 471

Dioctyl sebacate → Bis(2-ethylhexyl) sebacate page 471

## 803544 Diocetyl tin oxide for synthesis

C<sub>16</sub>H<sub>34</sub>O<sub>3</sub>Sn

Diocetylloxostannane

- CAS-No. 870-08-6 ■ EC-No. 212-791-1
- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 1.2 g/cm<sup>3</sup> (20 °C)
- Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 361.15 g/mol ■ Bulk density 700 kg/m<sup>3</sup>

- Boiling point 230 °C (1013 hPa)
- Ignition temp. >100 °C
- WGK 2
- GHS: Chronic aquatic toxicity, Category 4, H413, P260, P262, P273
- LD50 oral rat 2500 mg/kg
- LGK 10 - 13
- HS-No. 3911 90 19 ■ Disposal 15
- ADR-RID UN 3146 Organische Zinnverbindung, fest, n.a.g.(DIOCTYLZINNOXID), 6.1, III ■ IMDG-Code UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(DIOCTYL TIN OXIDE), 6.1, III, Marine

Pollutant: P

- IATA-DGR UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(DIOCTYL TIN OXIDE), 6.1, III

## Specification

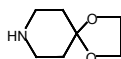
Assay (ex Sn) ..... ≥ 97,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03544.0025	Glass bottle	25 g	inquire
8.03544.0100	Glass bottle	100 g	inquire

(+)-DIOP → (4S,5S)-(+)-4,5-Bis(diphenylphosphino methyl)-2,2-dimethyl-1,3-dioxolane page 469

(-)-DIOP → (4R,5R)-(-)-4,5-Bis(diphenylphosphino methyl)-2,2-dimethyl-1,3-dioxolane page 469

## 841858 1,4-Dioxo-8-azaspiro[4.5]decane for synthesis

C<sub>7</sub>H<sub>13</sub>N<sub>2</sub>O<sub>2</sub>

- CAS-No. 177-11-7 ■ EC-No. 205-868-6
- Spec. density 1.11 g/cm<sup>3</sup> (20 °C)
- Flash point 81 °C ■ M = 143.18 g/mol
- Boiling point 108 - 110 °C (35 hPa)

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

## Specification

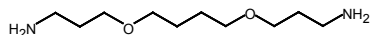
Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 1,110 - 1,115  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41858.0010	Glass bottle	10 ml	inquire
8.41858.0050	Glass bottle	50 ml	inquire

1,3-Dioxacyclopentane → 1,3-Dioxolane page 812

## 842873 4,9-Dioxo-1,12-dodecanediamine for synthesis

C<sub>10</sub>H<sub>24</sub>N<sub>2</sub>O<sub>2</sub>

- CAS-No. 7300-34-7 ■ EC-No. 230-745-9
- Vapour pressure 1 hPa (50 °C)
- Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 4.9 % (V) ■ Flash point 159 °C DIN 51758 ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 204.31 g/mol ■ pH value 10 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 4.5 °C
- Boiling point 298 °C (decomposition)
- Ignition temp. 245 °C DIN 51794
- WGK 1

- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 1.5 mg/l
- LD50 oral rat 3450 mg/kg
- LGK 8A
- HS-No. 2922 19 85
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(4,9-DIOXADODECAN-1,12-DIAMIN), 8, II
- IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(4,9-DIOXA-1,12-DODECANEDIAMINE), 8, II, Segregation Group: 18 (Alkalis)

- IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(4,9-DIOXA-1,12-DODECANEDIAMINE), 8, II

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.955 - 0.958  
 Water (K. F.) ..... ≤ 0.50 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42873.0025	Glass bottle	25 ml	inquire

## 1,4-Dioxane

C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>

Glycoethylether, 1,4-Diethylene dioxide, 1,4-Dioxacyclohexane

- CAS-No. 123-91-1 ■ EC-No. 204-661-8
- Vapour pressure 41 hPa (20 °C)
- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.2 (25 °C) ■ El. dipole moment 0.4

- (20 °C) ■ Explosive limit 1.7 - 25.2 % (V)
- Flash point 11 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 88.11 g/mol ■ pH value 6 - 8 (500 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 149 g/m<sup>3</sup> (20 °C) Air
- Melting point 12 °C ■ Boiling point 101.5 °C (1013 hPa) ■ Evaporation number 7.3
- Ignition temp. 300 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Carcinogenicity, Category 2, H351; Eye irritation, Category 2, H319; Specific target organ

- toxicity - single exposure, Category 3, H335, P210, P281, P305 + P351 + P338, P308 + P313
- LC50 rat 48.5 - 54.3 mg/l
- LD50 oral rat 5200 mg/kg ■ LD50 dermal rabbit 7600 mg/kg
- EC-Index-No. 603-024-00-5 ■ LGK 3
- HS-No. 2932 99 00 ■ Disposal 3
- ADR-RID UN 1165 Dioxan, 3, II ■ IMDG-Code UN 1165 DIOXANE, 3, II
- IATA-DGR UN 1165 DIOXANE, 3, II

## 103115 1,4-Dioxane EEMPLURA®

## Specification

Purity (GC) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms  
 Free acid (as CH<sub>3</sub>COOH) ..... ≤ 0.01 %  
 Density (d 20 °C/ 4 °C) ..... 1.032 - 1.034  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.005 %  
 Water ..... ≤ 0.1 %

Stabilized with about 25 ppm 2,6-Di-tert-butyl-4-methylphenol (BHT)

Ord.No.	Packaging	Quantity	Price
1.03115.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.03115.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.03115.6025	Drum stainl. st.	25 l	inquire
1.03115.9191	Steel barrel	190 l	inquire

# Dioxan

## 109671 1,4-Dioxane for analysis EMSURE® ACS,ISO

### Specification

Purity (GC).....	≥ 99.5 %
Identity (IR).....	conforms
Colour.....	≤ 10 Hazen
Acidity.....	≤ 0.0008 meq/g
Density (d 20 °C/ 4 °C).....	1.030 - 1.035
Melting point.....	≥ 11.0 °C
Formaldehyde.....	≤ 0.05 %
Acetaldehyde.....	≤ 0.005 %
Peroxide (as H <sub>2</sub> O <sub>2</sub> ).....	≤ 0.005 %
Carbonyl compounds (as CO).....	≤ 0.01 %
Evaporation residue.....	≤ 0.001 %
Water.....	≤ 0.05 %
Al (Aluminium).....	≤ 0.00005 %

B (Boron).....	≤ 0.000002 %
Ba (Barium).....	≤ 0.00001 %
Ca (Calcium).....	≤ 0.00005 %
Cd (Cadmium).....	≤ 0.000005 %
Co (Cobalt).....	≤ 0.000002 %
Cr (Chromium).....	≤ 0.000002 %
Cu (Copper).....	≤ 0.000002 %
Fe (Iron).....	≤ 0.00001 %
Mg (Magnesium).....	≤ 0.00001 %
Mn (Manganese).....	≤ 0.000002 %
Ni (Nickel).....	≤ 0.000002 %
Pb (Lead).....	≤ 0.00001 %
Sn (Tin).....	≤ 0.00001 %

Zn (Zinc)..... ≤ 0.00001 %  
Stabilized with 25 ppm 2,6-Di-tert-butyl-4-methylphenol (BHT). ACS, ISO-reagent

Ord.No.	Packaging	Quantity	Price
1.09671.0250	Glass bottle	250 ml	inquire
1.09671.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09671.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09671.6025	Drum stainl. st.	25 l	inquire

## 103110 1,4-Dioxane dried SeccoSolv®

### Specification

Purity (GC).....	≥ 99.9 %
Identity (IR).....	conforms
Colour.....	≤ 10 Hazen
Acidity.....	≤ 0.0005 meq/g
Alkalinity.....	≤ 0.0002 meq/g
Peroxide (as H <sub>2</sub> O <sub>2</sub> ).....	≤ 0.0050 %

Evaporation residue.....	≤ 10 mg/l
Water.....	≤ 0.005 %

The product is stabilised with about 2,5ppm 2,6-Di-tert-butyl-4-methylphenol (BHT).

Ord.No.	Packaging	Quantity	Price
1.03110.0161	Septum bottle	150 ml	inquire
	Septum bottle	12 x 150 ml	inquire
1.03110.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.03110.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

## 103132 1,4-Dioxane for liquid chromatography LiChrosolv®

### Specification

Purity (GC).....	≥ 99.8 %
Identity (IR).....	conforms
Evaporation residue.....	≤ 2.0 mg/l
Water.....	≤ 0.02 %
Acidity.....	≤ 0.0002 meq/g

Alkalinity.....	≤ 0.0002 meq/g
Transmission (at 245 nm).....	≥ 50 %
Transmission (at 270 nm).....	≥ 80 %
Transmission (from 300 nm).....	≥ 98 %

Filtered by 0.2 µm filter

Ord.No.	Packaging	Quantity	Price
1.03132.1000	Glass bottle	1 l	inquire
1.03132.2500	Glass bottle	2.5 l	inquire

Dioxans → Heterocycles

3,6-Dioxaoctamethylenedinitrotetraacetic acid →  
Titriplex® VI page 173

1,4-Dioxaspiro [4.5] decan-8-one → 1,4-

Cyclohexanedione monoethylene ketal page 672

1,3-Dioxindane → 1,3-Indanedione page 1000

## 803553 1,3-Dioxolane (stabilised) for synthesis



C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>

1,3-Dioxacyclopentane, Formaldehyde ethylene

acetal, Ethylene glycol methylene ether

■ CAS-No. 646-06-0 ■ EC-No. 211-463-5

■ Refractive index 1.4 (20 °C, 589 nm) ■ Vapour

pressure 133 hPa (20 °C) ■ Spec. density 1.065 g/

cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 - 20.5 % (V)

■ Flash point -6 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

■ M = 74.08 g/mol ■ Melting point -26 °C

- Boiling point 74 - 75 °C (1013 hPa)
- Ignition temp. 274 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233
- LC50 rat 20.65 mg/l
- LD50 oral rat 3000 mg/kg ■ LD50 dermal rabbit 9074 mg/kg
- EC-Index-No. 605-017-00-2 ■ LGK 3 ■ Store below +15°C.
- HS-No. 2932 99 00 ■ Disposal 3
- ADR-RID UN 1166 Dioxolan, 3, II ■ IMDG-Code UN 1166 DIOXOLANE, 3, II

■ IATA-DGR UN 1166 DIOXOLANE, 3, II

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.064 - 1.066

Water (K. F.)..... ≤ 0.30 %

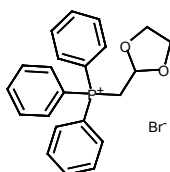
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.03553.0100	Glass bottle	100 ml	inquire
8.03553.0500	Glass bottle	500 ml	inquire

1,3-Dioxolane-2-one → Ethylene carbonate page 860

Dioxolanes → Heterocycles

## 818094 (1,3-Dioxolan-2-yl)-methyltriphenylphosphonium bromide for synthesis



Triphenyl-1,3-dioxolan-2-ylmethylphosphonium bromide

■ CAS-No. 52509-14-5 ■ EC-No. 257-977-3

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 429.29 g/

mol ■ Melting point 194 - 196 °C

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302

■ LGK 10 - 13

■ HS-No. 2932 99 00 ■ Disposal 3

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

### Specification

Assay (argentometric)..... ≥ 98.0 %

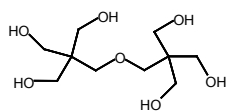
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18094.0010	Glass bottle	10 g	inquire

2,5-Dioxotetrahydrofuran → page 1504

Dip culture media → Microbiology / Envirocheck

## 814810 Dipentaerythritol for synthesis

C<sub>10</sub>H<sub>22</sub>O<sub>7</sub>

2,2'[[Oxybis(methylen)]bis[hydroxymethyl]]-1,3-propandiol

- CAS-No. 126-58-9 ■ EC-No. 204-794-1
- Vapour pressure < 0.00001 hPa (20 °C)

- Spec. density 1.365 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 254.28 g/mol
- pH value 5 (2 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 217 - 222 °C
- Bulk density 400 - 450 kg/m<sup>3</sup>
- Ignition temp. 370 °C
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2909 49 80 ■ Disposal 3

## Specification

Hydroxyl value ..... 1190 - 1320  
 Melting range (lower value) ..... ≥ 217 °C  
 Melting range (upper value) ..... ≤ 220 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14810.0025	Glass bottle	25 g	inquire
8.14810.0100	Glass bottle	100 g	inquire
8.14810.0500	Glass bottle	500 g	inquire

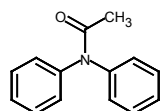
Dipentene → DL-Limonene page 1077

Dipentyl ether → Di-n-amyl ether page 699

Diphenic acid → 2,2'-Biphenyldicarboxylic acid page 460

Diphenyl → Biphenyl page 460

## 820524 N,N-Diphenylacetamide for synthesis

C<sub>14</sub>H<sub>13</sub>NOCH<sub>3</sub>CON(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>

Acetic acid diphenylamide

- CAS-No. 519-87-9 ■ EC-No. 208-277-1
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 211.26 g/mol
- Melting point 98 - 101 °C
- WGK 3
- LGK 10 - 13

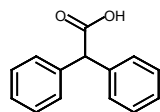
■ HS-No. 2924 29 98 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20524.0025	Plastic bottle	25 g	inquire

## 800486 Diphenylacetic acid for synthesis

C<sub>14</sub>H<sub>12</sub>O<sub>2</sub>(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>CHCOOH

- CAS-No. 117-34-0 ■ EC-No. 204-185-0
- Solub. in H<sub>2</sub>O 0.13 g/l (25 °C) ■ M = 212.25 g/mol

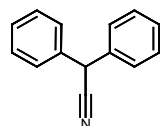
- mol ■ pH value 3.8 (H<sub>2</sub>O, 20 °C) (saturated solution) ■ Melting point 144 - 147 °C
- Boiling point 195 °C (33 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 5540 mg/kg
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 98.0 % (m)  
 Melting range (lower value) ..... ≥ 144 °C  
 Melting range (upper value) ..... ≤ 147 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00486.0100	Plastic bottle	100 g	inquire

## 803259 Diphenylacetonitrile for synthesis

C<sub>14</sub>H<sub>11</sub>N(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>CHCN

Benzhydryl cyanide, Diphenylmethyl cyanide

- CAS-No. 86-29-3 ■ EC-No. 201-662-5

- Vapour pressure 21.3 hPa (190 °C)
- Flash point 120 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 193.24 g/mol
- Melting point 71 - 74 °C
- Boiling point 175 - 177 °C (15 hPa)
- WGK 2
- LD50 oral rat 3500 mg/kg
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

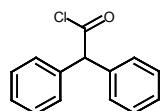
■ IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 71 °C  
 Melting range (upper value) ..... ≤ 74 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03259.0100	Plastic bottle	100 g	inquire

## 814804 Diphenylacetyl chloride for synthesis

C<sub>14</sub>H<sub>11</sub>ClO

■ CAS-No. 1871-76-7 ■ EC-No. 217-493-5

■ Flash point 113 °C ■ M = 230.69 g/mol

■ Melting point 49 - 53 °C

■ Boiling point 175 - 176 °C (22.7 hPa)

■ WGK 2

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 6330 mg/kg
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(DIPHENYLACETYLCHLORID), 8, II
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(DIPHENYLACETYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

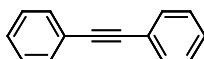
ORGANIC, N.O.S.(DIPHENYLACETYL CHLORIDE), 8, II

## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 50 °C  
 Melting range (upper value) ..... ≤ 54 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14804.0010	Glass bottle	10 g	inquire

## 820525 Diphenylacetylene for synthesis

C<sub>14</sub>H<sub>10</sub>

Tolan

■ CAS-No. 501-65-5 ■ EC-No. 207-926-6

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 178.23 g/mol

- mol ■ Melting point 56 - 59 °C
- Boiling point 169 - 171 °C (25 hPa)
- WGK 2
- LGK 10 - 13
- HS-No. 2902 90 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 56 °C

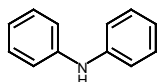
Melting range (upper value) ..... ≤ 59 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20525.0010	Glass bottle	10 g	inquire
8.20525.0025	Glass bottle	25 g	inquire



# Diphen

## 820528 Diphenylamine for synthesis



C<sub>12</sub>H<sub>11</sub>N  
(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>NH  
*N*-Phenylaniline  
 ■ CAS-No. 122-39-4 ■ EC-No. 204-539-4  
 ■ Vapour pressure 0.0003 hPa (20 °C)  
 ■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 153 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 0.05 g/l (25 °C) ■ M = 169.23 g/mol  
 ■ Melting point 53 - 54 °C ■ Bulk density 610 kg/m<sup>3</sup> ■ Boiling point 302 °C (1013 hPa)  
 ■ Ignition temp. 630 °C DIN 51794

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LD50 oral rat 1120 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ EC-Index-No. 612-026-00-5 ■ LGK 6.1 C  
 ■ HS-No. 2921 44 00 ■ Disposal 9  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(DIPHENYLAMIN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS

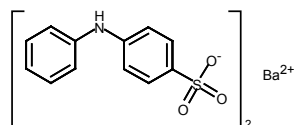
SUBSTANCE, SOLID, N.O.S.(DIPHENYL AMINE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(DIPHENYL AMINE), 9, III

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 52 °C  
 Melting range (upper value)..... ≤ 55 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20528.0100	Glass bottle	100 g	inquire
8.20528.1000	Glass bottle	1 kg	inquire

Diphenylamine-2-carboxylic acid → *N*-Phenylantranilic acid page 1298

## 100255 Diphenylamine-4-sulfonic acid barium salt redox indicator



C<sub>24</sub>H<sub>20</sub>BaN<sub>2</sub>O<sub>6</sub>S<sub>2</sub>  
 4-Anilinobenzene sulfonic acid barium salt, Barium diphenylaminesulfonate  
 ■ CAS-No. 6211-24-1 ■ EC-No. 228-278-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 633.88 g/mol ■ pH value 5.9 (10 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Melting point 300 °C ■ Bulk density 220 kg/m<sup>3</sup>

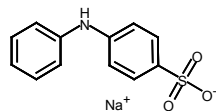
■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302  
 ■ EC-Index-No. 056-002-00-7 ■ LGK 10 - 13  
 ■ HS-No. 2921 44 00 ■ Disposal 3  
 ■ ADR-RID UN 1564 Bariumverbindung, n.a.g.(DIPHENYLAMIN-4-SULFONSAEURE BARIUMSALZ), 6.1, III ■ IMDG-Code UN 1564 BARIUM COMPOUND, N.O.S.(DIPHENYLAMINE-4-SULFONIC ACID BARIUMSALT), 6.1, III  
 ■ IATA-DGR UN 1564 BARIUM COMPOUND, N.O.S.(DIPHENYLAMINE-4-SULFONIC ACID

BARIUMSALT), 6.1, III  
 Use as redox indicator: 0.2 g in 100 ml hot water  
 E<sub>0</sub> in 1 M sulfuric acid about + 0.83 volt

**Specification**  
 Identity (IR-spectrum)..... passes test  
 Absorption maximum λ max (water). 290 - 295 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.001 %; water; calculated on dried substance)..... 600 - 700  
 Loss on drying (105 °C)..... ≤ 5 %  
 Suitability as redox indicator..... passes test

Ord.No.	Packaging	Quantity	Price
1.00255.0005	Glass bottle	5 g	inquire

## 103590 Diphenylamine-4-sulfonic acid sodium salt redox indicator ACS



C<sub>12</sub>H<sub>10</sub>NNaO<sub>3</sub>S  
 ■ CAS-No. 6152-67-6 ■ EC-No. 228-165-6

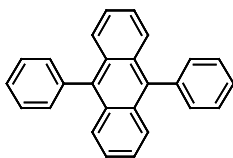
■ Solub. in H<sub>2</sub>O 820 g/l (20 °C) ■ M = 271.26 g/mol ■ pH value 5.7 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 200 °C ■ Bulk density 160 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 44 00 ■ Disposal 3  
 Use as redox indicator: 0.2 g in 100 ml water

**Specification**  
 Appearance of solution..... conforms  
 Loss on drying (105 °C)..... ≤ 5.0 %  
 Suitability as redox indicator..... conforms

Ord.No.	Packaging	Quantity	Price
1.03590.0010	Glass bottle	10 g	inquire

*N,N*-Diphenylaniline → Triphenylamine page 1610

## 820529 9,10-Diphenylanthracene for synthesis



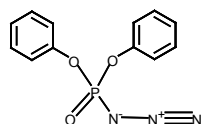
C<sub>26</sub>H<sub>18</sub>  
 ■ CAS-No. 1499-10-1 ■ EC-No. 216-105-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 330.43 g/mol ■ Melting point 247 - 252 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 247 °C  
 Melting range (upper value)..... ≤ 252 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20529.0001	Glass bottle	1 g	inquire
8.20529.0005	Glass bottle	5 g	inquire

## 818066 Diphenyl azidophosphate for synthesis



C<sub>12</sub>H<sub>10</sub>N<sub>3</sub>O<sub>3</sub>P  
 N<sub>3</sub>PO(OC<sub>6</sub>H<sub>5</sub>)<sub>2</sub>  
 Diphenyl phosphorylazid, Azidophosphoric acid diphenyl ester, Diphenyl phosphorazid  
 ■ CAS-No. 26386-88-9 ■ EC-No. 247-644-0  
 ■ Refractive index 1.5518 (20 °C, 589 nm)

■ Spec. density 1.276 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 275.2 g/mol  
 ■ Boiling point 157 °C (0.22 hPa)  
 ■ WGK 3  
 ■ LGK 6.1 A  
 ■ HS-No. 2929 90 00 ■ Disposal 3  
 ■ ADR-RID UN 3278 Organische Phosphorverbindung, flüssig, giftig, n.a.g.(DIPHENYL-AZIDOPHOSPHAT), 6.1, II  
 ■ IMDG-Code UN 3278 ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.(DIPHENYL

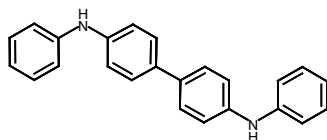
AZIDOPHOSPHATE), 6.1, II  
 ■ IATA-DGR UN 3278 ORGANOPHOSPHORUS COMPOUND, LIQUID, TOXIC, N.O.S.(DIPHENYL AZIDOPHOSPHATE), 6.1, II

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C / 4 °C)..... 1,275 - 1,277  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18066.0025	Glass bottle	25 ml	inquire

1,2-Diphenylbenzene → *o*-Terphenyl page 1521



820530 *N,N'*-Diphenylbenzidine for synthesis

C<sub>24</sub>H<sub>20</sub>N<sub>2</sub>  
4-(C<sub>6</sub>H<sub>5</sub>NH)C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>4</sub>-4'-(NHC<sub>6</sub>H<sub>5</sub>)

*N,N'*-Diphenyl-4,4'-diaminobiphenyl, *N,N'*-Diphenyl-[1,1'-biphenyl]-4,4'-diamine  
 ■ CAS-No. 531-91-9 ■ EC-No. 208-521-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 336.43 g/mol  
 ■ Melting point 245 - 250 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 59 90 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 96.0 % (a/a)  
 Melting range (lower value) ..... ≥ 245 °C  
 Melting range (upper value) ..... ≤ 250 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20530.0010	Glass bottle	10 g	inquire

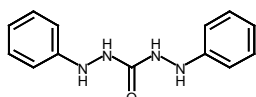
*N,N'*-Diphenyl-[1,1'-biphenyl]-4,4'-diamine → *N,N'*-Diphenylbenzidine page 815

Diphenyl black → 4-Aminodiphenylamine page 386

Diphenylboric acid-2-aminoethyl ester → 2-Aminoethyldiphenyl borate page 387

Diphenylbromomethane → Bromodiphenylmethane page 499

## 103091 1,5-Diphenylcarbazide GR for analysis and redox indicator ACS, Reag. Ph Eur



C<sub>13</sub>H<sub>14</sub>N<sub>4</sub>O  
 ((C<sub>6</sub>H<sub>5</sub>)NHNH)<sub>2</sub>CO  
 ■ CAS-No. 140-22-7 ■ EC-No. 205-403-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 242.28 g/mol ■ Melting point 173 - 176 °C

■ Bulk density 420 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2928 00 90 ■ Disposal 3  
 Use as metal indicator: 1 % + 0.2 % o-Phenanthroline in ethanol (96%)

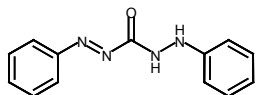
## Specification

Purity (DSC) ..... ≥ 98%  
 Identity (IR-spectrum) ..... passes test  
 Solubility (according to ACS) ..... passes test

substances insoluble in ethanol ..... passes test  
 Melting point ..... 173 - 176 °C  
 Diphenylcarbazone ..... passes test  
 Sulfated ash ..... ≤ 0.05 %  
 Sensitivity (to chromate) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.03091.0025	Glass bottle	25 g	inquire
1.03091.0100	Glass bottle	100 g	inquire

## 103087 1,5-Diphenylcarbazone (cont. 50 % Diphenylcarbazid) ACS, Reag. Ph Eur



■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ Melting point 153 - 158 °C (decomposition)  
 ■ Bulk density 380 kg/m<sup>3</sup>  
 ■ WGK 3

■ LGK 10 - 13  
 ■ HS-No. 2928 00 90 ■ Disposal 3  
 Use as metal indicator: 0.2 % in ethanol (96%)

## Specification

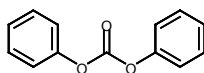
Purity (HPLC) ..... 35 - 40% (a/a)  
 Identity (IR-spectrum) ..... passes test  
 Solubility (Acetone) ..... passes test  
 substances insoluble in ethanol ..... passes test  
 Melting point ..... 153 - 158 °C

Sulfated ash ..... ≤ 0.1 %  
 Suitability for mercury determination ..... passes test  
 Diphenylcarbazone compound with Diphenylcarbazide (1:1)

Ord.No.	Packaging	Quantity	Price
1.03087.0005	Plastic bottle	5 g	inquire
1.03087.0025	Plastic bottle	25 g	inquire

Diphenylcarbinol → Benzhydrol page 439

## 803545 Diphenyl carbonate for synthesis



C<sub>13</sub>H<sub>10</sub>O<sub>3</sub>  
 (C<sub>6</sub>H<sub>5</sub>O)<sub>2</sub>CO  
 Carbonic acid diphenyl ester, Phenyl carbonate  
 ■ CAS-No. 102-09-0 ■ EC-No. 203-005-8  
 ■ Vapour pressure 0.002 hPa (25 °C)  
 ■ Spec. density 1.3 g/cm<sup>3</sup> (14 °C)  
 ■ Flash point 168 °C ■ Solub. in

H<sub>2</sub>O (20 °C) slightly soluble ■ M = 214.22 g/mol  
 ■ pH value (H<sub>2</sub>O) neutral  
 ■ Melting point 76 - 79 °C ■ Bulk density 550 kg/m<sup>3</sup>  
 ■ Boiling point 301 °C (1013 hPa)  
 ■ Ignition temp. 620 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
 ■ LD50 oral rat 1500 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2920 90 10 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Melting range (lower value) ..... ≥ 78 °C  
 Melting range (upper value) ..... ≤ 81 °C  
 Identity (IR) ..... conforms

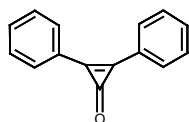
Ord.No.	Packaging	Quantity	Price
8.03545.0100	Plastic bottle	100 g	inquire
8.03545.0500	Plastic bottle	500 g	inquire

Diphenylchloromethane → Chlorodiphenylmethane page 609

Diphenyl chlorophosphate → Diphenyl phosphorochloridate page 819

Diphenylchlorophosphine → Chlorodiphenylphosphine page 609

## 820533 2,3-Diphenyl-2-cyclopropen-1-one for synthesis



C<sub>15</sub>H<sub>10</sub>O  
 ■ CAS-No. 886-38-4 ■ EC-No. 212-948-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 206.24 g/mol

■ Melting point 118 - 122 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin sensitisation, Category 1, H317, P262, P280, P302 + P352  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 118 °C

Melting range (upper value) ..... ≤ 122 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20533.0001	Glass bottle	1 g	inquire
8.20533.0005	Glass bottle	5 g	inquire
8.20533.8500	Glass bottle	500 mg	inquire

*N,N'*-Diphenyl-4,4'-diaminobiphenyl → *N,N'*-Diphenylbenzidine page 815

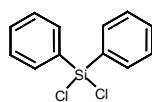
Diphenyldiazene → trans-Azobenzene page 428

Diphenyl-2,2-dicarboxylic acid → 2,2'-Biphenyldicarboxylic acid page 460

Diphenyldichloromethane → Dichlorodiphenylmethane page 721

# Diphen

## 841612 Diphenyldichlorosilane for synthesis



$C_{12}H_{10}Cl_2Si$   
 ■ CAS-No. 80-10-4 ■ EC-No. 201-251-0  
 ■ Vapour pressure 1 hPa (110 °C)  
 ■ Spec. density 1.208 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 157 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 253.2 g/mol  
 ■ Melting point -22 °C  
 ■ Boiling point 303 - 304 °C (1013 hPa)

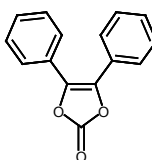
■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1030 mg/kg ■ LD50 dermal rabbit 120 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 24  
 ■ ADR-RID UN 1769 Diphenyldichlorosilan, 8, II  
 ■ IMDG-Code UN 1769

DIPHENYLDICHLOROSILANE, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1769 DIPHENYLDICHLOROSILANE, 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41612.0100	Glass bottle	100 ml	inquire

Diphenyl diimide → trans-Azobenzene page 428

## 818088 4,5-Diphenyl-1,3-dioxol-2-one for synthesis

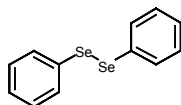


$C_{15}H_{10}O_3$   
*Benzoin carbonate, 1,2-Diphenylvinylene carbonate*  
 ■ CAS-No. 21240-34-6 ■ EC-No. 244-287-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 238.24 g/mol ■ Melting point 72 - 74 °C  
 ■ WGK 3  
 ■ HS-No. 2920 90 10 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 72 °C  
 Melting range (upper value) ..... ≤ 74 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18088.0005	Plastic bottle	5 g	inquire

## 818061 Diphenyl diselenide for synthesis



$C_{12}H_{10}Se_2$   
 $C_6H_5SeSeC_6H_5$   
*Phenyl diselenide*  
 ■ CAS-No. 1666-13-3 ■ EC-No. 216-780-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 312.13 g/mol ■ Melting point 58 - 61 °C

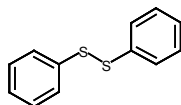
■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P309 + P310  
 ■ EC-Index-No. 034-002-00-8 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 17  
 ■ ADR-RID UN 3283 Selenverbindung, fest, n.a.g.(DIPHENYLDISELENID), 6,1, II ■ IMDG-

Code UN 3283 SELENIUM COMPOUND, SOLID, N.O.S.(DIPHENYLE DISELENIDE), 6,1, II  
 ■ IATA-DGR UN 3283 SELENIUM COMPOUND, SOLID, N.O.S.(DIPHENYLE DISELENIDE), 6,1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 58 °C  
 Melting range (upper value) ..... ≤ 61 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18061.0005	Glass bottle	5 g	inquire

## 820989 Diphenyl disulfide for synthesis



$C_{12}H_{10}S_2$   
 $C_6H_5SSC_6H_5$   
*Phenyl disulfide*

■ CAS-No. 882-33-7 ■ EC-No. 212-926-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 218.33 g/mol ■ Melting point 58 - 60 °C  
 ■ Boiling point 310 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 58 °C  
 Melting range (upper value) ..... ≤ 60 °C  
 Identity (IR) ..... passes test

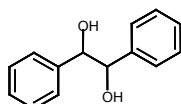
Ord.No.	Packaging	Quantity	Price
8.20989.0100	Glass bottle	100 g	inquire

Di-o-phenylene disulfide → Thianthrene page 1548  
 Diphenylenemethane → Fluorene page 893

Diphenylene oxide → Dibenzofuran page 700  
 Diphenylenimine → Carbazole page 570

1,2-Diphenylethane → Dibenzyl page 701

## 820526 meso-1,2-Diphenyl-1,2-ethanediol for synthesis



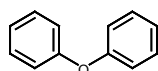
$C_{14}H_{14}O_2$   
 $HOCH(C_6H_5)CH(C_6H_5)OH$

*meso-Hydrobenzoin, meso-1,2-Diphenylethylene glycol*  
 ■ CAS-No. 492-70-6 ■ EC-No. 207-758-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 214.26 g/mol ■ Melting point 128 - 131 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 96.0 % (a/a)  
 Melting range (lower value) ..... ≥ 133 °C  
 Melting range (upper value) ..... ≤ 137 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20526.0001	Glass bottle	1 g	inquire

## 820978 Diphenyl ether for synthesis

C<sub>12</sub>H<sub>10</sub>O(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>O*Phenyl ether, Diphenyl oxide*

- CAS-No. 101-84-8 ■ EC-No. 202-981-2
- Refractive index 1.5785 (25 °C, 589 nm)
- Vapour pressure 0.05 hPa (20 °C)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 1.5 % (V) ■ Flash point 115 °C ■ Solub. in H<sub>2</sub>O 0.018 g/l (25 °C) ■ M = 170.21 g/mol
- Melting point 24 - 27 °C ■ Boiling point 259 °C

(1013 hPa) ■ Ignition temp. 610 °C

- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 2450 mg/kg ■ LD50 dermal rabbit > 7940 mg/kg
- LGK 10 - 13
- HS-No. 2909 30 10 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(DIPHENYLETHER), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(DIPHENYLETHER), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(DIPHENYLETHER), 9, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 24 °C  
 Melting range (upper value) ..... ≤ 28 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20978.0100	Glass bottle	100 ml	inquire
8.20978.1000	Glass bottle	1 l	inquire
8.20978.2500	Glass bottle	2.5 l	inquire

Diphenylether-2-carbonic acid → 2-

Phenoxybenzoic acid page 1295

Diphenylether-3-carboxylic acid → 3-

Phenoxybenzoic acid page 1295

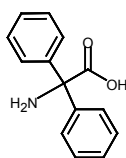
cis-1,2-Diphenylethylene → cis-Stilbene page 1501

trans-1,2-Diphenylethylene → trans-Stilbene page 1501

meso-1,2-Diphenylethylene glycol → meso-1,2-

Diphenyl-1,2-ethanediol page 816

## 814862 Diphenylglycin for synthesis

C<sub>14</sub>H<sub>13</sub>NO<sub>2</sub>*Aminodiphenylacetic acid*

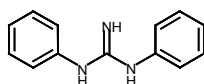
- CAS-No. 3060-50-2 ■ EC-No. 221-299-6
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 227.26 g/mol ■ Melting point 244 - 247 °C
- WGK 1
- GHS: P260
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 235 °C  
 Melting range (upper value) ..... ≤ 240 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14862.0005	Glass bottle	5 g	inquire

## 840137 1,3-Diphenylguanidine for synthesis

C<sub>13</sub>H<sub>13</sub>N<sub>3</sub>*Melaniline, DPG*

- CAS-No. 102-06-7 ■ EC-No. 203-002-1
- Spec. density 1.13 g/cm<sup>3</sup> (20 °C)
- Flash point 170 °C ■ Solub. in H<sub>2</sub>O 0.86 g/l (25 °C) ■ M = 211.27 g/mol ■ pH value 10.2 (10 g/l, H<sub>2</sub>O) ■ Melting point 149 °C
- Bulk density 240 kg/m<sup>3</sup> ■ Boiling point >170 °C (1013 hPa)
- WGK 2

- GHS: Warning, Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P273, P281, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313
- LD50 oral rat 323 mg/kg ■ LD50 dermal rabbit > 794 mg/kg
- EC-Index-No. 612-149-00-4 ■ LGK 10 - 13
- HS-No. 2925 29 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,3-DIPHENYLGUANIDIN), 6, 1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(1,3-DIPHENYLGUANIDINE), 6, 1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

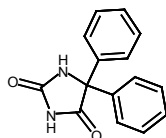
N.O.S.(1,3-DIPHENYLGUANIDINE), 6, 1, III

**Specification**

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 146 °C  
 Melting range (upper value) ..... ≤ 150 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40137.0025	Glass bottle	25 g	inquire
8.40137.0250	Glass bottle	250 g	inquire

## 820534 5,5-Diphenylhydantoin for synthesis

C<sub>15</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>*Phenytol*

- CAS-No. 57-41-0 ■ EC-No. 200-328-6

- Solub. in H<sub>2</sub>O 0.032 g/l (22 °C) (experimental)
- M = 252.27 g/mol ■ Melting point 292 - 295 °C
- Bulk density 400 - 450 kg/m<sup>3</sup>
- Ignition temp. 550 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352
- LD50 oral rat 1635 mg/kg
- LGK 10 - 13

- HS-No. 2933 21 00 ■ Disposal 3

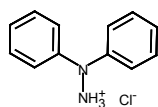
**Specification**

Assay (acidimetric) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 292 °C  
 Melting range (upper value) ..... ≤ 295 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20534.0005	Glass bottle	5 g	inquire
8.20534.0250	Plastic bottle	250 g	inquire

1,1-Diphenylhydrazine hydrochloride → N,N-Diphenylhydrazinium chloride page 817

## 820535 N,N-Diphenylhydrazinium chloride for synthesis

C<sub>12</sub>H<sub>13</sub>ClN<sub>2</sub>(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>NNH<sub>2</sub> \* HCl*1,1-Diphenylhydrazine hydrochloride*

- CAS-No. 530-47-2 ■ EC-No. 208-481-0
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 220.70 g/mol ■ Melting point 162 - 165 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

**Specification**

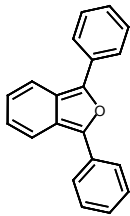
Assay (argentometric) ..... ≥ 98,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20535.0010	Glass bottle	10 g	inquire

(S)-(-)-2-(Diphenylhydroxymethyl)pyrrolidine → (S)-(-)-α,α-Diphenylprolinol page 820

# Diphen

## 841452 1,3-Diphenyl-isobenzofuran for synthesis



C<sub>20</sub>H<sub>14</sub>O  
*DIB*  
 ■ CAS-No. 5471-63-6 ■ EC-No. 226-808-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 270.33 g/mol ■ Melting point 136 °C  
 ■ WGK 3  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 2932 99 00 ■ Disposal 3

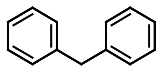
### Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 132 °C  
 Melting range (upper value)..... ≤ 135 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41452.0001	Glass bottle	1 g	inquire

Diphenyl ketone → Benzophenone page 442

## 803513 Diphenylmethane for synthesis



C<sub>13</sub>H<sub>12</sub>  
 (C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>CH<sub>2</sub>  
*Benzylbenzene*  
 ■ CAS-No. 101-81-5 ■ EC-No. 202-978-6  
 ■ Refractive index 1.576 (20 °C, 589 nm) ■ Vapour pressure 1 hPa (77 °C) ■ Explosive limit 0.69 - 8.66 % (V) ■ Flash point 130 °C  
 ■ Solub. in H<sub>2</sub>O 0.014 g/l (25 °C) ■ M = 168.23 g/mol ■ Melting point 22 - 25 °C  
 ■ Bulk density 1006 kg/m<sup>3</sup>

■ Boiling point 264 - 266 °C (1013 hPa)  
 ■ Ignition temp. 485 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P273  
 ■ LD50 oral rat 2250 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(DIPHENYLMETHAN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(DIPHENYLMETHANE), 9,

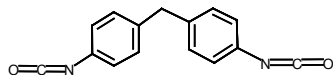
III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(DIPHENYLMETHANE), 9, III

### Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 22 °C  
 Melting range (upper value)..... ≤ 25 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03513.0250	Glass bottle	250 ml	inquire
8.03513.1000	Glass bottle	1 l	inquire

## 820797 Diphenylmethane 4,4'-diisocyanate (mixture of di- and triisocyanates) for synthesis



C<sub>15</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>  
*Methylenediphenylene diisocyanate*  
 ■ CAS-No. 101-68-8 ■ EC-No. 202-966-0  
 ■ Vapour pressure 0.066 hPa (20 °C)  
 ■ Spec. density 1.239 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.4 % (V) ■ Flash point 196 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C) (decomposition) ■ M = 250.25 g/mol ■ Melting point 10 °C ■ Boiling point 392 °C (1013 hPa) ■ Ignition temp. >600 °C  
 ■ WGK 1  
 ■ GHS: Danger, Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Inhalation, H332;

Specific target organ toxicity - repeated exposure, Category 2, H373; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P340, P304 + P341, P305 + P351 + P338, P308 + P313  
 ■ LC50 rat 0.49 mg/l  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 9000 mg/kg  
 ■ EC-Index-No. 615-005-00-9 ■ LGK 10  
 ■ HS-No. 2929 10 00 ■ Disposal 11  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(METHYLENDIPHENYLENDIISOCYANAT), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID,

ORGANIC, N.O.S.(METHYLENEDIPHENYLENE DIISOCYANATE), 6.1, II  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(METHYLENEDIPHENYLENE DIISOCYANATE), 6.1, II

### Specification

Assay (GC, area%)..... 50,0 - 70,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,237 - 1,242  
 isomer Diisocyanates (GC, area%)..... ≤ 10,0 Area %  
 triisocyanate (GC, area%)..... 20,0 - 40,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20797.0100	Glass bottle	100 ml	inquire
8.20797.0500	Glass bottle	500 ml	inquire

Diphenylmethanol → Benzhydrol page 439

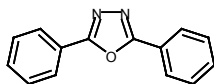
Diphenylmethyl bromide → Bromodiphenylmethane page 499

Diphenylmethyl chloride → Chlorodiphenylmethane page 609

Diphenylmethyl cyanide → Diphenylacetone nitrile page 813

2-Diphenylol → Biphenyl-4-ol page 461

## 841717 2,5-Diphenyl-1,3,4-oxadiazole for synthesis



C<sub>14</sub>H<sub>10</sub>N<sub>2</sub>O  
 ■ CAS-No. 725-12-2 ■ EC-No. 211-968-0

■ M = 222.24 g/mol ■ Melting point 138 - 139 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Melting range (lower value)..... ≥ 138 °C

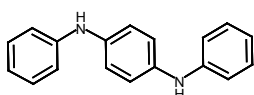
Melting range (upper value)..... ≤ 141 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41717.0001	Plastic bottle	1 g	inquire
8.41717.0005	Plastic bottle	5 g	inquire

Diphenyl oxide → Diphenyl ether page 817

4,7-Diphenyl-1,10-phenanthroline → Bathophenanthroline page 434

## 820536 N,N'-Diphenyl-1,4-phenylenediamine for synthesis



C<sub>18</sub>H<sub>16</sub>N<sub>2</sub>  
 1,4-(C<sub>6</sub>H<sub>5</sub>NH)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>  
*DPPD*  
 ■ CAS-No. 74-31-7 ■ EC-No. 200-806-4  
 ■ Spec. density 1.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 260.33 g/mol ■ pH value 5.3 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 135 °C ■ Bulk density 560 kg/m<sup>3</sup>  
 ■ Boiling point 220 - 225 °C (1.33 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P262, P273, P280, P302 + P352  
 ■ LD50 oral rat 2370 mg/kg ■ LD50 dermal rat 4500 mg/kg

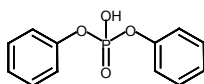
■ EC-Index-No. 612-132-00-1 ■ LGK 10 - 13  
 ■ HS-No. 2921 59 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 95,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20536.0250	Glass bottle	250 g	inquire

## 841829 Diphenyl phosphate for synthesis

C<sub>12</sub>H<sub>11</sub>O<sub>4</sub>P

■ CAS-No. 838-85-7 ■ EC-No. 212-657-2

- M = 250.19 g/mol ■ Melting point 67 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2919 90 00 ■ Disposal 3

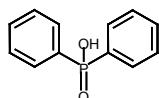
**Specification**

Assay (acidimetric)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 66 °C

Melting range (upper value)..... ≤ 70 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41829.0005	Glass bottle	5 g	inquire

## 841064 Diphenylphosphinic acid for synthesis

C<sub>12</sub>H<sub>11</sub>O<sub>2</sub>P

■ CAS-No. 1707-03-5 ■ EC-No. 216-948-5

- M = 218.19 g/mol ■ Melting point 193 - 195 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

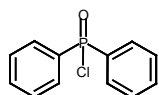
**Specification**

Assay (acidimetric)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 192 °C

Melting range (upper value)..... ≤ 196 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41064.0005	Glass bottle	5 g	inquire

## 841065 Diphenylphosphinic chloride for synthesis

C<sub>12</sub>H<sub>10</sub>ClOP

Chlorodiphenylphosphine oxide

- CAS-No. 1499-21-4 ■ EC-No. 216-107-2
- Spec. density 1.24 g/cm<sup>3</sup> (20 °C)
- Flash point 26 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 236.63 g/mol
- pH value (H<sub>2</sub>O, 20 °C) acidic
- Melting point 20 - 22 °C
- Boiling point 209 - 211 °C (9 hPa)

- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 11
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(DIPHENYLPHOSPHINSAEURECHLORID), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(DIPHENYLPHOSPHONIC

CHLORIDE), 8 (3), II  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(DIPHENYLPHOSPHONIC CHLORIDE), 8 (3), II

**Specification**

Assay (argentometric)..... ≥ 98,0 %  
 Density (d 20 °C/ 4 °C)..... 1.263 - 1.268  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41065.0010	Glass bottle	10 ml	inquire

## 824402 (2R,4R)-(+)-4-Diphenylphosphino-2-diphenylphosphino methylpyrrolidine for synthesis

C<sub>29</sub>H<sub>29</sub>NP<sub>2</sub>

PPM

- CAS-No. 77450-05-6
- M = 453.5 g/mol ■ Melting point 98 - 102 °C
- WGK 3
- LGK 10 - 13

- HS-No. 2933 99 80 ■ Disposal 3

**Specification**

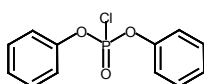
Assay (DSC)..... ≥ 97,0 %  
 Melting range (lower value)..... ≥ 98 °C  
 Melting range (upper value)..... ≤ 102 °C

Spec. rotation (c=0.75 in toluene)..... 14,0 - 16,0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.24402.0100	Glass bottle	100 mg	inquire

Diphenyl phosphorazid → Diphenyl azidophosphate page 814

## 803088 Diphenyl phosphorochloridate for synthesis

C<sub>12</sub>H<sub>10</sub>ClO<sub>3</sub>PCIP(=O)(OC<sub>6</sub>H<sub>5</sub>)<sub>2</sub>

Diphenyl chlorophosphate, Chlorophosphoric acid diphenyl ester, Phosphoric acid diphenyl ester chloride

- CAS-No. 2524-64-3 ■ EC-No. 219-759-6
- Refractive index 1.55 (20 °C, 589 nm) ■ Vapour pressure 13.3 hPa (190 °C) ■ Spec. density 1.30 g/cm<sup>3</sup> (20 °C) ■ Flash point 113 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) (decomposition) ■ M = 268.63 g/mol
- Boiling point 145 - 147 °C (1.33 hPa)
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 3587 mg/kg
- LGK 8A
- HS-No. 2920 90 85 ■ Disposal 24
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(DIPHENYL-CHLOROPHOSPHAT), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DIPHENYL CHLOROPHOSPHATE), 8, II,

Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(DIPHENYL CHLOROPHOSPHATE), 8, II

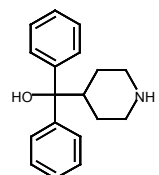
**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,297 - 1,299  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03088.0025	Glass bottle	25 ml	inquire
8.03088.0100	Glass bottle	100 ml	inquire

Diphenyl phosphorylazid → Diphenyl azidophosphate page 814

## 814973 Diphenyl-4-piperidinemethanol for synthesis

C<sub>18</sub>H<sub>21</sub>NO

Azacyclonol

- CAS-No. 115-46-8 ■ EC-No. 204-092-5
- M = 267.37 g/mol ■ Melting point 160 - 163 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

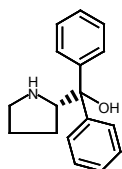
Assay (HClO<sub>4</sub>)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 158 °C  
 Melting range (upper value)..... ≤ 162 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14973.0025	Glass bottle	25 g	inquire



# Diphen

## 841173 (S)-(-)- $\alpha$ , $\alpha$ -Diphenylprolinol for synthesis



C<sub>17</sub>H<sub>19</sub>NO

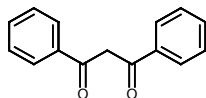
- (S)-(-)-2-(Diphenylhydroxymethyl)pyrrolidine
- CAS-No. 112068-01-6
  - M = 253.34 g/mol ■ Melting point 77 - 79 °C
  - WGK 3
  - GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
  - LGK 10 - 13
  - HS-No. 2933 99 80 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 77 °C  
 Melting range (upper value)..... ≤ 79 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41173.0001	Glass bottle	1 g	inquire

## 820538 1,3-Diphenyl-1,3-propanedione for synthesis



C<sub>15</sub>H<sub>12</sub>O<sub>2</sub>  
 C<sub>6</sub>H<sub>5</sub>COCH<sub>2</sub>COC<sub>6</sub>H<sub>5</sub>  
 Dibenzoylmethane

■ CAS-No. 120-46-7 ■ EC-No. 204-398-9

- Spec. density 0.800 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 224.26 g/mol
- Melting point 74 - 77 °C
- Boiling point 219 - 221 °C (24 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2914 39 00 ■ Disposal 3

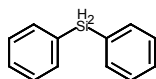
### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 75 °C  
 Melting range (upper value)..... ≤ 78 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20538.0010	Glass bottle	10 g	inquire
8.20538.0025	Glass bottle	25 g	inquire
8.20538.0100	Glass bottle	100 g	inquire

## 814023 Diphenylsilane for synthesis



C<sub>12</sub>H<sub>12</sub>Si  
 (C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>SiH<sub>2</sub>

■ CAS-No. 775-12-2 ■ EC-No. 212-271-4  
 ■ Refractive index 1.5802 (20 °C, 589 nm)

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C)
- Flash point 98 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 184.31 g/mol
- Boiling point 123 - 126 °C (15 hPa)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

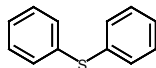
■ HS-No. 2931 90 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,000 - 1,002  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14023.0005	Glass bottle	5 ml	inquire
8.14023.0025	Glass bottle	25 ml	inquire

## 821017 Diphenyl sulfide for synthesis



C<sub>12</sub>H<sub>10</sub>S  
 (C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>S  
 Phenyl sulfide

■ CAS-No. 139-66-2 ■ EC-No. 205-371-4  
 ■ Refractive index 1.6323 (20 °C, 589 nm)  
 ■ Vapour pressure 0.01 hPa (25 °C)  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 186.27 g/mol

- Melting point -40 °C ■ Boiling point 296 °C (1013 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P302 + P352
- LD50 oral rat 544 mg/kg ■ LD50 dermal rabbit 12543 mg/kg
- LGK 10
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(DIPHENYLSULFID), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

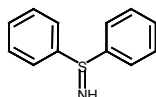
N.O.S.(DIPHENYL SULFIDE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(DIPHENYL SULFIDE), 6.1, III

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.112 - 1.114  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21017.0050	Glass bottle	50 ml	inquire
8.21017.0250	Glass bottle	250 ml	inquire

## 818138 S,S-Diphenylsulfimine monohydrate for synthesis



C<sub>12</sub>H<sub>11</sub>NS \* H<sub>2</sub>O  
 (C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>S=NH \* H<sub>2</sub>O

- CAS-No. 68837-61-6 ■ EC-No. 253-182-0
- M = 219.20 g/mol ■ Melting point 69 - 72 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

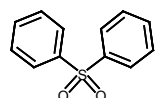
### Specification

Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)

Melting range (lower value)..... ≥ 69 °C  
 Melting range (upper value)..... ≤ 72 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18138.0001	Glass bottle	1 g	inquire

## 821872 Diphenyl sulfone for synthesis



C<sub>12</sub>H<sub>10</sub>O<sub>2</sub>S  
 (C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>SO<sub>2</sub>  
 Phenyl sulfone

■ CAS-No. 127-63-9 ■ EC-No. 204-853-1  
 ■ Spec. density 1.36 g/cm<sup>3</sup> (20 °C)

- Flash point 184 °C ■ Solub. in H<sub>2</sub>O 0.05 g/l (20 °C) ■ M = 218.26 g/mol
- Melting point 125 - 128 °C
- Bulk density 450 kg/m<sup>3</sup>
- Boiling point 378 - 379 °C (1013 hPa)
- WGK 2
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 10000 mg/kg
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

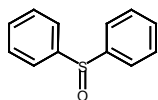
### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 124 °C  
 Melting range (upper value)..... ≤ 128 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21872.0100	Plastic bottle	100 g	inquire
8.21872.1000	Plastic bottle	1 kg	inquire



## 821018 Diphenyl sulfoxide for synthesis



C<sub>12</sub>H<sub>10</sub>O<sub>S</sub>  
(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>SO  
Phenyl sulfoxide

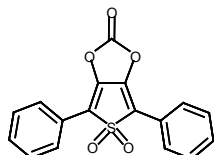
- CAS-No. 945-51-7 ■ EC-No. 213-415-9
- M = 202.27 g/mol ■ Melting point 67 - 70 °C
- Boiling point 206 - 208 °C (7 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

**Specification**  
Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 67 °C  
Melting range (upper value) ..... ≤ 70 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21018.0025	Plastic bottle	25 g	inquire

## 818206 4,6-Diphenylthieno(3,4-d)-1,3-dioxol-2-one-5,5-dioxide for synthesis



- C<sub>17</sub>H<sub>10</sub>O<sub>5</sub>S  
Steglich's reagent
- CAS-No. 54714-11-3 ■ EC-No. 259-301-2
  - Solub. in H<sub>2</sub>O (20 °C) (decomposition)
  - M = 326.33 g/mol ■ Melting point 264 - 267 °C
  - WGK 2

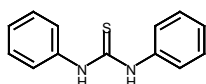
- HS-No. 2934 99 90 ■ Disposal 3

**Specification**  
Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18206.0001	Glass bottle	1 g	inquire

Diphenylthiocarbazon → Dithizone page 172

## 803581 N,N'-Diphenylthiourea for synthesis



C<sub>13</sub>H<sub>12</sub>N<sub>2</sub>S  
C<sub>6</sub>H<sub>5</sub>NHCSNH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>  
Thiocarbaniide, 1,3-Diphenylthiourea  
■ CAS-No. 102-08-9 ■ EC-No. 203-004-2  
■ Spec. density 1.30 g/cm<sup>3</sup> (20 °C) ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 228.31 g/mol
- pH value 6 (0.2 g/l, H<sub>2</sub>O, 20 °C) (slurry)
  - Melting point 150 - 153 °C
  - Bulk density 400 kg/m<sup>3</sup>
  - WGK 3
  - GHS: Warning, Skin sensitisation, Category 1, H317, P262, P280, P302 + P352
  - LD50 oral rat > 2000 mg/kg
  - LD50 dermal rabbit > 7940 mg/kg
  - LGK 10 - 13

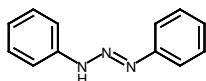
- HS-No. 2930 90 99 ■ Disposal 9

**Specification**  
Assay (HPLC, area%) ..... ≥ 98.0 Area %  
Melting range (lower value) ..... ≥ 150 °C  
Melting range (upper value) ..... ≤ 153 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03581.0100	Plastic bottle	100 g	inquire
8.03581.0500	Plastic bottle	500 g	inquire

1,3-Diphenylthiourea → N,N'-Diphenylthiourea page 821

## 818057 1,3-Diphenyltriazene for synthesis



C<sub>12</sub>H<sub>11</sub>N<sub>3</sub>  
C<sub>6</sub>H<sub>5</sub>NNH=NC<sub>6</sub>H<sub>5</sub>  
■ CAS-No. 136-35-6 ■ EC-No. 205-240-1  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 197.24 g/mol  
■ Melting point 92 - 95 °C  
■ Boiling point 146 °C (1013 hPa)

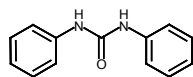
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2927 00 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,3-DIPHENYLTRIAZEN), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,3-DIPHENYLTRIAZEN), 6.1, III

- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,3-DIPHENYLTRIAZEN), 6.1, III

**Specification**  
Assay (HPLC, area%) ..... ≥ 97.0 Area %  
Melting range (lower value) ..... ≥ 92 °C  
Melting range (upper value) ..... ≤ 96 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18057.0025	Glass bottle	25 g	inquire

## 843582 1,3-Diphenylurea for synthesis



C<sub>13</sub>H<sub>12</sub>N<sub>2</sub>O

1,2-Diphenylvinylene carbonate → 4,5-Diphenyl-1,3-dioxol-2-one page 816  
Diphos → 1,2-Bis(diphenylphosphino)-ethane page 469  
Diphosgene → Trichloromethyl chloroformate page 1580

- CAS-No. 102-07-8 ■ EC-No. 203-003-7
- M = 212.25 g/mol ■ Melting point 239 - 241 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2924 21 00 ■ Disposal 3

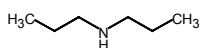
Ord.No.	Packaging	Quantity	Price
8.43582.0050	Glass bottle	50 g	inquire
8.43582.0250	Glass bottle	250 g	inquire

Diphosphorus pentasulfide → di-Phosphorus pentasulfide page 1322  
Dipicolinic acid → Pyridine-2,6-dicarboxylic acid page 1387  
Dipivaloylmethane → 2,2,6,6-Tetramethyl-3,5-heptanedione page 1542

Dipropylacetic acid → 2-Propylvaleric acid page 1377

Dipropylacetylene → 4-Octyne page 1244

## 803548 Dipropylamine for synthesis



C<sub>6</sub>H<sub>15</sub>N  
(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>NH  
■ CAS-No. 142-84-7 ■ EC-No. 205-565-9  
■ Refractive index 1.4049 (20 °C, 589 nm)  
■ Vapour pressure 38 hPa (20 °C)  
■ Spec. density 0.74 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 9.3 % (V) ■ Flash point 7 °C ■ Solub. in H<sub>2</sub>O 35 g/l (25 °C) (experimental) ■ M = 101.19 g/mol  
■ Melting point -63 °C ■ Boiling point 105 °C (1013 hPa) ■ Ignition temp. 260 °C  
■ WGK 1

- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 4.4 mg/l
- LD50 dermal rabbit 925 mg/kg
- EC-Index-No. 612-048-00-5 ■ LGK 3
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2383 Dipropylamin, 3 (8), II
- IMDG-Code UN 2383 DIPROPYLAMINE, 3 (8), II

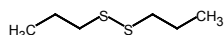
- IATA-DGR UN 2383 DIPROPYLAMINE, 3 (8), II

**Specification**  
Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.738 - 0.740  
Water (K. F.) ..... ≤ 0.20 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03548.0100	Glass bottle	100 ml	inquire
8.03548.0500	Glass bottle	500 ml	inquire
8.03548.1000	Glass bottle	1 l	inquire

# Diprop

## 841617 Dipropyl disulfide for synthesis



C<sub>6</sub>H<sub>14</sub>S<sub>2</sub>  
**Dithiooctane**  
 ■ CAS-No. 629-19-6 ■ EC-No. 211-079-8  
 ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 64 °C ■ Solub. in H<sub>2</sub>O 0.04 g/l (25 °C) ■ M = 150.29 g/mol ■ Melting point - 86 °C ■ Boiling point 193 - 194 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity -

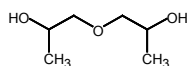
single exposure, Category 3, H335; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(DIPROPYLDISULFID), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIPROPYLDISULFIDE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIPROPYLDISULFIDE), 9, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.955 - 0.960  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41617.0025	Glass bottle	25 ml	inquire

## 803265 Dipropylene glycol (mixture of isomers) for synthesis



C<sub>6</sub>H<sub>14</sub>O<sub>3</sub>  
 ■ CAS-No. 25265-71-8 ■ EC-No. 246-770-3  
 ■ Refractive index 1.441 (20 °C, 589 nm) ■ Vapour pressure < 0.01 hPa (20 °C) ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.9 - 12.6 % (V)  
 ■ Flash point 121 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 134.17 g/mol  
 ■ pH value 6 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -32 °C  
 ■ Boiling point 231 - 235 °C (1013 hPa)  
 ■ Ignition temp. 310 °C DIN 51794  
 ■ WGK 1  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2909 49 80 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.020 - 1.022  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03265.1000	Glass bottle	1 l	inquire

## 843825 Dipropylene glycol dimethyl ether (mixture of isomers) for synthesis

C<sub>8</sub>H<sub>18</sub>O<sub>3</sub>  
 ■ CAS-No. 111109-77-4 ■ EC-No. 404-640-5  
 ■ Vapour pressure 0.8 hPa (20 °C)  
 ■ Spec. density 0.904 g/cm<sup>3</sup> ■ Explosive limit 0.77 - 5.57 % (V) ■ Flash point 65 °C  
 ■ Kin. viscosity 1.12 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 526 g/l ■ M = 162.23 g/mol  
 ■ pH value (100 g/l, H<sub>2</sub>O, 20 °C) neutral  
 ■ Melting point -80 °C ■ Boiling point 175 °C

(1013 hPa) ■ Ignition temp. 165 °C DIN 51794  
 ■ WGK 1  
 ■ LD50 oral rat 3300 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2909 19 90 ■ Disposal 3

Density (d 20 °C/ 4 °C) ..... 0.902 - 0.906  
 Identity (IR) ..... passes test

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.43825.0250	Glass bottle	250 ml	inquire
8.43825.1000	Glass bottle	1 l	inquire

## 818533 Dipropylene glycol monomethyl ether (mixture of isomers) for synthesis

C<sub>7</sub>H<sub>16</sub>O<sub>3</sub>  
 (CH<sub>3</sub>O)C<sub>3</sub>H<sub>6</sub>OC<sub>3</sub>H<sub>6</sub>(OH)  
**DPM, Methoxypropoxypropanol**  
 ■ CAS-No. 34590-94-8 ■ EC-No. 252-104-2  
 ■ Refractive index 1.419 (25 °C, 589 nm) ■ Vapour pressure 0.75 hPa (25 °C) ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 14 % (V)  
 ■ Flash point 79 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 148.2 g/mol ■ pH value 6 - 7 (200 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -50 °C

Boiling point 184 °C (1013 hPa)  
 ■ Ignition temp. 205 °C DIN 51794  
 ■ WGK 1  
 ■ LC50 rat 55 - 60 mg/l  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit 9500 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2909 49 80 ■ Disposal 3

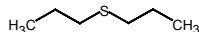
**Specification**  
 Assay isomers (GC, area%) ..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.954 - 0.956  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18533.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.18533.2500	Plastic bottle	2.5 l	inquire

Dipropyl ketone → 4-Heptanone page 939

n-Dipropylmethane → page 304

## 841603 Dipropyl sulfide for synthesis



C<sub>6</sub>H<sub>14</sub>S  
 ■ CAS-No. 111-47-7 ■ EC-No. 203-873-8  
 ■ Vapour pressure 8.6 hPa (experimental)  
 ■ Spec. density 0.838 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 51 % (V) ■ Flash point 28 °C  
 ■ M = 118.23 g/mol ■ Melting point -102 °C  
 ■ Boiling point 141 - 142 °C

■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(DIPROPYLSULFID), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(DI-N-PROPYL

SULPHIDE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(DI-N-PROPYL SULPHIDE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41603.0025	Glass bottle	25 ml	inquire

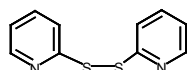
DIPT → (2S,3S)-(-)-Diisopropyl tartrate page 768

α,α'-Dipyridyl → 2,2'-Bipyridine page 462

Dip tube → page 326

γ,γ'-Dipyridyl → 4,4'-Bipyridine page 462

## 841109 2,2'-Dipyridyl disulfide for synthesis



C<sub>10</sub>H<sub>8</sub>N<sub>2</sub>S<sub>2</sub>  
**2,2'-Dithiodipyridine**  
 ■ CAS-No. 2127-03-9 ■ EC-No. 218-343-1  
 ■ Flash point 210 °C ■ Solub. in H<sub>2</sub>O 5 g/l (20 °C)

■ M = 220.3 g/mol ■ Melting point 57 - 61 °C  
 ■ Ignition temp. 340 °C  
 ■ WGK 3  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 2933 39 99 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 56 °C

Melting range (upper value) ..... ≤ 60 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41109.0005	Glass bottle	5 g	inquire

2,2'-Diquinolyl → 2,2'-Biquinoline page 462

Disinfection → Dichloroisocyanuric acid sodium salt, Trichloroisocyanuric acid, Sodium hypochlorite solution

## Disinfection Control

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
52	100605	Bromine Test	56	100598	Chlorine Test	74	118758	Ozone Test
57	100597	Chlorine Cell Test	56	114978	Chlorine Test	75	100607	Ozone Test
56	100595	Chlorine Cell Test	55	117925	Chlorine Test	75	110084	Peracetic Acid Test
58	118754	Chlorine Dioxide Test	55	117924	Chlorine Test	75	110001	Peracetic Acid Test
58	118756	Chlorine Dioxide Test	56	116896	Chlorine Test	75	117922	Peracetic Acid Test
58	100608	Chlorine Dioxide Test	56	100602	Chlorine Test	75	116975	Peracetic Acid Test
57	100086	Chlorine reagent Cl <sub>2</sub> -1 (liquid)	55	114670	Chlorine Test in freshwater and seawater	75	116976	Peracetic Acid Test
57	100087	Chlorine reagent Cl <sub>2</sub> -2 (liquid)				75	110011	Peroxide Test
57	100088	Chlorine reagent Cl <sub>2</sub> -3 (liquid)	64	108028	Formaldehyde Test	75	110081	Peroxide Test
56	114826	Chlorine Test	64	110036	Formaldehyde Test	75	110337	Peroxide Test
57	100599	Chlorine Test	64	116989	Formaldehyde Test	75	116974	Peroxide Test
56	114801	Chlorine Test	66	114731	Hydrogen Peroxide Cell Test	75	116731	Peroxide Test
56	114434	Chlorine Test	66	100606	Iodine Test	77	101744	pH Cell Test
56	114976	Chlorine Test	70	101632	Monochloramine Test	81	117920	Quaternary Ammonium Compounds
			74	118755	Ozone Test			

## Disinfection control with MQuant™

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
55	117925	Chlorine Test	75	110001	Peracetic Acid Test	75	110337	Peroxide Test
55	117924	Chlorine Test	75	117922	Peracetic Acid Test	81	117920	Quaternary Ammonium Compounds
64	110036	Formaldehyde Test	75	110011	Peroxide Test			
75	110084	Peracetic Acid Test	75	110081	Peroxide Test			

## Disinfection control with Reflectoquant® system

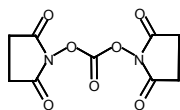
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
91	116957	Check Set	75	116975	Peracetic Acid Test	75	116731	Peroxide Test
56	116896	Chlorine Test	75	116976	Peracetic Acid Test	91	116970	Reflectometer
64	116989	Formaldehyde Test	75	116974	Peroxide Test	91	116998	Software

Disodium dihydrogen ethylenediaminetetraacetate → Titriplex® III page 172	Disodium tetraborate → page 167	Disposable PTFE liner for LiChrolut® vacuum manifold → page 6
Disodium hydrogen phosphate → page 1437	Disperse blue 19 → Oracet blue 2R (C.I. 61110) page 1245	

## Dissolution / Digestion

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
336	100063	Acetic acid (glacial) 100%	1211	100456	Nitric acid 65%	1432	106336	Sodium dichromate dihydrate
336	101830	Acetic acid (glacial) 100%	1212	101832	Nitric acid 69%	1438	106352	Sodium hydrogen sulfate monohydrate
413	101188	Ammonium nitrate	1256	112936	Oxidizing decomposition reagent	1439	106498	Sodium hydroxide
414	101201	Ammonium peroxodisulfate				1439	106495	Sodium hydroxide
480	100165	Boric acid	1276	100519	Perchloric acid 70–72%	1439	106469	Sodium hydroxide
167	100163	di-Boron trioxide	1321	100573	ortho-Phosphoric acid 85%	1440	105588	Sodium hydroxide solution min. 10% (1.11)
561	102067	Calcium carbonate	1345	104928	Potassium carbonate	1440	105593	Sodium hydroxide solution 21%
641	100229	Chromium(VI) oxide	1346	106683	Potassium carbonate/sodium carbonate	1441	105591	Sodium hydroxide solution min. 27% (1.30)
646	100244	Citric acid monohydrate	1346	104944	Potassium chlorate	1441	105590	Sodium hydroxide solution about 32%
838	103162	Eschka's mixture	1347	104952	Potassium chromate	1441	111360	Sodium hydroxide solution min. 45%
913	100264	Formic acid 98–100%	1348	104864	Potassium dichromate	1442	158793	Sodium hydroxide solution 50%
967	100319	Hydrochloric acid 32%	166	104865	Potassium dichromate	1445	106525	Sodium iodate
967	101834	Hydrochloric acid fuming 37%	1350	105107	Potassium disulfate (Potassium pyrosulfate)	1446	106597	Sodium metaperiodate
968	100317	Hydrochloric acid fuming 37%				1447	106537	Sodium nitrate
973	107209	Hydrogen peroxide 30%	1354	104885	Potassium hydrogen sulfate	167	106563	Sodium peroxide
973	107210	Hydrogen peroxide 30%	1354	105033	Potassium hydroxide	166	106309	di-Sodium tetraborate
1067	117958	Kjeldahl tablets	1354	105021	Potassium hydroxide	167	106306	di-Sodium tetraborate
1067	110958	Kjeldahl tablets	1354	105029	Potassium hydroxide	167	106310	di-Sodium tetraborate
1068	118348	Kjeldahl tablets	1355	105545	Potassium hydroxide solution 47%	167	106308	di-Sodium tetraborate decahydrate
1068	115348	Kjeldahl tablets				1512	101833	Sulfuric acid 95–97%
1068	118469	Kjeldahl tablets	1358	105051	Potassium iodate	1512	100731	Sulfuric acid 95–97%
1068	116469	Kjeldahl tablets	1360	105063	Potassium nitrate	1576	100807	Trichloroacetic acid
173	107512	Lead(II) chromate	1363	105092	Potassium peroxodisulfate			
167	105699	di-Lithium tetraborate	1363	105091	Potassium peroxodisulfate			
			1415	108030	Selenium reagent mixture			
			1429	106392	Sodium carbonate			
			1430	106420	Sodium chlorate			

## 814971 Di-(N,N'-succinimidyl) carbonate for synthesis

C<sub>9</sub>H<sub>8</sub>N<sub>2</sub>O<sub>7</sub>

■ CAS-No. 74124-79-1 ■ EC-No. 277-730-3

- M = 256.17 g/mol ■ Melting point 188 - 191 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2929 90 00 ■ Disposal 3

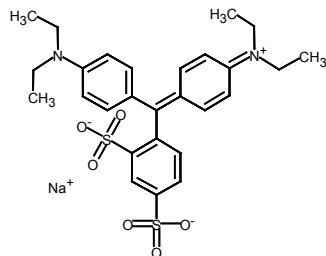
## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14971.0005	Glass bottle	5 g	inquire
8.14971.0025	Glass bottle	25 g	inquire

Disulfides → Sulfur compounds

## 112144 Disulfine blue VN 150 (C.I.42045) for surfactant tests

C<sub>27</sub>H<sub>31</sub>N<sub>2</sub>NaO<sub>6</sub>S<sub>2</sub>

- CAS-No. 129-17-9 ■ EC-No. 204-934-1
- Solub. in H<sub>2</sub>O 210 g/l (25 °C) ■ M = 566.67 g/mol
- pH value 6.9 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 290 °C (decomposition)
- Bulk density 600 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 3204 12 00 ■ Disposal 3

## Specification

Dye content (spectrophotometrically) ..... ≥ 40 %  
 Identity (UV/VIS-Spectrum)..... passes test  
 Absorption maximum λ max (water). 637 - 640 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.005 g/l; water) ..... ≥ 800  
 TLC-Test ..... passes test  
 Loss on drying (110 °C) ..... ≤ 7 %  
 Suitability for surfactant tests..... passes test

Ord.No.	Packaging	Quantity	Price
1.12144.0025	Glass bottle	25 g	inquire

Disulfiram → Tetraethylthiuram disulfide page 1531

## 814179 Disulfur dichloride for synthesis

Cl<sub>2</sub>S<sub>2</sub>S<sub>2</sub>Cl<sub>2</sub>

- CAS-No. 10025-67-9 ■ EC-No. 233-036-2
- Refractive index 1.67 (20 °C, 589 nm) ■ Vapour pressure 14.7 hPa (20 °C) ■ Spec. density 1.68 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4.2 - 32.5 % (V)
- Flash point >130 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)
- M = 135.04 g/mol ■ Melting point -76 °C
- Boiling point 138 °C ■ Ignition temp. 390 °C
- WGK 3

- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1A, H314; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 2.5 mg/l
- LD50 oral rat 132 mg/kg
- EC-Index-No. 016-012-00-4 ■ LGK 6.1 C
- HS-No. 2812 10 91 ■ Disposal 24
- ADR-RID UN 1828 Schwefelchloride, 8, I

- IMDG-Code UN 1828 SULPHUR CHLORIDES, 8, I, Segregation Group: 1 (Acids)
- IATA-DGR UN 1828 SULPHUR CHLORIDES, 8, I

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.679 - 1.680

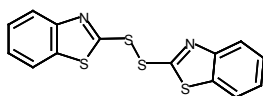
Ord.No.	Packaging	Quantity	Price
8.14179.0100	Glass bottle	100 ml	inquire
8.14179.1000	Glass bottle	1 l	inquire

1,3-Dithiane-2-carboxylic acid ethyl ester → Ethyl 1,3-dithiane-2-carboxylate page 859

Dithiooctane → Dipropyl disulfide page 822

3,3'-Dithiobis(2-aminopropionic acid) → (R)-(-)-Cystine page 682

## 814598 2,2'-Dithiobisbenzothiazole for synthesis

C<sub>14</sub>H<sub>8</sub>N<sub>2</sub>S<sub>4</sub>

Bis-(2-benzothiazolyl)-disulfide

- CAS-No. 120-78-5 ■ EC-No. 204-424-9
- Spec. density 1.34 g/cm<sup>3</sup> ■ Flash point 257 °C
- Solub. in H<sub>2</sub>O 0.01 g/l (25 °C) ■ M = 332.47 g/mol
- Melting point 176 - 180 °C
- Ignition temp. 365 °C
- WGK 2

- GHS: Warning, Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352
- LD50 oral rat 7000 mg/kg ■ LD50 dermal rabbit > 7949 mg/kg
- EC-Index-No. 613-135-00-0 ■ LGK 10 - 13
- HS-No. 2934 20 20 ■ Disposal 6
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2,2-DITHIOBIS BENZOTHIAZOL), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,2-DITHIOBIS BENZOTHIAZOLE), 9, III, Marine

Pollutant: P

- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,2-DITHIOBIS BENZOTHIAZOLE), 9, III

## Specification

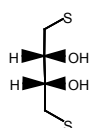
Assay (of S) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 176 °C  
 Melting range (upper value) ..... ≤ 180 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14598.0100	Glass bottle	100 g	inquire

5,5'-Dithiobis(2-nitrobenzoic acid) → 2,2'-Dinitro-5,5'-dithiodibenzoic acid page 809

2,2'-Dithiodipyridine → 2,2'-Dipyridyl disulfide page 822

## 124511 1,4-Dithioerythritol for biochemistry

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>S<sub>2</sub>

Cleland's reagent, 1,4-Dimercapto-2,3-butanediol, DTE

- CAS-No. 6892-68-8 ■ EC-No. 229-998-8
- M = 154.24 g/mol ■ pH value (H<sub>2</sub>O) no data available
- Melting point 83 °C

- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good
- Soluble in water, ethanol, ether and chloroform; hardly soluble in benzene. Reductive splitting of S-S linkages; unfolding of protein structures by splitting of S-S-linkages; determination of S-S linkages; stabilisation and regeneration of SH groups.

## Specification

Assay (iodometric) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... passes test  
 Melting point ..... 81 - 85 °C  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.0005 %

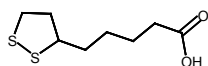
Ord.No.	Packaging	Quantity	Price
1.24511.0005	Glass bottle	5 g	inquire
1.24511.0025	Glass bottle	25 g	inquire

Dithioethylene glycol → 1,2-Ethanedithiol page 838

Dithioglycerine → page 172

Dithioglycol → 1,2-Ethanedithiol page 838

## 843789 5-(1,2)Dithiolan-3-yl-pentanoic acid for synthesis

C<sub>8</sub>H<sub>14</sub>O<sub>2</sub>S<sub>2</sub>

- CAS-No. 1077-28-7 ■ EC-No. 214-071-2
- Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ M = 206.33 g/mol
- Melting point 59 - 62 °C ■ Bulk density 260 kg/m<sup>3</sup>
- Boiling point 150 °C (0.1 hPa)

- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1130 mg/kg
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 60 °C

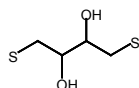
Melting range (upper value)..... ≤ 62 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43789.0005	Glass bottle	5 g	inquire
8.43789.0025	Plastic bottle	25 g	inquire

Dithiooxamide → Rubeanic acid page 1407

Dithiophosphoric acid O,O-diethyl ester → O,O-Diethyl dithiophosphate page 742

## 111474 1,4-Dithiothreitol for biochemistry

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>S<sub>2</sub>(C<sub>2</sub>H<sub>2</sub>OHS<sub>2</sub>)<sub>2</sub>

DTT, Cleland's reagent

- CAS-No. 3483-12-3 ■ EC-No. 222-468-7
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O 1500 g/l (20 °C) ■ M = 154.24 g/mol ■ pH value 5.1 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 42 - 44 °C
- Bulk density 300 kg/m<sup>3</sup>

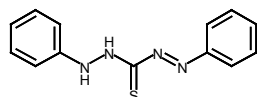
- WGK 3
  - GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
  - LD50 oral rat 400 mg/kg
  - LGK 10 - 13 ■ Store at +2°C to +8°C.
  - HS-No. 2930 90 99 ■ Disposal 6
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- Soluble in water, ethanol, ether and chloroform

**Specification**

Assay (iodometric)..... ≥ 99 %  
 Identity (IR-spectrum)..... passes test  
 Melting point..... 40 - 43 °C  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.11474.0001	Glass bottle	1 g	inquire
1.11474.0005	Glass bottle	5 g	inquire
1.11474.0025	Glass bottle	25 g	inquire

## 103092 Dithizone for analysis (1,5-diphenylthiocarbazon) Reag. Ph Eur

C<sub>13</sub>H<sub>12</sub>N<sub>4</sub>S

Diphenylthiocarbazon

- CAS-No. 60-10-6 ■ EC-No. 200-454-1
- M = 256.32 g/mol
- Melting point 168 °C (decomposition)
- Bulk density 250 kg/m<sup>3</sup>
- WGK 3

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
  - LGK 10 - 13
  - HS-No. 2930 90 99 ■ Disposal 3
- Use as metal indicator: 0.025 %-0.05 % in ethanol (96%) or methanol

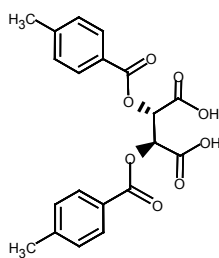
**Specification**

Assay (argentometric)..... ≥ 98.0 %  
 Identity (IR-spectrum)..... passes test  
 Identity (UV/VIS-Spectrum)..... passes test  
 Absorption maximum λ<sub>max</sub> (Chloroform)..... 604 -

607 nm  
 Spec. Absorptivity A1%/1cm (λ<sub>max</sub>; 0,005 g/l; chloroform)..... ≥ 1522  
 Absorption ratio (605 nm / 445 nm; 0,005 g/l; chloroform)..... ≥ 2.5  
 Sulfated ash (600 °C)..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.03092.0005	Glass bottle	5 g	inquire
1.03092.0025	Glass bottle	25 g	inquire

## 818725 (2R,3R)-(-)-Di-O-4-toluoyl-L-tartaric acid for synthesis

C<sub>20</sub>H<sub>18</sub>O<sub>8</sub>(4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>COOCHCOOH)<sub>2</sub>

Di-O-4-toluoyl-L-tartaric acid

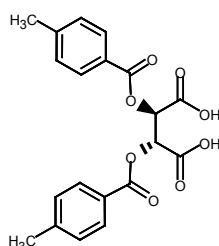
- CAS-No. 32634-66-5 ■ EC-No. 251-131-7
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 386.36 g/mol ■ Melting point 165 - 171 °C
- Bulk density 500 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2918 13 00 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 99.0 %  
 Spec. rotation [α<sup>20</sup>/D (c=1 in ethanol)..... -142.0 - -136.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18725.0025	Glass bottle	25 g	inquire
8.18725.0100	Glass bottle	100 g	inquire

## 818724 (2S,3S)-(+)-Di-O-4-toluoyl-D-tartaric acid for synthesis

C<sub>20</sub>H<sub>18</sub>O<sub>8</sub>(4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>COOCHCOOH)<sub>2</sub>

Di-O-4-toluoyl-D-tartaric acid

- CAS-No. 32634-68-7 ■ EC-No. 251-132-2
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 386.36 g/mol ■ Melting point 165 - 167 °C
- Bulk density 500 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13

- HS-No. 2918 13 00 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98.0 %  
 Spec. rotation [α<sup>20</sup>/D (c=1 in ethanol)..... 136.0 - 141.0 °  
 Identity (IR)..... passes test

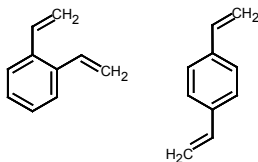
Ord.No.	Packaging	Quantity	Price
8.18724.0025	Glass bottle	25 g	inquire

Di-O-4-toluoyl-D-tartaric acid → (2S,3S)-(+)-Di-O-4-toluoyl-D-tartaric acid page 825

Di-O-4-toluoyl-L-tartaric acid → (2R,3R)-(-)-Di-O-4-toluoyl-L-tartaric acid page 825



## 803598 Divinylbenzene (stabilised with 4-tert-butylpyrocatechol) for synthesis

C<sub>10</sub>H<sub>10</sub>

DVB

■ CAS-No. 1321-74-0 ■ EC-No. 215-325-5  
 ■ Vapour pressure 0.9 hPa (20 °C)  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 6.2 % (V) ■ Flash point 77 °C ■ Solub. in H<sub>2</sub>O 0.005 g/l (25 °C) ■ M = 130.18 g/mol

■ Melting point -67 °C ■ Boiling point 195 °C (1013 hPa) ■ Ignition temp. 470 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 4100 mg/kg  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2902 90 00 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(DIVINYLBENZOL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS

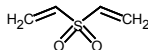
SUBSTANCE, LIQUID, N.O.S.(DIVINYLBENZENE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIVINYLBENZENE), 9, III

## Specification

Assay isomers (GC, area%)..... 60,0 - 65,0 Area %  
 Density (d 20 °C / 4 °C)..... 0,913 - 0,916  
 Assay isomers ethylvinyl benzol (GC, area%) 34,0 - 39,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03598.0250	Glass bottle	250 ml	inquire
8.03598.1000	Glass bottle	1 l	inquire

## 821215 Divinyl sulfone (stabilised with hydroquinone) for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>2</sub>S(CH<sub>2</sub>=CH)<sub>2</sub>SO<sub>2</sub>

Vinyl sulfone

■ CAS-No. 77-77-0 ■ EC-No. 201-057-6  
 ■ Refractive index 1.473 (27 °C, 589 nm) ■ Vapour pressure 1.05 hPa (25 °C) ■ Spec. density 1.18 g/cm<sup>3</sup> (20 °C) ■ Flash point 102 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 118.16 g/mol  
 ■ Melting point -26 °C ■ Boiling point 234.3 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1B, H314, P280, P302 + P352, P305 + P351 + P338, P301 + P330 + P331, P309 + P310  
 ■ LD50 oral rat 32 mg/kg ■ LD50 dermal rabbit 22 mg/kg  
 ■ LGK 6.1A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2930 90 99 ■ Disposal 9  
 ■ ADR-RID UN 2927 Giftiger organischer flüssiger Stoff, ätzend, n.a.g.(DIVINYLSULFON), 6.1 (8), I  
 ■ IMDG-Code UN 2927 TOXIC LIQUID, CORROSIVE,

ORGANIC, N.O.S.(DIVINYLSULFONE), 6.1 (8), I  
 ■ IATA-DGR UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(DIVINYLSULFONE), 6.1 (8), I

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 1.174 - 1.178  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21215.0010	Glass bottle	10 ml	inquire

Di water → page

2,2'-(4,4'-Dihydroxydiphenyl)propane → 2,2-Bis(4-hydroxyphenyl)propane page 473

1-(2,5-Dihydroxyphenyl)ethanone → 2',5'-Dihydroxyacetophenone page 759

2-(3,4-Dihydroxyphenyl)ethylamine hydrochloride → 3-Hydroxytyraminium chloride page 997

DMI → 1,3-Dimethyl-2-imidazolidinone page 302

Dmab-OH → page 280

DMAP → page 279

DMAPN → 3-(Dimethylamino)propionitrile page 779

DME → Ethylene glycol dimethyl ether page 303

DMEU → 1,3-Dimethyl-2-imidazolidinone page 302

DMF → page 317

DMF-DMA → N,N-Dimethylformamide dimethyl acetal page 790

2,4-DMP → 2,4-Dimethylphenol page 796

2,5-DMP → 2,5-Dimethylphenol page 797

2,6-DMP → page 797

3,4-DMP → 3,4-Dimethylphenol page 797

2-DMPC → N-(2-Chloropropyl)-N,N-dimethylammonium chloride page 633

3-DMPC → N-(3-Chloropropyl)-N,N-dimethylammonium chloride page 633

DMPU → 1,3-Dimethyltetrahydro-2(1H)-pyrimidinone page 805

DMSC → Chlorodimethylsilane page 608

DMSO → page 317

DMSO deuterated → page 295

DMT → Dimethyl terephthalate page 805

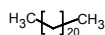
DNase Test Agar → page 100

DNA staining kit according to Feulgen → page 202

DNOC → 2-Methyl-4,6-dinitrophenol page 1147

Dnp NovaTag™ resin → page 260

## 822046 Docosane for synthesis

C<sub>22</sub>H<sub>46</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>20</sub>CH<sub>3</sub>

■ CAS-No. 629-97-0 ■ EC-No. 211-121-5  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Spec. density 0.794 g/cm<sup>3</sup> (20 °C)

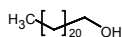
■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 310.6 g/mol ■ Melting point 44 °C ■ Boiling point 369 °C (1013 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2901 10 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 42 °C  
 Melting range (upper value)..... ≤ 45 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22046.0050	Plastic bottle	50 g	inquire

## 822047 1-Docosanol for synthesis

C<sub>22</sub>H<sub>46</sub>O

Behenyl alcohol

■ CAS-No. 661-19-8 ■ EC-No. 211-546-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 326.6 g/mol

mol ■ Melting point 68 - 71 °C  
 ■ Boiling point 180 °C (0.3 hPa)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 19 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)

Melting range (lower value)..... ≥ 68 °C  
 Melting range (upper value)..... ≤ 71 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22047.0100	Plastic bottle	100 g	inquire

Dodecanal → Lauraldehyde page 1072



## n-Dodecane



C<sub>12</sub>H<sub>26</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>10</sub>CH<sub>3</sub>  
 ■ CAS-No. 112-40-3 ■ EC-No. 203-967-9  
 ■ Vapour pressure 0.4 hPa (20 °C)

■ Spec. density 0.75 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.6 % (V) ■ Flash point 84 °C  
 ■ Kin. viscosity < 7 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (25 °C) practically insoluble ■ M = 170.34 g/mol  
 ■ Melting point -9.6 °C  
 ■ Boiling point 216.3 °C (1013 hPa)  
 ■ Ignition temp. 200 °C

■ WGK 1  
 ■ GHS: Danger, Aspiration hazard, Category 1, H304, P301 + P310, P331  
 ■ LGK 10  
 ■ HS-No. 2901 10 00 ■ Disposal 1

## 820543 n-Dodecane for synthesis

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,748 - 0,749  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20543.0100	Glass bottle	100 ml	inquire
8.20543.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.20543.1000	Glass bottle	1 l	inquire

## 109658 n-Dodecane reference substance for gas chromatography

## Specification

Assay (GC) ..... ≥ 98.5 %  
 Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09658.0005	Glass bottle	5 ml	inquire

## 845097 N-Dodecane for pharma synthesis, non-GMP

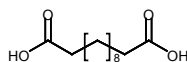
## Specification

Colour (visual) ..... colourless  
 Appearance of substance (visual) ..... liquid  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 0,748 - 0,749  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45097.0250	Glass bottle	250 ml	inquire
8.45097.1000	Glass bottle	1 l	inquire

## 801305 Dodecanedioic acid for synthesis



C<sub>12</sub>H<sub>22</sub>O<sub>4</sub>  
 HOOC(CH<sub>2</sub>)<sub>10</sub>COOH  
 1,12-Decanedioic acid  
 ■ CAS-No. 693-23-2 ■ EC-No. 211-746-3  
 ■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Flash point 220 °C ■ Solub. in H<sub>2</sub>O 0.04 g/l (20 °C) ■ M = 230.3 g/mol ■ pH value 5 (H<sub>2</sub>O),

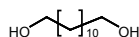
20 °C) (aqueous suspension)  
 ■ Melting point 126 - 129 °C  
 ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 205 °C (1 hPa) ■ Ignition temp. 390 °C  
 ■ WGK nwg  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat > 3000 mg/kg  
 ■ LD50 dermal rabbit > 6000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 126 °C  
 Melting range (upper value) ..... ≤ 129 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01305.0100	Plastic bottle	100 g	inquire
8.01305.1000	Plastic bottle	1 kg	inquire

## 803501 1,12-Dodecanediol for synthesis



C<sub>12</sub>H<sub>26</sub>O<sub>2</sub>  
 HO(CH<sub>2</sub>)<sub>12</sub>OH  
 1,12-Dihydroxydodecane, Dodecamethylene glycol  
 ■ CAS-No. 5675-51-4 ■ EC-No. 227-133-9  
 ■ Flash point 176 °C ■ Solub. in H<sub>2</sub>O < 1 g/l

(20 °C) ■ M = 202.33 g/mol ■ Melting point 79 °C  
 ■ Boiling point 324 °C (1013 hPa)  
 ■ Ignition temp. 300 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 39 95 ■ Disposal 3

## Specification

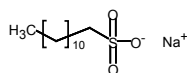
Assay (GC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 78 °C  
 Melting range (upper value) ..... ≤ 80 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03501.0100	Glass bottle	100 g	inquire

Dodecanenitrile → Lauronitrile page 1072

## Dodecane-1-sulfonic acid sodium salt



C<sub>12</sub>H<sub>25</sub>NaO<sub>3</sub>S

Sodium laurylsulfonate  
 ■ CAS-No. 2386-53-0 ■ EC-No. 219-200-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 272.37 g/mol  
 ■ pH value 5.5 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Bulk density 330 kg/m<sup>3</sup>

■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2904 10 00 ■ Disposal 3

## 118308 Dodecane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®

## Specification

Assay (alkalimetric, calculated on dried substance) ..... ≥ 99,0 %  
 Identity (IR-spectrum) ..... conforms  
 pH (100 g/l, water) ..... 5.5 - 7.5  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at 200 nm) ..... ≥ 70 %  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at 220 nm) ..... ≥ 90 %  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at 250 nm) ..... ≥ 98 %

Loss on drying (120 °C; 4h; Vacuum) ..... ≤ 2.0 %

Ord.No.	Packaging	Quantity	Price
1.18308.0025	Glass bottle	25 g	inquire

## 112146 Dodecane-1-sulfonic acid sodium salt for tenside tests

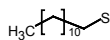
## Specification

Assay (alkalimetric, calculated on dried substance) ..... ≥ 99,0 %  
 Identity (IR-spectrum) ..... conforms

pH (100 g/l, water) ..... 5.5 - 7.5  
 Loss on drying (120 °C; 4h; Vacuum) ..... ≤ 2.0 %

Ord.No.	Packaging	Quantity	Price
1.12146.0005	Glass bottle	5 g	inquire
1.12146.8500	Glass bottle	500 mg	inquire

## 820544 1-Dodecanethiol for synthesis



C<sub>12</sub>H<sub>26</sub>S  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>11</sub>SH  
*Lauryl mercaptan, Dodecyl mercaptan*  
 ■ CAS-No. 112-55-0 ■ EC-No. 203-984-1  
 ■ Refractive index 1.4587 (20 °C, 589 nm)  
 ■ Vapour pressure 0.002 hPa (20 °C)  
 ■ Spec. density 0.845 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 127 °C ■ Solub. in H<sub>2</sub>O < 1 g/l  
 (22 °C) ■ M = 202.39 g/mol ■ Melting point -7 °C  
 ■ Boiling point 275 °C (1013 hPa)

■ Ignition temp. 230 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(DODECANETHIOL-1), 9, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,844 - 0,846  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20544.0250	Glass bottle	250 ml	inquire
8.20544.1000	Glass bottle	1 l	inquire
8.20544.9011	Plastic container	10 l	inquire

## 814912 tert-Dodecanethiol (mixture of isomers) for synthesis

C<sub>12</sub>H<sub>26</sub>S  
*Lauryl mercaptan, Dodecyl mercaptan*  
 ■ CAS-No. 25103-58-6 ■ EC-No. 246-619-1  
 ■ Vapour pressure 1.33 hPa (25.5 °C)  
 ■ Spec. density 0.856 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 98 °C ■ Solub. in H<sub>2</sub>O 0.025 g/l  
 (20 °C) ■ M = 202.4 g/mol ■ Melting point -45 °C  
 ■ Boiling point 233 °C ■ Ignition temp. 350 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LC50 rat > 12 mg/l  
 ■ LD50 oral rat 6800 mg/kg ■ LD50 dermal rabbit 12600 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(TERT-DODECANETHIOL), 9, III  
 ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(TERT-DODECANETHIOL), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(TERT-DODECANETHIOL), 9, III

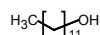
## Specification

Assay (of S) ..... ≥ 98,0 %  
 Density (d 20 °C/ 4 °C) ..... 0,853 - 0,858  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14912.0250	Glass bottle	250 ml	inquire
8.14912.1000	Glass bottle	1 l	inquire

Dodecanoic acid → Lauric acid page 1072

## 803462 1-Dodecanol for synthesis



C<sub>12</sub>H<sub>26</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>11</sub>OH  
*Dodecyl alcohol, Lauryl alcohol*  
 ■ CAS-No. 112-53-8 ■ EC-No. 203-982-0  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 119 °C ■ Solub. in H<sub>2</sub>O 0.004 g/l  
 (25 °C) ■ M = 186.33 g/mol  
 ■ Melting point 21 - 24 °C  
 ■ Boiling point 258 - 265 °C (1013 hPa)

■ Ignition temp. 255 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute aquatic toxicity, Category 1, H400, P273  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 17 00 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1-DODECANOL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1-DODECANOL), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1-DODECANOL), 9, III

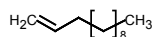
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 22 °C  
 Melting range (upper value) ..... ≤ 26 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03462.0100	Plastic bottle	100 ml	inquire
8.03462.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

Dodecanoyl chloride → Lauroyl chloride page 1072

## 822048 1-Dodecene for synthesis



C<sub>12</sub>H<sub>24</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>9</sub>CH=CH<sub>2</sub>  
*1-Dodecylene*  
 ■ CAS-No. 112-41-4 ■ EC-No. 203-968-4  
 ■ Refractive index 1.4294 (20 °C, 589 nm)  
 ■ Vapour pressure 0.23 hPa (20 °C)  
 ■ Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.6 - 5.4 % (V) ■ Flash point 77 °C

■ Kin. viscosity 1.71 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 168.32 g/mol  
 ■ Melting point -35 °C  
 ■ Boiling point 213 - 216 °C (1013 hPa)  
 ■ Ignition temp. 226 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin irritation, Category 2, H315; Aspiration hazard, Category 1, H304, P301 + P310, P302 + P352, P331  
 ■ LD50 oral rat > 10000 mg/kg  
 ■ LD50 dermal rabbit > 10000 mg/kg

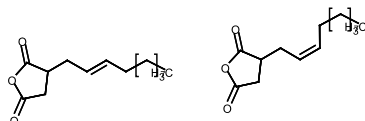
■ LGK 10  
 ■ HS-No. 2901 29 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 94,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,758 - 0,759  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22048.0100	Glass bottle	100 ml	inquire
8.22048.0500	Glass bottle	500 ml	inquire

## 822049 Dodeceny succinic anhydride (mixture of isomers) for synthesis



C<sub>16</sub>H<sub>26</sub>O<sub>3</sub>  
 3-(2-Dodecylen-1-yl)-dihydro-2,5-furandione  
 ■ CAS-No. 25377-73-5 ■ EC-No. 246-917-1  
 ■ Refractive index 1.4745 (25 °C, 589 nm)  
 ■ Vapour pressure 26 hPa (200 °C)

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 127 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 266.38 g/mol  
 ■ pH value 2 - 4 (< 50 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Boiling point 200 °C (27 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P262, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 2550 mg/kg ■ LD50 dermal rabbit 6200 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

## Specification

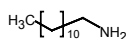
Assay (morpholine method) ..... ≥ 96,0 %  
 Density (d 20 °C/ 4 °C) ..... 1,005 - 1,008  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22049.0250	Glass bottle	250 ml	inquire

Dodecyl alcohol → 1-Dodecanol page 828

Dodecylaldehyde → Lauraldehyde page 1072

## 803527 Dodecylamine for synthesis

C<sub>12</sub>H<sub>27</sub>NCH<sub>3</sub>(CH<sub>2</sub>)<sub>11</sub>NH<sub>2</sub>

Laurylamine, 1-Aminododecan

- CAS-No. 124-22-1 ■ EC-No. 204-690-6
- Refractive index 1.4377 (30 °C) ■ Vapour pressure < 2 hPa (20 °C) ■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 185.35 g/mol ■ Melting point 25 - 28 °C
- Boiling point 247 - 249 °C (1013 hPa)

- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314; Acute aquatic toxicity, Category 1, H400; Corrosive to metals, Category 1, H290, P280, P273, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1020 mg/kg
- LGK 8A
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 3259 Amine, fest, ätzend, n.a.g.(DODECYLAMIN), 8, II ■ IMDG-Code UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.(DODECYLAMINE), 8, II, Segregation Group:

18 (Alkalis)

- IATA-DGR UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.(DODECYLAMINE), 8, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 25 °C  
 Melting range (upper value) ..... ≤ 30 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03527.0101	Glass bottle	100 g	inquire
8.03527.0500	Glass bottle	500 g	inquire

Dodecyl benzene → 1-Phenyldodecane page 1300

Dodecylbenzenesulfonic acid methyl ester →

Methyl dodecylbenzene sulfonate page 1148

Dodecyl bromide → 1-Bromododecane page 499

Dodecyl chloride → 1-Chlorododecane page 609

1-Dodecylene → 1-Dodecene page 828

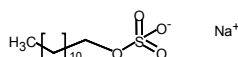
3-(2-Dodecylen-1-yl)-dihydro-2,5-furandione →

Dodecylsuccinic anhydride page 828

Dodecyl gallate → Dodecyl 3,4,5-trihydroxybenzoate page 830

Dodecyl hydrogen sulfate sodium salt → page 830

## 118309 Dodecyl hydrogen sulfate sodium salt for ion pair chromatography LiChropur®

C<sub>12</sub>H<sub>25</sub>NaO<sub>4</sub>SC<sub>12</sub>H<sub>25</sub>OSO<sub>2</sub>O<sub>2</sub>Na

Lauryl sulfate sodium salt, SDS, Dodecyl sodium sulfate

- CAS-No. 151-21-3 ■ EC-No. 205-788-1
- Spec. density 1.1 g/cm<sup>3</sup> (20 °C)
- Flash point >150 °C ■ Solub. in H<sub>2</sub>O 150 g/l (20 °C) ■ M = 288.37 g/mol ■ pH value 6 - 9 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 204.06 - 207.06 °C
- Bulk density 490 - 560 kg/m<sup>3</sup>
- WGK 2
- GHS: Danger, Flammable solid, Category 2, H228; Acute toxicity, Category 3, Dermal, H311;

Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

- LC50 rat > 3.9 mg/l
- LD50 oral rat 1427 mg/kg ■ LD50 dermal rabbit 580 mg/kg
- LGK 4.1B
- HS-No. 2920 90 10 ■ Disposal 3
- ADR-RID UN 2926 Entzündbarer organischer fester Stoff, giftig, n.a.g.(NATRIUMDODECYLSULFAT), 4.1 (6.1), III
- IMDG-Code UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.(SODIUM DODECYL SULFATE), 4.1 (6.1), III
- IATA-DGR UN 2926 FLAMMABLE SOLID, TOXIC,

ORGANIC, N.O.S.(SODIUM DODECYL SULFATE), 4.1 (6.1), III

## Specification

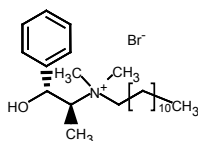
Assay (acidimetric; calculated on dried substance) ..... ≥ 99%  
 Identity (IR-spectrum) ..... passes test  
 pH-value (10 %; water) ..... 6.0 - 7.5  
 UV-transmission (200 nm; 0.005 mol/l; 1 cm; water) ..... ≥ 70 %  
 UV-transmission (220 nm; 0.005 mol/l; 1 cm; water) ..... ≥ 90 %  
 UV-transmission (250 nm; 0.005 mol/l; 1 cm; water) ..... ≥ 98 %  
 Water (according to Karl Fischer) ..... ≤ 2%

Ord.No.	Packaging	Quantity	Price
1.18309.0025	Plastic bottle	25 g	inquire

Dodecyl iodide → 1-Iodododecane page 1010

Dodecyl mercaptan → tert-Dodecanethiol (mixture of isomers) page 828

## 818148 (-)-N-Dodecyl-N-methylephedrinium bromide for synthesis

C<sub>23</sub>H<sub>42</sub>BrNO

MDEB

- CAS-No. 57155-63-2 ■ EC-No. 260-596-5
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 428.49 g/mol ■ Melting point 99 - 105 °C

- WGK 2
- LGK 10 - 13
- HS-No. 2939 49 00 ■ Disposal 3

## Specification

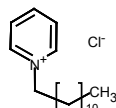
Assay (argentometric) ..... ≥ 99.0 % (m)  
 Melting range (lower value) ..... ≥ 103 °C

Melting range (upper value) ..... ≤ 105 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in methanol) ..... -13.0 - -10.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18148.0010	Glass bottle	10 g	inquire

Dodecyl 2-methylpropenoate → Methacrylic acid alkylester (mixture of C<sub>12</sub>-C<sub>16</sub>) page 1109

## 820546 N-Dodecylpyridinium chloride for synthesis

C<sub>17</sub>H<sub>30</sub>ClNCH<sub>3</sub>(CH<sub>2</sub>)<sub>11</sub>C<sub>5</sub>H<sub>5</sub>NCl

N-Laurylpyridinium chloride

- CAS-No. 104-74-5 ■ EC-No. 203-232-2
- Spec. density 1.04 g/cm<sup>3</sup> (20 °C)
- Flash point 160 °C ■ Solub. in H<sub>2</sub>O 600 g/l (20 °C) ■ M = 283.88 g/mol ■ pH value 4 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 87 - 89 °C

- Ignition temp. 270 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 203 mg/kg ■ LD50 dermal rat 1684 mg/kg
- LGK 6.1C
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-DODECYLPYRIDINIUMCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID,

ORGANIC, N.O.S.(N-DODECYLPYRIDINIUM CHLORIDE), 6.1, III

- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-DODECYLPYRIDINIUM CHLORIDE), 6.1, III

## Specification

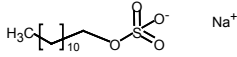
Assay (argentometric) ..... ≥ 93.0 %  
 Identity (IR) ..... passes test  
 Water (K. F.) ..... 2.0 - 6.0 %

Ord.No.	Packaging	Quantity	Price
8.20546.0005	Glass bottle	5 g	inquire
8.20546.0250	Plastic bottle	250 g	inquire
8.20546.1000	Plastic bottle	1 kg	inquire

Dodecyl sodium sulfate → page 830

# Dodecyl

## Dodecyl sulfate sodium salt



C<sub>12</sub>H<sub>25</sub>NaO<sub>4</sub>S

C<sub>12</sub>H<sub>25</sub>OSO<sub>2</sub>ONa

*Lauryl sulfate sodium salt, SDS, Dodecyl sodium sulfate*

■ CAS-No. 151-21-3 ■ EC-No. 205-788-1

■ Spec. density 1.1 g/cm<sup>3</sup> (20 °C)

■ Flash point >150 °C ■ Solub. in H<sub>2</sub>O 150 g/l (20 °C) ■ M = 288.37 g/mol ■ pH value 6 - 9 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 204.06 - 207.06 °C

■ Bulk density 490 - 560 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Danger, Flammable solid, Category 2, H228; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

■ LC50 rat > 3.9 mg/l

■ LD50 oral rat 1427 mg/kg ■ LD50 dermal rabbit 580 mg/kg

■ LGK 4.1B

■ HS-No. 2920 90 10 ■ Disposal 3

■ ADR-RID UN 2926 Entzündbarer organischer fester Stoff, giftig,

n.a.g.(NATRIUMDODECYLSULFAT), 4.1 (6.1), III

■ IMDG-Code UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.(SODIUM DODECYL SULFATE), 4.1 (6.1), III

■ IATA-DGR UN 2926 FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S.(SODIUM DODECYL SULFATE), 4.1 (6.1), III

Catalysed reaction: Hydrolysis of α-1,4-galacturonide-linkages in pectin and other polygalacturonides.



### 822050 Dodecyl sulfate sodium salt for synthesis

#### Specification

Assay (Epton titration)..... ≥ 95,0 %(m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22050.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
8.22050.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.22050.2500	Fibre carton	2.5 kg	inquire
8.22050.9020	Fibre carton	20 kg	inquire

### 112533 Dodecyl sulfate sodium salt for biochemistry and surfactant tests

#### Specification

Assay (two-phase titration)..... ≥ 99%

Homologue purity C-12..... ≥ 98% (a/a)

Identity (IR-spectrum)..... passes test

Solubility (Ethanol)..... passes test

Absorbance A (220-350 nm; 3 %; 1 cm; water)..... ≤ 0.10

Chloride (Cl)..... ≤ 0.01 %

Phosphate (PO<sub>4</sub>)..... ≤ 0.0001 %

Heavy metals (as Pb)..... ≤ 0.0005 %

Water (according to Karl Fischer)..... ≤ 1%

Ord.No.	Packaging	Quantity	Price
1.12533.0050	Glass bottle	50 g	inquire
1.12533.0250	Glass bottle	250 g	inquire
1.12533.1000	Glass bottle	1 kg	inquire

### 106022 Dodecyl sulfate sodium salt for biochemistry 10% in H<sub>2</sub>O

#### Specification

Assay (two-phase titration)..... 9,8 - 10,2 %

Ord.No.	Packaging	Quantity	Price
1.06022.1000	Plastic bottle	1 l	inquire

### 113760 Dodecyl sulfate sodium salt LAB

#### Specification

Assay (two-phase titration)..... ≥ 99,0 %

Identity (IR-spectrum)..... passes test

Absorbance A (220-350 nm; 3 %; 1 cm; water)..... ≤ 0.1

Chloride (Cl)..... ≤ 0.01 %

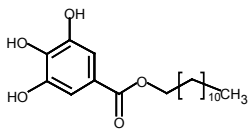
Phosphate (PO<sub>4</sub>)..... ≤ 0.0001 %

Heavy metals (as Pb)..... ≤ 0.0005 %

Water (according to Karl Fischer)..... ≤ 1%

Ord.No.	Packaging	Quantity	Price
1.13760.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
1.13760.1000	Plastic bottle	1 kg	inquire
1.13760.2500	Plastic bottle	2.5 kg	inquire

### 820598 Dodecyl 3,4,5-trihydroxybenzoate for synthesis



C<sub>19</sub>H<sub>30</sub>O<sub>5</sub>

*Dodecyl gallate, Lauryl gallate, Gallic acid dodecyl ester, Gallic acid lauryl ester*

■ CAS-No. 1166-52-5 ■ EC-No. 214-620-6

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 338.44 g/mol ■ Melting point 94 - 97 °C

■ WGK 1

■ GHS: Warning, Skin sensitisation, Category 1, H317, P262, P280, P302 + P352

■ LD50 oral rat 5000 mg/kg

■ EC-Index-No. 607-200-00-2 ■ LGK 10 - 13

■ HS-No. 2918 29 00 ■ Disposal 3

#### Specification

Assay (acidimetric)..... ≥ 97,0 %

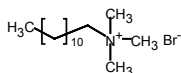
Melting range (lower value)..... ≥ 94 °C

Melting range (upper value)..... ≤ 97 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20598.0100	Plastic bottle	100 g	inquire

### 841022 n-Dodecyltrimethylammonium bromide for synthesis



C<sub>15</sub>H<sub>34</sub>BrN

■ CAS-No. 1119-94-4 ■ EC-No. 214-290-3

■ M = 308.34 g/mol ■ Melting point 237 - 245 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2,

H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 200 - 1000 mg/kg

■ LGK 6.1C

■ HS-No. 2923 90 00

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-

DODECYLTRIMETHYLAMMONIUMBROMID), 6.1, III

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-DODECYLTRIMETHYLAMMONIUM

BROMIDE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-DODECYLTRIMETHYLAMMONIUM BROMIDE), 6.1, III

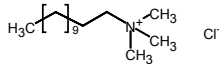
#### Specification

Assay (argentometric)..... ≥ 97,0 %(m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41022.0010	Glass bottle	10 g	inquire
8.41022.0025	Plastic bottle	25 g	inquire
8.41022.0100	Plastic bottle	100 g	inquire

## 816142 Dodecyltrimethylammonium chloride for synthesis

C<sub>15</sub>H<sub>34</sub>ClN

Lauryl trimethylammonium chloride

- CAS-No. 112-00-5 ■ EC-No. 203-927-0
- M = 263.9 g/mol
- Melting point 237 °C (decomposition)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral,

H301; Chronic aquatic toxicity, Category 1, H410;  
Acute aquatic toxicity, Category 1, H400, P262,  
P273, P309 + P310

- LD50 oral rat 200 - 1000 mg/kg
  - LGK 6.1C
  - HS-No. 2923 90 00 ■ Disposal 3
  - ADR-RID UN 2811 Giftiger organischer fester Stoff,
- n.a.g.(DODECYLTRIMETHYLAMMONIUMCHLORID),  
6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID,  
ORGANIC, N.O.S.(DODECYLTRIMETHYLAMMONIUM

CHLORIDE), 6.1, III

- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(DODECYLTRIMETHYLAMMONIUM CHLORIDE), 6.1, III

**Specification**

Assay (argentometric).....≥ 97,0 %(m)

Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.16142.0025	Glass bottle	1x25gm	inquire

DOP → Bis(2-ethylhexyl) phthalate page 471  
Dopamine hydrochloride → 3-Hydroxytyraminium chloride page 997  
DOPP → Di-n-octyl phenylphosphonate page 810  
DOTA-tris(tert-butyl ester) → page 261  
Dowex® → Ion exchanger

DPG → 1,3-Diphenylguanidine page 817  
DPM → Dipropylene glycol monomethyl ether page 302  
DPN → Nicotinamide adenine dinucleotide free acid page 1207  
DPPD → N,N'-Diphenyl-1,4-phenylenediamine page 818  
Dppe → 1,2-Bis(diphenylphosphino)-ethane page 469

DPX → page 187  
DPX new → page 204  
Dragendorff's reagent spray solution → page 14  
DRCM broth → page 100  
Drum key → page 328

## Drying

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
330	106107	Absorption tube for H <sub>2</sub> O	1088	105865	Magnesium oxide	1345	104928	Potassium carbonate
561	102053	Calcium	1089	105873	Magnesium perchlorate hydrate	1354	105033	Potassium hydroxide
562	102379	Calcium chloride	1089	105874	Magnesium perchlorate hydrate	1417	100719	SICACIDE with indicator
562	102378	Calcium chloride	1089	106067	Magnesium sulfate anhydrous	1417	100543	SICAPENT® with indicator
563	802100	Calcium hydride	1089	105886	Magnesium sulfate heptahydrate	1418	107735	Silica gel
564	102109	Calcium oxide from marble				1418	101905	Silica gel
656	102791	Copper(II) sulfate anhydrous	1188	105704	Molecular sieve 0.3 nm	1418	101907	Silica gel
689	103803	Desiccant sachet 3 g	1188	105734	Molecular sieve 0.3 nm	1418	101969	Silica gel with indicator (orange gel),
689	103804	Desiccant sachet 10 g	1189	105706	Molecular sieve 0.3 nm	1418	101972	Silica gel with moisture indicator (brown gel)
689	103805	Desiccant sachet 100 g	1189	105741	Molecular sieve 0.3 nm			
689	103806	Desiccant sachet 250 g	1189	105708	Molecular sieve 0.4 nm	1424	106260	Sodium
1079	805661	Lithium aluminium hydride	1189	105739	Molecular sieve 0.4 nm	1439	106498	Sodium hydroxide
1079	818875	Lithium aluminium hydride	1189	105743	Molecular sieve 0.4 nm	1452	106649	Sodium sulfate
1079	818876	Lithium aluminium hydride	1189	105705	Molecular sieve 0.5 nm	1451	822286	Sodium sulfate
1080	818877	Lithium aluminium hydride	1189	105703	Molecular sieve 1.0 nm	1451	106639	Sodium sulfate
1086	105815	Magnesium	1323	100540	di-Phosphorus pentoxide	1512	100731	Sulfuric acid 95-97%
			1323	100570	di-Phosphorus pentoxide			

DSC → page 279

DTE → 1,4-Dithioerythritol page 824

D.T.M. agar → page 100

DTNB → 2,2'-Dinitro-5,5'-dithiodibenzoic acid page 809

DTPA → Titriplex® V page 173

DTT → 1,4-Dithiothreitol page 825

Duolite® → Ion exchanger

Durene → 1,2,4,5-Tetramethylbenzene page 1539

DuroI → 1,2,4,5-Tetramethylbenzene page 1539

Duroquinone → Tetramethyl-p-benzoquinone page 1540

DVB → Divinylbenzene page 826

Dybenal → 2,4-Dichlorobenzyl alcohol page 718

## Dyeing reagents for self-preparation

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
398	800419	2-Aminophenol	608	102427	1-Chloro-2,4-dinitrobenzene	1190	100532	Molybdato-phosphoric acid hydrate
411	101182	Ammonium heptamolybdate tetrahydrate	722	109676	2',7'-Dichlorofluorescein			
419	800458	p-Anisidine	729	103028	2,6-Dichlorophenol-indophenol sodium salt dihydrate	1202	106237	N-(1-Naphthyl) ethylenediamine dihydrochloride
421	101468	Anthrone	763	820933	3,5-Dihydroxytoluene			
422	107838	Antimony(III) chloride	768	106013	Dimedone	1208	106762	Ninhydrin
422	807837	Antimony(V) chloride	776	103058	4-(Dimethylamino) benzaldehyde	1216	106760	4-Nitroaniline
497	103025	Bromocresol purple				191	107599	Rhodamine B (C.I. 45170)
			776	103059	5-(4-Dimethylamino-benzylidene)-rhodanine	1549	108180	2-Thiobarbituric acid



# Dyesan

## Dyes and Dye mixtures for Microscopy

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
189	115931	Acridine orange zinc chloride double salt (C.I.46005)	191	124546	Fluorescein-5-isothiocyanate (FITC)	190	115924	Nigrosine (C.I. 50420)
189	105234	Alcian blue 8 GX (C.I.74240)	189	105231	Fuchsin acid (C.I. 42685)	190	115946	Nile blue (hydrogen sulfate) (C.I. 51180)
190	101167	Amido black 10 B (C.I. 20470)	189	115937	Fuchsin (C.I. 42510)	191	124823	Nitro blue tetrazolium chloride (NBT)
191	101301	Auramine O (C.I. 41000)	191	109203	Giemsa's azur-eosin-methylene blue	190	115939	Nuclear fast red (C.I. 60760)
191	109211	Azure II (C.I. 52010/52015)	191	111487	Hematein (C.I. 75290)	190	105230	Oil red O (C.I. 26125)
189	101368	Brilliant cresyl blue zinc chloride double salt	191	104302	Hematoxylin cryst. (C.I. 75290)	1245	101487	Oracet blue 2R (C.I. 61110)
189	101374	Brilliant green (hydrogen sulfate) (C.I. 42040)	189	115938	Hematoxylin monohydrate (C.I.75290)	190	115925	Orange G (C.I. 16230)
172	102315	Calcein indicator	191	101350	Leishman's eosine methylene blue	190	107100	Orcein
172	104594	Calcon (C.I.15705)	189	115941	Light green SF yellowish (C.I. 42095)	190	107509	Pararosaniline (chloride) (C.I. 42500)
189	115933	Carmine (C.I. 75470)	191	101398	Malachite green oxalate (C.I. 42000)	190	115926	Phloxin B (C.I. 45410)
191	100211	Carminic acid (C.I. 75470)	190	115942	Malachite green oxalate (C.I. 42000)	190	115927	Ponceau S (C.I. 27195)
651	112553	Coomassie® Brilliant blue R 250 (C.I. 42660)	191	101352	May-Grünwald's eosin methylene blue	190	107518	Pyronine G (C.I. 45005)
651	115444	Coomassie® Brilliant blue G 250 (C.I. 42655)	191	116316	Methyl blue (C.I. 42780)	191	107599	Rhodamine B (C.I. 45170)
189	105235	Cresyl violet (acetate)	190	115943	Methylene blue (C.I. 52015)	190	115948	Safranin O (C.I. 50240)
189	115940	Crystal violet (C.I. 42555)	190	115944	Methyl green zinc chloride double salt (C.I. 42590)	1526	101582	Tetrachloroauric(III) acid trihydrate 99.5%
191	124653	4',6-Diamidino-2-phenylindole dihydrochloride (DAPI)	1166	101322	Methyl orange (C.I. 13025)	191	108103	Tetrazolium blue
807	103055	Dimethylyellow (C.I. 11020)	1179	106076	Methyl red (C.I. 13020)	190	115929	Thionine (acetate) (C.I. 52000)
189	115934	Eosin B (bluish) (C.I.45400)	172	101306	Naphthol green B (C.I. 10020)	1556	108176	Thymol blue
189	115935	Eosin Y (yellowish) (C.I. 45380)	191	106731	Neocarmine MS "Fesago" color reagent	1560	101307	Titan yellow (C.I. 19540)
172	103168	Eriochrome blue-black B (C.I. 14640)	191	106732	Neocarmine W "Fesago" color reagent	190	115930	Toluidine blue O (C.I.52040)
189	115936	Erythrosine B (C.I. 45430)	190	101376	Neutral red (C.I. 50040)	192	111732	Trypan blue (C.I. 23850)
189	104022	Fast green FCF (C.I. 42053)	190	105226	New fuchsin (C.I. 42520)	192	109278	Wright's eosine methylene blue

## Dyes for Microscopy

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
189	115931	Acridine orange zinc chloride double salt (C.I.46005)	191	124546	Fluorescein-5-isothiocyanate (FITC)	190	115946	Nile blue (hydrogen sulfate) (C.I. 51180)
189	105234	Alcian blue 8 GX (C.I.74240)	189	105231	Fuchsin acid (C.I. 42685)	191	124823	Nitro blue tetrazolium chloride (NBT)
190	101167	Amido black 10 B (C.I. 20470)	189	115937	Fuchsin (C.I. 42510)	190	115939	Nuclear fast red (C.I. 60760)
191	101301	Auramine O (C.I. 41000)	191	109203	Giemsa's azur-eosin-methylene blue	190	105230	Oil red O (C.I. 26125)
191	109211	Azure II (C.I. 52010/52015)	191	111487	Hematein (C.I. 75290)	1245	101487	Oracet blue 2R (C.I. 61110)
189	101368	Brilliant cresyl blue zinc chloride double salt	191	104302	Hematoxylin cryst. (C.I. 75290)	190	115925	Orange G (C.I. 16230)
189	101374	Brilliant green (hydrogen sulfate) (C.I. 42040)	189	115938	Hematoxylin monohydrate (C.I.75290)	190	107100	Orcein
172	102315	Calcein indicator	191	101350	Leishman's eosine methylene blue	190	107509	Pararosaniline (chloride) (C.I. 42500)
172	104594	Calcon (C.I.15705)	189	115941	Light green SF yellowish (C.I. 42095)	190	115926	Phloxin B (C.I. 45410)
189	115933	Carmine (C.I. 75470)	191	101398	Malachite green oxalate (C.I. 42000)	190	115927	Ponceau S (C.I. 27195)
191	100211	Carminic acid (C.I. 75470)	190	115942	Malachite green oxalate (C.I. 42000)	190	107518	Pyronine G (C.I. 45005)
651	112553	Coomassie® Brilliant blue R 250 (C.I. 42660)	191	101352	May-Grünwald's eosin methylene blue	191	107599	Rhodamine B (C.I. 45170)
651	115444	Coomassie® Brilliant blue G 250 (C.I. 42655)	190	115943	Methylene blue (C.I. 52015)	190	115948	Safranin O (C.I. 50240)
189	105235	Cresyl violet (acetate)	190	115944	Methyl green zinc chloride double salt (C.I. 42590)	1526	101582	Tetrachloroauric(III) acid trihydrate 99.5%
189	115940	Crystal violet (C.I. 42555)	1166	101322	Methyl orange (C.I. 13025)	191	108103	Tetrazolium blue
191	124653	4',6-Diamidino-2-phenylindole dihydrochloride (DAPI)	1179	106076	Methyl red (C.I. 13020)	190	115929	Thionine (acetate) (C.I. 52000)
807	103055	Dimethylyellow (C.I. 11020)	172	101306	Naphthol green B (C.I. 10020)	1556	108176	Thymol blue
189	115934	Eosin B (bluish) (C.I.45400)	191	106731	Neocarmine MS "Fesago" color reagent	1560	101307	Titan yellow (C.I. 19540)
189	117081	Eosin Y solution 1%, alcoholic	191	106732	Neocarmine W "Fesago" color reagent	190	115930	Toluidine blue O (C.I.52040)
189	115935	Eosin Y (yellowish) (C.I. 45380)	190	101376	Neutral red (C.I. 50040)	190	115930	Toluidine blue O (C.I.52040)
172	103168	Eriochrome blue-black B (C.I. 14640)	190	105226	New fuchsin (C.I. 42520)	192	111732	Trypan blue (C.I. 23850)
189	115936	Erythrosine B (C.I. 45430)	190	115924	Nigrosine (C.I. 50420)	192	109278	Wright's eosine methylene blue
189	104022	Fast green FCF (C.I. 42053)						



## Dyes for microscopy, Certistain®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
189	115931	Acridine orange zinc chloride double salt (C.I.46005)	189	105231	Fuchsin acid (C.I. 42685)	190	115939	Nuclear fast red (C.I. 60760)
189	105234	Alcian blue 8 GX (C.I.74240)	189	115937	Fuchsin (C.I. 42510)	190	105230	Oil red O (C.I. 26125)
189	101368	Brilliant cresyl blue zinc chloride double salt	189	115938	Hematoxylin monohydrate (C.I.75290)	190	115925	Orange G (C.I. 16230)
189	101374	Brilliant green (hydrogen sulfate) (C.I. 42040)	189	101324	Janus green (C.I. 11050)	190	107100	Orcein
189	115933	Carmin (C.I. 75470)	189	115941	Light green SF yellowish (C.I. 42095)	190	107509	Pararosaniline (chloride) (C.I. 42500)
189	105235	Cresyl violet (acetate)	190	115942	Malachite green oxalate (C.I. 42000)	190	115926	Phloxin B (C.I. 45410)
189	115940	Crystal violet (C.I. 42555)	190	115943	Methylene blue (C.I. 52015)	190	115927	Ponceau S (C.I. 27195)
189	115934	Eosin B (bluish) (C.I.45400)	190	115944	Methyl green zinc chloride double salt (C.I. 42590)	190	107518	Pyronine G (C.I. 45005)
189	117081	Eosin Y solution 1%, alcoholic	190	101376	Neutral red (C.I. 50040)	190	115948	Safranin O (C.I. 50240)
189	115935	Eosin Y (yellowish) (C.I. 45380)	190	105226	New fuchsin (C.I. 42520)	190	115929	Thionine (acetate) (C.I. 52000)
189	115936	Erythrosine B (C.I. 45430)	190	115924	Nigrosine (C.I. 50420)	190	115930	Toluidine blue O (C.I.52040)
189	104022	Fast green FCF (C.I. 42053)	190	115946	Nile blue (hydrogen sulfate) (C.I. 51180)			

## 112151 Dysprosium oxide 99+

Dy<sub>2</sub>O<sub>3</sub>

- CAS-No. 1308-87-8 ■ EC-No. 215-164-0
- Spec. density 7.81 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 372.99 g/mol
- Melting point 2340 °C
- WGK nwg

- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2846 90 00 ■ Disposal 27

**Specification**

Assay (complexometric) ..... ≥ 99.0 %

Identity (elemental analysis)..... passes test

Ord.No.	Packaging	Quantity	Price
1.12151.0010	Glass bottle	10 g	inquire

# Eaa

EAA → Ethyl acetoacetate page 849

EAK → 3-Octanone page 1243

Eau de Labarraque → Sodium hypochlorite solution page 1445

EC broth → page 100

EDANS NovaTag™\_resin → page 260

Edetic acid → Titriplex® II page 172

EDTA → Titriplex® II page 172

## EDTA compounds (ethylenediaminetetraacetic acid)

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
172	108407	Ethylenediaminetetraacetic acid calcium disodium salt dihydrate	172	108452	Ethylenedinitrilotetraacetic acid	172	108417	Titriplex® II
172	108409	Ethylenediaminetetraacetic acid magnesium dipotassium salt	172	108454	Ethylenedinitrilotetraacetic acid disodium salt dihydrate	172	108418	Titriplex® III
172	108415	Ethylenediamine tetraacetic acid copper disodium salt	172	108445	Ethylenedinitrilotetraacetic acid tripotassium salt dihydrate	1563	108419	Titriplex® solution A

EDTA compounds (ethylenediaminetetraacetic acid) → page 297

EDTP → Ethylenediamine-N,N,N',N'-tetra-2-propanol page 861

EE broth → page 102

EEDQ → Ethyl 2-ethoxy-1,2-dihydro-1-quinolinecarboxylate page 867

Egg medium acc. to Löwenstein-Jensen (base) → page 104

Egg yolk tellurite emulsion → page 111

EGTA → Titriplex® VI page 173

Ehrlich's reagent → page 776

## 820547 n-Eicosane for synthesis



C<sub>20</sub>H<sub>42</sub>

CH<sub>3</sub>(CH<sub>2</sub>)<sub>18</sub>CH<sub>3</sub>

■ CAS-No. 112-95-8 ■ EC-No. 204-018-1

■ Vapour pressure 1.3 hPa (20 °C)

■ Spec. density 0.79 g/cm<sup>3</sup> (20 °C)

■ Flash point 176 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 282.55 g/mol

■ Melting point 34 - 37 °C

■ Boiling point 204 - 206 °C (20 hPa)

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2901 10 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

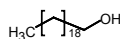
Melting range (lower value) ..... ≥ 36 °C

Melting range (upper value) ..... ≤ 39 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20547.0050	Glass bottle	50 g	inquire

## 822051 1-Eicosanol for synthesis



C<sub>20</sub>H<sub>42</sub>O

CH<sub>3</sub>(CH<sub>2</sub>)<sub>19</sub>OH

Arachyl alcohol

■ CAS-No. 629-96-9 ■ EC-No. 211-119-4

■ Vapour pressure < 0.1 hPa (20 °C)

■ Flash point 195 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 298.55 g/mol

■ Melting point 65 °C ■ Boiling point 220 - 225 °C

(4 hPa) ■ Ignition temp. 245 °C

■ WGK nwg

■ LGK 10 - 13

■ HS-No. 2905 19 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)

Melting range (lower value) ..... ≥ 62 °C

Melting range (upper value) ..... ≤ 65 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22051.0100	Plastic bottle	100 g	inquire

Elastica van Gieson staining kit → page 202

## Electron microscopy - Fixing agents, embedding media and auxiliary reagents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
445	801641	Benzoyl peroxide	185	103999	Formaldehyde solution min. 37% free from acid	186	109266	Osmic acid solution 2%
549	800585	Butyl methacrylate				186	124505	Osmium(VIII) oxide
828	822049	Dodecenylsuccinic anhydride	185	104239	Glutardialdehyde solution 25%	1421	101512	Silver nitrate
185	100496	Formaldehyde solution 4%, buffered, pH 6.9	185	112179	Glutardialdehyde solution 25%	1621	100583	Tungstophosphoric acid hydrate
			305	809711	Methyl acetate			

## Electron microscopy, Fixing agents, embedding media and auxiliary reagents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
445	801641	Benzoyl peroxide	185	103999	Formaldehyde solution min. 37% free from acid	186	109266	Osmic acid solution 2%
549	800585	Butyl methacrylate				186	124505	Osmium(VIII) oxide
828	822049	Dodecenylsuccinic anhydride	185	104239	Glutardialdehyde solution 25%	1421	101512	Silver nitrate
185	100496	Formaldehyde solution 4%, buffered, pH 6.9	185	112179	Glutardialdehyde solution 25%	1621	100583	Tungstophosphoric acid hydrate
			305	809711	Methyl acetate			

## Electrophoresis, Buffer substances

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
356	101008	β-Alanine	830	106022	Dodecyl sulfate sodium salt	1518	106174	TAE buffer
480	100165	Boric acid	830	112533	Dodecyl sulfate sodium salt	1519	106177	TBE buffer
484	101894	Brij® 35 solution	830	113760	Dodecyl sulfate sodium salt	172	108418	Titriplex® III
590	111662	CHAPS (3-[(3-Cholamidopropyl)-dimethylammonio]-propane-sulfonate)	318	109684	Formamide	1616	108382	Tris(hydroxymethyl)aminomethane
			928	104169	Glycine	1616	108602	N-[Tris(hydroxymethyl)methyl]glycine
646	100244	Citric acid monohydrate	931	104219	Guanidinium chloride	1618	108603	Triton® X-100
824	124511	1,4-Dithioerythritol	1518	106023	TAE buffer	1625	108488	Urea
825	111474	1,4-Dithiothreitol						

## Electrophoresis, Dyes and Staining solutions

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
190	101167	Amido black 10 B (C.I. 20470)	191	124653	4',6-Diamidino-2-phenylindole dihydrochloride (DAPI)	1343	114275	Ponceau S (C.I. 27195)
651	112553	Coomassie® Brilliant blue R 250 (C.I. 42660)	844	111608	Ethidium bromide	1637	110590	Xylene cyanol
651	115444	Coomassie® Brilliant blue G 250 (C.I. 42655)	844	111615	Ethidium bromide			

## Electrophoresis, Gel media and additives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
352	110784	Acrylamide	352	100633	Acrylamide ready-to-use solution 40%	844	102243	Ethidium bromide adsorber
351	100209	Acrylamide	356	101236	Agarose	1148	101546	N,N'-Methylenebisacrylamide
352	100639	Acrylamide-bis ready-to-use solution 30% (37.5:1)	356	112239	Agarose	1148	106062	N,N'-Methylenebisacrylamide ready-to-use solution "BIS" 2%
352	100640	Acrylamide-bis ready-to-use solution 40% (19:1)	356	116802	Agarose	1150	110897	N,N'-Methylenediacylamide
352	100641	Acrylamide-bis ready-to-use solution 40% (29.1:0.9)	356	116801	Agarose	1417	107673	Silane A 174
352	100638	Acrylamide-bis ready-to-use solution 40% (37.5:1)	414	101201	Ammonium peroxodisulfate	1541	110732	N,N,N',N'-Tetramethyl ethylenediamine (Temed)

## Elementary analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
173	100011	Acetanilide	173	102764	Copper(II) oxide	173	102441	Pumice stone
173	100134	Benzoic acid	173	102767	Copper oxide	1420	101506	Silver
559	102001	Cadmium	173	102765	Copper oxide	173	101567	Sodium hydroxide on support
173	102083	Calcium chloride	173	107512	Lead(II) chromate	173	101564	Sodium hydroxide on support
173	102263	Cerium(IV) oxide	173	105875	Magnesium perchlorate hydrate	173	100684	Sulfanilic acid
316	102445	Chloroform	173	106828	Nicotinamide	1639	108756	Zinc

Element standards → Standards

EMB agar → page 101

Embedding agents for microscopy → page 187

Ellmans' reagent → 2,2'-Dinitro-5,5'-dithiodibenzoic acid page 809

Embedding agent → page 187

## Embedding media for Microscopy

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
187	111609	Histosec® pastilles	187	109242	Kaiser's glycerol gelatine			
187	115161	Histosec® pastilles (without DMSO)	187	107164	Paraffin pastilles			

Empty cells → page 91

End-capping → page 20

Entellan® → page 187

Emulsifiers → Tensides

Enders reagent → (R)-(+)-1-Amino-2-(methoxymethyl)pyrrolidine page 392

Entellan® new → page 188

Enanthaldehyde → Heptanal page 936

Endo C agar → page 101

Entellan® new for cover slipper → page 188

Enanthic acid → Heptanoic acid page 938

Enrichment capillaries → page 6

Enantioselective synthesis → Chiralica®

Entellan → page 187

## Enteral Nutrition

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
411	101180	Ammonium heptamolybdate tetrahydrate	1447	106524	Sodium molybdate dihydrate			

Enterobacteriaceae enrichment broth → page 102

Envirocheck® → page 114

## Enzymes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
485	101651	Bromelain	924	104114	β-Glucuronidase/aryl sulfatase	1366	107433	Pronase E
586	102321	Cellulase Onozuka R-10	1260	107144	Papain	1556	112374	Thrombin
643	102307	α-Chymotrypsin	1274	107185	Pepsin	1619	108444	Trypsin
699	103604	Diastase	1274	107192	Pepsin	1626	116493	Urease

## Enzyme substrates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1092	100382	DL-Malic acid	151	105194	2-Oxoglutaric acid			

Eosin B (bluish) (C.I.45400) → page 189

Eosin methylene-blue lactose sucrose agar → page 101

Eosin Y-solution 0.5% aqueous → page 201

Eosin methylene-blue lactose agar → page 102

Eosin Y-solution 0.5% alcoholic → page 201

Eosin Y (yellowish) (C.I. 45380) → page 189

## 803296 Epichlorohydrine for synthesis

C<sub>3</sub>H<sub>5</sub>ClO

1-Chloro-2,3-epoxypropane, 2-Chloromethyl oxirane, 2,3-Epoxypropyl chloride

- CAS-No. 106-89-8 ■ EC-No. 203-439-8
- Refractive index 1.4375 (20 °C, 589 nm)
- Vapour pressure 16.5 hPa (20 °C)
- Spec. density 1.18 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.3 - 34.4 % (V) ■ Flash point 28 °C ■ Solub. in H<sub>2</sub>O 60 g/l (20 °C) ■ M = 92.52 g/mol
- Melting point -57.2 °C ■ Boiling point 116.5 °C (1013 hPa) ■ Ignition temp. 416 °C
- WGK 3

- GHS: Danger, Flammable liquid, Category 3, H226; Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P201, P210, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 1.92 mg/l
- LD50 oral rat 90 mg/kg ■ LD50 dermal rabbit 515 mg/kg
- EC-Index-No. 603-026-00-6 ■ LGK 3
- HS-No. 2910 30 00 ■ Disposal 22
- ADR-RID UN 2023 Epichlorhydrin, 6.1 (3), II

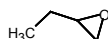
- IMDG-Code UN 2023 EPICHLOROHYDRIN, 6.1 (3), II, Marine Pollutant: P
- IATA-DGR UN 2023 EPICHLOROHYDRIN, 6.1 (3), II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,178 - 1,182  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03296.0100	Glass bottle	100 ml	inquire
8.03296.0500	Glass bottle	500 ml	inquire
8.03296.1000	Glass bottle	1 l	inquire

## 820551 1,2-Epoxybutane for synthesis

C<sub>4</sub>H<sub>8</sub>O

Ethyloxirane, 1,2-Butylene oxide

- CAS-No. 106-88-7 ■ EC-No. 203-438-2
- Refractive index 1.3835 (20 °C, 589 nm)
- Vapour pressure 188 hPa (20 °C)
- Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 19 % (V) ■ Flash point -26 °C ■ Solub. in H<sub>2</sub>O 59 g/l (20 °C) ■ M = 72.1 g/mol
- pH value 7 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -130 °C ■ Boiling point 63 °C (1013 hPa)
- Ignition temp. 370 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2,

- H225; Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P210, P233, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313
- LC50 rat 6.30 mg/l
- LD50 oral rat 500 mg/kg ■ LD50 dermal rabbit 1743 mg/kg
- EC-Index-No. 603-102-00-9 ■ LGK 3
- HS-No. 2910 90 00 ■ Disposal 3
- ADR-RID UN 3022 1,2-Butylenoxid, stabilisiert,

- 3, II ■ IMDG-Code UN 3022 1,2-BUTYLENE OXIDE, STABILIZED, 3, II
- IATA-DGR UN 3022 1,2-BUTYLENE OXIDE, STABILIZED, 3, II

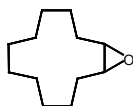
## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.830 - 0.831  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20551.0100	Glass bottle	100 ml	inquire
8.20551.1000	Glass bottle	1 l	inquire
8.20551.2500	Glass bottle	2.5 l	inquire

1,2-Epoxy-3-butoxypropane → Butyl 2,3-epoxypropyl ether page 546

## 841219 Epoxycyclododecane for synthesis

C<sub>12</sub>H<sub>22</sub>O

Cyclododeceneoxid

- CAS-No. 286-99-7 ■ EC-No. 206-012-4
- Spec. density 0.939 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ M = 182.3 g/mol
- WGK 2
- LGK 10
- HS-No. 2910 90 00 ■ Disposal 3

## Specification

Assay isomers (GC, area%) ..... ≥ 95,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41219.0025	Glass bottle	25 ml	inquire

## 821862 Epoxycyclohexane for synthesis

C<sub>6</sub>H<sub>10</sub>O

7-Oxabicyclo[4.1.0]heptane, Cyclohexene oxide

- CAS-No. 286-20-4 ■ EC-No. 206-007-7
- Refractive index 1.4515 (20 °C, 589 nm)
- Vapour pressure 12 hPa (20 °C)
- Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 6.5 % (V) ■ Flash point 24 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 98.14 g/mol
- Melting point -27 °C
- Boiling point 131 - 132 °C (1013 hPa)
- Ignition temp. 335 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 6.6 mg/l
- LD50 oral rat 1060 mg/kg ■ LD50 dermal rabbit 612 mg/kg
- LGK 3
- HS-No. 2910 90 00 ■ Disposal 3
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(EPOXYCYCLOHEXAN), 8 (3), II

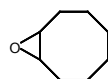
- IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(EPOXYCYCLOHEXANE), 8 (3), II
- IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(EPOXYCYCLOHEXANE), 8 (3), II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,972 - 0,973  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21862.0050	Glass bottle	50 ml	inquire
8.21862.0250	Glass bottle	250 ml	inquire

## 818699 Epoxycyclooctane for synthesis

C<sub>8</sub>H<sub>14</sub>O

Cyclooctene oxide, 9-Oxabicyclo[6.1.0]nonane

- CAS-No. 286-62-4 ■ EC-No. 206-010-3
- Flash point 56 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 126.19 g/mol
- Melting point 53 - 56 °C
- Boiling point 188 - 190 °C

- WGK 2
- GHS: Danger, Flammable solid, Category 1, H228, P210
- LGK 4.1B
- HS-No. 2910 90 00 ■ Disposal 3
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(EPOXYCYCLOOCTAN), 4.1, II
- IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(EPOXYCYCLOOCTANE), 4.1, II
- IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(EPOXYCYCLOOCTANE), 4.1, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 53 °C  
 Melting range (upper value) ..... ≤ 56 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18699.0025	Glass bottle	25 g	inquire

1,2-Epoxy-2-methylpropane → 2,2-Dimethyloxirane page 796

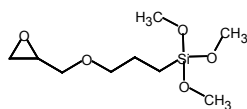
1,2-Epoxypropane → 1,2-Propylene oxide page 1376

(S)-(-)-1,2-Epoxypropane → (S)-(-)-1,2-Propylene oxide page 1376

1,2-Epoxy-3-phenoxypropane → 2,3-Epoxypropyl phenyl ether page 837

(R)-(+)-1,2-Epoxypropane → (R)-(+)-1,2-Propylene oxide page 1376

## 841807 [3-(2,3-Epoxypropoxy)-propyl]-trimethoxysilane for synthesis

C<sub>9</sub>H<sub>20</sub>O<sub>5</sub>Si(CH<sub>2</sub>OCH)<sub>2</sub>CH<sub>2</sub>O(CH<sub>2</sub>)<sub>3</sub>Si(OCH<sub>3</sub>)<sub>3</sub>

- CAS-No. 2530-83-8 ■ EC-No. 219-784-2
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.07 g/cm<sup>3</sup> (25 °C) ■ Explosive

- limit 0.43 % (V) ■ Flash point 122 °C
- Kin. viscosity 3 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) immiscible, (decomposition)
- M = 236.34 g/mol ■ pH value 6.8 (100 g/l, H<sub>2</sub>O)
- Boiling point 290 °C (1013 hPa)
- Ignition temp. 400 °C
- WGK 2
- GHS: Chronic aquatic toxicity, Category 3, H412, P262, P273
- LC50 rat 5.3 mg/l
- LD50 oral rat 8025 mg/kg ■ LD50 dermal rabbit

- 4250 mg/kg
- LGK 10 - 13
- HS-No. 2931 90 90

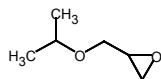
## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41807.0100	Glass bottle	100 ml	inquire
8.41807.0500	Glass bottle	500 ml	inquire

2,3-Epoxypropyl chloride → Epichlorohydrine page 836

## 818598 2,3-Epoxypropyl isopropyl ether for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>

Isopropoxymethyloxirane, Isopropyl glycidyl ether

- CAS-No. 4016-14-2 ■ EC-No. 223-672-9
- Refractive index 1.4101 (20 °C, 589 nm)
- Vapour pressure 13 hPa (25 °C)
- Spec. density 0.92 g/cm<sup>3</sup> (20 °C)
- Flash point 33 °C ■ Solub. in H<sub>2</sub>O 188 g/l (19 °C)
- M = 116.15 g/mol ■ pH value 7 (188 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point 137 °C (1013 hPa)

- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Germ cell mutagenicity, Category 2, H341; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P210, P281, P302 + P352, P304 + P341, P308 + P313
- LC50 rat 10.6 mg/l
- LD50 oral rat 4200 mg/kg ■ LD50 dermal rabbit 9650 mg/kg
- LGK 3
- HS-No. 2910 90 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,3-EPOXYPROPYLISOPROPYLETHER), 3, III

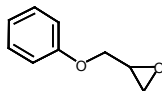
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,3-EPOXYPROPYLISOPROPYLETHER), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2,3-EPOXYPROPYLISOPROPYLETHER), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.918 - 0.920  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18598.0100	Glass bottle	100 ml	inquire
8.18598.0500	Glass bottle	500 ml	inquire

## 820553 2,3-Epoxypropyl phenyl ether for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>

Glycidyl phenyl ether, 1,2-Epoxy-3-phenoxypropane, Phenyl 2,3-epoxypropyl ether, Phenyl glycid ether

- CAS-No. 122-60-1 ■ EC-No. 204-557-2
- Refractive index 1.5305 (20 °C, 589 nm)
- Vapour pressure 0.013 hPa (25 °C)
- Spec. density 1.11 g/cm<sup>3</sup> (20 °C)

- Flash point 114 °C ■ Solub. in H<sub>2</sub>O 2.4 g/l (20 °C) ■ M = 150.17 g/mol ■ Melting point 3.5 °C
- Boiling point 244 - 246 °C
- Ignition temp. 430 °C
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P201, P273, P280, P302 + P352, P304 + P340, P308 + P313

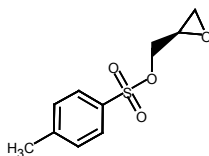
- P313
- LD50 oral rat 2150 mg/kg ■ LD50 dermal rabbit 1500 mg/kg
- EC-Index-No. 603-067-00-X ■ LGK 6.1A
- HS-No. 2910 90 00 ■ Disposal 9

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.107 - 1.111  
 Water (K. F.) ..... ≤ 0.30 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20553.0250	Glass bottle	250 ml	inquire

## 814365 (2R)-(-)-2,3-Epoxypropyl toluene-4-sulfonate for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>4</sub>S

(2R)-(-)-Toluene-4-sulfonic acid 2,3-

epoxypropylester, (R)-(-)-Glycidyl tosylate

- CAS-No. 113826-06-5
- Flash point > 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 228.27 g/mol
- Melting point 45 - 47 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2910 90 00 ■ Disposal 3

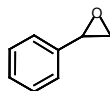
## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 45 °C  
 Melting range (upper value) ..... ≤ 47 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=2.5 in chloroform) .....  
 ..... -19,0 - -17,0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14365.0001	Glass bottle	1 g	inquire

## 803202 Epoxystyrene for synthesis

C<sub>8</sub>H<sub>8</sub>O

Styrene oxide, Phenylloxirane, Phenylethylene oxide, Styrene epoxide

- CAS-No. 96-09-3 ■ EC-No. 202-476-7
- Refractive index 1.5338 (20 °C, 589 nm)
- Vapour pressure 0.4 hPa (20 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 22 % (V) ■ Flash point 74 °C ■ Solub. in H<sub>2</sub>O 3 g/l (20 °C) ■ M = 120.15 g/mol

- Melting point -37 °C
- Boiling point 193 - 195 °C (1013 hPa)
- Ignition temp. 498 °C
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 4, Dermal, H312; Eye irritation, Category 2, H319, P201, P302 + P352, P305 + P351 + P338, P308 + P313
- LD50 oral rat 2000 mg/kg ■ LD50 dermal rabbit 935 mg/kg
- EC-Index-No. 603-084-00-2 ■ LGK 6.1C
- HS-No. 2910 90 00 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(EPOXYSTYROL), 6.1, III ■ IMDG-

Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(EPOXYSTYRENE), 6.1, III

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(EPOXYSTYRENE), 6.1, III

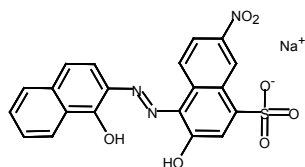
## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,051 - 1,054  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03202.0025	Glass bottle	25 ml	inquire
8.03202.0250	Glass bottle	250 ml	inquire



## 103170 Eriochrome black T (C.I. 14645) indicator for complexometry ACS, Reag. Ph Eur

C<sub>20</sub>H<sub>12</sub>N<sub>2</sub>NaO<sub>7</sub>S

Chrome black T, 2-Hydroxy-1-(1-hydroxy-2-naphthylazo)-6-nitronaphthalene-4-sulfonic acid sodium salt

- CAS-No. 1787-61-7 ■ EC-No. 217-250-3
- Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 461.38 g/mol
- pH value 3.7 (10 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 400 - 600 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273,

P305 + P351 + P338

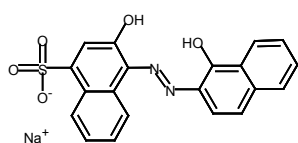
- LD50 oral rat 17590 mg/kg
  - LGK 10 - 13
  - HS-No. 3204 19 00 ■ Disposal 3
  - ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(NATRIUM-3-HYDROXY-4-((1-HYDROXY-2-NAPHTHYL)AZO)-7-NITRONAPHTHALIN-1-SULFONAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SODIUM 3-HYDROXY-4-((1-HYDROXY-2-NAPHTHYL)AZO)-7-NITRONAPHTHALENE-1-SULFONATE), 9, III, Marine Pollutant: P
  - IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SODIUM 3-HYDROXY-4-((1-HYDROXY-2-NAPHTHYL)AZO)-7-NITRONAPHTHALENE-1-SULFONATE), 9, III
- Use as metal indicator: 0.05 %-0.5 % in ethanol (96%) or 1:100 NaCl or 1:200 saccharose

## Specification

Identity (UV/VIS-Spectrum)..... passes test  
 Appearance..... Dark brown to black-brown powder, eventually with granular parts.  
 Clarity of solution..... passes test  
 Absorption maximum λ max (buffer pH 10.0)..... 612 - 616 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.02 g/l; buffer pH 10.0; calc. on dried substance)..... 400 - 510  
 Loss on drying (110 °C)..... ≤ 7 %  
 Suitability as indicator (for complexometric titration, ACS)..... passes test  
 Suitability as indicator (Reag. Ph. Eur.) .. passes test

Ord.No.	Packaging	Quantity	Price
1.03170.0025	Glass bottle	25 g	inquire
1.03170.0100	Glass bottle	100 g	inquire

## 103168 Eriochrome blue-black B (C.I. 14640) metal indicator

C<sub>20</sub>H<sub>13</sub>N<sub>2</sub>NaO<sub>5</sub>S

2-Hydroxy-1-(1-hydroxy-2-naphthylazo)-naphthalene-4-sulfonic acid sodium salt

■ CAS-No. 3564-14-5 ■ EC-No. 222-639-6

- Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 416.39 g/mol
- pH value 9.5 (10 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 540 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 3204 19 00 ■ Disposal 3

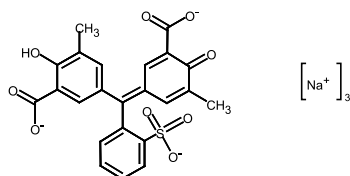
## Specification

Identity (UV/VIS-Spectrum)..... passes test

Absorption maximum λ max (buffer pH 10.0)..... 634 - 644 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.025 g/l; buffer pH 10.0; calculated on anhydrous substance)..... 220 - 320  
 Loss on drying (110 °C)..... ≤ 10 %  
 Suitability as indicator (for metal titration)..... passes test

Ord.No.	Packaging	Quantity	Price
1.03168.0025	Glass bottle	25 g	inquire

## 103164 Eriochrome cyanine R (C.I. 43820) for analysis (reagent for aluminium)

C<sub>23</sub>H<sub>15</sub>Na<sub>3</sub>O<sub>9</sub>S

■ CAS-No. 3564-18-9 ■ EC-No. 222-641-7

- Solub. in H<sub>2</sub>O 420 g/l (20 °C) ■ M = 536.4 g/mol
  - pH value 9.1 (10 g/l, H<sub>2</sub>O, 24 °C)
  - Bulk density 590 kg/m<sup>3</sup>
  - WGK 2
  - LD50 oral rat > 2000 mg/kg
  - LGK 10 - 13
  - HS-No. 3204 19 00 ■ Disposal 3
- Use as metal indicator: 0.1 %-0.4 % in water or 0.1 % in ethanol

## Specification

Identity (UV/VIS-Spectrum)..... passes test  
 Absorption maximum λ max (buffer pH 7.0)..... 434 - 440 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.02 g/l; buffer pH 7.0; calc. on dried substance) ..130 - 230  
 Loss on drying (110 °C)..... ≤ 10 %

Ord.No.	Packaging	Quantity	Price
1.03164.0025	Glass bottle	25 g	inquire

Erythrosine B (C.I. 45430) → page 189

Eschenmoser salt → N,N-Dimethyl-methyleneiminium chloride page 795

## 103162 Eschka's mixture GR for analysis (for determination of sulfur in coal)



- Solub. in H<sub>2</sub>O 80 g/l (20 °C) ■ pH value 12 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 300 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 3822 00 00 ■ Disposal 3

## Specification

Assay (complexometric, Mg)..... 38.0 - 42.0 %  
 Total sulfur (S)..... ≤ 0.0005 %  
 Loss on drying (105 °C)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.03162.0250	Plastic bottle	250 g	inquire
1.03162.1000	Plastic bottle	1 kg	inquire

Esters of dicarboxylic acids → Carboxylic acid derivatives

Ethanal → page 330

1,2-Ethanediamine → page 303

1,2-Ethanediol → page 303

Esters of tricarboxylic acids → Carboxylic acid derivatives

Ethanedioic acid dihydrate → Oxalic acid page 1253

Estragole → 4-Allylanisole page 364

## 800795 1,2-Ethanedithiol for synthesis

C<sub>2</sub>H<sub>6</sub>S<sub>2</sub>HSCH<sub>2</sub>CH<sub>2</sub>SH

- CAS-No. 540-63-6 ■ EC-No. 208-752-3
- Vapour pressure 5.3 hPa (23 °C)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- Flash point 50 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 94.20 g/mol
- Melting point -41 °C
- Boiling point 146 - 149 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation,

H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301, P210, P271, P280, P309 + P310, P304 + P340, P302 + P352

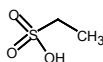
- LC50 rat 1.17 mg/l
- LD50 oral rat 120 mg/kg ■ LD50 dermal rabbit 197 mg/kg
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 9
- ADR-RID UN 1228 Mercaptane, flüssig, entzündbar, giftig, n.a.g.(1,2-ETHANDITHIOL), 3 (6.1), III ■ IMDG-Code UN 1228 MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S.(1,2-ETHANDITHIOL), 3 (6.1), III

■ IATA-DGR UN 1228 MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S.(1,2-ETHANDITHIOL), 3 (6.1), III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 1.123 - 1.126  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00795.0100	Glass bottle	100 ml	inquire
8.00795.0500	Glass bottle	500 ml	inquire

**820016 Ethanesulfonic acid for synthesis**C<sub>2</sub>H<sub>6</sub>O<sub>3</sub>SC<sub>2</sub>H<sub>5</sub>SO<sub>3</sub>H

- CAS-No. 594-45-6 ■ EC-No. 209-843-0
- Refractive index 1.4335 (20 °C, 589 nm)
- Spec. density 1.34 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 110.13 g/mol
- Melting point -17 °C

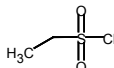
- Boiling point 136 - 140 °C (3 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2904 10 00 ■ Disposal 4
- ADR-RID UN 2586 Alkylsulfonsäuren, flüssig, 8, III ■ IMDG-Code UN 2586 ALKYL SULPHONIC ACIDS, LIQUID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2586 ALKYL SULPHONIC ACIDS,

LIQUID, 8, III

**Specification**

Assay (acidimetric)..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C)..... 1.340 - 1.345

Ord.No.	Packaging	Quantity	Price
8.20016.0005	Glass bottle	5 ml	inquire
8.20016.0025	Glass bottle	25 ml	inquire

**Ethanesulfonyl chloride**C<sub>2</sub>H<sub>5</sub>ClO<sub>2</sub>S

- CAS-No. 594-44-5 ■ EC-No. 209-842-5
- Refractive index 1.4542 (20 °C, 589 nm)
- Spec. density 1.36 g/cm<sup>3</sup> (20 °C)
- Flash point 86 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 128.58 g/mol  
 ■ Melting point -70 °C ■ Boiling point 177 °C (1013 hPa)

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2904 90 95 ■ Disposal 11

- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(ETHANESULFONYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(ETHANESULFONYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(ETHANESULFONYL CHLORIDE), 8, II

**821932 Ethanesulfonyl chloride for synthesis****Specification**

Assay (argentometric)..... ≥ 98,0 %  
 Density (d 20 °C/ 4 °C)..... 1,355 - 1,359  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21932.0050	Glass bottle	50 ml	inquire
8.21932.0250	Glass bottle	250 ml	inquire

**845104 Ethanesulfonyl chloride for pharma synthesis, non-GMP****Specification**

Colour (visual)..... colourless  
 Appearance of substance (visual)..... clear  
 Assay (argentometric)..... ≥ 98,0 %

Density (d 20 °C/ 4 °C)..... 1,355 - 1,359  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45104.0050	Glass bottle	50 ml	inquire
8.45104.0250	Glass bottle	250 ml	inquire

**800796 Ethanethiol for synthesis**C<sub>2</sub>H<sub>6</sub>SC<sub>2</sub>H<sub>5</sub>SH**Ethyl mercaptan**

- CAS-No. 75-08-1 ■ EC-No. 200-837-3
- Refractive index 1.4306 (20 °C, 589 nm)
- Vapour pressure 576 hPa (20 °C)
- Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.8 - 18 % (V) ■ Flash point -45 °C ■ Solub. in H<sub>2</sub>O 6.8 g/l (20 °C) ■ M = 62.14 g/mol
- Melting point -148 °C ■ Boiling point 35 °C

(1013 hPa) ■ Ignition temp. 295 °C

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P233, P273
- LC50 rat 11.4 mg/l
- LD50 oral rat 682 mg/kg
- EC-Index-No. 016-022-00-9 ■ LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 2363 Ethylmercaptan, 3, I ■ IMDG-

Code UN 2363 ETHYL MERCAPTAN, 3, I, Marine Pollutant: P

- IATA-DGR UN 2363 ETHYL MERCAPTAN, 3, I

**Specification**

Assay (GC, area%)..... ≥ 99 %  
 Density (d 20 °C/ 4 °C)..... 0.838 - 0.839  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00796.0250	Glass bottle	250 ml	inquire
8.00796.1000	Glass bottle	1 l	inquire

**Ethanol**C<sub>2</sub>H<sub>6</sub>OC<sub>2</sub>H<sub>5</sub>OH**Ethyl alcohol, EtOH**

- CAS-No. 64-17-5 ■ EC-No. 200-578-6
- Refractive index 1.36 ■ Vapour pressure 59 hPa (20 °C) ■ Spec. density 0.790 - 0.793 g/cm<sup>3</sup> (20 °C) ■ El. dipole moment 1.66 ■ Explosive

limit 3.5 - 15 % (V) ■ Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) completely miscible ■ M = 46.07 g/mol ■ pH value 7.0 (10 g/l, H<sub>2</sub>O, 20 °C)

- Melting point -114.5 °C ■ Boiling point 78.3 °C (1013 hPa) ■ Evaporation number 8.3
- Ignition temp. 425 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P240

- LC50 rat 95.6 mg/l
- LD50 oral rat 6200 mg/kg
- EC-Index-No. 603-002-00-5 ■ LGK 3 ■ Store below +30°C.
- HS-No. 2207 10 00 ■ Disposal 1
- ADR-RID UN 1170 Ethanol, 3, II ■ IMDG-Code UN 1170 ETHANOL, 3, II
- IATA-DGR UN 1170 ETHANOL, 3, II

**818760 Ethanol absolute EMPLURA®****Specification**

Purity (GC)..... ≥ 99.5 %  
 Identity (IR)..... conforms  
 Density (d 20 °C/ 4 °C)..... 0.789 - 0.790  
 Evaporation residue..... ≤ 0.0025 %  
 Water..... ≤ 0.20 %

Ord.No.	Packaging	Quantity	Price
8.18760.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.18760.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.18760.9025	Steel barrel	25 l	inquire
8.18760.9180	Barrel PE/met	180 l	inquire

# Ethano

## 107017 Ethanol absolute for analysis EMPARTA® ACS

<b>Specification</b>	Methanol (GC).....	≤ 0.1 %
Purity (GC).....	2-Propanol (GC).....	≤ 0.003 %
Identity (IR).....	Substances reducing potassium permanganate (as O).....	≤ 0.0002 %
Colour.....	As (Arsenic).....	≤ 0.000002 %
Solubility in water.....	Readily carbonizable substances.....	conforms
Titration acid.....	Evaporation residue.....	≤ 0.001 %
Titration base.....	Water.....	≤ 0.2 %
Acetone (GC).....		

Ord.No.	Packaging	Quantity	Price
1.07017.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07017.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.07017.9026	Steel barrel	25 l	inquire

## 100983 Ethanol absolute for analysis EMSURE® ACS,ISO,Reag. Ph Eur

<b>Specification</b>	Chloride (Cl).....	≤ 0.3 ppm
Purity (GC).....	Nitrate (NO <sub>3</sub> ).....	≤ 0.3 ppm
Identity (IR).....	Phosphate (PO <sub>4</sub> ).....	≤ 0.3 ppm
Appearance.....	Sulphate (SO <sub>4</sub> ).....	≤ 0.3 ppm
Colour.....	Ag (Silver).....	≤ 0.000002 %
Solubility in water.....	Al (Aluminium).....	≤ 0.00005 %
Acidity or alkalinity.....	As (Arsenic).....	≤ 0.000002 %
Titration acid.....	Au (Gold).....	≤ 0.000002 %
Titration base.....	Ba (Barium).....	≤ 0.00001 %
Density (d 20 °C/20 °C).....	Be (Beryllium).....	≤ 0.000002 %
UV absorption.....	Bi (Bismuth).....	≤ 0.000002 %
Aldehydes (as Acetaldehyd).....	Ca (Calcium).....	≤ 0.00005 %
Fusel oils.....	Cd (Cadmium).....	≤ 0.000005 %
Substances reducing potassium permanganate (as O).....	Co (Cobalt).....	≤ 0.000002 %
Carbonyl compounds (as CO).....	Cr (Chromium).....	≤ 0.000002 %
Readily carbonizable substances.....	Cu (Copper).....	≤ 0.000002 %
Acetone (GC).....	Fe (Iron).....	≤ 0.00001 %
Ethylmethylketone (GC).....	Ga (Gallium).....	≤ 0.000002 %
Isoamyl alcohol (GC).....	In (Indium).....	≤ 0.000002 %
2-Propanol (GC).....	Li (Lithium).....	≤ 0.000002 %
Higher alcohols (GC).....	Mg (Magnesium).....	≤ 0.00001 %
Volatile impurities (GC) (Acetaldehyde and Acetal).....	Mn (Manganese).....	≤ 0.000002 %
	Mo (Molybdenum).....	≤ 0.000002 %
	Ni (Nickel).....	≤ 0.000002 %
Volatile impurities (GC) (Benzene).....	Pb (Lead).....	≤ 0.00001 %
Volatile impurities (GC) (Methanol).....	Pt (Platinum).....	≤ 0.000002 %
Volatile impurities (GC) (Total of other impurities).....	Sb (Antimony).....	≤ 0.000002 %
	Sn (Tin).....	≤ 0.00001 %
Volatile impurities (GC) (disregard limit).....		

Ti (Titanium).....	≤ 0.000002 %
Tl (Thallium).....	≤ 0.000002 %
V (Vanadium).....	≤ 0.000002 %
Zn (Zinc).....	≤ 0.00001 %
Zr (Zirconium).....	≤ 0.000002 %
Evaporation residue.....	≤ 0.0005 %
Water.....	≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.00983.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00983.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00983.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00983.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00983.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.00983.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire
1.00983.6010	Drum stainl. st.	10 l	inquire
1.00983.6025	Drum stainl. st.	25 l	inquire
1.00983.9025	Barrel PE/met	25 l	inquire
1.00983.9180	Barrel PE/met	180 l	inquire

## 100974 Ethanol denatured with about 1% methyl ethyl ketone for analysis EMSURE®

<b>Specification</b>	Co (Cobalt).....	≤ 0.000002 %
Purity (GC).....	Cr (Chromium).....	≤ 0.000002 %
Identity (IR).....	Cu (Copper).....	≤ 0.000002 %
Free acid (as acetic acid).....	Fe (Iron).....	≤ 0.00001 %
Ethylmethylketone (GC).....	K (Potassium).....	≤ 0.0001 %
Readily carbonizable substances.....	Mg (Magnesium).....	≤ 0.00001 %
Evaporation residue.....	Mn (Manganese).....	≤ 0.000002 %
Water.....	Ni (Nickel).....	≤ 0.000002 %
Al (Aluminium).....	Pb (Lead).....	≤ 0.00001 %
B (Boron).....	Sn (Tin).....	≤ 0.00001 %
Ba (Barium).....	Zn (Zinc).....	≤ 0.00001 %
Ca (Calcium).....		
Cd (Cadmium).....		

Ord.No.	Packaging	Quantity	Price
1.00974.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00974.2500	Glass bottle	2.5 l	inquire
1.00974.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00974.4000	Glass bottle	4 l	inquire
1.00974.6025	Drum stainl. st.	25 l	inquire
1.00974.9025	Barrel PE/met	25 l	inquire
1.00974.9180	Barrel PE/met	180 l	inquire

## 102428 Ethanol absolute denatured with 1 % MEK and 0.001 % Bitrex GR for analysis

<b>Specification</b>	Ca (Calcium).....	≤ 0.00005 %
Purity (GC).....	Cd (Cadmium).....	≤ 0.000005 %
Identity (IR).....	Co (Cobalt).....	≤ 0.000002 %
Free acid (as acetic acid).....	Cr (Chromium).....	≤ 0.000002 %
Ethylmethylketone (GC).....	Cu (Copper).....	≤ 0.000002 %
Readily carbonizable substances.....	Fe (Iron).....	≤ 0.00001 %
Evaporation residue.....	K (Potassium).....	≤ 0.0001 %
Water.....	Mg (Magnesium).....	≤ 0.00001 %
Al (Aluminium).....	Mn (Manganese).....	≤ 0.000002 %
B (Boron).....	Ni (Nickel).....	≤ 0.000002 %
Ba (Barium).....		

Pb (Lead).....	≤ 0.00001 %
Sn (Tin).....	≤ 0.00001 %
Zn (Zinc).....	≤ 0.00001 %
Contains Bitrex 0,98 - 1,20 g/100 l	

Ord.No.	Packaging	Quantity	Price
1.02428.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.02428.9180	Barrel PE/met	180 l	inquire

## 100990 Ethanol dried (max. 0.01 % H<sub>2</sub>O) SeccoSolv®

<b>Specification</b>	Methanol (GC).....	≤ 0.05 %
Purity (GC).....	2-Propanol (GC).....	≤ 0.01 %
Identity (IR).....	Evaporation residue.....	≤ 10 mg/l
Colour.....	Water.....	≤ 0.01 %
Solubility in water.....		
Acidity.....		
Alkalinity.....		
Acetone (GC).....		

Ord.No.	Packaging	Quantity	Price
1.00990.0161	Septum bottle	150 ml	inquire
	Septum bottle	12 x 150 ml	inquire
1.00990.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.00990.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

**100980 Ethanol for spectroscopy Uvasol®**

<b>Specification</b>	Transmission (at 220 nm)..... ≥ 55 %	Absorbance (at 245 nm)..... ≤ 0.05
Purity (GC)..... ≥ 99.9 %	Transmission (at 235 nm)..... ≥ 80 %	Absorbance (from 260 nm)..... ≤ 0.01
Evaporation residue..... ≤ 0.0002 %	Transmission (at 240 nm)..... ≥ 85 %	
Water..... ≤ 0.05 %	Transmission (at 245 nm)..... ≥ 90 %	
Colour..... ≤ 10 Hazen	Transmission (from 260 nm)..... ≥ 98 %	
Acidity..... ≤ 0.0002 meq/g	Absorbance (at 207 nm)..... ≤ 0.70	
Alkalinity..... ≤ 0.0002 meq/g	Absorbance (at 220 nm)..... ≤ 0.26	
Fluorescence (as quinine at 254 nm)..... ≤ 1.0 ppb	Absorbance (at 235 nm)..... ≤ 0.10	
Fluorescence (as quinine at 365 nm)..... ≤ 1.0 ppb	Absorbance (at 240nm)..... ≤ 0.07	
Transmission (at 207 nm)..... ≥ 20 %		

Ord.No.	Packaging	Quantity	Price
1.00980.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.00980.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**111727 Ethanol gradient grade for liquid chromatography LiChrosolv®**

<b>Specification</b>	Gradient grade (at 254 nm)..... ≤ 2 mAU	Ord.No.	Packaging	Quantity	Price
Purity (GC)..... ≥ 99.9 %	Transmission (at 225 nm)..... ≥ 60 %	1.11727.0500	Glass bottle	500 ml	inquire
Identity (IR)..... conforms	Transmission (at 240 nm)..... ≥ 85 %	1.11727.1000	Glass bottle	1 l	inquire
Evaporation residue..... ≤ 2.0 mg/l	Transmission (from 260 nm)..... ≥ 98 %		Glass bottle	6 x 1 l	inquire
Water..... ≤ 0.1 %	Filtered by 0.2 µm filter	1.11727.2500	Glass bottle	2.5 l	inquire
Acidity..... ≤ 0.0002 meq/g			Glass bottle	4 x 2.5 l	inquire
Alkalinity..... ≤ 0.0002 meq/g		1.11727.4000	Glass bottle	4 l	inquire
Gradient grade (at 235 nm)..... ≤ 5 mAU		1.11727.9030	Barrel stainl. st.	30 l	inquire

**108543 Ethanol for molecular biology**

<b>Specification</b>	Alkalinity..... ≤ 0.0002 meq/g	Ord.No.	Packaging	Quantity	Price
Appearance (colour)..... colourless	Heavy metals (as Pb)..... ≤ 0.0001 %	1.08543.0250	Glass bottle	250 ml	inquire
Appearance (description)..... clear	DNases (nicking-activity)..... not detectable				
Purity (GC)..... ≥ 99.8 %	RNases..... not detectable				
Acidity..... ≤ 0.0002 meq/g					

Ord.No.	Packaging	Quantity	Price
1.08543.0250	Glass bottle	250 ml	inquire

**159012 Ethanol 70% (v/v) EMPLURA®**

■ Disposal 1	Ord.No.	Packaging	Quantity	Price
	1.59012.4000		4 l	inquire

Ord.No.	Packaging	Quantity	Price
1.59012.4000		4 l	inquire

**102476 Ethanol 95%, denatured EMPLURA®**

■ Disposal 1	Ord.No.	Packaging	Quantity	Price
	1.02476.4000		4 l	inquire

Ord.No.	Packaging	Quantity	Price
1.02476.4000		4 l	inquire

**102479 Ethanol 99.5%, denatured with about 1% MIBK EMPLURA®**

■ Disposal 1	Ord.No.	Packaging	Quantity	Price
	1.02479.4000		4 l	inquire

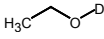
Ord.No.	Packaging	Quantity	Price
1.02479.4000		4 l	inquire

**102371 Ethanol for gas chromatography ECD and FID SupraSolv®**

C <sub>2</sub> H <sub>6</sub> O	■ Melting point -114.5 °C	■ Boiling point 78.3 °C	Code UN 1170 ETHANOL, 3, II
C <sub>2</sub> H <sub>5</sub> OH	(1013 hPa)	■ Ignition temp. 425 °C	■ IATA-DGR UN 1170 ETHANOL, 3, II
<i>Ethyl alcohol, EtOH</i>	■ WGK 1		
■ CAS-No. 64-17-5	■ EC-No. 200-578-6	■ GHS: Danger, Flammable liquid, Category 2,	
■ Refractive index 1.36	■ Vapour pressure 59 hPa	H225, P210, P233, P240	
(20 °C)	■ Spec. density 0.790 - 0.793 g/cm <sup>3</sup>	■ LC50 rat 95.6 mg/l	
(20 °C)	■ Explosive limit 3.5 - 15 % (V)	■ LD50 oral rat 6200 mg/kg	
	■ Flash point 12 °C	■ EC-Index-No. 603-002-00-5	■ LGK 3
	■ Solub. in	■ Disposal 1	
H <sub>2</sub> O (20 °C) completely miscible	■ M = 46.07 g/mol	■ ADR-RID UN 1170 Ethanol, 3, II	■ IMDG-
mol	■ pH value 7.0 (10 g/l, H <sub>2</sub> O, 20 °C)		

Ord.No.	Packaging	Quantity	Price
1.02371.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.02371.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.02371.4000	Glass bottle	4 l	inquire

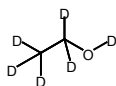
**815037 Ethanol-D1 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™**

	■ Ignition temp. 425 °C DIN 51794	■ IATA-DGR UN 1170 ETHANOL, 3, II
C <sub>2</sub> H <sub>5</sub> DO	■ WGK 1	<b>Specification</b>
■ CAS-No. 925-93-9	■ EC-No. 213-128-9	Deuteration degree..... ≥ 99.5 %
■ Spec. density 0.79 g/cm <sup>3</sup> (20 °C)	■ Explosive limit 3.5 - 15 % (V)	Water (K. Fischer, H <sub>2</sub> O + D <sub>2</sub> O)..... ≤ 0.5 %
■ Flash point 12 °C	■ Solub. in	
H <sub>2</sub> O (20 °C) soluble	■ M = 47.08 g/mol	
■ pH value 7.0 (10 g/l, H <sub>2</sub> O, 20 °C)	■ Melting point -114.5 °C	
■ Boiling point 78.3 °C		

Ord.No.	Packaging	Quantity	Price
8.15037.0050	Glass bottle	50 ml	inquire

# Ethano

## 103450 Ethanol-D6 deuteration degree min. 99% for NMR spectroscopy MagniSolv™



$C_2D_6O$   
**Hexadeuteroethanol**  
 ■ CAS-No. 1516-08-1 ■ EC-No. 216-162-2  
 ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.5 - 15 % (V) ■ Flash point 11 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 52.11 g/mol

■ Melting point -114.5 °C ■ Boiling point 78 °C  
 ■ Ignition temp. 425 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P223  
 ■ LC50 rat 95.6 mg/l  
 ■ LD50 oral rat 6200 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2845 90 10 ■ Disposal 1  
 ■ ADR-RID UN 1170 Ethanol, 3, II ■ IMDG-Code UN 1170 ETHANOL, 3, II

■ IATA-DGR UN 1170 ETHANOL, 3, II

### Specification

Deuteration degree..... ≥ 99.0 %  
 Water (NMR, H<sub>2</sub>O)..... ≤ 0.050 %  
 Water (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O)..... ≤ 3.00 %  
 Performance test (NMR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.03450.0001	Glass ampoule	1 ml	inquire

## 159010 Ethanol 96% EMSURE® Reag. Ph Eur



$C_2H_6O$   
 $C_2H_5OH$   
**Ethyl alcohol, EtOH**  
 ■ CAS-No. 64-17-5 ■ EC-No. 200-578-6  
 ■ Vapour pressure 59 hPa (20 °C)  
 ■ Spec. density 0.805 - 0.812 g/cm<sup>3</sup> (20 °C)  
 ■ Explosive limit 3.5 - 15 % (V) ■ Flash point 17 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 46.07 g/mol  
 ■ pH value 7.0 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -117 °C ■ Boiling point 78 °C (1013 hPa) ■ Water absorption 1000 g/kg  
 ■ Ignition temp. 425 °C

■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
 ■ LC50 rat 95.6 mg/l  
 ■ LD50 oral rat 6200 mg/kg  
 ■ EC-Index-No. 603-002-00-5 ■ LGK 3  
 ■ HS-No. 2207 10 00 ■ Disposal 1  
 ■ ADR-RID UN 1170 Ethanol, 3, II ■ IMDG-Code UN 1170 ETHANOL, 3, II  
 ■ IATA-DGR UN 1170 ETHANOL, 3, II

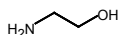
### Specification

Assay (m/m)..... 92.6 - 95.2 %  
 Assay (V/V)..... 95.1 - 96.9 %  
 Identity (IR)..... conforms

Appearance..... conforms  
 Acidity or alkalinity..... conforms  
 Density (d 20 °C/20 °C)..... 0.805 - 0.812  
 Boiling point..... 78 - 79 °C  
 The absorption curve is smooth..... conforms  
 Volatile impurities (GC)..... conforms  
 Evaporation residue..... ≤ 25 mg/l

Ord.No.	Packaging	Quantity	Price
1.59010.0500	Glass bottle	500 ml	inquire
1.59010.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## Ethanolamine



$C_2H_7NO$   
 $NH_2CH_2CH_2OH$   
**2-Aminoethanol, Monoethanolamine**  
 ■ CAS-No. 141-43-5 ■ EC-No. 205-483-3  
 ■ Refractive index 1.4539 ■ Vapour pressure 0.5 hPa (20 °C) ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.4 - 27 % (V)  
 ■ Flash point 92.5 °C ■ Kin. viscosity 20 mm<sup>2</sup>/s

(23 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 61.08 g/mol ■ pH value 12.1 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 10.5 °C  
 ■ Boiling point 171 °C (1013 hPa)  
 ■ Ignition temp. 410 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P304 + P340,

P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1515 mg/kg ■ LD50 dermal rabbit 1025 mg/kg  
 ■ EC-Index-No. 603-030-00-8 ■ LGK 8A  
 ■ HS-No. 2922 11 00 ■ Disposal 3  
 ■ ADR-RID UN 2491 Ethanolamin, 8, III ■ IMDG-Code UN 2491 ETHANOLAMINE, 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2491 ETHANOLAMINE, 8, III

## 800849 Ethanolamine for synthesis

### Specification

Assay (GC, area%)..... ≥ 99 %  
 Density (d 20 °C/ 4 °C)..... 1.015 - 1.016  
 Water (K. F.)..... ≤ 0.25 %  
 Sulfated ash..... ≤ 0.1 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00849.0100	Glass bottle	100 ml	inquire
8.00849.0500	Glass bottle	500 ml	inquire
8.00849.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00849.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.00849.9025	Barrel PE/met	25 l	inquire

## 100845 Ethanolamine for analysis EMSURE®

### Specification

Assay (GC)..... ≥ 99.5 %  
 Identity (IR-spectrum)..... conforms  
 Al (Aluminium)..... ≤ 500 ppb  
 B (Boron)..... ≤ 20 ppb  
 Ba (Barium)..... ≤ 100 ppb  
 Ca (Calcium)..... ≤ 500 ppb  
 Cd (Cadmium)..... ≤ 50 ppb  
 Co (Cobalt)..... ≤ 20 ppb

Cr (Chromium)..... ≤ 20 ppb  
 Cu (Copper)..... ≤ 20 ppb  
 Fe (Iron)..... ≤ 100 ppb  
 Mg (Magnesium)..... ≤ 100 ppb  
 Mn (Manganese)..... ≤ 20 ppb  
 Ni (Nickel)..... ≤ 20 ppb  
 Pb (Lead)..... ≤ 100 ppb  
 Sn (Tin)..... ≤ 100 ppb

Zn (Zinc)..... ≤ 100 ppb  
 Diethanolamine (GC)..... ≤ 0.1 %  
 Triethanolamine (GC)..... ≤ 0.1 %  
 Water (according to Karl Fischer)..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.00845.1000	Glass bottle	1 l	inquire
1.00845.2500	Glass bottle	2.5 l	inquire

## 845014 Ethanolamine for pharma synthesis, non-GMP

### Specification

Appearance (visual)..... clear  
 Colour number..... ≤ 20  
 Assay (GC, area%)..... ≥ 99.5 Area %  
 Density (d 20 °C/ 4 °C)..... 1,015 - 1,016

Water (K. F.)..... ≤ 0,30 % (m)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45014.0100	Glass bottle	100 ml	inquire
8.45014.1000	Glass bottle	1 l	inquire

Ethanolamine dihydrogen phosphate → 2-Aminoethyl dihydrogen phosphate page 387

2-Ethanolpyridine → 2-(2-Pyridyl)ethanol page 1390

Ether → page 316

Ethanolamine hydrochloride → 2-Hydroxyethylammonium chloride page 981

9-Ethenylanthracene → 9-Vinylanthracene page 1629

Ether petroleum → Petroleum benzene page 313

Ethanolammonium chloride → 2-Hydroxyethylammonium chloride page 981

2-Ethenyl-pyridine → 2-Vinylpyridine page 1630



## Ethers

## Unsubstituted mono and polyethers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
546	840031	n-Butylethylether	301	802932	Diethylene glycol diethyl ether	1057	818397	Isosorbide dimethyl ether
546	841873	tert-Butyl ethyl ether	301	802934	Diethylene glycol dimethyl ether	1339	814173	Polyethylene glycol dimethyl ether 250
556	801847	n-Butyl vinyl ether				1339	814171	Polyethylene glycol dimethyl ether 500
678	843949	Cyclopentyl methyl ether	302	810261	Diisoamyl ether	1339	814172	Polyethylene glycol dimethyl ether 2000
699	820964	Di-n-amyl ether	302	800866	Diisopropyl ether	1341	818402	Polytetrahydrofuran 1000
300	801522	Dibenzyl ether	767	845123	Diisopropyl ether (stabilised with BHT)	308	820959	Tetraethylene glycol dimethyl ether
301	802892	Dibutyl ether	303	820390	Ethylene glycol diethyl ether	1534	821092	Tetrahydrofurfuryl alcohol polyethylene glycol ether
301	802933	Diethylene glycol dibutyl ether	303	800856	Ethylene glycol dimethyl ether	309	808249	Triethylene glycol dimethyl ether
			888	801391	Ethyl vinyl ether			

## Aminoethers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
473	841887	Bis(2-methoxyethyl)-amine	1120	818872	2-Methoxyethylamine	1126	814839	3-Methoxypropylamine
694	818116	1,8-Diamino-3,6-dioxaoctane	1125	814077	4-Methoxyphenylhydrazinium chloride	1617	818373	Tris[2-(2-methoxyethoxy)ethyl]amine

## Halogenated ethers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
464	814554	1,2-Bis-(2-chloroethoxy) ethane	517	814964	1-Bromo-4-(trifluoromethoxy) benzene	1120	842570	2-Methoxyethyl cyanoacetate

## Hydroxyethers

## Hydroxymonoethers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
366	818415	3-Allyloxy-1,2-propanediol	671	840140	Cyclohexane-1,4-dimethanolmonovinylether	1125	818886	1-Methoxy-2-propanol
534	840143	1,4-Butanediolmonovinylether	302	803265	Dipropylene glycol	1201	814891	2-(2-Naphthoxy)-ethanol

## Glycol ethers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
484	814727	Brij® 58	864	814985	Ethylene glycol tert-butylethyl ether	1338	821037	Polyethylene glycol 2000
698	814807	1,13-Diamino-4,7,10-trioxatridecane	303	801554	Ethylene glycol monobutyl ether	1338	819015	Polyethylene glycol 3000
736	820392	1,3-Diethoxy-2-propanol	303	807480	Ethylene glycol monoisopropyl ether	1338	807490	Polyethylene glycol 4000
743	840144	Diethylene glycol divinyl ether	981	822068	Hydroxyethylcellulose	1338	807491	Polyethylene glycol 6000
301	803129	Diethylene glycol monobutyl ether	1332	840080	Piperonylbutoxide	1338	821881	Polyethylene glycol 10000
301	803127	Diethylene glycol monoethyl ether	307	807483	Polyethylene glycol 200	1339	818897	Polyethylene glycol 20000
301	818382	Diethylene glycol mono-n-hexyl ether	307	807484	Polyethylene glycol 300	1339	818892	Polyethylene glycol 35000
301	803128	Diethylene glycol monomethyl ether	307	807485	Polyethylene glycol 400	308	808619	Tetraethylene glycol
302	818533	Dipropylene glycol monomethyl ether	307	807486	Polyethylene glycol 600	309	808245	Triethylene glycol
303	800857	2-Ethoxyethanol (stabilised)	1337	807488	Polyethylene glycol 1000	1586	814587	Triethylene glycol monomethyl ether
846	814635	2-(2-Ethoxyethoxy)ethyl acetate	1337	807489	Polyethylene glycol 1500			

## Ethers with carbonyl groups

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
853	820022	O-Ethylbenzoin	1115	841375	Methoxyacetyl chloride			

## Ethers with carboxyl groups

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
755	841741	Diglycolic anhydride	1114	821532	Methoxyacetic acid			
846	840085	(2-Ethoxyethyl) methacrylate	1120	840086	(2-Methoxyethyl) acrylate			

# Ethers

## Crown compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
660	813714	Crown ether/12-Crown-4	661	813885	Crown ether/N-Phenylaza-15-crown-5	1069	840175	Kryptofix® 22 polymer (silica gel)
660	813715	Crown ether/15-Crown-5				1069	810645	Kryptofix® 211
660	811684	Crown ether/18-Crown-6	1068	811689	Kryptofix® 5	1069	810646	Kryptofix® 221
661	824438	Crown ether/Decyl-18-crown-6	1068	811720	Kryptofix® 21	1069	811970	Kryptofix® 221 B polymer
661	811866	Crown ether/Dicyclohexyl-18-crown-6	1068	810953	Kryptofix® 22	1069	810647	Kryptofix® 222
661	814543	Crown ether/4'-Nitrobenzo-15-crown-5	1069	811963	Kryptofix® 22 DD			
			1069	840044	Kryptofix® 22 polymer (Merrifield)			

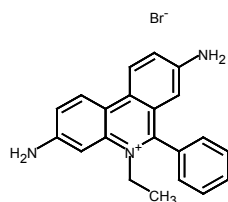
## Ethers with other functional groups

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
392	818270	(R)-(+)-1-Amino-2-(methoxymethyl)pyrrolidine	757	818315	(2R)-(-)-2,5-Dihydro-3,6-dimethoxy-2-isopropylpyrazine	1124	818670	(2-Methoxyphenyl)acetonitrile
473	818179	2,4-Bis(4-methoxyphenyl)-2,4-dithioxo-1,3,2,4-dithiadiphosphetane	757	818317	(2S)-(+)-2,5-Dihydro-3,6-dimethoxy-2-isopropylpyrazine	1124	821234	(4-Methoxyphenyl)acetonitrile
483	801647	Boron trifluoride-diethyl ether complex	837	841807	[3-(2,3-Epoxypropoxy)propyl]-trimethoxysilane	1126	805891	3-Methoxypropionitrile
553	814278	tert-Butyl 2-nitroethyl ether	845	818578	4-Ethoxybenzyltriphenylphosphonium bromide	1127	841761	trans-1-Methoxy-3-trimethylsilyloxy-1,3-butadiene
756	818314	(2R,5SR)-(-)-2,5-Dihydro-3,6-dimethoxy-2-isopropyl-5-methylpyrazine	1116	820105	4-Methoxybenzonitrile	1257	806927	2,2'-Oxydiethanethiol
757	818316	(2S,5SR)-(+)-2,5-Dihydro-3,6-dimethoxy-2-isopropyl-5-methylpyrazine	1121	818580	Methoxymethyl-triphenylphosphonium chloride	1615	820359	2,4,6-Tris(allyloxy)-1,3,5-triazine

## Oxonium salts

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1605	841638	Trimethyloxonium tetrafluoroborate						

## Ethidium bromide



C<sub>21</sub>H<sub>20</sub>BrN<sub>3</sub>  
5-Ethyl-3,8-diamino-6-phenylphenanthridinium bromide, Homidium bromide, EtBr

- CAS-No. 1239-45-8 ■ EC-No. 214-984-6
- Spec. density 1.00 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 394.31 g/mol
- pH value 4.4 (H<sub>2</sub>O, 20 °C)
- Melting point 238 - 240 °C
- Bulk density 340 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Germ cell mutagenicity, Category 2, H341, P281, P308 + P313
- LC50 rat 0.0118 mg/l
- LD50 oral rat 1503 mg/kg
- EC-Index-No. 612-278-00-6 ■ LGK 6.1 D
- Store at +2°C to +8°C.
- HS-No. 2933 99 80 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(ETHIDIUMBROMID), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(ETHIDIUMBROMIDE), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(ETHIDIUMBROMIDE), 6.1, III
- Ready-to-use solution as fluorescent label for nucleic acids in electrophoresis and density gradient centrifugation.



### 111608 Ethidium bromide (1% solution in water) for electrophoresis

Specification	
Identity (UV/VIS-Spectrum).....	passes test
Absorption maximum (water).....	478 - 482 nm
Spec. Absorptivity A 1%/1cm (λ <sub>max</sub> ; 0.004 %;	water).....
	140 - 160
	Suitability for electrophoresis.....
	passes test

Ord.No.	Packaging	Quantity	Price
1.11608.0030	Glass bottle	30 ml	inquire

### 111615 Ethidium bromide for biochemistry

Specification	
Assay (perchloric acid titration, calculated on dried substance).....	≥ 98 %
Identity (UV/VIS-Spectrum).....	passes test
Absorption maximum λ <sub>max</sub> . (methanol).....	524 -
	527 nm
Spec. Absorptivity A 1%/1cm (λ <sub>max</sub> ; 0.05 g/l;	methanol; calc. on dried substance).....
	155 - 170
TLC-Test.....	passes test
Loss on drying (130 °C, 4 h).....	≤ 8 %

Ord.No.	Packaging	Quantity	Price
1.11615.0001	Glass bottle	1 g	inquire
1.11615.0010	Glass bottle	10 g	inquire

### 102243 Ethidium bromide adsorber for decontamination of ethidium bromide from staining solutions

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 3.0 (H<sub>2</sub>O, 25 °C) suspension
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P302 + P352,

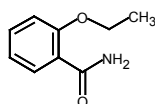
- P305 + P351 + P338
- LGK 10 - 13
- HS-No. 9027 90 50 ■ Disposal 3

**Specification**  
Performance test..... passes test

Ord.No.	Packaging	Quantity	Price
1.02243.0001	Plastic ampoule	1 unit	inquire

Ethyltrimethylsilane → Trimethylsilylacetylene page 1607	2-Ethoxyaniline → o-Phenetidine page 1288	4-Ethoxyaniline → p-Phenetidine page 1288
Ethoxalyl chloride → Ethyl chloroformylformate page 856	3-Ethoxyaniline → m-Phenetidine page 1288	

## 800122 2-Ethoxybenzamide for synthesis



C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub>  
2-(C<sub>2</sub>H<sub>5</sub>O)C<sub>6</sub>H<sub>4</sub>CONH<sub>2</sub>  
O-Ethylsalicylamide

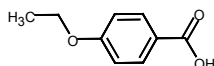
- CAS-No. 938-73-8 ■ EC-No. 213-346-4
- Flash point 188 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 165.19 g/mol
- Melting point 132 - 134 °C
- WGK 2
- LD50 oral rat 2630 mg/kg
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 128 °C  
Melting range (upper value) ..... ≤ 131 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00122.0250	Plastic bottle	250 g	inquire

## 842990 4-Ethoxybenzoic acid for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>  
■ CAS-No. 619-86-3 ■ EC-No. 210-616-3  
■ Vapour pressure 0.07 Pa (25 °C) (calculated)  
■ Solub. in H<sub>2</sub>O 0.6 g/l (25 °C) (calculated)

- M = 166.18 g/mol ■ Melting point 197 - 199 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

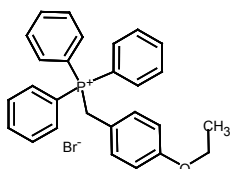
## Specification

Assay (acidimetric) ..... ≥ 99,0 %  
Melting range (lower value) ..... ≥ 197 °C  
Melting range (upper value) ..... ≤ 200 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42990.0025	Glass bottle	25 g	inquire
8.42990.0100	Glass bottle	100 g	inquire

## 818578 4-Ethoxybenzyltriphenylphosphonium bromide for synthesis



C<sub>27</sub>H<sub>26</sub>BrOP  
4-(C<sub>2</sub>H<sub>5</sub>O)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>P<sup>+</sup>(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>Br<sup>-</sup>

## Triphenyl-4-ethoxybenzylphosphonium bromide

- CAS-No. 82105-88-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 477.37 g/mol ■ Melting point 217 - 220 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (argentometric) ..... ≥ 98,0 %  
Melting range (lower value) ..... ≥ 217 °C  
Melting range (upper value) ..... ≤ 220 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18578.0010	Glass bottle	10 g	inquire

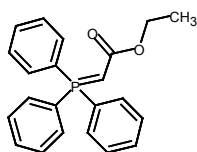
1-Ethoxy-butane → n-Butylethylether page 546  
Ethoxycarbonylazocarbonylmethyl polystyrene → page 283

Ethoxycarbonyl chloride → Ethyl chloroformate page 856

N-Ethoxycarbonyl-2-ethoxy-1,2-dihydroquinoline → Ethyl 2-ethoxy-1,2-dihydro-1-quinolinecarboxylate page 867

Ethoxycarbonylmethanephosphonic acid diethyl ester → Triethyl phosphonoacetate page 1588

## 841021 Ethoxycarbonylmethylene-triphenylphosphorane for synthesis



C<sub>22</sub>H<sub>21</sub>O<sub>2</sub>P  
(Triphenylphosphoranylidene)acetic acid ethyl

## ester, Ethyl triphenylphosphoranylidene-acetate

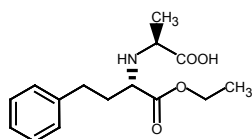
- CAS-No. 1099-45-2 ■ EC-No. 214-151-7
- M = 348.38 g/mol ■ Melting point 125 - 127 °C
- WGK 3
- LGK 10 - 13 ■ Store at -20°C to 0°C.
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 125 °C  
Melting range (upper value) ..... ≤ 128 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41021.0010	Glass bottle	10 g	inquire

## 840113 N-(1S)-Ethoxycarbonyl-3-phenylpropyl-(S)-alanine for synthesis



C<sub>15</sub>H<sub>21</sub>NO<sub>4</sub>  
2-(1-Carboxyethylamino)-4-phenylbutyric acid ethyl ester

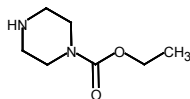
- CAS-No. 82717-96-2 ■ EC-No. 406-310-6
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 6 g/l (20 °C) ■ M = 279.34 g/mol
- Melting point 148 - 152 °C
- WGK 2
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2922 49 85 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 148 °C  
Melting range (upper value) ..... ≤ 152 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in methanol) ..... 28,0 - 30,0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40113.0005	Glass bottle	5 g	inquire

## 814652 1-Ethoxycarbonyl piperazine for synthesis



C<sub>7</sub>H<sub>14</sub>N<sub>2</sub>O<sub>2</sub>  
Ethyl N-piperazinecarboxylate  
■ CAS-No. 120-43-4 ■ EC-No. 204-395-2

- Spec. density 1.08 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 158.19 g/mol
- Melting point 120 °C ■ Boiling point 237 °C
- WGK 3
- LGK 10
- HS-No. 2933 59 95 ■ Disposal 3

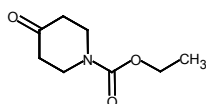
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1,082 - 1,087  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14652.0025	Glass bottle	25 ml	inquire
8.14652.0100	Glass bottle	100 ml	inquire

# Ethoxy

## 818390 N-Ethoxycarbonyl-4-piperidone for synthesis



$C_8H_{13}NO_3$   
4-Piperidone-N-carboxylic acid ethyl ester, Ethyl4-oxo-1-piperidincarboxylate  
■ CAS-No. 29976-53-2 ■ EC-No. 249-984-5  
■ Refractive index 1.4752 (20 °C, 589 nm)

- Spec. density 1.14 g/cm<sup>3</sup> (20 °C)
- Flash point 87 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 171.19 g/mol ■ pH value 4.6 (H<sub>2</sub>O, 20 °C) (saturated solution)
- Boiling point 147 - 151 °C (16 hPa)
- WGK 3
- GHS: Warning, Eye irritation, Category 2, H319, P262, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

### Specification

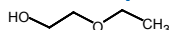
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.134 - 1.137  
Identity (IR) ..... passes test

2-Ethoxy-1,2-dihydro-1-quinolinecarboxylic acid ethyl ester → Ethyl 2-ethoxy-1,2-dihydro-1-quinolinecarboxylate page 867

2-Ethoxyethanol → 2-Ethoxyethanol (stabilised) page 303

Ord.No.	Packaging	Quantity	Price
8.18390.0010	Glass bottle	10 ml	inquire

## 800857 2-Ethoxyethanol (stabilised) for synthesis



$C_4H_{10}O_2$   
 $C_2H_5OCH_2CH_2OH$   
2-Ethoxyethanol, Ethyl glycol  
■ CAS-No. 110-80-5 ■ EC-No. 203-804-1  
■ Refractive index 1.408 (20 °C, 589 nm) ■ Vapour pressure 5 hPa (20 °C) ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 11.9 (20 °C)  
■ Explosive limit 1.8 - 15.7 % (V)  
■ Flash point 40 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
■ M = 90.12 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral  
■ Saturation conc. 18 g/m<sup>3</sup> (20 °C) Air  
■ Melting point -100 °C ■ Boiling point 135 °C (1013 hPa) ■ Evaporation number 43  
■ Ignition temp. 235 °C

- WGK 1
- GHS: Danger, Reproductive toxicity, Category 1B, H360FD; Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Inhalation, H332, P201, P210, P302 + P352, P304 + P340, P308 + P313
- LC50 rat > 15 mg/l
- LD50 oral rat 2125 mg/kg ■ LD50 dermal rabbit 3300 mg/kg
- EC-Index-No. 603-012-00-X ■ LGK 3
- HS-No. 2909 44 00
- ADR-RID UN 1171 Ethylenglycolmonoethylether, 3, III ■ IMDG-Code UN 1171 ETHYLENE GLYCOL MONOETHYL ETHER, 3, III
- IATA-DGR UN 1171 ETHYLENE GLYCOL

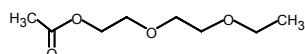
MONOETHYL ETHER, 3, III

### Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,929 - 0,930  
Water (K. F.) ..... ≤ 0,20 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00857.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00857.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.00857.9025	Plastic container	25 l	inquire

## 814635 2-(2-Ethoxyethoxy)ethyl acetate for synthesis



$C_8H_{16}O_4$   
Ethyl carbital acetate, Diethylene glycol monoethyl ether acetate, Carbitalacetate  
■ CAS-No. 112-15-2 ■ EC-No. 203-940-1  
■ Vapour pressure 0.3 hPa (20 °C)  
■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 % (V) ■ Flash point 100 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) soluble ■ M = 176.21 g/mol
- pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point -25 °C ■ Boiling point 217 - 218 °C
- Ignition temp. 310 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 11000 mg/kg
- LD50 dermal rabbit 15251 mg/kg
- LGK 10 - 13

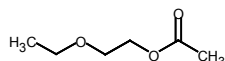
■ HS-No. 2915 39 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 97.0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,006 - 1,011  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14635.0250	Glass bottle	250 ml	inquire
8.14635.1000	Glass bottle	1 l	inquire

## 800187 2-Ethoxyethyl acetate for synthesis



$C_6H_{12}O_3$   
 $CH_3COOCH_2CH_2OC_2H_5$   
Ethylene glycol monoethyl ether acetate, Ethyl glycol acetate, Acetic acid 2-ethoxyethyl ester  
■ CAS-No. 111-15-9 ■ EC-No. 203-839-2  
■ Refractive index 1.4068 (20 °C, 589 nm)  
■ Vapour pressure 2.67 hPa (20 °C) (calculated)  
■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 7.2 (20 °C) ■ Explosive limit 1.3 - 7.2 % (V) ■ Flash point 52 °C ■ Solub. in H<sub>2</sub>O 247 g/l (20 °C) ■ M = 132.15 g/mol  
■ pH value 4 - 5 (H<sub>2</sub>O, 20 °C) (saturated solution)

- Saturation conc. 14 g/m<sup>3</sup> (20 °C) Air
- Melting point -62 °C ■ Boiling point 156 °C (1013 hPa) ■ Evaporation number 47
- Ignition temp. 379 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Reproductive toxicity, Category 1B, H360FD; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P201, P210, P302 + P352, P308 + P313
- LC50 rat 16.5 mg/l
- LD50 oral rat 3400 mg/kg ■ LD50 dermal rabbit 10300 mg/kg
- EC-Index-No. 607-037-00-7 ■ LGK 3
- HS-No. 2915 39 00 ■ Disposal 9

■ ADR-RID UN 1172 Ethylenglycolmonoethyletheracetat, 3, III ■ IMDG-Code UN 1172 ETHYLENE GLYCOL MONOETHYL ETHER ACETATE, 3, III  
■ IATA-DGR UN 1172 ETHYLENE GLYCOL MONOETHYL ETHER ACETATE, 3, III

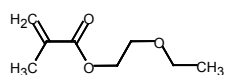
### Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,972 - 0,974  
Water (K. F.) ..... ≤ 0,10 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00187.0100	Glass bottle	100 ml	inquire
8.00187.1000	Glass bottle	1 l	inquire

2-Ethoxyethyl ether → Diethylene glycol diethyl ether page 301

## 840085 (2-Ethoxyethyl) methacrylate (stabilized) for synthesis



$C_8H_{14}O_3$   
Methacrylic acid 2-ethoxyethyl ester  
■ CAS-No. 2370-63-0 ■ EC-No. 219-135-3  
■ Vapour pressure 1.5 hPa (20 °C)  
■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C)  
■ Flash point 74 °C ■ Solub. in H<sub>2</sub>O 13 g/l (20 °C)  
■ M = 158.19 g/mol ■ Melting point < -20 °C

- Boiling point 205 °C ■ Ignition temp. 209 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Chronic aquatic toxicity, Category 3, H412, P262, P273, P304 + P340
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13 ■ Store at +2 °C to +8 °C.
- HS-No. 2916 14 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

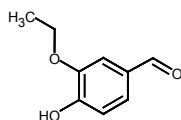
■ IATA-DGR No Dangerous Good

### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,963 - 0,967  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40085.0025	Glass bottle	25 ml	inquire

## 821276 3-Ethoxy-4-hydroxybenzaldehyde for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>3-(C<sub>2</sub>H<sub>5</sub>O)-4-(OH)C<sub>6</sub>H<sub>3</sub>CHO

Ethylvanillin

■ CAS-No. 121-32-4 ■ EC-No. 204-464-7

- Flash point 145 °C ■ Solub. in H<sub>2</sub>O 2.82 g/l (25 °C) ■ M = 166.17 g/mol
- Melting point 75 - 77 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2912 42 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 75 °C  
 Melting range (upper value)..... ≤ 77 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21276.0005	Glass bottle	5 g	inquire
8.21276.0250	Plastic bottle	250 g	inquire

Ethoxymethylenecyanoacetic acid ethyl ester →

Ethyl 2-cyano-3-ethoxyacrylate page 857

Ethoxymethylenemalonic acid diethyl ester →

Diethyl ethoxymethylenemalonate page 746

2-Ethoxyphenol → Pyrocatechol monoethyl ether

page 1392

2-Ethoxy-2-phenylacetophenone → O-

Ethylbenzoin page 853

## 842770 3-Ethoxypropylamine for synthesis

C<sub>5</sub>H<sub>13</sub>NO

■ CAS-No. 6291-85-6 ■ EC-No. 228-545-1

■ Vapour pressure 6.9 hPa (20 °C)

■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 0.8 - 8.1 % (V) ■ Flash point 33 °C DIN 51755

Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) soluble■ M = 103.17 g/mol ■ pH value 12 (100 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point &lt; -70 °C

■ Boiling point 130 - 135 °C

■ Ignition temp. 245 °C DIN 51794

- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1115 mg/kg
- LGK 3
- HS-No. 2922 19 85
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(3-ETHOXYPROPYLAMIN), 8 (3), II
- IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(3-

ETHOXYPROPYLAMINE, 8 (3), II, Segregation Group: 18 (Alkalis)

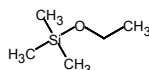
■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(3-ETHOXYPROPYLAMINE), 8 (3), II

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.853 - 0.857  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42770.0100	Glass bottle	100 ml	inquire

## 818821 Ethoxytrimethylsilane for synthesis

C<sub>5</sub>H<sub>14</sub>OSiC<sub>2</sub>H<sub>5</sub>OSi(CH<sub>3</sub>)<sub>3</sub>

Trimethylethoxysilane

■ CAS-No. 1825-62-3 ■ EC-No. 217-370-6

■ Refractive index 1.3743 (20 °C, 589 nm)

■ Vapour pressure 533 hPa (56 °C)

■ Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.5 - 16.5 % (V) ■ Flash point -18 °C ■ Solub.

in H<sub>2</sub>O (20 °C) (slow decomposition)

■ M = 118.25 g/mol ■ Boiling point 75 - 76 °C (1013 mbar) ■ Ignition temp. 280 °C

■ WGK 3

■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 3

■ HS-No. 2931 90 90 ■ Disposal 3

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ETHOXYTRIMETHYLSILAN), 3, II

■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHOXYTRIMETHYLSILANE), 3, II

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHOXYTRIMETHYLSILANE), 3, II

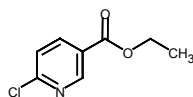
## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,756 - 0,759  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18821.0025	Glass bottle	25 ml	inquire
8.18821.0100	Glass bottle	100 ml	inquire

Ethyl(ethoxymethylene)cianoacetate → Ethyl 2-cyano-3-ethoxyacrylate page 857

## 843941 Ethyl - 6 chloronicotinate for synthesis

C<sub>8</sub>H<sub>8</sub>ClNO<sub>2</sub>

■ CAS-No. 49608-01-7

■ Flash point 110 °C ■ M = 185.61 g/mol

■ Melting point 30 - 40 °C

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

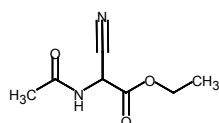
## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43941.0005	Glass bottle	5 g	inquire
8.43941.0025	Plastic bottle	25 g	inquire

## 818577 Ethyl acetamidocyanoacetate for synthesis

C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>CH<sub>3</sub>CONH(CN)CHCOOC<sub>2</sub>H<sub>5</sub>

Acetamidocyanoacetic acid ethyl ester, N-Acetyl-2-cyanoglycine ethyl ester

■ CAS-No. 4977-62-2 ■ EC-No. 225-624-2

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 170.16 g/mol ■ Melting point 122 - 125 °C

■ WGK 3

■ LGK 6.1A

■ HS-No. 2926 90 95 ■ Disposal 3

■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(ETHYL-ACETAMIDOCYANACETAT), 6.1, II

■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(ETHYL-ACETAMIDOCYANACETATE), 6.1, II

■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(ETHYL-ACETAMIDOCYANACETATE), 6.1, II

## Specification

Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 122 °C  
 Melting range (upper value)..... ≤ 125 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18577.0010	Glass bottle	10 g	inquire

!

A

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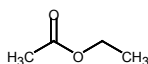
Y

Z



# Ethyla

## Ethyl acetate



C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>  
 CH<sub>3</sub>COOC<sub>2</sub>H<sub>5</sub>  
*Ethyl ethanoate, Acetic ester, Ethyl ester*  
 ■ CAS-No. 141-78-6 ■ EC-No. 205-500-4  
 ■ Refractive index 1.37 ■ Vapour pressure 97 hPa (20 °C) ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C)

■ Explosive limit 2.1 - 11.5 % (V) ■ Flash point - 4 °C ■ Solub. in H<sub>2</sub>O 85.3 g/l (20 °C)  
 ■ M = 88.11 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point -83 °C  
 ■ Boiling point 77 °C (1013 hPa)  
 ■ Ignition temp. 460 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category

3, H336, P210, P233, P240, P305 + P351 + P338  
 ■ LC50 rat 5.86 mg/l  
 ■ LD50 oral rat 5620 mg/kg ■ LD50 dermal rabbit > 18000 mg/kg  
 ■ EC-Index-No. 607-022-00-5 ■ LGK 3  
 ■ HS-No. 2915 31 00 ■ Disposal 1  
 ■ ADR-RID UN 1173 Ethylacetat, 3, II ■ IMDG-Code UN 1173 ETHYL ACETATE, 3, II  
 ■ IATA-DGR UN 1173 ETHYL ACETATE, 3, II



### 822277 Ethyl acetate EMPLURA®

**Specification**  
 Assay (GC, area%) ..... ≥ 99,5 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,899 - 0,901  
 Water (K. F.) ..... ≤ 0,10 %  
 Evaporation residue ..... ≤ 0,003 %

**Identity (IR)** ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22277.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.22277.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire

### 109623 Ethyl acetate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
 Purity (GC) ..... ≥ 99,5 %  
 Identity (IR) ..... conforms  
 Appearance ..... clear  
 Colour ..... ≤ 10 Hazen  
 Titrable acid ..... ≤ 0.0008 meq/g  
 Density (d 20 °C/20 °C) ..... 0.901 - 0.904  
 Boiling point ..... 76 - 78 °C  
 Readily carbonizable substances ..... conforms  
 Ethanol (GC) ..... ≤ 0.1 %  
 Methanol (GC) ..... ≤ 0.1 %  
 Methyl acetate (GC) ..... ≤ 0.1 %  
 Al (Aluminium) ..... ≤ 500 ng/g  
 B (Boron) ..... ≤ 20 ng/g  
 Ba (Barium) ..... ≤ 100 ng/g  
 Ca (Calcium) ..... ≤ 500 ng/g

Cd (Cadmium) ..... ≤ 50 ng/g  
 Co (Cobalt) ..... ≤ 20 ng/g  
 Cr (Chromium) ..... ≤ 20 ng/g  
 Cu (Copper) ..... ≤ 20 ng/g  
 Fe (Iron) ..... ≤ 100 ng/g  
 Mg (Magnesium) ..... ≤ 100 ng/g  
 Mn (Manganese) ..... ≤ 20 ng/g  
 Ni (Nickel) ..... ≤ 20 ng/g  
 Pb (Lead) ..... ≤ 100 ng/g  
 Sn (Tin) ..... ≤ 100 ng/g  
 Zn (Zinc) ..... ≤ 100 ng/g  
 Evaporation residue ..... ≤ 0.001 %  
 Water ..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.09623.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09623.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09623.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	6 x 2.5 l	inquire
1.09623.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.09623.6010	Drum stainl. st.	10 l	inquire
1.09623.6025	Drum stainl. st.	25 l	inquire
1.09623.9026	Barrel PE/met	25 l	inquire
1.09623.9181	Barrel PE/met	180 l	inquire

### 102396 Ethyl acetate dried (max. 0.003% H<sub>2</sub>O) SeccoSolv®

**Specification**  
 Purity (GC) ..... ≥ 99,9 %  
 Identity (IR) ..... conforms  
 Colour ..... ≤ 10 Hazen  
 Acidity ..... ≤ 0.0005 meq/g

Alkalinity ..... ≤ 0.0002 meq/g  
 Evaporation residue ..... ≤ 10 mg/l  
 Water ..... ≤ 0.003 %

Ord.No.	Packaging	Quantity	Price
1.02396.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

### 110972 Ethyl acetate for gas chromatography ECD and FID SupraSolv®

**Specification**  
 Purity (GC) ..... ≥ 99,8 %  
 Identity (IR) ..... conforms  
 Evaporation residue ..... ≤ 3.0 mg/l  
 Water ..... ≤ 0.02 %  
 Colour ..... ≤ 10 Hazen

GC/ECD (retention range 1,2,4-tri-chlorobenzene to decachlorobiphenyle, individual signals (lindane standard)) ..... ≤ 3 pg/ml

GC/FID (retention range n-undecane to n-tetracontane, individual signals (n- tetradecane standard)) ..... ≤ 3 ng/ml  
 suitable for residue analysis

Ord.No.	Packaging	Quantity	Price
1.10972.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.10972.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.10972.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.10972.9010	Barrel stainl. st.	10 l	inquire
1.10972.9030	Barrel stainl. st.	30 l	inquire

### 100789 Ethyl acetate for gas chromatography MS SupraSolv®

**Specification**  
 Purity (GC) ..... ≥ 99,8 %  
 Identity (IR) ..... conforms  
 Evaporation residue ..... ≤ 3.0 mg/l  
 Water ..... ≤ 0.02 %  
 Colour ..... ≤ 10 Hazen

GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n- tetradecane standard)) ..... ≤ 3 ng/ml  
 Suitable for residue analysis.

Ord.No.	Packaging	Quantity	Price
1.00789.1000	Glass bottle	1 l	inquire
	Glass bottle	2.5 l	inquire

### 100863 Ethyl acetate for spectroscopy Uvasol®

**Specification**  
 Purity (GC) ..... ≥ 99,9 %  
 Evaporation residue ..... ≤ 0.0002 %  
 Water ..... ≤ 0.01 %  
 Colour ..... ≤ 10 Hazen  
 Acidity ..... ≤ 0.0002 meq/g  
 Alkalinity ..... ≤ 0.0002 meq/g  
 Fluorescence (as quinine at 254 nm) ..... ≤ 2.0 ppb  
 Fluorescence (as quinine at 365 nm) ..... ≤ 1.0 ppb  
 Transmission (at 255 nm) ..... ≥ 20 %

Transmission (at 260 nm) ..... ≥ 75 %  
 Transmission (at 263 nm) ..... ≥ 80 %  
 Transmission (at 265 nm) ..... ≥ 90 %  
 Transmission (from 270 nm) ..... ≥ 98 %  
 Absorbance (at 255 nm) ..... ≤ 0.70  
 Absorbance (at 260 nm) ..... ≤ 0.13  
 Absorbance (at 263 nm) ..... ≤ 0.10  
 Absorbance (at 265 nm) ..... ≤ 0.05  
 Absorbance (from 270 nm) ..... ≤ 0.01

Meet the requirements of "Specific use spectroscopy" according ACS

Ord.No.	Packaging	Quantity	Price
1.00863.0500	Glass bottle	500 ml	inquire
	Glass bottle	2.5 l	inquire
1.00863.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**100868 Ethyl acetate for liquid chromatography LiChrosolv®**

<b>Specification</b>	Transmission (at 260 nm).....	≥ 50 %
Purity (GC).....	Transmission (at 265 nm).....	≥ 80 %
Identity (IR).....	Transmission (from 270 nm).....	≥ 98 %
Evaporation residue.....	Filtered by 0.2 µm filter	
Water.....		
Acidity.....		
Alkalinity.....		

Ord.No.	Packaging	Quantity	Price
1.00868.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00868.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00868.4000	Glass bottle	4 l	inquire
1.00868.9010	Barrel stainl. st.	10 l	inquire

**113353 Ethyl acetate for preparative chromatography Prepsolv®**

<b>Specification</b>	Acidity.....	≤ 0.0002 meq/g
Purity (GC).....	Alkalinity.....	≤ 0.0002 meq/g
Identity (IR).....	Transmission (at 270 nm).....	≥ 50 %
Evaporation residue.....	Transmission (from 300 nm).....	≥ 98 %
Water.....		

Filtered by 0.2 µm filter

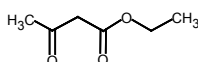
Ord.No.	Packaging	Quantity	Price
1.13353.9030	Barrel stainl. st.	30 l	inquire

**107048 Ethyl acetate for analysis EMPARTA® ACS**

C <sub>4</sub> H <sub>8</sub> O <sub>2</sub> CH <sub>3</sub> COOC <sub>2</sub> H <sub>5</sub> <i>Ethyl ethanoate, Acetic ester, Ethyl ester</i>	<ul style="list-style-type: none"> <li>■ CAS-No. 141-78-6 ■ EC-No. 205-500-4</li> <li>■ Refractive index 1.37 ■ Vapour pressure 97 hPa (20 °C) ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C)</li> <li>■ Explosive limit 2.1 - 11.5 % (V) ■ Flash point - 4 °C ■ Solub. in H<sub>2</sub>O 85.3 g/l (20 °C)</li> <li>■ M = 88.11 g/mol ■ Melting point -83 °C</li> <li>■ Boiling point 77 °C (1013 hPa)</li> </ul>
	<ul style="list-style-type: none"> <li>■ Ignition temp. 460 °C</li> <li>■ WGK 1</li> <li>■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336, P210, P233, P240, P305 + P351 + P338</li> <li>■ LC50 rat 5.86 mg/l</li> <li>■ LD50 oral rat 5620 mg/kg ■ LD50 dermal rabbit &gt; 18000 mg/kg</li> <li>■ EC-Index-No. 607-022-00-5 ■ LGK 3</li> </ul>

Disposal 1  
 ■ ADR-RID UN 1173 Ethylacetat, 3, II ■ IMDG-Code UN 1173 ETHYL ACETATE, 3, II  
 ■ IATA-DGR UN 1173 ETHYL ACETATE, 3, II

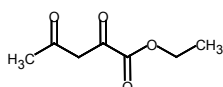
Ord.No.	Packaging	Quantity	Price
1.07048.4000		4 l	inquire

**809622 Ethyl acetoacetate for synthesis**

C <sub>6</sub> H <sub>10</sub> O <sub>3</sub> CH <sub>3</sub> COCH <sub>2</sub> COOC <sub>2</sub> H <sub>5</sub> <i>EAA, Acetoacetic acid ethyl ester</i>	<ul style="list-style-type: none"> <li>■ CAS-No. 141-97-9 ■ EC-No. 205-516-1</li> <li>■ Refractive index 1.419 (20 °C, 589 nm) ■ Vapour pressure 1 hPa (20 °C) ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 54 % (V)</li> <li>■ Flash point 70 °C ■ Solub. in H<sub>2</sub>O 116 g/l (20 °C)</li> </ul>
	<ul style="list-style-type: none"> <li>■ M = 130.14 g/mol ■ pH value 4.0 (110 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -40 °C</li> <li>■ Boiling point 180.0 °C (1013 hPa)</li> <li>■ Ignition temp. 280 °C</li> <li>■ WGK 1</li> <li>■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338</li> <li>■ LD50 oral rat 3980 mg/kg ■ LD50 dermal rabbit &gt; 5000 mg/kg</li> <li>■ LGK 10</li> <li>■ HS-No. 2918 30 00 ■ Disposal 3</li> </ul>

Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,028 - 1,030  
 Identity (IR)..... conforms

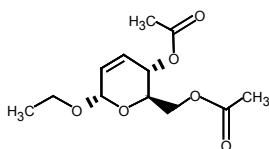
Ord.No.	Packaging	Quantity	Price
8.09622.0100	Plastic bottle	100 ml	inquire
8.09622.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.09622.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.09622.9025	Plastic container	25 l	inquire

**841465 Ethyl acetoxyruvate for synthesis**

C <sub>7</sub> H <sub>10</sub> O <sub>4</sub> <i>Acetopyruvic acid ethyl ester</i>	<ul style="list-style-type: none"> <li>■ CAS-No. 615-79-2 ■ EC-No. 210-447-5</li> </ul>
	<ul style="list-style-type: none"> <li>■ Spec. density 1.126 g/cm<sup>3</sup> (20 °C)</li> <li>■ Flash point &gt;110 °C ■ M = 158.15 g/mol</li> <li>■ Melting point 16 - 18 °C</li> <li>■ Boiling point 108 - 109 °C (16 hPa)</li> <li>■ WGK 3</li> <li>■ LGK 10</li> <li>■ HS-No. 2918 30 00 ■ Disposal 3</li> </ul>

**Specification**  
 Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.120 - 1.126  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41465.0005	Glass bottle	5 ml	inquire

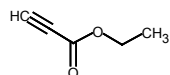
**818289 (+)-Ethyl-4,6-di-O-acetyl-2,3-dideoxy-α-D-erythro-hex-2-enopyranoside for synthesis**

C <sub>12</sub> H <sub>18</sub> O <sub>6</sub> ■ CAS-No. 3323-72-6	<ul style="list-style-type: none"> <li>■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 258.27 g/mol</li> <li>■ Melting point 76 - 78 °C</li> <li>■ Bulk density 200 kg/m<sup>3</sup></li> <li>■ WGK 3</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 2932 99 00 ■ Disposal 3</li> </ul>
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Melting range (upper value)..... ≤ 80 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=1 in toluene)]..... 105.0 - 107.0 °  
 Identity (IR)..... passes test

**Specification**  
 Assay (DSC)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 77 °C

Ord.No.	Packaging	Quantity	Price
8.18289.0001	Glass bottle	1 g	inquire

**821045 Ethyl acetylenecarboxylate for synthesis**

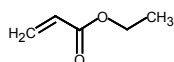
C <sub>5</sub> H <sub>6</sub> O <sub>2</sub> <i>Ethyl propiolate, Acetylenecarboxylic acid ethyl ester, Propiolic acid ethyl ester</i>	<ul style="list-style-type: none"> <li>■ CAS-No. 623-47-2 ■ EC-No. 210-795-8</li> <li>■ Refractive index 1.4105 (20 °C, 589 nm)</li> <li>■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C)</li> <li>■ Flash point 23 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 98.1 g/mol</li> </ul>
	<ul style="list-style-type: none"> <li>■ Melting point 9 °C ■ Boiling point 120 °C (1013 hPa)</li> <li>■ WGK 3</li> <li>■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P262, P302 + P352, P304 + P340, P305 + P351 + P338</li> <li>■ LGK 3</li> <li>■ HS-No. 2916 19 95 ■ Disposal 3</li> <li>■ ADR-RID UN 1195 Ethylpropionat, 3, II ■ IMDG-</li> </ul>

Code UN 1195 ETHYL PROPIONATE, 3, II  
 ■ IATA-DGR UN 1195 ETHYL PROPIONATE, 3, II

**Specification**  
 Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.963 - 0.965  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21045.0005	Glass bottle	5 ml	inquire
8.21045.0025	Glass bottle	25 ml	inquire

## 800836 Ethyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>

Acrylic acid ethyl ester

- CAS-No. 140-88-5 ■ EC-No. 205-438-8
- Refractive index 1.4049 (20 °C, 589 nm)
- Vapour pressure 39 hPa (20 °C)
- Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 14 % (V) ■ Flash point 8 °C ■ Solub. in H<sub>2</sub>O 15 g/l (20 °C) ■ M = 100.11 g/mol
- Melting point -71 °C ■ Boiling point 100 °C (1013 hPa) ■ Water absorption 124 g/kg (20 °C)
- Ignition temp. 355 °C DIN 51794

- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P210, P233, P241, P280, P304 + P340, P302 + P352, P301 + P312, P305 + P351 + P338
- LD50 oral rat 550 mg/kg ■ LD50 dermal rabbit 1800 mg/kg
- EC-Index-No. 607-032-00-X ■ LGK 3

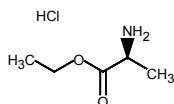
- HS-No. 2916 12 00 ■ Disposal 3
- ADR-RID UN 1917 Ethylacrylat, stabilisiert, 3, II
- IMDG-Code UN 1917 ETHYL ACRYLATE, STABILIZED, 3, II
- IATA-DGR UN 1917 ETHYL ACRYLATE, STABILIZED, 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,921 - 0,922  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00836.0100	Glass bottle	100 ml	inquire
8.00836.1000	Glass bottle	1 l	inquire

## 841688 L-Ethyl alanate hydrochloride for synthesis

C<sub>5</sub>H<sub>12</sub>ClNO<sub>2</sub>C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>·HCl

L-Alanine ethyl ester hydrochloride

- CAS-No. 1115-59-9 ■ EC-No. 214-225-9
- Solub. in H<sub>2</sub>O 100 g/l ■ M = 153.61 g/mol
- Melting point 79 - 81 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (argentometric) ..... ≥ 98,0 % (m)

Optical rotation α<sub>D</sub> 25/D (c=2.5 in water) 2,4 - 3,4 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41688.0005	Plastic bottle	5 g	inquire
8.41688.0025	Plastic bottle	25 g	inquire

## Ethylamine



- Vapour pressure 460 hPa (20 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.0 - 12.8 % (V) ■ Flash point -26 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >14 (H<sub>2</sub>O, 20 °C)
- Melting point < -70 °C ■ Boiling point 39 °C (1013 hPa) ■ Ignition temp. 375 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302;

- Acute toxicity, Category 3, Inhalation, H331;
- Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314, P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 5.45 mg/l
- LD50 oral rat 400 mg/kg ■ LD50 dermal rabbit 265 mg/kg
- LGK 3

- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2270 Ethylamin, wässrige Lösung, 3 (8), II ■ IMDG-Code UN 2270 ETHYLAMINE, AQUEOUS SOLUTION, 3 (8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2270 ETHYLAMINE, AQUEOUS SOLUTION, 3 (8), II

## 820024 Ethylamine (70% aqueous solution) for synthesis

## Specification

Assay (acidimetric) ..... 68,0 - 72,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,803 - 0,806

Ord.No.	Packaging	Quantity	Price
8.20024.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.20024.2500	Glass bottle	2.5 l	inquire

## 845088 Ethylamine (70% solution in water) for pharma synthesis, non-GMP

## Specification

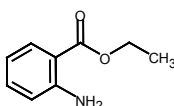
Colour (visual) ..... colourless  
 Appearance of substance (visual) ..... clear  
 Assay (acidimetric) ..... 68,0 - 72,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,803 - 0,807

Diethylamine ..... lot specific result  
 Triethylamine ..... lot specific result

Ord.No.	Packaging	Quantity	Price
8.45088.1000	Glass bottle	1 l	inquire
8.45088.2500	Glass bottle	2.5 l	inquire

Ethylamine hydrochloride → Ethylammonium chloride page 851

## 820113 Ethyl 2-aminobenzoate for synthesis

C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub>2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COOC<sub>2</sub>H<sub>5</sub>

Ethyl anthranilate, 2-Aminobenzoic acid ethyl ester, Anthranilic acid ethyl ester

- CAS-No. 87-25-2 ■ EC-No. 201-735-1
- Refractive index 1.5645 (20 °C, 589 nm)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 165.19 g/mol
- Melting point 12 - 14 °C
- Boiling point 266 - 268 °C
- WGK 2
- LD50 oral rat 3750 mg/kg
- LGK 10 - 13

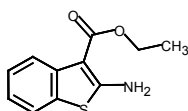
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.117 - 1.119  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20113.0100	Glass bottle	100 ml	inquire

## 814873 Ethyl-2-amino-benzo(b)thiophene-3-carboxylate for synthesis

C<sub>11</sub>H<sub>11</sub>NO<sub>2</sub>S

2-Amino-benzo[b]thiophene-3-carboxylic acid ethyl ester

- CAS-No. 7311-95-7
- M = 221.28 g/mol ■ Melting point 108.6 °C

- Boiling point >290 °C (1013 hPa) (decomposition)
- WGK 2
- LD50 oral rat > 2000 mg/kg
- LGK 6.1A
- HS-No. 2934 99 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(ETHYL-2-AMINO-BENZO(B)THIOPHEN-3-CARBOXYLAT), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(ETHYL-2-AMINO-BENZO(B)THIOPHEN-3-

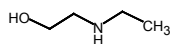
- CARBOXYLATE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(ETHYL-2-AMINO-BENZO(B)THIOPHEN-3-CARBOXYLATE), 6.1, II

## Specification

Assay (HPLC, area%) ..... ≥ 96,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14873.0001	Glass bottle	1 g	inquire
8.14873.0005	Glass bottle	5 g	inquire

## 801392 2-(Ethylamino)ethanol for synthesis

C<sub>4</sub>H<sub>11</sub>NOC<sub>2</sub>H<sub>5</sub>NHCH<sub>2</sub>CH<sub>2</sub>OH

N-Ethylethanolamine

- CAS-No. 110-73-6 ■ EC-No. 203-797-5
- Refractive index 1.4402 (20 °C, 589 nm)
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 0.914 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 11.7 % (V) ■ Flash point 78 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 89.14 g/mol
- pH value 12.3 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -9 °C ■ Boiling point 167 °C

- Ignition temp. 330 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1020 mg/kg ■ LD50 dermal rat 3670 mg/kg
- LGK 8 A
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-(ETHYLAMINO)ETHANOL), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-ETHYLAMINOETHANOL), 8, II, Segregation

Group: 18 (Alkalis)

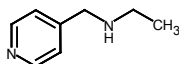
- IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-ETHYLAMINOETHANOL), 8, II

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,914 - 0,917  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01392.0250	Glass bottle	250 ml	inquire
8.01392.1000	Glass bottle	1 l	inquire

## 841888 4-(Ethylaminomethyl)pyridine for synthesis

C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>

■ CAS-No. 33403-97-3 ■ EC-No. 251-506-5

- Spec. density 0.988 g/cm<sup>3</sup> (20 °C)
- Flash point 98 °C ■ M = 136.20 g/mol
- WGK 3

- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

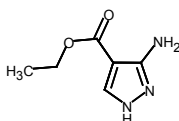
## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,984 - 0,988

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41888.0010	Glass bottle	10 ml	inquire
8.41888.0050	Glass bottle	50 ml	inquire

## 814295 Ethyl (3-aminopyrazole 4-carboxylate) for synthesis

C<sub>6</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub>

3-Aminopyrazole-4-carboxylic acid ethyl ester

- CAS-No. 6994-25-8 ■ EC-No. 230-262-3
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 155.16 g/mol ■ Melting point 101 - 104 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2933 19 90 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 % (m)

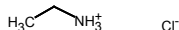
Melting range (lower value) ..... ≥ 101 °C

Melting range (upper value) ..... ≤ 104 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14295.0001	Glass bottle	1 g	inquire

## 800874 Ethylammonium chloride for synthesis

C<sub>2</sub>H<sub>8</sub>ClN

Ethylamine hydrochloride

- CAS-No. 557-66-4 ■ EC-No. 209-182-8
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 81.54 g/mol
- Melting point 107 - 108 °C

- WGK 1
- LD50 oral rat > 3200 mg/kg
- LGK 10 - 13
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

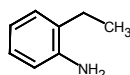
Assay (argentometric) ..... ≥ 98,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00874.0250	Glass bottle	250 g	inquire
8.00874.1000	Glass bottle	1 kg	inquire

Ethyl amyl ketone → 5-Methyl-3-heptanone page 306

Ethyl n-amyl ketone → 3-Octanone page 1243

## 800937 2-Ethylaniline for synthesis

C<sub>8</sub>H<sub>11</sub>N2-(C<sub>2</sub>H<sub>5</sub>)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>

1-Amino-2-ethylbenzene

- CAS-No. 578-54-1 ■ EC-No. 209-424-2
- Refractive index 1.559 (20 °C, 589 nm) ■ Vapour pressure 0.15 hPa (20 °C) ■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)

- cm<sup>3</sup> (20 °C) ■ Flash point 92 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 121.18 g/mol ■ Melting point -46 °C ■ Boiling point 210 °C (1013 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1260 mg/kg
- LGK 10
- HS-No. 2921 49 00

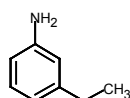
- ADR-RID UN 2273 2-Ethylanilin, 6.1, III
- IMDG-Code UN 2273 2-ETHYLANILINE, 6.1, III
- IATA-DGR UN 2273 2-ETHYLANILINE, 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,982 - 0,983  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00937.0250	Glass bottle	250 ml	inquire

## 818481 3-Ethylaniline for synthesis

C<sub>8</sub>H<sub>11</sub>N3-(C<sub>2</sub>H<sub>5</sub>)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>

1-Amino-3-ethylbenzene

- CAS-No. 587-02-0 ■ EC-No. 209-594-8
- Refractive index 1.5556 (20 °C, 589 nm)

- Spec. density 0.97 g/cm<sup>3</sup> (20 °C)
- Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 121.18 g/mol ■ Melting point -8 °C
- Boiling point 93 - 95 °C (8 hPa)
- WGK 1
- LGK 10
- HS-No. 2921 49 00
- ADR-RID UN 1602 Farbstoffzwischenprodukt, flüssig, giftig, n.a.g.(3-ETHYLANILIN), 6.1, III
- IMDG-Code UN 1602 DYE INTERMEDIATE,

- LIQUID, TOXIC, N.O.S.(3-ETHYLANILINE), 6.1, III
- IATA-DGR UN 1602 DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.(3-ETHYLANILINE), 6.1, III

## Specification

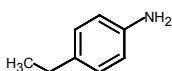
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,970 - 0,972  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18481.0010	Glass bottle	10 ml	inquire



# Ethyla

## 800936 4-Ethylaniline for synthesis



$C_8H_{11}N$   
4-( $C_2H_5$ ) $C_6H_4NH_2$   
*1-Amino-4-ethylbenzene*  
■ CAS-No. 589-16-2 ■ EC-No. 209-637-0  
■ Refractive index 1.5543 (20 °C, 589 nm)  
■ Vapour pressure 1.1 hPa (50 °C)

■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C)  
■ Flash point 97 °C ■ Solub. in H<sub>2</sub>O (25 °C) insoluble ■ M = 121.18 g/mol  
■ Melting point -5 °C ■ Boiling point 218 °C  
■ WGK 1  
■ LGK 10  
■ HS-No. 2921 49 00  
■ ADR-RID UN 1602 Farbstoffzwischenprodukt, flüssig, giftig, n.a.g.(4-ETHYLANILIN), 6.1, III  
■ IMDG-Code UN 1602 DYE INTERMEDIATE,

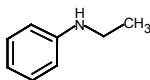
LIQUID, TOXIC, N.O.S.(4-ETHYLANILINE), 6.1, III  
■ IATA-DGR UN 1602 DYE INTERMEDIATE, LIQUID, TOXIC, N.O.S.(4-ETHYLANILINE), 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,967 - 0,969  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00936.0100	Glass bottle	100 ml	inquire

## 821662 N-Ethylaniline for synthesis



$C_8H_{11}N$   
 $C_6H_5NHC_2H_5$   
■ CAS-No. 103-69-5 ■ EC-No. 203-135-5  
■ Refractive index 1.5538 (20 °C, 589 nm)  
■ Vapour pressure 0.4 hPa (20 °C)  
■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 10.0 % (V) ■ Flash point 92 °C ■ Solub. in H<sub>2</sub>O 2.7 g/l (20 °C) ■ M = 121.18 g/mol

■ pH value 11 (2.7 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point -64 °C ■ Boiling point 205 °C (1013 hPa) ■ Ignition temp. 350 °C  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373, P280, P302 + P352, P304 + P340, P309 + P310  
■ LD50 oral rat 310 mg/kg ■ LD50 dermal rat 2000 mg/kg  
■ EC-Index-No. 612-053-00-2 ■ LGK 6.1A

■ HS-No. 2921 42 00 ■ Disposal 9  
■ ADR-RID UN 2272 n-Ethylanilin, 6.1, III  
■ IMDG-Code UN 2272 N-ETHYLANILINE, 6.1, III  
■ IATA-DGR UN 2272 N-ETHYLANILINE, 6.1, III

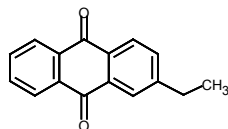
### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.959 - 0.961  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21662.0250	Glass bottle	250 ml	inquire
8.21662.1000	Glass bottle	1 l	inquire

Ethyl anthranilate → Ethyl 2-aminobenzoate page 850

## 821934 2-Ethylanthraquinone for synthesis



$C_{16}H_{12}O_2$   
■ CAS-No. 84-51-5 ■ EC-No. 201-535-4  
■ Vapour pressure 0.00056 hPa (70 °C)

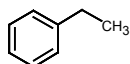
■ Flash point >210 °C ■ Solub. in H<sub>2</sub>O 0.0007 g/l (20 °C) ■ M = 236.26 g/mol  
■ Melting point 107 - 110 °C  
■ Bulk density 650 kg/m<sup>3</sup>  
■ Boiling point 180 - 190 °C  
■ Ignition temp. 485 °C  
■ WGK 1  
■ LD50 oral rat > 6400 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2914 69 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 107 °C  
Melting range (upper value) ..... ≤ 110 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21934.0100	Glass bottle	100 g	inquire
8.21934.0250	Glass bottle	250 g	inquire

## Ethylbenzene



$C_8H_{10}$   
 $C_6H_5C_2H_5$   
■ CAS-No. 100-41-4 ■ EC-No. 202-849-4  
■ Vapour pressure 9.5 hPa (20 °C)  
■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Dielectricity

constant 2.3 (30 °C) ■ Explosive limit 1.0 - 7.8 % (V) ■ Flash point 15 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (20 °C) ■ M = 106.16 g/mol  
■ Saturation conc. 40 g/m<sup>3</sup> (20 °C) Air  
■ Melting point -95 °C ■ Boiling point 136 °C (1013 hPa) ■ Ignition temp. 430 °C  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation,

H332, P210

■ LC50 rat 17.2 mg/l  
■ LD50 oral rat 3500 mg/kg ■ LD50 dermal rabbit 15354 mg/kg  
■ EC-Index-No. 601-023-00-4 ■ LGK 3  
■ HS-No. 2902 60 00 ■ Disposal 3  
■ ADR-RID UN 1175 Ethylbenzen, 3, II ■ IMDG-Code UN 1175 ETHYLBENZENE, 3, II  
■ IATA-DGR UN 1175 ETHYLBENZENE, 3, II

## 801372 Ethylbenzene for synthesis

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,866 - 0,867  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01372.0100	Glass bottle	100 ml	inquire
8.01372.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

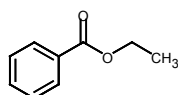
## 109635 Ethylbenzene reference substance for gas chromatography

### Specification

Purity (GC) ..... ≥ 99.5% (a/a)  
Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09635.0005	Glass bottle	5 ml	inquire

## 801813 Ethyl benzoate for synthesis



$C_9H_{10}O_2$   
 $C_6H_5COOC_2H_5$   
*Benzoic acid ethyl ester*  
■ CAS-No. 93-89-0 ■ EC-No. 202-284-3  
■ Refractive index 1.5057 (20 °C, 589 nm)  
■ Vapour pressure 0.24 hPa (20 °C)

■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 % (V) ■ Flash point 88 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 150.17 g/mol  
■ Melting point -35 °C  
■ Boiling point 213 - 215 °C (1013 hPa)  
■ Ignition temp. 490 °C  
■ WGK 1  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LD50 oral rat 2100 mg/kg

■ LGK 10 - 13  
■ HS-No. 2916 31 00 ■ Disposal 3

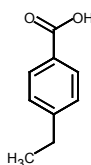
### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,046 - 1,047  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01813.0250	Glass bottle	250 ml	inquire
8.01813.1000	Glass bottle	1 l	inquire



## 841386 4-Ethylbenzoic acid for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>

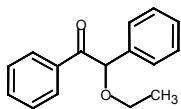
- CAS-No. 619-64-7 ■ EC-No. 210-605-3
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 150.17 g/mol ■ Melting point 111 - 113 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90

## Specification

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 111 °C  
 Melting range (upper value) ..... ≤ 113 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41386.0005	Plastic bottle	5 g	inquire

## 820022 O-Ethylbenzoin for synthesis

C<sub>16</sub>H<sub>16</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>CHO(C<sub>2</sub>H<sub>5</sub>)COOC<sub>2</sub>H<sub>5</sub>

*Benzoin ethyl ether, 2-Ethoxy-2-phenylacetophenone*

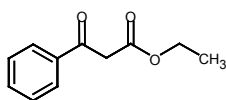
- CAS-No. 574-09-4 ■ EC-No. 209-366-8
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 240.30 g/mol ■ Melting point 56 - 59 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 56 °C  
 Melting range (upper value) ..... ≤ 59 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20022.0050	Glass bottle	50 g	inquire

## 801808 Ethyl benzoylacetate for synthesis

C<sub>11</sub>H<sub>12</sub>O<sub>3</sub>C<sub>6</sub>H<sub>5</sub>COCH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>

*Benzoylacetate ethyl ester, 3-Oxo-3-phenylpropionic acid ethyl ester*

■ CAS-No. 94-02-0 ■ EC-No. 202-295-3

- Refractive index 1.531 (20 °C, 589 nm) ■ Vapour pressure 1 hPa (108 °C) ■ Spec. density 1.114 g/cm<sup>3</sup> (20 °C) ■ Flash point 140 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 192.21 g/mol
- Boiling point 265 - 270 °C (decomposition)
- Ignition temp. 375 °C DIN 51794
- WGK 2
- LD50 oral rat > 5000 mg/kg
- LGK 10
- HS-No. 2918 30 00 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 95.0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,105 - 1,120  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01808.0100	Glass bottle	100 ml	inquire
8.01808.0250	Glass bottle	250 ml	inquire

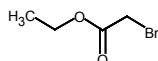
α-Ethylbenzyl alcohol → 1-Phenyl-1-propanol page 1310

N-Ethylbenzylamine → N-Benzylethylamine page 450

N-Ethyl-N-benzylaniline → N-Benzyl-N-ethylaniline page 450

Ethyl bromide → Bromoethane page 499

## 801636 Ethyl bromoacetate for synthesis

C<sub>4</sub>H<sub>7</sub>BrO<sub>2</sub>BrCH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>

*Bromoacetic acid ethyl ester*

- CAS-No. 105-36-2 ■ EC-No. 203-290-9
- Refractive index 1.451 (20 °C, 589 nm) ■ Vapour pressure 4.5 hPa (20 °C) ■ Spec. density 1.50 g/cm<sup>3</sup> (20 °C) ■ Flash point 50 °C ■ Solub. in H<sub>2</sub>O (20 °C) decomposes ■ M = 167.00 g/mol

- Melting point -38 °C
- Boiling point 158 - 161 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310, Acute toxicity, Category 2, Oral, H300, P210, P280, P302 + P352, P304 + P340, P309 + P310
- EC-Index-No. 607-069-00-1 ■ LGK 3
- HS-No. 2915 90 70 ■ Disposal 9
- ADR-RID UN 1603 Ethylbromacetat, 6.1 (3), II
- IMDG-Code UN 1603 ETHYL BROMOACETATE,

6.1 (3), II

■ IATA-DGR UN 1603 ETHYL BROMOACETATE, 6.1 (3), II

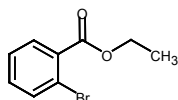
## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,500 - 1,510  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01636.0250	Glass bottle	250 ml	inquire
8.01636.1000	Glass bottle	1 l	inquire

4-Ethyl-1-bromobenzene → 1-Bromo-4-ethylbenzene page 500

## 816118 Ethyl 2-bromobenzoate for synthesis

C<sub>9</sub>H<sub>9</sub>BrO<sub>2</sub>

2-Bromobenzoic acid ethyl ester

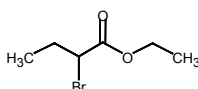
- CAS-No. 6091-64-1 ■ EC-No. 228-034-3
- Spec. density 1.441 g/cm<sup>3</sup> (20 °C)
- M = 229.07 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,441 - 1,445  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16118.0025	Glass bottle	25 ml	inquire

## 801482 Ethyl 2-bromobutyrate for synthesis

C<sub>6</sub>H<sub>11</sub>BrO<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>CHBrCOOC<sub>2</sub>H<sub>5</sub>

*2-Bromobutyric acid ethyl ester*

- CAS-No. 533-68-6 ■ EC-No. 208-574-6
- Refractive index 1.447 (1 °C, 589 nm) ■ Vapour pressure 3 hPa (25 °C) ■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C) ■ Flash point 56 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 195.06 g/mol

- Melting point -4 °C ■ Boiling point 177 - 178 °C (1013 hPa) (decomposition)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ETHYL-2-BROMBUTYRAT), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHYL-2-BROMOBUTYRATE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHYL-2-BROMOBUTYRATE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,327 - 1,332  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01482.0250	Glass bottle	250 ml	inquire

!

A

B

C

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G

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V

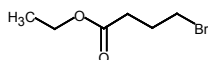
W

X

Y

Z

## 820189 Ethyl 4-bromobutyrate for synthesis



C<sub>6</sub>H<sub>11</sub>BrO<sub>2</sub>  
Br(CH<sub>2</sub>)<sub>3</sub>COOC<sub>2</sub>H<sub>5</sub>  
4-Bromobutyric acid ethyl ester  
■ CAS-No. 2969-81-5 ■ EC-No. 221-005-6  
■ Refractive index 1.4559 (20 °C, 589 nm)  
■ Spec. density 1.35 g/cm<sup>3</sup> (20 °C)  
■ Flash point 100 °C ■ Solub. in

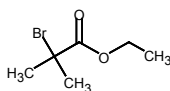
H<sub>2</sub>O (20 °C) insoluble ■ M = 195.05 g/mol  
■ Boiling point 80 - 82 °C (13 hPa)  
■ WGK 1  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2915 90 70 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(ETHYL-4-BROMOBUTYRATE), 9, III  
**Specification**  
Assay (GC, area%)..... ≥ 95,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.350 - 1.355  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20189.0025	Glass bottle	25 ml	inquire
8.20189.0100	Glass bottle	100 ml	inquire

Ethyl α-bromoisobutyrate → Ethyl 2-bromo-2-methylpropionate page 854

## 820204 Ethyl 2-bromo-2-methylpropionate for synthesis



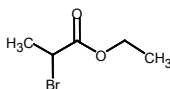
C<sub>6</sub>H<sub>11</sub>BrO<sub>2</sub>  
(CH<sub>3</sub>)<sub>2</sub>CBrcCOOC<sub>2</sub>H<sub>5</sub>  
Ethyl α-bromoisobutyrate, 2-Bromo-2-methylpropionic acid ethyl ester  
■ CAS-No. 600-00-0 ■ EC-No. 209-980-6  
■ Refractive index 1.4446 (20 °C, 589 nm)

■ Vapour pressure 4 hPa (25 °C)  
■ Spec. density 1.31 g/cm<sup>3</sup> (20 °C)  
■ Flash point 61 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 195.06 g/mol  
■ Boiling point 162 - 164 °C  
■ WGK 2  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 10 - 13

■ HS-No. 2915 90 70 ■ Disposal 3  
**Specification**  
Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.316 - 1.321  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20204.0250	Glass bottle	250 ml	inquire

## 820219 Ethyl 2-bromopropionate for synthesis



C<sub>5</sub>H<sub>9</sub>BrO<sub>2</sub>  
CH<sub>3</sub>CHBrCOOC<sub>2</sub>H<sub>5</sub>  
2-Bromopropionic acid ethyl ester  
■ CAS-No. 535-11-5 ■ EC-No. 208-609-5  
■ Refractive index 1.447 (20 °C, 589 nm)  
■ Spec. density 1.39 g/cm<sup>3</sup> (20 °C)  
■ Flash point 52 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 181.02 g/mol

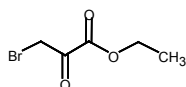
■ Boiling point 156 - 160 °C (1013 hPa)  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 281 mg/kg  
■ LGK 3  
■ HS-No. 2915 90 70 ■ Disposal 3  
■ ADR-RID UN 1992 Entzündbarer flüssiger Stoff,

giftig, n.a.g.(ETHYL-2-BROMOPROPIONAT), 3 (6.1), III ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(ETHYL-2-BROMOPROPIONATE), 3 (6.1), III  
■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(ETHYL-2-BROMOPROPIONATE), 3 (6.1), III

**Specification**  
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.388 - 1.391  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20219.0250	Glass bottle	250 ml	inquire

## 814560 Ethyl bromopyruvate for synthesis



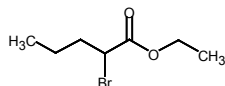
C<sub>5</sub>H<sub>7</sub>BrO<sub>3</sub>  
■ CAS-No. 70-23-5 ■ EC-No. 200-729-6  
■ Spec. density 1.55 g/cm<sup>3</sup> (20 °C)  
■ Flash point 99 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 195.01 g/mol  
■ Boiling point 98 - 100 °C (13 hPa)  
■ WGK 3  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2918 30 00 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 70,0 Area %  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14560.0025	Glass bottle	25 ml	inquire

## 821979 Ethyl 2-bromovalerate for synthesis



C<sub>7</sub>H<sub>13</sub>BrO<sub>2</sub>  
CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CHBrCOOC<sub>2</sub>H<sub>5</sub>  
2-Bromovaleric acid ethyl ester  
■ CAS-No. 615-83-8 ■ EC-No. 210-450-1  
■ Refractive index 1.4496 (20 °C, 589 nm)

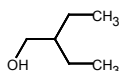
■ Spec. density 1.27 g/cm<sup>3</sup> (20 °C)  
■ Flash point 77 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 209.08 g/mol  
■ Boiling point 190 - 192 °C (1013 hPa)  
■ WGK 3  
■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LGK 8A

■ HS-No. 2915 90 70 ■ Disposal 3  
**Specification**  
Assay (GC, area%)..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1,271 - 1,275  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21979.0025	Glass bottle	25 ml	inquire

Ethyl butanoate → Ethyl butyrate page 855

## 841557 2-Ethyl-1-butanol for synthesis

C<sub>6</sub>H<sub>14</sub>O

Isohexyl alcohol

- CAS-No. 97-95-0 ■ EC-No. 202-621-4
- Vapour pressure 1.2 hPa (20 °C)
- Spec. density 0.831 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 7 % (V) ■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O 4 g/l (25 °C) ■ M = 102.17 g/mol
- Melting point -52 °C

- Boiling point 146 - 148 °C
- Ignition temp. 315 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P302 + P352
- LD50 oral rat 1850 mg/kg ■ LD50 dermal rabbit 1047 mg/kg
- EC-Index-No. 603-051-00-2 ■ LGK 3
- HS-No. 2905 19 00 ■ Disposal 3
- ADR-RID UN 2275 2-Ethylbutanol, 3, III

- IMDG-Code UN 2275 2-ETHYLBUTANOL, 3, III
- IATA-DGR UN 2275 2-ETHYLBUTANOL, 3, III

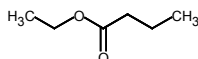
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.830 - 0.833  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41557.0250	Glass bottle	250 ml	inquire

Ethyl butyl ketone → 3-Heptanone page 304

## 800500 Ethyl butyrate for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>

Butyric acid ethyl ester, Ethyl butanoate

- CAS-No. 105-54-4 ■ EC-No. 203-306-4
- Refractive index 1.392 (20 °C, 589 nm) ■ Vapour pressure 17 hPa (20 °C) ■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Flash point 26 °C ■ Solub. in H<sub>2</sub>O 6.2 g/l
- (20 °C) ■ M = 116.16 g/mol ■ Melting point -98 °C ■ Boiling point 120 - 122 °C (1013 hPa)
- Ignition temp. 460 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P262
- LD50 oral rat 13000 mg/kg
- LD50 dermal rabbit 5228 mg/kg
- LGK 3
- HS-No. 2915 60 19 ■ Disposal 3
- ADR-RID UN 1180 Ethylbutyrat, 3, III ■ IMDG-

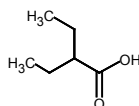
- Code UN 1180 ETHYL BUTYRATE, 3, III
- IATA-DGR UN 1180 ETHYL BUTYRATE, 3, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,878 - 0,879  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00500.0100	Glass bottle	100 ml	inquire
8.00500.0500	Glass bottle	500 ml	inquire

## 801480 2-Ethylbutyric acid for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>C<sub>2</sub>H<sub>5</sub>CH(C<sub>2</sub>H<sub>5</sub>)COOH

Diethylacetic acid

- CAS-No. 88-09-5 ■ EC-No. 201-796-4
- Vapour pressure 0.2 hPa (20 °C)
- Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 % (V) ■ Flash point 87 °C ■ Solub. in H<sub>2</sub>O 18 g/l (20 °C) ■ M = 116.15 g/mol
- pH value 3 (18 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -14 °C ■ Boiling point 192 - 194 °C (1013 hPa)
- Ignition temp. 345 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2200 mg/kg ■ LD50 dermal rabbit 478 mg/kg
- LGK 10
- HS-No. 2915 90 70 ■ Disposal 4
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-ETHYLBUTTERSÄURE), 6.1, III

- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-ETHYL BUTYRIC ACID), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-ETHYL BUTYRIC ACID), 6.1, III

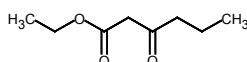
## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,922 - 0,923  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01480.0100	Glass bottle	100 ml	inquire
8.01480.0500	Glass bottle	500 ml	inquire

γ-Ethyl-γ-butyrolactone → γ-Caprolactone page 569

## 801557 Ethyl butyrylacetate for synthesis

C<sub>8</sub>H<sub>14</sub>O<sub>3</sub>CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>COCH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>

Ethyl 3-oxohexanoate, Butyrylacetic acid ethyl ester

- CAS-No. 3249-68-1 ■ EC-No. 221-835-9

- Refractive index 1.4295 (20 °C, 589 nm)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C)
- Flash point 94 °C DIN 51758 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 158.19 g/mol
- Melting point -44 °C
- Boiling point 210 - 220 °C (1013 hPa)
- WGK 1
- LGK 10
- HS-No. 2918 30 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,984 - 0,986  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01557.0050	Glass bottle	50 ml	inquire

Ethyl caprate → Ethyl decanoate page 858

Ethyl caproate → Ethyl hexanoate page 869

α-Ethylcaproic acid → 2-Ethylhexanoic acid page 869

Ethyl caprylate → Ethyl octanoate page 878

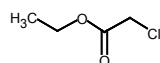
Ethyl carbinol → page 320

Ethyl carbitol acetate → 2-(2-Ethoxyethoxy)ethyl acetate page 846

Ethyl cellosolve → 2-Ethoxyethanol (stabilised) page 303

Ethyl chloride → Chloroethane page 609

## 800413 Ethyl chloroacetate for synthesis

C<sub>4</sub>H<sub>7</sub>ClO<sub>2</sub>ClCH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>

Chloroacetic acid ethyl ester

- CAS-No. 105-39-5 ■ EC-No. 203-294-0
- Refractive index 1.4205 (20 °C, 589 nm)
- Vapour pressure 4.8 hPa (20 °C)
- Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.6 % (V) ■ Flash point 54 °C ■ Solub. in H<sub>2</sub>O 12.3 g/l (20 °C) ■ M = 122.55 g/mol
- Melting point -26 °C ■ Boiling point 144 °C (1013 hPa) ■ Evaporation number 0.23
- Ignition temp. 452 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400, P210, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 180 mg/kg ■ LD50 dermal rat 161 mg/kg
- EC-Index-No. 607-070-00-7 ■ LGK 3
- HS-No. 2915 40 00 ■ Disposal 9
- ADR-RID UN 1181 Ethylchloroacetat, 6.1 (3), II

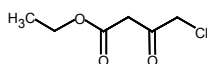
- IMDG-Code UN 1181 ETHYL CHLOROACETATE, 6.1 (3), II
- IATA-DGR UN 1181 ETHYL CHLOROACETATE, 6.1 (3), II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,149 - 1,151  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00413.0250	Glass bottle	250 ml	inquire
8.00413.1000	Glass bottle	1 l	inquire

## 818571 Ethyl 4-chloroacetoacetate for synthesis



C<sub>6</sub>H<sub>9</sub>ClO<sub>3</sub>  
ClCH<sub>2</sub>COCH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>  
4-Chloroacetoacetic acid ethyl ester  
■ CAS-No. 638-07-3 ■ EC-No. 211-317-0  
■ Refractive index 1.4546 (17 °C, 589 nm)  
■ Vapour pressure 0.1 hPa (20 °C)  
■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 % (V) ■ Flash point 106 °C ■ Solub. in H<sub>2</sub>O 47.0 g/l (20 °C) ■ M = 164.59 g/mol  
■ pH value 2.9 (10 g/l, H<sub>2</sub>O, 20 °C)

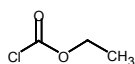
■ Melting point -8 °C ■ Boiling point 220 °C (1013 hPa) ■ Ignition temp. 320 °C  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 180 mg/kg  
■ LGK 6.1A  
■ HS-No. 2918 30 00 ■ Disposal 9  
■ ADR-RID UN 2922 Ätzender flüssiger Stoff,

giftig, n.a.g.(ETHYL-4-CHLORACETOACETAT), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(ETHYL 4-CHLOROACETOACETATE), 8 (6.1), II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(ETHYL 4-CHLOROACETOACETATE), 8 (6.1), II  
**Specification**  
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.208 - 1.210  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18571.0100	Glass bottle	100 ml	inquire

Ethyl chlorocarbonate → Ethyl chloroformate page 856

## 800881 Ethyl chloroformate for synthesis



C<sub>3</sub>H<sub>5</sub>ClO<sub>2</sub>  
ClCOOC<sub>2</sub>H<sub>5</sub>  
Ethyl chlorocarbonate, Ethoxycarbonyl chloride  
■ CAS-No. 541-41-3 ■ EC-No. 208-778-5  
■ Refractive index 1.3941 (20 °C, 589 nm)  
■ Vapour pressure 54 hPa (20 °C)  
■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.7 - 12.6 % (V) ■ Flash point 10 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 108.52 g/mol  
■ pH value (H<sub>2</sub>O, 20 °C) acidic  
■ Melting point -81 °C ■ Boiling point 95 °C

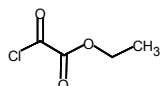
(1013 hPa) ■ Ignition temp. 450 °C  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Corrosive to metals, Category 1, H290; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P304 + P340, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LC50 rat 0.64 mg/l  
■ LD50 oral rat 204 mg/kg ■ LD50 dermal rabbit 7120 mg/kg  
■ EC-Index-No. 607-020-00-4 ■ LGK 3  
■ HS-No. 2915 90 70 ■ Disposal 11  
■ ADR-RID UN 1182 Ethylchlorformiat, 6.1 (3, 8), I

■ IMDG-Code UN 1182 ETHYL CHLOROFORMATE, 6.1 (3, 8), I, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1182 ETHYL CHLOROFORMATE, 6.1 (3, 8), I  
**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,138 - 1,140  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00881.0100	Glass bottle	100 ml	inquire
8.00881.0250	Glass bottle	250 ml	inquire
8.00881.1000	Glass bottle	1 l	inquire

Ethyl chloroformylformate → page 856

## 820303 Ethyl chloroformylformate for synthesis



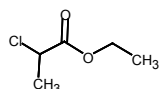
C<sub>4</sub>H<sub>5</sub>ClO<sub>3</sub>  
ClCOCOC<sub>2</sub>H<sub>5</sub>  
Chloroglyoxylic acid ethyl ester, Ethoxalyl chloride, Ethyl chloroformylformate, Chloroformylformic acid ethyl ester  
■ CAS-No. 4755-77-5 ■ EC-No. 225-285-0  
■ Refractive index 1.417 (20 °C, 589 nm)  
■ Spec. density 1.23 g/cm<sup>3</sup> (20 °C)

■ Flash point 41 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 136.53 g/mol  
■ Boiling point 135 °C (1013 hPa)  
■ WGK 3  
■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LGK 3 ■ Store below +15°C.  
■ HS-No. 2917 19 90 ■ Disposal 11  
■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(ETHYL-CHLORFORMYLFORMIAT), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE

LIQUID, FLAMMABLE, N.O.S.(ETHYL CHLOROFORMYLFORMATE), 8 (3), II  
■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(ETHYL CHLOROFORMYLFORMATE), 8 (3), II  
**Specification**  
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.225 - 1.228  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20303.0025	Glass bottle	25 ml	inquire

## 841265 Ethyl 2-chloropropionate for synthesis



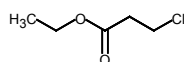
C<sub>5</sub>H<sub>9</sub>ClO<sub>2</sub>  
2-Chloropropionic acid ethyl ester  
■ CAS-No. 535-13-7 ■ EC-No. 208-610-0  
■ Vapour pressure 4.8 hPa (25 °C)  
■ Spec. density 1.072 g/cm<sup>3</sup> (20 °C)  
■ Flash point 38 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 136.57 g/mol

mol ■ Boiling point 146 - 149 °C  
■ Ignition temp. 420 °C  
■ WGK 1  
■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
■ LGK 3  
■ HS-No. 2915 90 70 ■ Disposal 3  
■ ADR-RID UN 2935 ETHYL-2-chloropropionat, 3, III  
■ IMDG-Code UN 2935 ETHYL-2-CHLOROPROPIONATE, 3, III

■ IATA-DGR UN 2935 ETHYL 2-CHLOROPROPIONATE, 3, III  
**Specification**  
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.887 - 0.892  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41265.0050	Glass bottle	50 ml	inquire

## 800365 Ethyl 3-chloropropionate for synthesis



C<sub>5</sub>H<sub>9</sub>ClO<sub>2</sub>  
ClCH<sub>2</sub>CH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>  
3-Chloropropionic acid ethyl ester  
■ CAS-No. 623-71-2 ■ EC-No. 210-809-2  
■ Refractive index 1.4249 (20 °C, 589 nm)  
■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)  
■ Flash point 49.5 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 136.57 g/mol

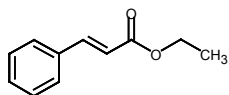
■ Boiling point 162 - 164 °C  
■ WGK 1  
■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
■ LGK 3  
■ HS-No. 2915 90 70 ■ Disposal 3  
■ ADR-RID UN 3272 Ester, n.a.g.(ETHYL-3-CHLOROPROPIONAT), 3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(ETHYL-3-CHLOROPROPIONATE), 3, III

■ IATA-DGR UN 3272 ESTERS, N.O.S.(ETHYL-3-CHLOROPROPIONATE), 3, III  
**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,100 - 1,103  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00365.0025	Glass bottle	25 ml	inquire
8.00365.0100	Glass bottle	100 ml	inquire



## 800238 Ethyl cinnamate for synthesis

C<sub>11</sub>H<sub>12</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>CH=CHCOOC<sub>2</sub>H<sub>5</sub>Ethyl *trans*-3-phenylpropenoate, Cinnamic acid ethyl ester

- CAS-No. 4192-77-2
- Refractive index 1.5585 (20 °C, 589 nm)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C)
- Flash point 135 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 176.21 g/mol
- Melting point 6 - 7 °C ■ Boiling point 271 °C (1013 hPa)
- WGK 1
- LGK 10 - 13

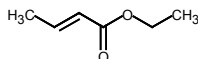
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,048 - 1,050  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00238.0250	Glass bottle	250 ml	inquire

## 802668 Ethyl crotonate for synthesis

C<sub>6</sub>H<sub>10</sub>O<sub>2</sub>CH<sub>3</sub>CH=CHCOOC<sub>2</sub>H<sub>5</sub>Crotonic acid ethyl ester, *trans*-2-Butenoic acid ethyl ester

- CAS-No. 623-70-1 ■ EC-No. 210-808-7
- Refractive index 1.4248 (20 °C, 589 nm)
- Vapour pressure 65 hPa (50 °C)
- Spec. density 0.92 g/cm<sup>3</sup> (20 °C)

- Flash point 2 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 114.14 g/mol
- Boiling point 138 - 140 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338
- LD50 oral rat 3000 mg/kg
- LGK 3
- HS-No. 2916 19 95 ■ Disposal 3
- ADR-RID UN 1862 Ethylcrotonat, 3, II ■ IMDG-

Code UN 1862 ETHYL CROTONATE, 3, II

■ IATA-DGR UN 1862 ETHYL CROTONATE, 3, II

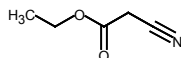
## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,916 - 0,918  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02668.0250	Glass bottle	250 ml	inquire
8.02668.1000	Glass bottle	1 l	inquire

Ethyl cyanide → Propionitrile page 1373

## 800882 Ethyl cyanoacetate for synthesis

C<sub>5</sub>H<sub>7</sub>NO<sub>2</sub>NCCH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>

Cyanoacetic acid ethyl ester

- CAS-No. 105-56-6 ■ EC-No. 203-309-0
- Refractive index 1.4166 (20 °C, 589 nm)
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)

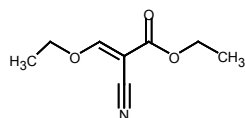
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C)
- M = 113.11 g/mol ■ Melting point -22 °C
- Boiling point 209 °C (1013 hPa)
- Ignition temp. 460 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg
- LGK 10
- HS-No. 2926 90 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,061 - 1,062  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00882.0100	Glass bottle	100 ml	inquire
8.00882.0250	Glass bottle	250 ml	inquire
8.00882.1000	Glass bottle	1 l	inquire

## 814502 Ethyl 2-cyano-3-ethoxyacrylate for synthesis

C<sub>8</sub>H<sub>11</sub>NO<sub>3</sub>C<sub>2</sub>H<sub>5</sub>OCHC(CN)COOC<sub>2</sub>H<sub>5</sub>

Ethyl(ethoxymethylene)

cyanoacetate, Ethoxymethylenecyanoacetic acid ethyl ester

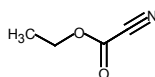
- CAS-No. 94-05-3 ■ EC-No. 202-299-5
- Refractive index 1.4605 (20 °C, 589 nm)
- Vapour pressure 0.1 hPa (20 °C)
- Flash point 130 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 169.18 g/mol
- Melting point 48 - 51 °C
- Boiling point 190 - 191 °C (40 hPa)
- WGK 1
- GHS: P262
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 6

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 49 °C  
 Melting range (upper value) ..... ≤ 52 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14502.0025	Glass bottle	25 g	inquire
8.14502.0100	Glass bottle	100 g	inquire

## 820355 Ethyl cyanoformate for synthesis

C<sub>4</sub>H<sub>5</sub>NO<sub>2</sub>NCCOOC<sub>2</sub>H<sub>5</sub>

Cyanoformic acid ethyl ester

- CAS-No. 623-49-4 ■ EC-No. 210-797-9
- Refractive index 1.3821 (20 °C, 589 nm)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point 24 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 99.08 g/mol

- Boiling point 115 - 117 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2926 90 95 ■ Disposal 6
- ADR-RID UN 3275 Nitrile, giftig, entzündbar, n.a.g.(ETHYLCYANFORMIAT), 6.1 (3), I ■ IMDG-Code UN 3275 NITRILES, TOXIC, FLAMMABLE, N.O.S.(ETHYLCYANOFORMATE), 6.1 (3), I

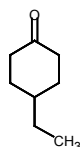
■ IATA-DGR UN 3275 NITRILES, TOXIC, FLAMMABLE, N.O.S.(ETHYLCYANOFORMATE), 6.1 (3), I

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.011 - 1.013  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20355.0010	Glass bottle	10 ml	inquire

## 814456 4-Ethylcyclohexanone for synthesis

C<sub>8</sub>H<sub>14</sub>O

■ CAS-No. 5441-51-0 ■ EC-No. 226-629-2

- Spec. density 0.91 g/cm<sup>3</sup> (20 °C)
- Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 126.19 g/mol
- Boiling point 192 - 194 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P262, P273, P280, P302 + P352

- LGK 10 - 13
- HS-No. 2914 29 00

## Specification

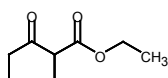
Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,913 - 0,915  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14456.0025	Glass bottle	25 ml	inquire



# Ethylc

## 841763 Ethylcyclopentanone-2-carboxylate for synthesis



C<sub>8</sub>H<sub>12</sub>O<sub>3</sub>  
 ■ CAS-No. 611-10-9 ■ EC-No. 210-253-0  
 ■ Spec. density 1.080 g/cm<sup>3</sup> (20 °C)

- Flash point 77 °C ■ M = 156.18 g/mol
- Boiling point 102 - 104 °C (14.7 hPa)
- WGK 3
- LGK 10
- HS-No. 2918 30 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 95,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,078 - 1,082  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41763.0025	Glass bottle	25 ml	inquire

## 818548 Ethyl cyclopropanecarboxylate for synthesis



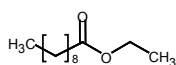
C<sub>6</sub>H<sub>10</sub>O<sub>2</sub>  
*Cyclopropanecarboxylic acid ethyl ester*  
 ■ CAS-No. 4606-07-9 ■ EC-No. 225-010-4  
 ■ Refractive index 1.4208 (20 °C, 589 nm)  
 ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 18 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 114.15 g/mol  
 ■ pH value 7 (H<sub>2</sub>O) ■ Boiling point 129 - 133 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2,

- H225, P210  
 ■ LGK 3  
 ■ HS-No. 2916 20 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ETHYLCYCLOPROPANCARBOXYLAT), 3, II  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O. S.(ETHYLCYCLOPROPANCARBOXYLATE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHYLCYCLOPROPANCARBOXYLATE), 3, II

**Specification**  
 Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.969 - 0.971  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18548.0050	Glass bottle	50 ml	inquire

## 802180 Ethyl decanoate for synthesis



C<sub>12</sub>H<sub>24</sub>O<sub>2</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>8</sub>COOC<sub>2</sub>H<sub>5</sub>  
*Ethyl caprate, Decanoic acid ethyl ester*  
 ■ CAS-No. 110-38-3 ■ EC-No. 203-761-9  
 ■ Refractive index 1.4248 (20 °C, 589 nm)  
 ■ Vapour pressure 0.02 hPa (20 °C)

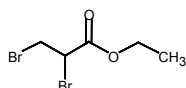
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 % (V) ■ Flash point 104 °C ■ Solub. in H<sub>2</sub>O 0.016 g/l (20 °C) ■ M = 200.32 g/mol
- Melting point -20 °C
- Boiling point 244 - 246 °C (1013 hPa)
- Ignition temp. 310 °C
- WGK 2
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10

■ HS-No. 2915 90 70 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,863 - 0,864  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02180.0005	Glass bottle	5 ml	inquire
8.02180.0250	Glass bottle	250 ml	inquire

5-Ethyl-3,8-diamino-6-phenylphenanthridinium bromide → page 844

## 820418 Ethyl 2,3-dibromopropionate for synthesis



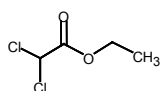
C<sub>5</sub>H<sub>8</sub>Br<sub>2</sub>O<sub>2</sub>  
 2,3-Dibromopropionic acid ethyl ester  
 ■ CAS-No. 3674-13-3 ■ EC-No. 222-941-8  
 ■ Refractive index 1.4986 (20 °C, 589 nm)  
 ■ Spec. density 1.79 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 91 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 259.92 g/mol  
 ■ Boiling point 211 - 214 °C (992 hPa)

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 240 mg/kg ■ LD50 dermal rabbit 230 mg/kg
- LGK 6.1A
- HS-No. 2915 90 70 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(ETHYL-2,3-DIBROMPROPIONAT), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID,

ORGANIC, N.O.S.(ETHYL 2,3-DIBROMOPROPIONATE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(ETHYL 2,3-DIBROMOPROPIONATE), 6.1, III  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.788 - 1.790  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20418.0100	Glass bottle	100 ml	inquire

## 800179 Ethyl dichloroacetate for synthesis



C<sub>4</sub>H<sub>6</sub>Cl<sub>2</sub>O<sub>2</sub>  
 Cl<sub>2</sub>CHCOOC<sub>2</sub>H<sub>5</sub>  
*Dichloroacetic acid ethyl ester*  
 ■ CAS-No. 535-15-9 ■ EC-No. 208-611-6  
 ■ Spec. density 1.28 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 60 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 157.00 g/mol  
 ■ Boiling point 54 - 55 °C (15 hPa)

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2915 40 00 ■ Disposal 3
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(ENTH.ETHYLDICHLORACETAT), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE,

ORGANIC, N.O.S.(CONT. ETHYL DICHLOROACETATE), 6.1 (3), II  
 ■ IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(CONT. ETHYL DICHLOROACETATE), 6.1 (3), II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,282 - 1,285  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00179.0250	Glass bottle	250 ml	inquire

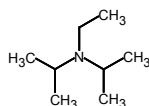
Ethyl-2-diethoxyphosphorylacetate → Triethyl phosphonoacetate page 1588

Ethyl diglycol → Diethylene glycol monoethyl ether page 301

Ethyl-2-diethoxyphosphorylpropanoate → Triethyl 2-phosphonopropionate page 1588

2-Ethyl-4,5-dihydro-oxazole → 2-Ethyl-2-oxazoline page 879

## N-Ethyl-diisopropylamine

C<sub>8</sub>H<sub>19</sub>N[(CH<sub>3</sub>)<sub>2</sub>CH]<sub>2</sub>NCH<sub>2</sub>CH<sub>3</sub>*N,N*-Diisopropylethylamine

- CAS-No. 7087-68-5 ■ EC-No. 230-392-0
- Refractive index 1.4121 (25 °C, 589 nm)
- Vapour pressure 16 hPa (20 °C)
- Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 0.7 - 6.3 % (V) ■ Flash point 9.5 °C
- Kin. viscosity 0.88 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 3.9 g/l (20 °C) ■ M = 129.24 g/mol
- pH value 12.3 (H<sub>2</sub>O) (as an emulsion)
- Melting point -46 °C ■ Boiling point 127 °C (1013 hPa) ■ Ignition temp. 240 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412, P210, P233, P240, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LD50 oral rat > 200 - 500 mg/kg
- LGK 3
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 3286 Entzündbarer flüssiger Stoff, giftig, ätzend, n.a.g.(ETHYL-DIISOPROPYLAMIN), 3 (6.1, 8), II ■ IMDG-Code UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(ETHYL-DIISOPROPYLAMINE), 3 (6.1, 8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(ETHYL-DIISOPROPYLAMINE), 3 (6.1, 8), II

## 800894 N-Ethyl-diisopropylamine for synthesis

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,755 - 0,758  
 Water (K. F.) ..... ≤ 0,20 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00894.0100	Glass bottle	100 ml	inquire
8.00894.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.00894.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00894.2500	Glass bottle	2.5 l	inquire

## 845017 N-Ethyl-diisopropylamine for pharma synthesis, non-GMP

## Specification

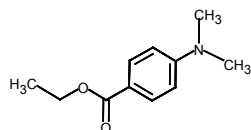
Colour (visual) ..... colourless to yellowish  
 Appearance (visual) ..... clear  
 Assay (GC, area%) ..... ≥ 99,5 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,755 - 0,758

Water (K. F.) ..... ≤ 0,20 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45017.0050	Glass bottle	50 ml	inquire
8.45017.0100	Glass bottle	100 ml	inquire
8.45017.1000	Glass bottle	1 l	inquire
8.45017.2500	Glass bottle	2.5 l	inquire

Ethyl dimethylamine → N,N-Dimethylethylamine page 787

## 841086 Ethyl 4-dimethylaminobenzoate for synthesis

C<sub>11</sub>H<sub>15</sub>NO<sub>2</sub>

- 4-Dimethylaminobenzoic acid ethyl ester
- CAS-No. 10287-53-3 ■ EC-No. 233-634-3
- M = 193.24 g/mol ■ Melting point 63 - 65 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

Melting range (lower value) ..... ≥ 63 °C  
 Melting range (upper value) ..... ≤ 65 °C  
 Identity (IR) ..... passes test

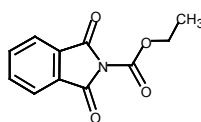
## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.41086.0100	Plastic bottle	100 g	inquire

N-Ethyl-N'-(3-dimethylaminopropyl)carbodiimide hydrochloride → N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride page 779

## 803461 Ethyl 1,3-dioxoisindoline 2-carboxylate for synthesis

C<sub>11</sub>H<sub>9</sub>NO<sub>4</sub>

*Phthalimide-N*-carboxylic acid ethyl ester, 1,3-Dioxo-2-isoindolinecarboxylic acid ethyl ester, N-

- Ethoxycarbonylphthalimide
- CAS-No. 22509-74-6 ■ EC-No. 245-048-5
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 219.19 g/mol ■ Melting point 87 - 90 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2925 19 95 ■ Disposal 3

Melting range (lower value) ..... ≥ 81 °C  
 Melting range (upper value) ..... ≤ 84 °C  
 Identity (IR) ..... conforms

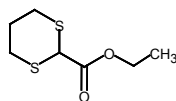
## Specification

Assay (HPLC, area%) ..... ≥ 97,0 Area %

Ord.No.	Packaging	Quantity	Price
8.03461.0025	Plastic bottle	25 g	inquire
8.03461.0100	Plastic bottle	100 g	inquire

Ethyl 2,4-dioxovalerate → Ethyl acetopruvate page 849

## 818032 Ethyl 1,3-dithiane-2-carboxylate for synthesis

C<sub>7</sub>H<sub>12</sub>O<sub>2</sub>S<sub>2</sub>

1,3-Dithiane-2-carboxylic acid ethyl ester

■ CAS-No. 20462-00-4 ■ EC-No. 243-838-4

- Spec. density 1.22 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 192.29 g/mol
- Melting point 19 - 21 °C
- Boiling point 281 - 283 °C
- WGK 3
- LGK 10
- HS-No. 2934 99 90 ■ Disposal 6

## Specification

Purity (GC) ..... ≥ 97% (a/a)  
 Identity (IR-spectrum) ..... conforms  
 Density (20/4 °C) ..... 1.218 - 1.220

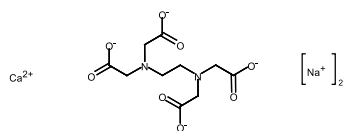
Ord.No.	Packaging	Quantity	Price
8.18032.0005	Glass bottle	5 ml	inquire

Ethyl dodecanoate → Ethyl laurate page 873

Ethyl enanthate → Ethyl heptanoate page 868

# Ethyle

## 108407 Ethylenediaminetetraacetic acid calcium disodium salt dihydrate

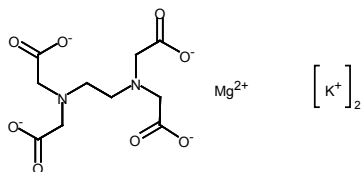


- CAS-No. 6766-87-6 ■ EC-No. 200-529-9
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 410.31 g/mol
- pH value 6.5 - 8.0 (200 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 600 kg/m<sup>3</sup>
- WGK 2
- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LD50 oral rat 10000 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

C<sub>10</sub>H<sub>12</sub>CaNa<sub>2</sub>N<sub>2</sub>O<sub>8</sub> \* 2 H<sub>2</sub>O

Ord.No.	Packaging	Quantity	Price
1.08407.0250	Plastic bottle	250 g	inquire
1.08407.1000	Plastic bottle	1 kg	inquire

## 108409 Ethylenediaminetetraacetic acid magnesium dipotassium salt GR for analysis



- dipotassium magnesium salt*
- EC-No. 239-803-8
- Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 426.76 g/mol
- pH value 6.0 - 9.0 (50 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 730 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

C<sub>10</sub>H<sub>12</sub>K<sub>2</sub>MgN<sub>2</sub>O<sub>8</sub> \* 2 H<sub>2</sub>O

Ethylenediaminetetraacetic acid dipotassium magnesium salt, Ethylenedinitrilotetraacetic acid

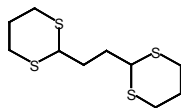
- Specification**
- Assay (complexometric, calc. on anhydrous substance) ..... ≥ 98 %

Identity (IR-spectrum) ..... passes test  
 Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Free Magnesium ..... ≤ 0.01 %  
 Free EDTA ..... ≤ 0.05 %  
 Water (according to Karl Fischer) ..... 7.5 - 9.5 %

Ord.No.	Packaging	Quantity	Price
1.08409.0100	Plastic bottle	100 g	inquire
1.08409.0250	Plastic bottle	250 g	inquire

Ethylenebis(diphenylphosphine) → 1,2-Bis(diphenylphosphino)-ethane page 469

## 818117 2,2'-Ethylenbis(1,3-dithiane) for synthesis



- CAS-No. 14947-53-6 ■ EC-No. 239-022-2
- M = 266.52 g/mol ■ Melting point 133 - 137 °C
- WGK 1
- HS-No. 2934 99 90 ■ Disposal 3

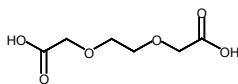
C<sub>10</sub>H<sub>18</sub>S<sub>4</sub>

- Specification**
- Assay (of S) ..... ≥ 96,0 % (m)
- Melting range (lower value) ..... ≥ 133 °C

Melting range (upper value) ..... ≤ 137 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18117.0010	Glass bottle	10 g	inquire

## 843913 2,2'-[ethylenbis(oxy)] bisacetic acid for synthesis



- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

C<sub>6</sub>H<sub>10</sub>O<sub>6</sub>

- CAS-No. 23243-68-7 ■ EC-No. 245-516-9
- M = 178.14 g/mol ■ Melting point 72 °C
- WGK 1

- Specification**
- Assay (HPLC, area%) ..... ≥ 75,0 % (a/a)
- Diglycolic acid (HPLC, area%) ..... ≤ 5,0 % (a/a)

Water (K. F.) ..... ≤ 20,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43913.0050	Glass bottle	50 g	inquire
8.43913.0250	Glass bottle	250 g	inquire

Ethylene bromhydrine → 2-Bromoethanol page 499

Ethylene bromide → 1,2-Dibromoethane page 300

Ethylene bromhydrin → 2-Bromoethanol page 499

## 800900 Ethylene carbonate for synthesis



- pH value 7 (200 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 36 °C ■ Boiling point 248 °C (1013 hPa) ■ Ignition temp. 465 °C
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2920 90 10

C<sub>3</sub>H<sub>4</sub>O<sub>3</sub>

1,3-Dioxolane-2-one

- CAS-No. 96-49-1 ■ EC-No. 202-510-0
- Vapour pressure 0.21 hPa (20 °C)
- Spec. density 1.32 g/cm<sup>3</sup> (40 °C) ■ Explosive limit 3.6 - 16.1 % (V) ■ Flash point 143 °C ■ Solub. in H<sub>2</sub>O 214 g/l (20 °C) ■ M = 88.06 g/mol

- Specification**
- Assay (GC, area%) ..... ≥ 99 %

Melting range  
 - (lower value) ..... ≥ 35 °C  
 - (upper value) ..... ≤ 38 °C  
 Identity (IR) ..... passes test

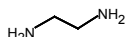
Ord.No.	Packaging	Quantity	Price
8.00900.0100	Plastic bottle	100 g	inquire
8.00900.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire/1 kg

Ethylene chlorobromide → 1-Bromo-2-chloroethane page 495

Ethylene cyanohydrin → 3-Hydroxypropionitrile page 994

Ethylene diacetate → Ethylene glycol diacetate page 303

## Ethylenediamine

C<sub>2</sub>H<sub>8</sub>N<sub>2</sub>H<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>

1,2-Diaminoethane, 1,2-Ethanediamine

■ CAS-No. 107-15-3 ■ EC-No. 203-468-6

■ Vapour pressure 12 hPa (20 °C)

■ Spec. density 0.897 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 2.5 - 16.3 % (V) ■ Flash point 38 °C ■ Solub.

in H<sub>2</sub>O (20 °C) soluble ■ M = 60.10 g/mol

■ pH value 12.2 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 11 °C ■ Boiling point 116 °C  
 (1013 hPa) ■ Ignition temp. 405 °C

■ WGK 2

■ GHS: Danger, Flammable liquid, Category 3,

H226; Acute toxicity, Category 4, Dermal, H312;

Acute toxicity, Category 4, Oral, H302; Skin

corrosion, Category 1B, H314; Respiratory

sensitisation, Category 1, H334; Skin sensitisation,

Category 1, H317, P280, P305 + P351 + P338,

P304 + P341, P302 + P352, P309 + P310

■ LC50 rat &gt; 20 mg/l

■ LD50 oral rat 866 mg/kg ■ LD50 dermal rabbit  
560 mg/kg

■ EC-Index-No. 612-006-00-6 ■ LGK 3

■ HS-No. 2921 21 00

■ ADR-RID UN 1604 Ethylenediamin, 8 (3), II

■ IMDG-Code UN 1604 ETHYLENEDIAMINE, 8 (3),  
II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 1604 ETHYLENEDIAMINE, 8 (3), II



## 800947 Ethylenediamine for synthesis

## Specification

Assay (GC, area%)..... ≥ 99 %

Water (GC, area%)..... ≤ 1 %

Density (d 20 °C/ 4 °C)..... 0.896 - 0.898

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00947.0100	Glass bottle	100 ml	inquire
8.00947.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.00947.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00947.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.00947.9051	Barrel PE/met	50 l	inquire

## 845018 Ethylenediamine for pharma synthesis, non-GMP

## Specification

Colour (visual)..... colourless

Appearance of substance (visual)..... clear

Assay (GC, area%)..... ≥ 99,0 Area %

Water (GC, area%)..... ≤ 1,0 Area %

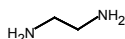
Density (d 20 °C/ 4 °C)..... 0,896 - 0,898

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45018.0100	Glass bottle	100 ml	inquire
8.45018.1000	Glass bottle	1 l	inquire

Ethylenediamine dihydrochloride → Ethylenediammonium dichloride page 862

## 820030 Ethylenediamine monohydrate for synthesis

C<sub>2</sub>H<sub>8</sub>N<sub>2</sub> \* H<sub>2</sub>OH<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>\* H<sub>2</sub>O

1,2-Diaminoethane, 1,2-Ethanediamine

■ CAS-No. 6780-13-8 ■ EC-No. 203-468-6

■ Vapour pressure 12 hPa (20 °C)

■ Spec. density 0.963 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 2.7 - 16.6 % (V) ■ Flash point 42 °C ■ Solub.

in H<sub>2</sub>O (20 °C) soluble ■ M = 78.11 g/mol■ pH value 12 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 8 - 10 °C ■ Boiling point 118 °C

(1013 hPa) ■ Ignition temp. 385 °C

■ WGK 2

■ GHS: Danger, Flammable liquid, Category 3,

H226; Acute toxicity, Category 4, Dermal, H312;

Acute toxicity, Category 4, Oral, H302; Skin

corrosion, Category 1B, H314; Respiratory

sensitisation, Category 1, H334; Skin sensitisation,

Category 1, H317, P210, P280, P302 + P352, P304

+ P341, P305 + P351 + P338, P301 + P330 +

P331, P309 + P310

■ LC50 rat &gt; 20 mg/l

■ LD50 oral rat 866 mg/kg ■ LD50 dermal rabbit

560 mg/kg

■ EC-Index-No. 612-006-00-6 ■ LGK 3

■ HS-No. 2921 21 00 ■ Disposal 3

■ ADR-RID UN 1604 Ethylenediamin, 8 (3), II

■ IMDG-Code UN 1604 ETHYLENEDIAMINE, 8 (3),

II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 1604 ETHYLENEDIAMINE, 8 (3), II

## Specification

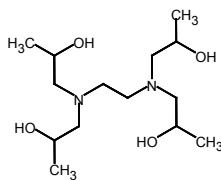
Assay (acidimetric)..... ≥ 99%

Identity (IR-spectrum)..... passes test

Density (d 20 °C/ 4 °C)..... 0.961 - 0.964

Ord.No.	Packaging	Quantity	Price
8.20030.0100	Glass bottle	100 ml	inquire
8.20030.1000	Glass bottle	1 l	inquire

## 821940 Ethylenediamine-N,N,N',N'-tetra-2-propanol for synthesis

C<sub>14</sub>H<sub>32</sub>N<sub>2</sub>O<sub>4</sub>[CH<sub>3</sub>CH(OH)CH<sub>2</sub>]<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>N[CH<sub>2</sub>CH(OH)CH<sub>3</sub>]<sub>2</sub>

EDTP, N,N,N',N'-Tetrakis(2-hydroxypropyl)

ethylenediamine

■ CAS-No. 102-60-3 ■ EC-No. 203-041-4

■ Refractive index 1.478 (20 °C, 589 nm)

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. inH<sub>2</sub>O (20 °C) soluble ■ M = 292.41 g/mol■ pH value 10.4 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Boiling point 240 °C (13 hPa)

■ WGK 3

■ LD50 oral rat &gt; 2000 mg/kg

■ LGK 10 - 13

■ HS-No. 2922 19 85 ■ Disposal 3

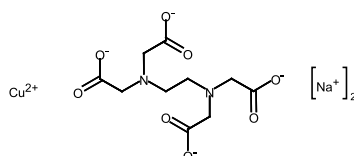
## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99,0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21940.0100	Glass bottle	100 ml	inquire
8.21940.1000	Glass bottle	1 l	inquire

## 108415 Ethylenediamine tetracetic acid copper disodium salt

C<sub>10</sub>H<sub>12</sub>CuN<sub>2</sub>Na<sub>2</sub>O<sub>8</sub> \* 2H<sub>2</sub>O

■ CAS-No. 61916-40-3 ■ EC-No. 237-864-5

■ Solub. in H<sub>2</sub>O 1200 g/l (20 °C) ■ M = 433.78 g/mol ■ pH value 6.0 - 7.0 (10 g/l, H<sub>2</sub>O, 20 °C)■ Bulk density 625 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319; Chronic aquatic

toxicity, Category 3, H412, P273, P302 + P352,

P305 + P351 + P338

■ LD50 oral rat &gt; 2000 mg/kg

■ LGK 10 - 13

■ HS-No. 2922 49 85

## Specification

Identity..... conforms

Assay (Copper, calculated on anhydrous

substance)..... 15.5 - 17.0 %

pH (1 %; water; 20 °C)..... 6.0 - 7.0

Water..... ≤ 10.0 %

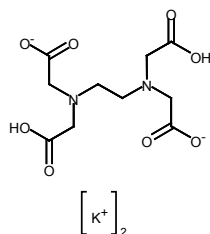
Ord.No.	Packaging	Quantity	Price
1.08415.0250	Plastic bottle	250 g	inquire

Ethylenediaminetetracetic acid dipotassium magnesium salt → Ethylenediaminetetracetic acid magnesium dipotassium salt page 172



# Ethyle

## 819040 Ethylenediaminetetraacetic acid dipotassium salt dihydrate for synthesis



$C_{10}H_{14}K_2N_2O_8 \cdot 2H_2O$   
**Ethylenedinitrilotetraacetic acid dipotassium salt, Titrplex® Potassium salt**  
 ■ CAS-No. 25102-12-9 ■ EC-No. 217-895-0  
 ■ Vapour pressure (20 °C) low ■ Solub. in  $H_2O$  (20 °C) soluble ■  $M = 404.47 \text{ g/mol}$   
 ■ pH value 4 - 5 (50 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 272 °C ■ Bulk density 310  $kg/m^3$   
 ■ WGK 2  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

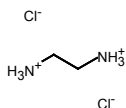
### Specification

Assay (complexometric; calculated on dried substance) ..... 99.0 - 101.5 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.19040.0025	Plastic bottle	25 g	inquire
8.19040.0100	Plastic bottle	100 g	inquire

Ethylenediaminetetraacetic acid disodium salt → Titrplex® III page 172

## 800948 Ethylenediammonium dichloride for synthesis



■ CAS-No. 333-18-6 ■ EC-No. 206-369-6  
 ■ Solub. in  $H_2O$  300 g/l (20 °C) ■  $M = 133.02 \text{ g/mol}$  ■ pH value 5 (100 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point >300 °C ■ Bulk density 650  $kg/m^3$   
 ■ WGK 2  
 ■ GHS: Warning, Skin sensitisation, Category 1, H317, P262, P280, P302 + P352  
 ■ LD50 oral rat 3250 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2921 21 00 ■ Disposal 3

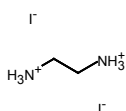
### Specification

Assay (argentometric) ..... ≥ 99,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00948.0005	Glass bottle	5 g	inquire
8.00948.0250	Plastic bottle	250 g	inquire
8.00948.1000	Plastic bottle	1 kg	inquire

$C_2H_{10}Cl_2N_2$   
 $H_2NCH_2CH_2NH_2 \cdot 2HCl$   
 1,2-Diaminoethane  
 dihydrochloride, Ethylenediamine dihydrochloride

## 814619 Ethylenediammonium diiodide for synthesis



$C_2H_{10}N_2 \cdot 2HI$   
 ■ CAS-No. 5700-49-2 ■ EC-No. 227-186-8  
 ■ Spec. density 1  $g/cm^3$  ■ Solub. in  $H_2O$  (20 °C) soluble ■  $M = 315.92 \text{ g/mol}$   
 ■ pH value 4.0 - 6.0 (100 g/l,  $H_2O$ , 20 °C)  
 ■ WGK 1  
 ■ LGK 10 - 13 ■ Store below +15°C.

■ HS-No. 2921 21 00 ■ Disposal 3

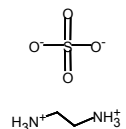
### Specification

Assay (argentometric) ..... ≥ 98,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14619.0025	Glass bottle	25 g	inquire

$C_2H_{10}I_2N_2$

## 820031 Ethylenediammonium sulfate for synthesis



1,2-Diaminoethane sulfate  
 ■ CAS-No. 22029-36-3 ■ EC-No. 244-733-6  
 ■ Solub. in  $H_2O$  (20 °C) soluble ■  $M = 158.17 \text{ g/mol}$  ■ Melting point 225 - 228 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 21 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

### Specification

Assay (acidimetric after ion exchange) ..... ≥ 97,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20031.0250	Plastic bottle	250 g	inquire

$C_2H_{10}N_2O_4S$   
 $H_3NCH_2CH_2NH_3SO_4$

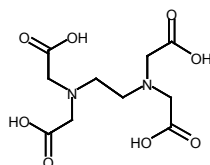
Ethylene dibromide → 1,2-Dibromoethane page 300

Ethylene dimethacrylate → Ethylene glycol dimethacrylate page 865

Ethylene dimercaptan → 1,2-Ethanedithiol page 838

Ethylenedinitrilotetraacetic acid → Titrplex® III

## 108452 Ethylenedinitrilotetraacetic acid



■ Flash point >100 °C DIN 51758 ■ Solub. in  $H_2O$  0.5 g/l (20 °C) ■  $M = 292.24 \text{ g/mol}$   
 ■ pH value 2.5 (10 g/l,  $H_2O$ , 23 °C) (slurry)  
 ■ Melting point 220 °C (decomposition)  
 ■ Bulk density 600  $kg/m^3$  ■ Ignition temp. >200 °C  
 ■ WGK 2  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 2580 mg/kg  
 ■ EC-Index-No. 607-429-00-8 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

Identity (IR-spectrum) ..... conforms  
 in ammonia insoluble components ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Nitrilotetraacetic acid ..... ≤ 0.1 %  
 Sulfated ash ..... ≤ 0.1 %  
 Water ..... ≤ 0.2 %

$C_{10}H_{16}N_2O_8$   
**EDTA, Edetic acid, Diaminoethane-tetraacetic acid**  
 ■ CAS-No. 60-00-4 ■ EC-No. 200-449-4  
 ■ Vapour pressure < 0.013 hPa (20 °C)  
 ■ Spec. density 0.86  $g/cm^3$  (20 °C)

### Specification

Assay (complexometric) ..... 99 - 101 %

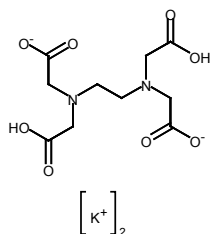
Ord.No.	Packaging	Quantity	Price
1.08452.0250	Plastic bottle	250 g	inquire
1.08452.1000	Plastic bottle	1 kg	inquire

Ethylenedinitrilotetraacetic acid dipotassium magnesium salt → Ethylenediaminetetraacetic acid magnesium dipotassium salt page 172

Ethylenedinitrilotetraacetic acid dipotassium salt → Ethylenedinitrilotetraacetic acid dipotassium salt dihydrate page 172



## 104819 Ethylenedinitrilotetraacetic acid dipotassium salt dihydrate GR for analysis



$C_{10}H_{14}K_2N_2O_8 \cdot 2H_2O$

Ethylenedinitrilotetraacetic acid dipotassium salt, Titriplex® Potassium salt

■ CAS-No. 25102-12-9 ■ EC-No. 217-895-0

- Vapour pressure (20 °C) low ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 404.47 g/mol
- pH value 4 - 5 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 272 °C ■ Bulk density 310 kg/m<sup>3</sup>
- WGK 2
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

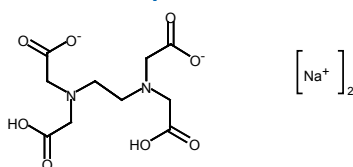
**Specification**

Assay (complexometric; calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms  
 Identity (Potassium) ..... conforms  
 Appearance of solution (50 g/l; water) ..... Clear and colourless

pH (50 g/l; water) ..... 4.0 - 5.0  
 In water insoluble matter ..... ≤ 0.003 %  
 Chloride (Cl) ..... ≤ 0.004 %  
 Sulfate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Cyanide (CN) ..... ≤ 0.001 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Cu (Copper) ..... ≤ 0.0001 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Nitritotriacetic acid ..... ≤ 0.05 %  
 Loss on drying (150 °C; 6 h) ..... 8.5 - 9.5 %

Ord.No.	Packaging	Quantity	Price
1.04819.0100	Plastic bottle	100 g	inquire
1.04819.1000	Plastic bottle	1 kg	inquire
1.04819.9025	Fibre carton	25 kg	inquire

## 108454 Ethylenedinitrilotetraacetic acid disodium salt dihydrate



$C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$

Disodium dihydrogen

ethylenediaminetetraacetate, Ethylenediamine-tetraacetic acid disodium salt

■ CAS-No. 6381-92-6 ■ EC-No. 205-358-3

■ Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ M = 372.24 g/mol

■ pH value 4 - 5 (50 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 110 °C Elimination of water of crystallisation ■ Bulk density 700 kg/m<sup>3</sup>
- WGK 2
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

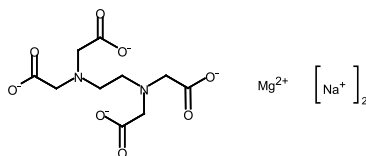
**Specification**

Assay (complexometric; calculated as dihydrate) ..... 99.0 - 101.0 %  
 Identity (IR-spectrum) ..... passes test  
 Identity (Complexation) ..... passes test  
 Identity (Sodium) ..... passes test  
 pH (50 g/l; water) ..... 4.0 - 5.5  
 In water insoluble matter ..... ≤ 0.003 %

Chloride (Cl) ..... ≤ 0.004 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Cyanide (CN) ..... ≤ 0.001 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Cu (Copper) ..... ≤ 0.0001 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 Pb (Lead) ..... ≤ 0.001 %  
 Nitritotriacetic acid (HPLC) ..... ≤ 0.05 %  
 Loss on drying (150 °C; 6 h) ..... 8.7 - 11.4 %

Ord.No.	Packaging	Quantity	Price
1.08454.0250	Plastic bottle	250 g	inquire
1.08454.1000	Plastic bottle	1 kg	inquire
1.08454.9025	Fibre carton	25 kg	inquire

## 108423 Ethylenedinitrilotetraacetic acid magnesium disodium salt



$C_{10}H_{12}MgN_2Na_2O_8$

■ CAS-No. 14402-88-1 ■ EC-No. 238-372-3

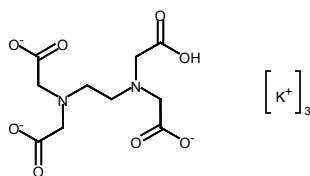
- Spec. density 0.53 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 900 g/l (20 °C) ■ M = 358.5 g/mol ■ pH value 6.0 - 7.5 (10 g/l, H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**

Assay (complexometric, calc. on anhydrous substance) ..... 98.0 - 102.0 %  
 Identity (IR-spectrum) ..... passes test  
 Identity (Na) ..... passes test  
 Identity (Mg) ..... passes test  
 pH (10 g/l, water) ..... 6.0 - 7.5  
 Water (according to Karl Fischer) ..... 6.0 - 12.0 %

Ord.No.	Packaging	Quantity	Price
1.08423.0250	Plastic bottle	250 g	inquire

## 108445 Ethylenedinitrilotetraacetic acid tripotassium salt dihydrate



$C_{10}H_{13}K_3N_2O_8 \cdot 2H_2O$

■ CAS-No. 65501-24-8 ■ EC-No. 241-543-5

■ M = 442.56 g/mol ■ pH value 8 - 9 (50 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point 180 - 185 °C

- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**

Assay (complexometric, calc. on anhydrous substance) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... passes test

Identity (Potassium) ..... conforms  
 pH (50 g/l; water) ..... 8.0 - 9.0  
 Chloride (Cl) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.002 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Water (according to Karl Fischer) ..... 7 - 9 %

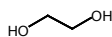
Ord.No.	Packaging	Quantity	Price
1.08445.0250	Plastic bottle	250 g	inquire

3.4-Ethylenedioxyaniline → 6-Amino-1,4-benzodioxane page 379

Ethylenedioxybis(ethylenenitrilo)tetraacetic acid → Titriplex® VI page 173

# Ethyle

## Ethylene glycol



C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>  
HOCH<sub>2</sub>CH<sub>2</sub>OH  
Glycol, 1,2-Ethanediol  
■ CAS-No. 107-21-1 ■ EC-No. 203-473-3  
■ Vapour pressure 0.053 hPa (20 °C)

■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 37.7 (25 °C) ■ El. dipole moment 2.28 (20 °C) ■ Explosive limit 3.2 % (V)  
■ Flash point 111 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 62.07 g/mol ■ pH value 6 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 0.15 g/m<sup>3</sup> (20 °C) Air ■ Melting point -13 °C  
■ Boiling point 197.6 °C (1013 hPa)

■ Evaporation number 600 ■ Ignition temp. 410 °C  
■ WGK 1  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
■ LD50 oral rat > 2000 mg/kg  
■ EC-Index-No. 603-027-00-1 ■ LGK 10  
■ HS-No. 2905 31 00



### 100949 Ethylene glycol EEMPLURA®

#### Specification

Purity (GC)..... ≥ 99.0 %  
Identity (IR)..... conforms  
Density (d 20 °C/ 4 °C)..... 1.112 - 1.114  
Chloride (Cl)..... ≤ 0.0002 %  
Fe (Iron)..... ≤ 0.0002 %

Water..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.00949.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00949.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00949.6025	Drum stainl. st.	25 l	inquire
1.00949.6190	Drum stainl. st.	190 l	inquire

### 109621 Ethylene glycol for analysis EMSURE® Reag. Ph Eur, Reag. USP

#### Specification

Purity (GC)..... ≥ 99.5 %  
Identity (IR)..... conforms  
Colour..... ≤ 10 Hazen  
Acidity (as CH<sub>3</sub>COOH)..... ≤ 0.001 %  
Density (d 20 °C/ 20 °C)..... 1.113 - 1.115  
Density (d 25 °C/ 25 °C)..... 1.10 - 1.12  
Refractive index (n 20/D)..... 1.431 - 1.433  
Melting point..... -13 - -11 °C  
Boiling point..... 196.5 - 198.5 °C  
Chloride (Cl)..... ≤ 0.00002 %

Fe (Iron)..... ≤ 0.00005 %  
Formaldehyde..... ≤ 0.005 %  
Substances reducing potassium permanganate (as O)..... ≤ 0.0003 %  
Readily carbonizable substances..... conforms  
Sulfated ash..... ≤ 0.005 %  
Water..... ≤ 0.1 %

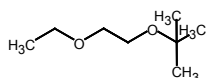
Ord.No.	Packaging	Quantity	Price
1.09621.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09621.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.09621.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.09621.6010	Drum stainl. st.	10 l	inquire
1.09621.6025	Drum stainl. st.	25 l	inquire
1.09621.9180	Barrel PE/met	180 l	inquire

Ethylene glycol bis (2-aminoethyl ether) → 1,8-Diamino-3,6-dioxaoctane page 694

Ethylene glycol-bis (β-amino ethyl ether)-N,N'-tetraacetic acid → Titriplex® VI page 173

Ethylene glycol butyl ether acetate → 2-Butoxyethyl acetate page 299

### 814985 Ethylene glycol tert-butylethyl ether for synthesis



C<sub>8</sub>H<sub>18</sub>O<sub>2</sub>  
■ CAS-No. 51422-54-9 ■ EC-No. 257-196-8  
■ Vapour pressure 4 hPa ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 8.5 % (V)  
■ Flash point 27 °C ■ Solub. in H<sub>2</sub>O 30 g/l  
■ M = 146.23 g/mol ■ pH value 7 (H<sub>2</sub>O)  
■ Melting point -70 °C ■ Boiling point 155 °C (1013 hPa) ■ Ignition temp. 230 °C  
■ WGK 1

■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
■ LD50 oral rat 3600 mg/kg  
■ LGK 3  
■ HS-No. 2909 19 90 ■ Disposal 3  
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g. (ETHYLENGLYCOL-TERT-BUTYLETHYLETHER), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHYLENE GLYCOL TERT-BUTYLETHYL ETHER), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S. (ETHYLENE GLYCOL TERT-BUTYLETHYL ETHER), 3, III

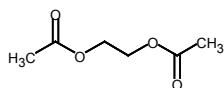
#### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.005 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14985.0100	Glass bottle	100 ml	inquire
8.14985.0500	Glass bottle	500 ml	inquire

Ethylene glycol carbonate → Ethylene carbonate page 860

### 800950 Ethylene glycol diacetate for synthesis



C<sub>6</sub>H<sub>10</sub>O<sub>4</sub>  
CH<sub>3</sub>COOCH<sub>2</sub>CH<sub>2</sub>OOCCH<sub>3</sub>  
1,2-Diacetoxyethane, Ethylene diacetate  
■ CAS-No. 111-55-7 ■ EC-No. 203-881-1  
■ Refractive index 1.4152 (20 °C, 589 nm)

■ Vapour pressure 0.33 hPa (20 °C)  
■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)  
■ Flash point 88 °C ■ Solub. in H<sub>2</sub>O 160 g/l (20 °C)  
■ M = 146.14 g/mol ■ Melting point -31 °C  
■ Boiling point 186 - 191 °C  
■ Ignition temp. 482 °C  
■ WGK 1  
■ LD50 oral rat 6850 mg/kg ■ LD50 dermal rabbit 9328 mg/kg  
■ LGK 10 - 13

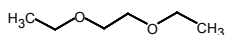
■ HS-No. 2915 39 00 ■ Disposal 3

#### Specification

Assay (GC, area%)..... ≥ 97.0 Area %  
Density (d 20 °C/ 4 °C)..... 1,105 - 1,108  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00950.0100	Glass bottle	100 ml	inquire
8.00950.0500	Glass bottle	500 ml	inquire

### 820390 Ethylene glycol diethyl ether for synthesis



C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>  
C<sub>2</sub>H<sub>5</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>  
1,2-Diethoxyethane, Diethyl glycol  
■ CAS-No. 629-14-1 ■ EC-No. 211-076-1  
■ Refractive index 1.3922 (20 °C, 589 nm)  
■ Vapour pressure 12.5 hPa (20 °C)  
■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C)  
■ Flash point 35 °C ■ Solub. in H<sub>2</sub>O 34 g/l (20 °C)  
■ M = 118.17 g/mol ■ Melting point -74 °C  
■ Boiling point 120 - 122 °C (1013 hPa)

■ Ignition temp. 208 °C  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2, H225; Reproductive toxicity, Category 1A, H360DF; Eye irritation, Category 2, H319, P201, P210, P233, P305 + P351 + P338, P308 + P313  
■ LD50 oral rat 2350 mg/kg  
■ EC-Index-No. 603-208-00-5 ■ LGK 3  
■ HS-No. 2909 19 90 ■ Disposal 3  
■ ADR-RID UN 1153 Ethylenglycoldiethylether, 3, III ■ IMDG-Code UN 1153 ETHYLENE GLYCOL DIETHYL ETHER, 3, III  
■ IATA-DGR UN 1153 ETHYLENE GLYCOL DIETHYL

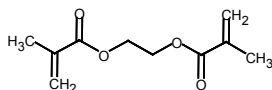
ETHER, 3, III

#### Specification

Assay (GC, area%)..... ≥ 95.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.841 - 0.843  
Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.01 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20390.0050	Glass bottle	50 ml	inquire
8.20390.0250	Glass bottle	250 ml	inquire

## 818847 Ethylene glycol dimethacrylate (stabilised with hydroquinone monomethyl ether) for synthesis

C<sub>10</sub>H<sub>14</sub>O<sub>4</sub>

Ethylene dimethacrylate

- CAS-No. 97-90-5 ■ EC-No. 202-617-2
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C)

- Flash point 101.5 °C ■ Solub. in H<sub>2</sub>O < 5 g/l (20 °C) ■ M = 198.22 g/mol ■ Melting point -20 °C ■ Boiling point 240 °C (1013 hPa)
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin sensitisation, Category 1, H317, P280, P302 + P352
- LD50 oral rat 3300 mg/kg
- EC-Index-No. 607-114-00-5 ■ LGK 10

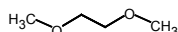
- HS-No. 2916 14 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,5 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,048 - 1,051  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18847.0250	Glass bottle	250 ml	inquire
8.18847.1000	Glass bottle	1 l	inquire

## 800856 Ethylene glycol dimethyl ether for synthesis

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>

Dimethyl diglycol, Ethylene glycol dimethyl ether, DME

- CAS-No. 110-71-4 ■ EC-No. 203-794-9
- Vapour pressure 67 hPa (20 °C)
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 10.4 % (V) ■ Flash point -6 °C
- Kin. viscosity 0.455 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 90.12 g/mol
- pH value (H<sub>2</sub>O) neutral ■ Melting point -69 °C
- Boiling point 84 - 86 °C (1013 hPa)

- Ignition temp. 200 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Reproductive toxicity, Category 1B, H360FD; Acute toxicity, Category 4, Inhalation, H332, P201, P210, P308 + P313
- LC50 rat > 20000 mg/l
- LD50 oral rat 5370 mg/kg ■ LD50 dermal rabbit 2000 mg/kg
- EC-Index-No. 603-031-00-3 ■ LGK 3
- HS-No. 2909 19 90
- ADR-RID UN 2252 1,2-Dimethoxyethan, 3, II
- IMDG-Code UN 2252 1,2-DIMETHOXYETHANE, 3, II
- IATA-DGR UN 2252 1,2-DIMETHOXYETHANE,

3, II

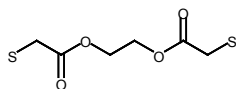
## Specification

Assay (GC, area%) ..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 0.866 - 0.868  
 Water (K. F.) ..... ≤ 0.2 %  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.005 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00856.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00856.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.00856.6010	Drum stainl. st.	10 l	inquire

Ethylene glycol dithioacetate → Ethylene glycol bis-mercaptoacetate page 865

## 814145 Ethylene glycol bis-mercaptoacetate for synthesis

C<sub>6</sub>H<sub>10</sub>O<sub>4</sub>S<sub>2</sub>(HSCH<sub>2</sub>COOCH<sub>2</sub>)<sub>2</sub>

Ethylene glycol dithioacetate

- CAS-No. 123-81-9 ■ EC-No. 204-653-4
- Spec. density 1.32 g/cm<sup>3</sup> (20 °C)
- Flash point 147 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 210.27 g/mol
- Boiling point 137 - 139 °C (2 hPa)

- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352
- LD50 oral rat 330 mg/kg
- LGK 10
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(ETHYLENGLYCOL-BIS-MERCAPTOACETAT), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,

LIQUID, N.O.S.(ETHYLENGLYCOL-BIS-MERCAPTOACETATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(ETHYLENGLYCOL-BIS-MERCAPTOACETATE), 9, III

## Specification

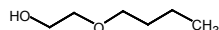
Assay (iodometric) ..... ≥ 95,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,310 - 1,320  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14145.0100	Glass bottle	100 ml	inquire

Ethylene glycol methylene ether → 1,3-Dioxolane page 812

Ethylene glycol mono(2-aminoethyl) ether → 2-(2-Aminoethoxy)ethanol page 387

## 801554 Ethylene glycol monobutyl ether for synthesis

C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>C<sub>4</sub>H<sub>9</sub>OCH<sub>2</sub>CH<sub>2</sub>OH

2-Butoxyethanol, Butyl glycol

- CAS-No. 111-76-2 ■ EC-No. 203-905-0
- Refractive index 1.4193 (20 °C, 589 nm)
- Vapour pressure 0.8 hPa (20 °C)
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 9.4 (20 °C) ■ Explosive limit 1.1 - 10.6 % (V) ■ Flash point 67 °C
- Kin. viscosity 3.642 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 118.17 g/mol
- pH value 7 (H<sub>2</sub>O, 20 °C) (as aqueous solution)
- Saturation conc. 5 g/m<sup>3</sup> (20 °C) Air
- Melting point < -70 °C

- Boiling point 168 - 170 °C
- Evaporation number 160 ■ Ignition temp. 230 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P305 + P351 + P338
- LC50 rat 2.2 mg/l
- LD50 oral rat 470 mg/kg ■ LD50 dermal rabbit 220 mg/kg
- EC-Index-No. 603-014-00-0 ■ LGK 10
- HS-No. 2909 43 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%) ..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 0.900 - 0.901  
 Water (K. F.) ..... ≤ 0.2 %  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.05 %  
 Identity (IR) ..... passes test

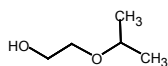
Ord.No.	Packaging	Quantity	Price
8.01554.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.01554.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.01554.6025	Barrel stainl. st.	25 l	inquire

Ethylene glycol monobutyl ether acetate → 2-Butoxyethyl acetate page 299

Ethylene glycol monoethyl ether acetate → 2-Ethoxyethyl acetate page 303

# Ethyle

## 807480 Ethylene glycol monoisopropyl ether for synthesis



C<sub>5</sub>H<sub>12</sub>O<sub>2</sub>  
 ■ CAS-No. 109-59-1 ■ EC-No. 203-685-6  
 ■ Refractive index 1.41 (20 °C, 589 nm) ■ Vapour pressure 3.5 hPa (20 °C) ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 9.9 (20 °C)  
 ■ Explosive limit 1.6 - 13.0 %(V)  
 ■ Flash point 45 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 104.15 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point < -60 °C ■ Boiling point 143 °C (1013 hPa) ■ Evaporation number 52  
 ■ Ignition temp. 240 °C

■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Inhalation, H332; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat 3.1 mg/l  
 ■ LD50 oral rat 5111 mg/kg ■ LD50 dermal rabbit 1445 mg/kg  
 ■ EC-Index-No. 603-013-00-5 ■ LGK 3  
 ■ HS-No. 2909 44 00  
 ■ ADR-RID UN 3271 Ether, n.a.g.(ETHYLENGLYCOLMONOISOPROPYLETHER), 3, III ■ IMDG-Code UN 3271 ETHERS, N.O.S.(ETHYLENGLYCOL MONOISOPROPYLETHER),

3, III  
 ■ IATA-DGR UN 3271 ETHERS, N.O.S.(ETHYLENGLYCOL MONOISOPROPYLETHER), 3, III

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,903 - 0,904  
 Water (K. F.)..... ≤ 0,30 %(m)  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0,005 %(m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07480.1000	Plastic bottle	1 l	inquire

## Ethylene glycol monomethyl ether



C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>  
 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>OH  
 2-Methoxyethanol, Methyl glycol  
 ■ CAS-No. 109-86-4 ■ EC-No. 203-713-7  
 ■ Vapour pressure 10 hPa (20 °C)  
 ■ Spec. density 0.964 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 15.4 (20 °C) ■ Explosive limit 2.5 - 20 %(V) ■ Flash point 37 °C  
 ■ Kin. viscosity 1.6 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 76.09 g/mol

■ pH value (H<sub>2</sub>O, 20 °C) neutral  
 ■ Saturation conc. 33 g/m<sup>3</sup> (20 °C)  
 ■ Melting point -85 °C ■ Boiling point 125 °C  
 ■ Evaporation number 0.53  
 ■ Ignition temp. 325 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Reproductive toxicity, Category 1B, H360FD, P201, P210, P302 + P352, P308 + P313  
 ■ LD50 oral rat 2460 mg/kg ■ LD50 dermal rabbit

1280 mg/kg  
 ■ EC-Index-No. 603-011-00-4 ■ LGK 3  
 ■ HS-No. 2909 44 00 ■ Disposal 9  
 ■ ADR-RID UN 1188  
 Ethylenglycolmonomethylether, 3, III ■ IMDG-Code UN 1188 ETHYLENE GLYCOL MONOMETHYL ETHER, 3, III  
 ■ IATA-DGR UN 1188 ETHYLENE GLYCOL MONOMETHYL ETHER, 3, III  
 Special quality for preparing the ninhydrin solution used in the amino acid analysis procedure acc. to Spackman, Stein and Moore.

## 100859 Ethylene glycol monomethyl ether for analysis EMSURE® ACS,Reag. Ph Eur

**Specification**  
 Purity (GC)..... ≥ 99.5 %  
 Identity (IR)..... conforms  
 Appearance..... clear  
 Colour..... ≤ 10 Hazen  
 Acidity..... ≤ 0.001 meq/g  
 Alkalinity..... ≤ 0.0005 meq/g  
 Density (d 20 °C/20 °C)..... 0.965 - 0.970  
 Refractive index (n 20/D)..... 1.402 - 1.404  
 Boiling point..... 124 - 126 °C  
 Aldehydes (as C<sub>2</sub>H<sub>4</sub>O)..... ≤ 0.003 %  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.002 %  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.000002 %

Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00005 %  
 Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.00001 %  
 Sn (Tin)..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %

Evaporation residue..... ≤ 0.003 %  
 Water..... ≤ 0.1 %  
 The product is stabilized with 2,6-Di-tert-butyl-4-methylphenol (BHT). Corresponds to ACS, Ph Eur-reagent

Ord.No.	Packaging	Quantity	Price
1.00859.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00859.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00859.9025	Barrel PE/met	25 kg	inquire

## 115118 Ethylene glycol monomethyl ether for amino acid analysis

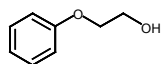
**Specification**  
 Purity (GC)..... ≥ 99.5 %  
 Identity (IR)..... conforms  
 Free acid (as CH<sub>3</sub>COOH)..... ≤ 0.005 %  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.001 %  
 Evaporation residue..... ≤ 0.003 %

Water..... ≤ 0.1 %  
 Suitability for amino acid analysis..... conforms  
 The product is stabilized with 2,6-Di-tert-butyl-4-methylphenol (BHT).

Ord.No.	Packaging	Quantity	Price
1.15118.1000	Glass bottle	1 l	inquire
1.15118.2500	Glass bottle	2.5 l	inquire
1.15118.9026	Barrel PE/met	25 l	inquire

Ethylene glycol monomethyl ether acetate → 2-Methoxyethyl acetate page 305

## 845155 Ethylene glycol monophenyl ether for pharma synthesis, non-GMP



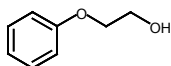
C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>  
 C<sub>6</sub>H<sub>5</sub>OCH<sub>2</sub>CH<sub>2</sub>OH  
 2-(Phenoxy)ethanol, Phenylcellosolve, Monophenyl glycol, Phenyl glycol  
 ■ CAS-No. 122-99-6 ■ EC-No. 204-589-7  
 ■ Refractive index 1.534 (20 °C, 589 nm) ■ Vapour pressure 0.04 hPa (20 °C) ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 9.0 %(V)

■ Flash point 121 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 24 g/l (20 °C) ■ M = 138.16 g/mol  
 ■ pH value 7 (10 g/l, H<sub>2</sub>O, 23 °C)  
 ■ Melting point 13 °C ■ Boiling point 244 - 250 °C (1013 hPa) ■ Ignition temp. 535 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 1850 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 603-098-00-9 ■ LGK 10 - 13

■ HS-No. 2909 49 80 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Colour number (Hazen)..... ≤ 20  
 Density (d 20 °C/ 4 °C)..... 1,106 - 1,108  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45155.0500	Glass bottle	500 ml	inquire
8.45155.1000	Glass bottle	1 l	inquire

## 807291 Ethylene glycol monophenyl ether for synthesis

C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>OCH<sub>2</sub>CH<sub>2</sub>OH

2-(Phenoxy)ethanol, Phenylcellosolve, Monophenyl glycol, Phenyl glycol

- CAS-No. 122-99-6 ■ EC-No. 204-589-7
- Refractive index 1.534 (20 °C, 589 nm) ■ Vapour pressure 0.04 hPa (20 °C) ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 9.0 % (V)
- Flash point 121 °C DIN 51758 ■ Solub. in

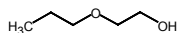
- H<sub>2</sub>O 24 g/l (20 °C) ■ M = 138.16 g/mol
- pH value 7 (10 g/l, H<sub>2</sub>O, 23 °C)
- Melting point 13 °C ■ Boiling point 244 - 250 °C (1013 hPa) ■ Ignition temp. 535 °C DIN 51794
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 1850 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 603-098-00-9 ■ LGK 10 - 13
- HS-No. 2909 49 80 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,106 - 1,108  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,005 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07291.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.07291.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.07291.9025	Plastic container	25 kg	inquire

## 843947 Ethylene glycol monopropylether for synthesis

C<sub>5</sub>H<sub>12</sub>O<sub>2</sub>

CAS-No. 2807-30-9 ■ EC-No. 220-548-6

- Vapour pressure 2.1 hPa (20 °C)
- Spec. density 0.912 g/cm<sup>3</sup> (20 °C)
- Flash point 48 °C ■ M = 104.15 g/mol
- Melting point -75 °C ■ Evaporation number 68
- Ignition temp. 230 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3,

- H226; Acute toxicity, Category 3, Dermal, H311; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 9.06 mg/l
- LD50 oral rat 3089 mg/kg ■ LD50 dermal rabbit 876 mg/kg
- EC-Index-No. 603-095-00-2 ■ LGK 3
- HS-No. 2909 44 00 ■ Disposal 3
- ADR-RID UN 1986 Alkohole, entzündbar, giftig, n.a.g.(2-PROPYLOXYETHANOL), 3 (6.1), III ■ IMDG-Code UN 1986 ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.(2-PROPYLOXYETHANOL), 3 (6.1), III
- IATA-DGR UN 1986 ALCOHOLS, FLAMMABLE,

TOXIC, N.O.S.(2-PROPYLOXYETHANOL), 3 (6.1), III

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.897 - 0.900  
 Water (K. F.) ..... ≤ 0.50 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43947.0250	Glass bottle	250 ml	inquire
8.43947.1000	Glass bottle	1 l	inquire

Ethylene mercaptan → 1,2-Ethanedithiol page 838

1,8-Ethylenenaphthalene → Acenaphthene page 330

Ethylene tetracarbonitrile → Tetracyanoethylene page 1528

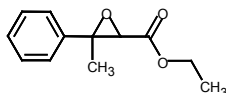
Ethylene tetrachloride → page 308

N,N'-Ethylenethiourea → 2-Imidazolidinethione page 999

Ethylene trichloride → page 309

N,N'-Ethyleneurea → 2-Imidazolidinone hemihydrate page 999

## 814991 Ethyl 2,3-epoxy-3-phenylbutyrate for synthesis

C<sub>12</sub>H<sub>14</sub>O<sub>3</sub>

Ethyl 3-methyl-3-phenylglycidate

- CAS-No. 77-83-8 ■ EC-No. 201-061-8
- Spec. density 1.092 g/cm<sup>3</sup> (20 °C)
- M = 206.24 g/mol
- WGK 2
- LD50 oral rat 5470 mg/kg
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,092 - 1,096  
 Identity (IR) ..... conforms

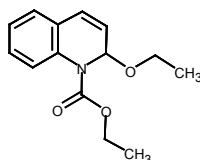
Ord.No.	Packaging	Quantity	Price
8.14991.0250	Glass bottle	250 ml	inquire

N-Ethylethanamine → page 738

N-Ethylethanamine → 2-(Ethylamino)ethanol page 851

Ethyl ether → page 316

## 801241 Ethyl 2-ethoxy-1,2-dihydro-1-quinolinecarboxylate for synthesis

C<sub>14</sub>H<sub>17</sub>NO<sub>3</sub>

CAS-No. 16357-59-8 ■ EC-No. 240-418-2

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 247.29 g/mol
- Melting point 63 - 66 °C
- Boiling point 125 - 128 °C (0.13 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2933 49 90 ■ Disposal 3

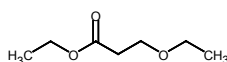
## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99,0 % (m)  
 Melting range (lower value) ..... ≥ 63 °C  
 Melting range (upper value) ..... ≤ 66 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01241.0010	Glass bottle	10 g	inquire

Ethyl-ethoxymethylencyanacetate → Ethyl 2-cyano-3-ethoxyacrylate page 857

## 843946 Ethyl 3-ethoxypropionate for synthesis

C<sub>7</sub>H<sub>14</sub>O<sub>3</sub>

CAS-No. 763-69-9 ■ EC-No. 212-112-9

- Vapour pressure 2.0 hPa (25 °C)
- Spec. density 0.93 g/cm<sup>3</sup> (20 °C)
- Flash point 58 °C ■ Solub. in H<sub>2</sub>O 52 g/l (20 °C)
- M = 146.18 g/mol ■ Boiling point 166 °C (1013 hPa) ■ Ignition temp. 377 °C
- WGK 1

- GHS: Warning, Flammable liquid, Category 3, H226
- LC50 rat > 5.967 mg/l
- LD50 oral rat 3200 mg/kg
- LGK 3
- HS-No. 2918 99 90 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(ETHYL 3-ETHOXYPROPIONAT), 3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(ETHYL 3-ETHOXYPROPIONATE), 3, III
- IATA-DGR UN 3272 ESTERS, N.O.S.(ETHYL 3-ETHOXYPROPIONATE), 3, III

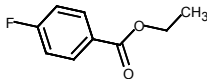
## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.945 - 0.950  
 Water (K. F.) ..... ≤ 0.50 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43946.0250	Glass bottle	250 ml	inquire
8.43946.1000	Glass bottle	1 l	inquire



## 841171 Ethyl 4-fluorobenzoate for synthesis



$C_9H_9FO_2$   
4-Fluorobenzoic acid ethyl ester  
■ CAS-No. 451-46-7 ■ EC-No. 207-194-8

- Spec. density 1.146 g/cm<sup>3</sup> (20 °C)
- Flash point 81 °C ■ M = 168.16 g/mol
- Boiling point 209 - 210 °C
- WGK 3
- LGK 10
- HS-No. 2916 39 90 ■ Disposal 3

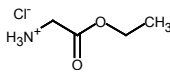
**Specification**  
Assay (GC, area%)..... ≥ 99.0 % (a/a)

Melting range (lower value)..... ≥ 22 °C  
Melting range (upper value)..... ≤ 25 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41171.0010	Glass bottle	10 ml	inquire

Ethyl gallate → Ethyl 3,4,5-trihydroxybenzoate page 887

## 814590 Ethyl glycinate hydrochloride for synthesis



$C_4H_{10}ClNO_2$   
■ CAS-No. 623-33-6 ■ EC-No. 210-787-4  
■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in

- H<sub>2</sub>O (20 °C) soluble ■ M = 139.58 g/mol
- pH value 2.9 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 143 - 146 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**  
Assay (argentometric)..... ≥ 99.0 % (m)

Melting range (lower value)..... ≥ 143 °C  
Melting range (upper value)..... ≤ 146 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14590.0100	Plastic bottle	100 g	inquire

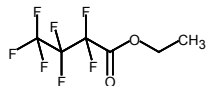
Ethyl glycol → 2-Ethoxyethanol (stabilised) page 303

Ethyl green → page 111

Ethyl glycol acetate → 2-Ethoxyethyl acetate page 303

Ethyl green zinc chloride double salt → page 190

## 841181 Ethyl heptafluorobutyrate for synthesis



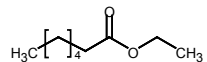
$C_6H_5F_7O_2$   
Heptafluoro-butanoic acid ethyl ester  
■ CAS-No. 356-27-4 ■ EC-No. 206-602-1  
■ Spec. density 1.398 g/cm<sup>3</sup> (20 °C)  
■ Flash point 14 °C ■ M = 242.09 g/mol

- Boiling point 95 - 98 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P262
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(ETHYLHEPTAFLUOROBUTYRAT), 3, II ■ IMDG-Code UN 3272 ESTERS, N.O.S.(ETHYLHEPTAFLUOROBUTYRATE), 3, II

■ IATA-DGR UN 3272 ESTERS, N.O.S.(ETHYLHEPTAFLUOROBUTYRATE), 3, II  
**Specification**  
Assay (GC, area%)..... ≥ 96.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.395 - 1.400  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41181.0025	Glass bottle	25 ml	inquire

## 818779 Ethyl heptanoate for synthesis



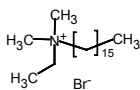
$C_9H_{18}O_2$   
 $CH_3(CH_2)_5COOC_2H_5$   
Ethyl enanthate, Heptanoic acid ethyl ester  
■ CAS-No. 106-30-9 ■ EC-No. 203-382-9  
■ Refractive index 1.413 (20 °C, 589 nm)

- Spec. density 0.87 g/cm<sup>3</sup> (20 °C)
- Flash point 74 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 158.24 g/mol
- Melting point -66 °C
- Boiling point 186 - 189 °C
- WGK 1
- LD50 oral rat > 34640 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10

■ HS-No. 2915 90 70 ■ Disposal 3  
**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.867 - 0.869  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18779.0250	Glass bottle	250 ml	inquire

## 818424 Ethylhexadecyldimethylammonium bromide for synthesis



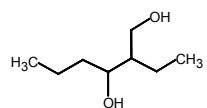
$C_{20}H_{44}BrN$   
 $C_2H_5N(CH_3)_2C_{16}H_{33}Br$   
Hexadecylethyldimethylammonium bromide  
■ CAS-No. 124-03-8 ■ EC-No. 204-672-8  
■ Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 378.47 g/mol  
■ pH value 6 - 8 (10 g/l, H<sub>2</sub>O)  
■ Melting point 178 - 186 °C  
■ WGK 2

- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P260, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 500 mg/kg
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ENTH. ALKYLDIMETHYLAMMONIUMBROMIDGEMISCH), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CONT.

ALKYLDIMETHYLAMMONIUMBROMIDE), 9, III, Marine Pollutant: P  
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CONT. ALKYLDIMETHYLAMMONIUMBROMIDE), 9, III  
**Specification**  
Assay (argentometric)..... ≥ 98.0 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18424.0100	Plastic bottle	100 g	inquire

## 820032 2-Ethyl-1,3-hexanediol (mixture of DL-and meso-form) for synthesis



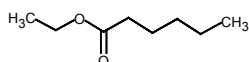
$C_8H_{18}O_2$   
 $CH_3CH_2CH_2CH(OH)CH(C_2H_5)CH_2OH$   
Ethylhexylene glycol  
■ CAS-No. 94-96-2 ■ EC-No. 202-377-9  
■ Refractive index 1.4530 (22 °C, 589 nm)  
■ Vapour pressure < 0.01 hPa (20 °C)

- Spec. density 0.94 g/cm<sup>3</sup> (20 °C)
- Flash point 136 °C ■ Solub. in H<sub>2</sub>O 42 g/l (20 °C)
- M = 146.23 g/mol ■ Melting point -40 °C
- Boiling point 241 - 249 °C (1013 hPa)
- Ignition temp. 340 °C DIN 51794
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338
- LD50 oral rat 5170 mg/kg ■ LD50 dermal rabbit 2000 mg/kg
- EC-Index-No. 603-087-00-9 ■ LGK 10 - 13

■ HS-No. 2905 39 95 ■ Disposal 1  
**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.940 - 0.942  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20032.0100	Glass bottle	100 ml	inquire
8.20032.1000	Glass bottle	1 l	inquire

## 800190 Ethyl hexanoate for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>COOC<sub>2</sub>H<sub>5</sub>*Ethyl caproate, Hexanoic acid ethyl ester, Caproic acid ethyl ester*

- CAS-No. 123-66-0 ■ EC-No. 204-640-3
- Vapour pressure < 1.33 hPa (25 °C)
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 % (V) ■ Flash point 52 °C ■ Solub. in H<sub>2</sub>O 0.63 g/l (25 °C) ■ M = 144.21 g/mol

- Melting point -67 °C ■ Boiling point 166 °C
- Ignition temp. 395 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ETHYLHEXANOAT), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHYLHEXANOATE), 3, III

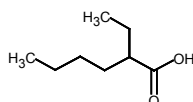
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHYLHEXANOATE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,870 - 0,873  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00190.0005	Glass bottle	5 ml	inquire
8.00190.0250	Glass bottle	250 ml	inquire

## 800758 2-Ethylhexanoic acid for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>*3-Heptanecarboxylic acid, α-Ethylcaproic acid*

- CAS-No. 149-57-5 ■ EC-No. 205-743-6
- Refractive index 1.4241 (20 °C, 589 nm)
- Vapour pressure 0.04 hPa (20 °C)
- Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 0.9 - 6.7 % (V) ■ Flash point 114 °C ■ Solub. in H<sub>2</sub>O 1.4 g/l (20 °C) ■ M = 144.21 g/mol
- pH value 3 (1.4 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -59 °C
- Boiling point 226 - 229 °C (1013 hPa)
- Ignition temp. 310 °C
- WGK 1
- GHS: Warning, Reproductive toxicity, Category 2, H361d, P281, P308 + P313
- LD50 oral rat 3640 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg

■ EC-Index-No. 607-230-00-6 ■ LGK 10 - 13

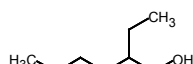
■ HS-No. 2915 90 70 ■ Disposal 4

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,905 - 0,907  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00758.0100	Glass bottle	100 ml	inquire
8.00758.1000	Glass bottle	1 l	inquire

## 800990 2-Ethyl-1-hexanol for synthesis

C<sub>8</sub>H<sub>18</sub>OCH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH(CH<sub>2</sub>H<sub>5</sub>)CH<sub>2</sub>OH*Isocotyl alcohol, Isooctanol*

- CAS-No. 104-76-7 ■ EC-No. 203-234-3
- Refractive index 1.4317 (20 °C, 589 nm)
- Vapour pressure 0.13 hPa (20 °C)
- Spec. density 0.832 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 7.7 (20 °C) ■ Explosive limit 1.1 - 12.7 % (V) ■ Flash point 75 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 1.1 g/l (20 °C)
- M = 130.23 g/mol ■ pH value 7 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 0.36 g/m<sup>3</sup> (20 °C) Air

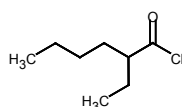
- Melting point -76 °C ■ Boiling point 184 °C (1013 hPa) ■ Evaporation number 600
- Ignition temp. 270 - 330 °C DIN 51794
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LC50 rat > 20 mg/l
- LD50 oral rat 3730 mg/kg ■ LD50 dermal rat > 3000 mg/kg
- LGK 10 - 13
- HS-No. 2905 16 85 ■ Disposal 1
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(2-ETHYLHEXANOL), 9, III

**Specification**

Assay (GC, area%) ..... ≥ 99 %  
Density (d 20 °C/ 4 °C) ..... 0.832 - 0.833  
Water (K. F.) ..... ≤ 0.2 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00990.0100	Plastic bottle	100 ml	inquire
8.00990.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.00990.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.00990.9025	Plastic container	25 l	inquire

## 814841 2-Ethylhexanoyl chloride for synthesis

C<sub>8</sub>H<sub>15</sub>ClO

■ CAS-No. 760-67-8 ■ EC-No. 212-081-1

- Vapour pressure 3 hPa (20 °C)
- Spec. density 0.95 g/cm<sup>3</sup> (20 °C)
- Flash point 79 °C DIN 51758 ■ M = 162.66 g/mol ■ pH value (H<sub>2</sub>O) acidic ■ Melting point < -75 °C ■ Boiling point 73 - 75 °C (23 hPa)
- Ignition temp. 225 °C

- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1B, H314; Acute toxicity, Category 4, Oral, H302, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 2.3 mg/l
- LD50 oral rat 1410 mg/kg ■ LD50 dermal rabbit > 2010 mg/kg
- LGK 6.1A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 2927 Giftiger organischer flüssiger Stoff, ätzend, n.a.g.(2-ETHYLHEXANSAEURECHLORID), 6.1 (8), II ■ IMDG-

Code UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(2-ETHYLHEXANOYLCHLORIDE), 6.1 (8), II

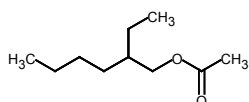
■ IATA-DGR UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.(2-ETHYLHEXANOYLCHLORIDE), 6.1 (8), II

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,948 - 0,951  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14841.0100	Glass bottle	100 ml	inquire

## 814342 2-Ethylhexyl acetate for synthesis

C<sub>10</sub>H<sub>20</sub>O<sub>2</sub>CH<sub>3</sub>COOCH<sub>2</sub>CH(CH<sub>2</sub>H<sub>5</sub>)(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>*Acetic acid 2-ethylhexyl ester, 3-(Acetoxymethyl) heptane*

■ CAS-No. 103-09-3 ■ EC-No. 203-079-1

- Refractive index 1.4204 (20 °C, 589 nm)
- Vapour pressure 0.28 hPa (20 °C)
- Spec. density 0.872 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.76 - 8.14 % (V) ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 172.26 g/mol ■ Melting point -92 °C
- Boiling point 199 °C (1013 hPa)
- Ignition temp. 268 °C
- WGK 1
- LD50 oral rat 3000 mg/kg

■ LGK 10

■ HS-No. 2915 39 00 ■ Disposal 3

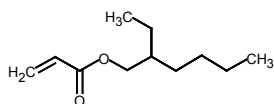
**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,870 - 0,873  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14342.0250	Glass bottle	250 ml	inquire
8.14342.1000	Glass bottle	1 l	inquire

# Ethylh

## 800835 2-Ethylhexyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis



$C_{11}H_{20}O_2$   
 $CH_2=CHCOOCH_2CH(C_2H_5)(CH_2)_3CH_3$   
*Acrylic acid 2-ethylhexyl ester*  
 ■ CAS-No. 103-11-7 ■ EC-No. 203-080-7  
 ■ Vapour pressure 0.12 hPa (20 °C)  
 ■ Spec. density 0.887 g/cm<sup>3</sup> (20 °C) ■ Explosive

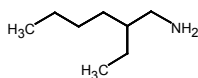
limit 0.9 - 6.0 % (V) ■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O 0.1 g/l (25 °C) ■ M = 184.27 g/mol  
 ■ Melting point -90 °C ■ Boiling point 229 °C (1013 hPa) ■ Ignition temp. 230 °C  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P340  
 ■ LD50 oral rat 4435 mg/kg ■ LD50 dermal rabbit 7522 mg/kg

■ EC-Index-No. 607-107-00-7 ■ LGK 10 - 13  
 ■ HS-No. 2916 12 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,884 - 0,886  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00835.0100	Glass bottle	100 ml	inquire
8.00835.0500	Glass bottle	500 ml	inquire

## 800223 2-Ethylhexylamine for synthesis



$C_8H_{19}N$   
 $CH_3(CH_2)_5CH(C_2H_5)CH_2NH_2$   
*3-(Aminomethyl)heptane*  
 ■ CAS-No. 104-75-6 ■ EC-No. 203-233-8  
 ■ Vapour pressure 1.59 hPa (20 °C)  
 ■ Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Explosive  
 limit 1.6 - 7.7 % (V) ■ Flash point 50 °C ■ Solub. in H<sub>2</sub>O 1.6 g/l (20 °C) ■ M = 129.24 g/mol  
 ■ pH value (H<sub>2</sub>O) alkaline ■ Saturation conc. 1.4 g/m<sup>3</sup> (20 °C) Air ■ Melting point -76 °C

■ Boiling point 169 °C (1013 hPa)  
 ■ Ignition temp. 265 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat < 1.548 mg/l  
 ■ LD50 oral rat 310 mg/kg ■ LD50 dermal rat 600 mg/kg  
 ■ LGK 3

■ HS-No. 2921 19 99 ■ Disposal 9  
 ■ ADR-RID UN 2276 2-Ethylhexylamine, 3 (8), III  
 ■ IMDG-Code UN 2276 2-ETHYLHEXYLAMINE, 3 (8), III  
 ■ IATA-DGR UN 2276 2-ETHYLHEXYLAMINE, 3 (8), III

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,787 - 0,789  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00223.0250	Glass bottle	250 ml	inquire

2-Ethylhexyl bromide → 3-(Bromomethyl)heptane page 506

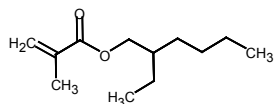
Ethylhexylene glycol → 2-Ethyl-1,3-hexanediol page 868

2-Ethylhexyl mercaptoacetate → 2-Ethylhexyl thioglycolate page 871

Ethyl hexyl carbinol → 3-Nonanol page 1234

Ethyl hexyl ketone → 3-Nonanone page 1234

## 840088 2-Ethylhexyl methacrylate (stabilised with hydroquinone monomethyl ether) for synthesis



$C_{12}H_{22}O_2$   
 $2\text{-Methyl-2-propenoic acid-2-ethylhexyl ester}$   
 ■ CAS-No. 688-84-6 ■ EC-No. 211-708-6  
 ■ Vapour pressure 0.13 hPa (20 °C)  
 ■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive  
 limit 0.6 % (V) ■ Flash point 92 °C ■ Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C) ■ M = 198.3 g/mol

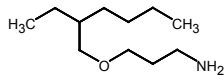
■ Melting point -50 °C ■ Boiling point 218 °C (1013 hPa) ■ Ignition temp. 380 °C  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ EC-Index-No. 607-134-00-4 ■ LGK 10 - 13  
 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2916 14 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,882 - 0,886  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40088.0025	Glass bottle	25 ml	inquire
8.40088.0250	Glass bottle	250 ml	inquire

## 843800 3-(2-Ethylhexyloxy)propylamine for synthesis



$C_{11}H_{25}NO$   
 ■ CAS-No. 5397-31-9 ■ EC-No. 226-420-6  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Spec. density 0.848 g/cm<sup>3</sup> (20 °C) ■ Explosive  
 limit 1 - 4.7 % (V) ■ Flash point 103 °C ■ Solub. in H<sub>2</sub>O 15 g/l (20 °C) ■ M = 187.33 g/mol  
 ■ Melting point -90 °C ■ Boiling point 234 °C (1013 hPa) ■ Ignition temp. 220 °C  
 ■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 320 mg/kg ■ LD50 dermal rabbit 305 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2922 19 85  
 ■ ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(3-(2-ETHYLHEXYLOXY)PROPYLAMIN), 8 (6.1), III ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(3-(2-ETHYLHEXYLOXY))

PROPYLAMINE), 8 (6.1), III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(3-(2-ETHYLHEXYLOXY)PROPYLAMINE), 8 (6.1), III

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.845 - 0.849  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43800.0025	Glass bottle	25 ml	inquire

## 821943 2-Ethylhexyl phosphate (mixture of esters) for synthesis

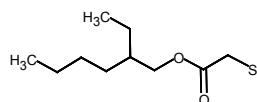
$C_8H_{18}O^*(H_3O_4P)_x$   
 $C_8H_{18}O^*(H_3PO_4)_x$   
*Phosphoric acid 2-ethylhexyl ester*  
 ■ CAS-No. 12645-31-7 ■ EC-No. 235-741-0  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 2.3 (10 g/l, H<sub>2</sub>O, 20 °C) (as an emulsion) ■ Boiling point > 180 °C (1013 hPa) decomposes  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301

+ P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 3000 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2919 90 00 ■ Disposal 3  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.((2-ETHYLHEXYL)-PHOSPHAT), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.((2-ETHYLHEXYL)-PHOSPHATE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.((2-ETHYLHEXYL)-PHOSPHATE),

8, II  
**Specification**  
 Assay (Mono- and Diester) (acidimetric) .....  
 ..... ≥ 95,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21943.0100	Glass bottle	100 ml	inquire
8.21943.1000	Glass bottle	1 l	inquire

## 840112 2-Ethylhexyl thioglycolate for synthesis

C<sub>10</sub>H<sub>20</sub>O<sub>2</sub>S

Mercaptoacetic acid 2-ethylhexyl ester, 2-Ethylhexyl mercaptoacetate

- CAS-No. 7659-86-1 ■ EC-No. 231-626-4
- Vapour pressure 0.008 hPa (20 °C)
- Spec. density 0.97 g/cm<sup>3</sup> (20 °C)
- Flash point 56 °C ■ Kin. viscosity 3.5 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 4.73 mg/l (20 °C)
- M = 204.32 g/mol ■ pH value (H<sub>2</sub>O) not

- applicable ■ Boiling point 98 °C (2.66 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 1, H410; Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P210, P262, P273, P280, P302 + P352
- LD50 oral rat 303 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.((2-ETHYLHEXYL)-THIOGLYCOLAT), 3, III

- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-ETHYL(HEXYL)-THIOGLYCOLATE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-ETHYL(HEXYL)-THIOGLYCOLATE), 3, III

## Specification

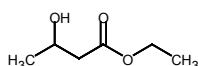
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,970 - 0,975  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40112.0025	Glass bottle	25 ml	inquire
8.40112.0250	Glass bottle	250 ml	inquire
8.40112.1000	Glass bottle	1 l	inquire

Ethyl hydrocinnamate → Ethyl 3-phenylpropionate page 881

Ethyl-2-hydroxybenzoate → Ethyl salicylate page 884

## 814884 DL-Ethyl-3-hydroxybutyrate for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>

3-Hydroxybutyric ethylether

- CAS-No. 5405-41-4 ■ EC-No. 226-456-2

- Spec. density 1.013 g/cm<sup>3</sup> ■ M = 132.15 g/mol
- WGK 1
- LGK 10 - 13
- HS-No. 2918 19 98 ■ Disposal 3

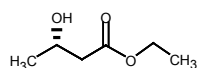
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1,011 - 1,015

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14884.0025	Glass bottle	25 g	inquire
8.14884.0100	Glass bottle	100 g	inquire

## 818653 (S)-Ethyl-3-hydroxybutyrate for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>

3-Hydroxybutyric ethylether

- CAS-No. 56816-01-4 ■ EC-No. 260-393-1
- Refractive index 1.4182 (20 °C, 589 nm)

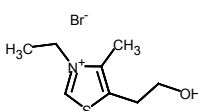
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point 64 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 132.15 g/mol ■ Boiling point 75 - 76 °C (16 hPa)
- WGK 1
- LGK 10
- HS-No. 2918 19 98 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.011 - 1.013  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18653.0001	Glass bottle	1 ml	inquire

## 818143 3-Ethyl-5-(2-hydroxyethyl)-4-methylthiazolium bromide for synthesis

C<sub>8</sub>H<sub>14</sub>BrNOS

- CAS-No. 54016-70-5 ■ EC-No. 258-925-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 252.16 g/mol ■ Melting point 81 - 84 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2934 10 00 ■ Disposal 3

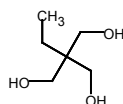
## Specification

Assay (argentometric) ..... ≥ 99,0 % (m)  
Melting range (lower value) ..... ≥ 81 °C  
Melting range (upper value) ..... ≤ 85 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18143.0025	Glass bottle	25 g	inquire

Ethyl α-hydroxyisobutyrate → Ethyl 2-methylactate page 877

## 808394 2-Ethyl-2-(hydroxymethyl)-1,3-propanediol for synthesis

C<sub>6</sub>H<sub>14</sub>O<sub>3</sub>CH<sub>3</sub>CH<sub>2</sub>C(CH<sub>2</sub>OH)<sub>2</sub>

Propylidynetris(methanol), 1,1,1-Trimethylolpropane, 1,1,1-Tris(hydroxymethyl)propane

- CAS-No. 77-99-6 ■ EC-No. 201-074-9
- Vapour pressure < 0.1 hPa (50 °C) ■ Explosive

- limit 2 - 11.8 % (V) ■ Flash point 179 °C DIN 51758 ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 134.17 g/mol ■ pH value 6.5 (100 g/l, H<sub>2</sub>O, 20 °C) (External MSDS) ■ Melting point 57 - 61 °C
- Bulk density 700 kg/m<sup>3</sup>
- Boiling point 296 - 298 °C (1013 hPa)
- Ignition temp. 375 °C DIN 51794
- WGK 1
- LD50 oral rat > 2500 mg/kg
- LGK 10 - 13
- HS-No. 2905 41 00 ■ Disposal 3

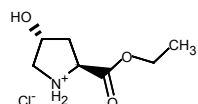
## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Melting range (lower value) ..... ≥ 57 °C  
Melting range (upper value) ..... ≤ 61 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08394.0100	Plastic bottle	100 g	inquire
8.08394.1000	Plastic bottle	1 kg	inquire
8.08394.2500	Plastic bottle	2.5 kg	inquire

Ethyl α-hydroxyphenylacetate → Ethyl mandelate page 874

## 824456 (2S,4R)-(-)-Ethyl 4-hydroxy-2-pyrrolidincarboxylate hydrochloride for synthesis

C<sub>7</sub>H<sub>14</sub>ClNO<sub>3</sub>

L-4-Hydroxyproline ethyl ester hydrochloride

- CAS-No. 33996-30-4 ■ EC-No. 251-779-0
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 195.64 g/mol ■ Melting point 143 - 146 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

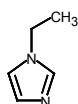
Assay (argentometric) ..... ≥ 99,0 %

Melting range (lower value) ..... ≥ 146 °C  
Melting range (upper value) ..... ≤ 149 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=3 in water) ..... -30,0 - -28,0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24456.0500	Glass bottle	500 mg	inquire



## 843830 1-Ethyl-1H-imidazole for synthesis



C<sub>5</sub>H<sub>8</sub>N<sub>2</sub>  
 ■ CAS-No. 7098-07-9 ■ EC-No. 230-403-9  
 ■ Vapour pressure 0.32 hPa (25 °C)  
 ■ Spec. density 0.995 g/cm<sup>3</sup> (20 °C) ■ Solub. in

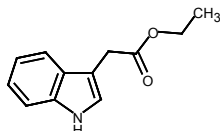
H<sub>2</sub>O 14 g/l (25 °C) (calculated) ■ M = 96.13 g/mol  
 ■ Boiling point 208 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0.993 - 0.997  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43830.0010	Glass bottle	10 ml	inquire
8.43830.0100	Glass bottle	100 ml	inquire

## 804804 Ethyl 3-indoleacetate for synthesis



C<sub>12</sub>H<sub>13</sub>NO<sub>2</sub>

3-Indole acetic acid ethyl ester  
 ■ CAS-No. 778-82-5 ■ EC-No. 212-296-0  
 ■ Flash point >110 °C ■ M = 203.24 g/mol  
 ■ Melting point 41 - 45 °C  
 ■ Boiling point 164 - 166 °C (1.33 hPa)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3

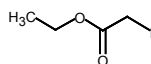
## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 40 °C  
 Melting range (upper value)..... ≤ 43 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04804.0005	Glass bottle	5 g	inquire

Ethyl iodide → Iodoethane page 1010

## 820733 Ethyl iodoacetate for synthesis



C<sub>4</sub>H<sub>7</sub>IO<sub>2</sub>  
 ICH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>  
 Iodoacetic acid ethyl ester  
 ■ CAS-No. 623-48-3 ■ EC-No. 210-796-3  
 ■ Refractive index 1.5045 (20 °C, 589 nm)  
 ■ Vapour pressure 0.7 hPa (20 °C)  
 ■ Spec. density 1.81 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 76 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 214 g/mol  
 ■ Boiling point 179 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral,  
 H300; Skin corrosion, Category 1B, H314, P260,  
 P280, P301 + P330 + P331, P305 + P351 + P338,  
 P309 + P310  
 ■ LD50 oral rat 50 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2915 90 70 ■ Disposal 9  
 ■ ADR-RID UN 2922 Ätzender flüssiger Stoff,  
 giftig, n.a.g.(ETHYLIOACETAT), 8 (6.1), II ■ IMDG-

Code UN 2922 CORROSIVE LIQUID, TOXIC,  
 N.O.S.(ETHYLIOACETATE), 8 (6.1), II  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC,  
 N.O.S.(ETHYLIOACETATE), 8 (6.1), II

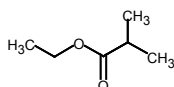
## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....1.804 - 1.806  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20733.0025	Glass bottle	25 ml	inquire

Ethyl isoamyl ketone → 5-Methyl-3-heptanone page 306

## 800501 Ethyl isobutyrate for synthesis



C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>  
 (CH<sub>3</sub>)<sub>2</sub>CHCOOC<sub>2</sub>H<sub>5</sub>  
 Isobutyric acid ethyl ester, Ethyl 2-  
 methylpropionate  
 ■ CAS-No. 97-62-1 ■ EC-No. 202-595-4  
 ■ Vapour pressure 27 hPa (20 °C)

■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 15 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 116.15 g/mol  
 ■ Melting point -88 °C ■ Boiling point 110 °C  
 (1013 hPa) ■ Ignition temp. 463 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2,  
 H225, P210, P262  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 3

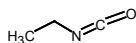
■ HS-No. 2915 60 19 ■ Disposal 3  
 ■ ADR-RID UN 2385 Ethylisobutyrate, 3, II ■ IMDG-  
 Code UN 2385 ETHYL ISOBUTYRATE, 3, II  
 ■ IATA-DGR UN 2385 ETHYL ISOBUTYRATE, 3, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) .....0,868 - 0,870  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00501.0250	Glass bottle	250 ml	inquire

## 818854 Ethyl isocyanate for synthesis



C<sub>3</sub>H<sub>5</sub>NO  
 C<sub>2</sub>H<sub>5</sub>NCO  
 Isocyanic acid ethyl ester  
 ■ CAS-No. 109-90-0 ■ EC-No. 203-717-9  
 ■ Refractive index 1.3808 (20 °C, 589 nm)  
 ■ Vapour pressure 147 hPa (20 °C)  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Flash point -  
 10 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 71.07 g/mol ■ Melting point < -50 °C  
 ■ Boiling point 60 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2,  
 H225; Eye irritation, Category 2, H319; Respiratory  
 sensitisation, Category 1, H334; Skin irritation,  
 Category 2, H315; Specific target organ toxicity -  
 single exposure, Category 3, H335; Acute toxicity,  
 Category 2, Inhalation, H330, P210, P260, P302 +  
 P352, P304 + P340, P305 + P351 + P338, P309 +  
 P310, P342 + P311  
 ■ LGK 3  
 ■ HS-No. 2929 10 00 ■ Disposal 11  
 ■ ADR-RID UN 2481 Ethylisocyanat, 6.1 (3), I  
 ■ IMDG-Code UN 2481 ETHYL ISOCYANATE, 6.1

(3), I

■ IATA-DGR UN 2481 ETHYL ISOCYANATE, 6.1 (3),

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0.903 - 0.906  
 Identity (IR)..... passes test

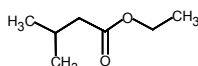
Ord.No.	Packaging	Quantity	Price
8.18854.0010	Glass bottle	10 ml	inquire
8.18854.0100	Glass bottle	100 ml	inquire

Ethyl isonicotinate → Ethyl 4-pyridinecarboxylate  
 page 883

Ethyl iso-pentanoate → Ethyl isopentanoate page  
 873



## 808541 Ethyl isopentanoate for synthesis

C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>*Ethyl iso-pentanoate, Ethyl 3-methylbutanoate, 3-Methyl butyric ethyl ester*

- CAS-No. 108-64-5 ■ EC-No. 203-602-3
- Refractive index 1.3975 (25 °C, 589 nm)
- Vapour pressure 11 hPa (25 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)

- Flash point 22 °C ■ Solub. in H<sub>2</sub>O 2.00 g/l (20 °C) ■ M = 130.18 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point -99 °C
- Boiling point 133 - 135 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 3
- HS-No. 2915 60 90 ■ Disposal 3
- ADR-RID UN 3272 Ester,

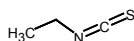
n.a.g.(ETHYLISOVALERAT), 3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(ETHYL ISOVALERATE), 3, III  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(ETHYL ISOVALERATE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,864 - 0,866  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08541.0250	Glass bottle	250 ml	inquire

## 820035 Ethyl isothiocyanate for synthesis

C<sub>3</sub>H<sub>5</sub>NS*Isothiocyanic acid ethyl ester*

- CAS-No. 542-85-8 ■ EC-No. 208-831-2
- Refractive index 1.506 (20 °C, 589 nm) ■ Vapour pressure 13 hPa (23 °C) ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Flash point 24 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 87.15 g/mol ■ pH value 6.3 (H<sub>2</sub>O, 20 °C) ■ Melting point -6 °C ■ Boiling point 132 °C (1013 hPa)
- WGK 3

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Respiratory sensitisation, Category 1, H334; Acute aquatic toxicity, Category 1, H400, P210, P260, P273, P304 + P340, P309 + P310
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 9
- ADR-RID UN 3080 Isocyanate, giftig, entzündbar, n.a.g.(ETHYLISOTHIOCYANAT), 6.1 (3), II ■ IMDG-Code UN 3080 ISOCYANATES, TOXIC, FLAMMABLE, N.O.S.(ETHYLISOTHIOCYANATE), 6.1

(3), II

■ IATA-DGR UN 3080 ISOCYANATES, TOXIC, FLAMMABLE, N.O.S.(ETHYLISOTHIOCYANATE), 6.1 (3), II

**Specification**

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.998 - 1.001  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20035.0100	Glass bottle	100 ml	inquire
8.20035.0500	Glass bottle	500 ml	inquire

Ethyl ketone → Diethyl ketone page 302

## 822100 (S)-(-)-Ethyl lactate for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>3</sub>CH<sub>3</sub>CH(OH)COOC<sub>2</sub>H<sub>5</sub>*L(-)-Lactic acid ethyl ester, (S)-(-)-2-Hydroxypropionic acid ethyl ester*

- CAS-No. 687-47-8 ■ EC-No. 211-694-1
- Refractive index 1.411 (25 °C, 589 nm) ■ Vapour pressure 1.6 hPa (20 °C) ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 16.4 % (V)
- Flash point 53 °C ■ Kin. viscosity 2.7 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (25 °C) soluble
- M = 118.13 g/mol ■ pH value 4 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -25 °C
- Boiling point 154 °C (1013 hPa)

- Ignition temp. 400 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Serious eye damage, Category 1, H318, P210, P280, P304 + P340, P305 + P338
- LC50 rat > 5.4 mg/l
- LD50 oral rat > 2000 mg/kg
- EC-Index-No. 607-129-00-7 ■ LGK 3
- HS-No. 2918 11 00 ■ Disposal 3
- ADR-RID UN 1192 Ethyllactat, 3, III ■ IMDG-Code UN 1192 ETHYL LACTATE, 3, III

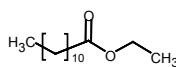
■ IATA-DGR UN 1192 ETHYL LACTATE, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.032 - 1.034  
 Spec. rotation [α<sup>20</sup>/D (undiluted)] ..... -11.0 - -10.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22100.0100	Glass bottle	100 ml	inquire
8.22100.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 805334 Ethyl laurate for synthesis

C<sub>14</sub>H<sub>28</sub>O<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>10</sub>COOC<sub>2</sub>H<sub>5</sub>*Ethyl dodecanoate, Lauric acid ethyl ester*

- CAS-No. 106-33-2 ■ EC-No. 203-386-0
- Refractive index 1.4308 (20 °C, 589 nm)
- Vapour pressure 0.1 hPa (60 °C)

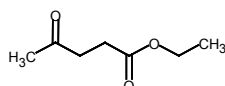
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point 138 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 228.37 g/mol
- Melting point -2 °C ■ Boiling point 272 °C (1013 hPa) ■ Ignition temp. >300 °C
- WGK 2
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10
- HS-No. 2915 90 30 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,861 - 0,863  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05334.0005	Glass bottle	5 ml	inquire
8.05334.0250	Glass bottle	250 ml	inquire

## 800397 Ethyl levulinate for synthesis

C<sub>7</sub>H<sub>12</sub>O<sub>3</sub>CH<sub>3</sub>COCH<sub>2</sub>CH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>*Ethyl 4-oxopentanoate, Ethyl 4-oxovalerate*

- CAS-No. 539-88-8 ■ EC-No. 208-728-2

- Refractive index 1.4222 (20 °C, 589 nm)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point 94 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 144.17 g/mol ■ Boiling point 203 - 205 °C (1013 hPa) ■ Ignition temp. 425 °C
- WGK 2
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10

■ HS-No. 2918 30 00 ■ Disposal 3

**Specification**

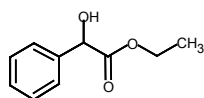
Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,011 - 1,013  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00397.0100	Glass bottle	100 ml	inquire
8.00397.0500	Glass bottle	500 ml	inquire

Ethyl malonate → Diethyl malonate page 748

Ethylmalonic acid diethyl ester → Diethyl ethylmalonate page 746

## 806912 Ethyl mandelate for synthesis



$C_{10}H_{12}O_3$   
 $C_6H_5CH(OH)COOC_2H_5$   
 Ethyl  $\alpha$ -hydroxyphenylacetate, Mandelic acid ethyl ester  
 ■ CAS-No. 774-40-3 ■ EC-No. 212-263-0

- Refractive index 1.5136 (20 °C, 589 nm)
- Spec. density 1.13 g/cm<sup>3</sup> (20 °C)
- Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 180.2 g/mol
- Melting point 24 - 27 °C
- Boiling point 253 - 255 °C
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13

■ HS-No. 2918 19 98 ■ Disposal 3

## Specification

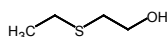
Assay (GC, area%) ..... ≥ 96,0 Area %  
 Melting range (lower value) ..... ≥ 25 °C  
 Melting range (upper value) ..... ≤ 30 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06912.0100	Glass bottle	100 ml	inquire

Ethyl mercaptan → Ethanethiol page 839

Ethyl mercaptoacetate → Ethyl thioglycolate page 884

## 840111 2-(Ethylmercapto)-ethanol for synthesis



$C_4H_{10}OS$   
 2-Thioethanol, Thioglycol  
 ■ CAS-No. 110-77-0 ■ EC-No. 203-802-0  
 ■ Spec. density 1.018 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 93 °C ■ M = 106.19 g/mol  
 ■ Melting point -100 °C

- Boiling point 180 - 184 °C (1013 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 5000 mg/kg
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 6

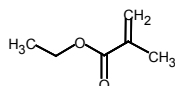
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,014 - 1,018  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40111.0025	Glass bottle	25 ml	inquire

Ethyl mesitylacetate → Ethyl 2,4,6-trimethylphenyl-acetate page 887

## 800579 Ethyl methacrylate (stabilised) for synthesis



$C_6H_{10}O_2$   
 $CH_2=C(CH_3)COOC_2H_5$   
 Ethyl 2-methylpropenoate, Methacrylic acid ethyl ester  
 ■ CAS-No. 97-63-2 ■ EC-No. 202-597-5  
 ■ Refractive index 1.4128 (20 °C, 589 nm)  
 ■ Vapour pressure 21.3 hPa (20 °C)  
 ■ Spec. density 0.913 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 % (V) ■ Flash point 18 °C ■ Solub. in H<sub>2</sub>O 5.1 g/l (20 °C) ■ M = 114.14 g/mol

- Melting point -61 - -59 °C
- Boiling point 119 - 121 °C (1013 hPa)
- Ignition temp. 329 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P210, P233, P280, P302 + P352, P304 + P340, P305 + P351 + P338
- LC50 rat 55 mg/l
- LD50 oral rat 14600 mg/kg
- LD50 dermal rabbit > 9130 mg/kg
- EC-Index-No. 607-071-00-2 ■ LGK 3
- HS-No. 2916 14 00 ■ Disposal 3

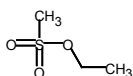
■ ADR-RID UN 2277 Ethylmethacrylat, stabilisiert, 3, II ■ IMDG-Code UN 2277 ETHYL METHACRYLATE, STABILIZED, 3, II  
 ■ IATA-DGR UN 2277 ETHYL METHACRYLATE, STABILIZED, 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,912 - 0,913  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00579.0100	Glass bottle	100 ml	inquire
8.00579.0500	Glass bottle	500 ml	inquire

## 820774 Ethyl methanesulfonate for synthesis



$C_3H_8O_3S$   
 Methanesulfonic acid ethyl ester  
 ■ CAS-No. 62-50-0 ■ EC-No. 200-536-7  
 ■ Refractive index 1.418 (20 °C, 589 nm) ■ Vapour pressure 0.27 hPa (25 °C) ■ Spec. density 1.206 g/cm<sup>3</sup> (20 °C) ■ Flash point 100 °C ■ Solub. in

- H<sub>2</sub>O 50 - 100 g/l (27 °C) ■ M = 124.16 g/mol
- Boiling point 213 - 214 °C (1013 hPa)
  - WGK 3
  - GHS: Danger, Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 2, H361F; Acute toxicity, Category 4, Oral, H302; Germ cell mutagenicity, Category 1B, H340, P201, P280, P281, P309 + P310
  - LGK 6.1A
  - HS-No. 2904 10 00 ■ Disposal 1

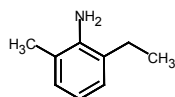
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.205 - 1.207  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20774.0005	Glass bottle	5 ml	inquire
8.20774.0025	Glass bottle	25 ml	inquire

Ethylmethacetylene → 2-Pentyne page 1273

## 841093 2-Ethyl-6-methylaniline for synthesis



$C_9H_{13}N$   
 6-Ethyl-*o*-toluidine  
 ■ CAS-No. 24549-06-2 ■ EC-No. 246-309-6  
 ■ Vapour pressure 0.07 hPa (20 °C)  
 ■ Spec. density 0.969 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 105 °C ■ Solub. in H<sub>2</sub>O 2.66 g/l (20 °C) ■ M = 135.2 g/mol ■ Melting point -24 °C  
 ■ Boiling point 231 °C (1013 hPa)

- Ignition temp. 460 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412; Acute toxicity, Category 4, Dermal, H312, P262, P273, P302 + P352
- LC50 rat 2.2 mg/l
- LD50 oral rat 1150 mg/kg ■ LD50 dermal rat 1290 mg/kg
- LGK 10
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger

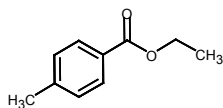
Stoff, n.a.g.(2-ETHYL-6-METHYLANILIN), 6.1, III  
 ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-ETHYL-6-METHYLANILINE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-ETHYL-6-METHYLANILINE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.966 - 0.970  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41093.0100	Glass bottle	100 ml	inquire

## 818786 Ethyl 4-methylbenzoate for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>COOC<sub>2</sub>H<sub>5</sub>4-Methylbenzoic acid ethyl ester, *p*-Toluic acidethyl ester, Ethyl *p*-toluate

- CAS-No. 94-08-6 ■ EC-No. 202-301-4
- Refractive index 1.5089 (18 °C, 589 nm)
- Spec. density 1.03 g/cm<sup>3</sup> (20 °C)
- Flash point 62 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 164.2 g/mol
- Boiling point 107 - 109 °C (16 hPa)
- WGK 3
- LGK 10

■ HS-No. 2916 39 90 ■ Disposal 3

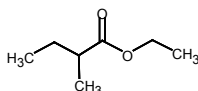
## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,023 - 1,025  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18786.0100	Glass bottle	100 ml	inquire

Ethyl 3-methylbutanoate → Ethyl isopentanoate page 873

## 818788 Ethyl 2-methylbutyrate for synthesis

C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)COOC<sub>2</sub>H<sub>5</sub>

2-Methylbutyric acid ethyl ester

- CAS-No. 7452-79-1 ■ EC-No. 231-225-4
- Refractive index 1.3965 (20 °C, 589 nm)
- Vapour pressure 11 hPa (25 °C)
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C)

- Flash point 26 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 130.18 g/mol
- pH value 7 (H<sub>2</sub>O) ■ Boiling point 132 - 134 °C (1013 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LD50 oral rat > 2000 mg/kg
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(ETHYL-2-METHYLBUTYRAT), 3, III ■ IMDG-Code UN 3272

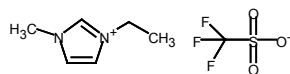
ESTERS, N.O.S.(ETHYL-2-METHYLBUTYRATE), 3, III  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(ETHYL-2-METHYLBUTYRATE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,867 - 0,869  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18788.0100	Glass bottle	100 ml	inquire

## 1-Ethyl-3-methylimidazolium trifluoromethanesulfonate

C<sub>7</sub>H<sub>11</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>SC<sub>6</sub>H<sub>11</sub>N<sub>2</sub> CF<sub>3</sub>O<sub>3</sub>S

- CAS-No. 145022-44-2
- Spec. density 1.386 g/cm<sup>3</sup> (20 °C)
- M = 260.24 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point -12 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90

## 490061 1-Ethyl-3-methylimidazolium trifluoromethanesulfonate for synthesis

## Specification

Purity (HPLC) ..... ≥ 98,0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0,1 %  
 Water (K. F.) ..... ≤ 1,0 %

Ord.No.	Packaging	Quantity	Price
4.90061.0025	Glass bottle	25 g	inquire
4.90061.0100	Glass bottle	100 g	inquire
4.90061.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

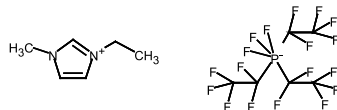
## 491061 1-Ethyl-3-methylimidazolium trifluoromethanesulfonate high purity

## Specification

Purity (HPLC) ..... ≥ 99,0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 200 ppm

Ord.No.	Packaging	Quantity	Price
4.91061.0025	Glass bottle	25 g	inquire
4.91061.0100	Glass bottle	100 g	inquire
4.91061.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 1-Ethyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate

C<sub>12</sub>H<sub>11</sub>F<sub>18</sub>N<sub>2</sub>P

■ CAS-No. 377739-43-0

- Spec. density 1.71 g/cm<sup>3</sup> (20 °C)
- M = 556.17 g/mol ■ pH value (H<sub>2</sub>O) no data

available ■ Melting point -1 °C

- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 A
- HS-No. 2933 29 90
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(1-ETHYL-3-METHYLIMIDAZOLIUM TRIS(PENTAFLUORETHYL)TRIFLUORPHOSPHAT), 8,

II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHATE), 8, II  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHATE), 8, II

## 490001 1-Ethyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate for synthesis

## Specification

Purity (HPLC, area%) ..... ≥ 98,0 %  
 Identity (NMR) ..... passes test  
 Halides ..... ≤ 0,1 %  
 Water (K. F.) ..... ≤ 1,0 %

Ord.No.	Packaging	Quantity	Price
4.90001.0025	Glass bottle	25 g	inquire
4.90001.0100	Glass bottle	100 g	inquire
4.90001.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

# Ethylm

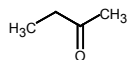
## 491001 1-Ethyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate high purity

### Specification

Identity (NMR).....	passes test
Purity (HPLC, area%).....	≥ 99.0 %
Halides.....	≤ 100 ppm
Water (K. F.).....	≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91001.0025	Glass bottle	25 g	inquire
4.91001.0100	Glass bottle	100 g	inquire
4.91001.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## Ethyl methyl ketone



C<sub>4</sub>H<sub>8</sub>O

C<sub>2</sub>H<sub>5</sub>COCH<sub>3</sub>

2-Butanone, Methyl ethyl ketone, MEK

■ CAS-No. 78-93-3 ■ EC-No. 201-159-0

■ Refractive index 1.3814 (15 °C) ■ Vapour

pressure 105 hPa (20 °C) ■ Spec. density 0.805 g/

cm<sup>3</sup> (20 °C) ■ Dielectricity constant 18.5 (20 °C)

■ El. dipole moment 2.7 (20 °C) ■ Explosive limit 1.8 - 11.5 % (V) ■ Flash point -4 °C ■ Solub. in H<sub>2</sub>O 292 g/l (20 °C) ■ M = 72.11 g/mol

■ pH value (H<sub>2</sub>O, 20 °C) neutral

■ Saturation conc. 310 g/m<sup>3</sup> (20 °C) Air

■ Melting point -86 °C ■ Boiling point 79.6 °C (1013 hPa) ■ Evaporation number 6.3

■ Ignition temp. 514 °C

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific

target organ toxicity - single exposure, Category

3, H336, P210, P305 + P351 + P338

■ LD50 oral rat 3400 mg/kg ■ LD50 dermal rabbit > 8000 mg/kg

■ EC-Index-No. 606-002-00-3 ■ LGK 3

■ HS-No. 2914 12 00 ■ Disposal 1

■ ADR-RID UN 1193 Ethylmethylketon, 3, II

■ IMDG-Code UN 1193 ETHYL METHYL KETONE, 3, II

■ IATA-DGR UN 1193 ETHYL METHYL KETONE, 3, II



## 106014 Ethyl methyl ketone (2-butanone) EMPLURA®

### Specification

Purity (GC).....	≥ 99.0 %
Identity (IR).....	conforms
Free acid (as CH <sub>3</sub> COOH).....	≤ 0.002 %
Density (d 20 °C/ 4 °C).....	0.804 - 0.805
Water.....	≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.06014.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.06014.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.06014.6010	Drum stainl. st.	10 l	inquire
1.06014.6025	Drum stainl. st.	25 l	inquire
1.06014.9011	Steel barrel	10 l	inquire
1.06014.9190	Steel barrel	190 l	inquire

## 109708 Ethyl methyl ketone for analysis EMSURE® ACS, Reag. Ph Eur

### Specification

Purity (GC).....	≥ 99.5 %
Identity (IR).....	conforms
Appearance.....	clear
Colour.....	≤ 10 Hazen
Titrate acid.....	≤ 0.0005 meq/g
Alkalinity.....	≤ 0.0002 meq/g
Density (d 20 °C/20 °C).....	0.805 - 0.815
Boiling point.....	79 - 80 °C
Acetone (GC).....	≤ 0.05 %
2-Butanol (GC).....	≤ 0.05 %
Methanol (GC).....	≤ 0.05 %
2-Methylpropan-2-ol (GC).....	≤ 0.1 %
Substances reducing potassium permanganate (as O).....	≤ 0.0003 %

Al (Aluminium).....	≤ 0.00002 %
B (Boron).....	≤ 0.00002 %
Ba (Barium).....	≤ 0.00001 %
Ca (Calcium).....	≤ 0.00005 %
Cd (Cadmium).....	≤ 0.000005 %
Co (Cobalt).....	≤ 0.000002 %
Cr (Chromium).....	≤ 0.000002 %
Cu (Copper).....	≤ 0.000002 %
Fe (Iron).....	≤ 0.00001 %
Mg (Magnesium).....	≤ 0.000005 %
Mn (Manganese).....	≤ 0.000002 %
Ni (Nickel).....	≤ 0.000002 %
Pb (Lead).....	≤ 0.00001 %
Sn (Tin).....	≤ 0.00001 %

Zn (Zinc).....	≤ 0.00001 %
Evaporation residue.....	≤ 0.001 %
Water.....	≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.09708.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09708.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09708.4000	Glass bottle	4 l	inquire
1.09708.6025	Drum stainl. st.	25 l	inquire
1.09708.9190	Steel barrel	190 l	inquire

## 109709 Ethyl methyl ketone reference substance for gas chromatography

### Specification

Assay (GC).....	≥ 99.5 %
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
1.09709.0005	Glass bottle	5 ml	inquire

## 107049 Ethyl methyl ketone for analysis EMPARTA® ACS

C<sub>4</sub>H<sub>8</sub>O

C<sub>2</sub>H<sub>5</sub>COCH<sub>3</sub>

2-Butanone, Methyl ethyl ketone, MEK

■ CAS-No. 78-93-3 ■ EC-No. 201-159-0

■ Refractive index 1.3814 (15 °C) ■ Vapour

pressure 105 hPa (20 °C) ■ Spec. density 0.805 g/

cm<sup>3</sup> (20 °C) ■ Dielectricity constant 18.5 (20 °C)

■ El. dipole moment 2.7 (20 °C) ■ Explosive

limit 1.8 - 11.5 % (V) ■ Flash point -4 °C ■ Solub.

in H<sub>2</sub>O 292 g/l (20 °C) ■ M = 72.11 g/mol

■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point -86 °C ■ Boiling point 79.6 °C (1013 hPa)

■ Evaporation number 6.3 ■ Ignition temp. 514 °C

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336, P210, P305 + P351 + P338

■ LD50 oral rat 3400 mg/kg ■ LD50 dermal rabbit > 8000 mg/kg

■ EC-Index-No. 606-002-00-3 ■ LGK 3

■ Disposal 1

■ ADR-RID UN 1193 Ethylmethylketon, 3, II

■ IMDG-Code UN 1193 ETHYL METHYL KETONE, 3, II

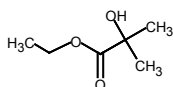
■ IATA-DGR UN 1193 ETHYL METHYL KETONE, 3, II

Ord.No.	Packaging	Quantity	Price
1.07049.4000		4 l	inquire



Ethyl methyl ketoxime → 2-Butanoneoxime page 537

## 820808 Ethyl 2-methylactate for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>(CH<sub>3</sub>)<sub>2</sub>C(OH)COOC<sub>2</sub>H<sub>5</sub>

Ethyl α-hydroxyisobutyrate, 2-Methylactic acid ethyl ester

- CAS-No. 80-55-7
- EC-No. 201-290-3
- Refractive index 1.4078 (20 °C, 589 nm)

- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 44 °C
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 132.16 g/mol
- Boiling point 150 °C (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226
- LGK 3
- HS-No. 2918 19 98
- Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(ETHYL-2-METHYLLACTAT), 3, III
- IMDG-Code UN 3272

ESTERS, N.O.S.(ETHYL-2-METHYLLACTATE), 3, III  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(ETHYL-2-METHYLLACTATE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.983 - 0.987  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20808.0100	Glass bottle	100 ml	inquire

Ethyl 3-methyl-3-phenylglycidate → Ethyl 2,3-epoxy-3-phenylbutyrate page 867

Ethyl 2-methylpropenoate → Ethyl methacrylate page 874

Ethyl 2-methylpropionate → Ethyl isobutyrate page 872

## 843971 5-Ethyl-2-methylpyridine for synthesis

C<sub>8</sub>H<sub>11</sub>N

■ CAS-No. 104-90-5

■ EC-No. 203-250-0

■ Vapour pressure 1.91 hPa (25 °C)

■ Spec. density 0.92 g/cm<sup>3</sup>

■ Flash point 70 °C

■ Solub. in H<sub>2</sub>O 12.0 g/l

■ M = 121.18 g/mol

■ Melting point -70.9 °C

■ Boiling point 178 °C (1013 hPa)

■ Ignition temp. 504 °C

■ WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Oral,

H302; Acute toxicity, Category 3, Dermal, H311;  
 Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 1737 mg/kg

■ LD50 dermal rabbit 521 mg/kg

■ LGK 6.1C

■ HS-No. 2933 39 99

■ Disposal 3

■ ADR-RID UN 2300 2-Methyl-5-ethylpyridin, 6.1,

III

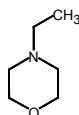
■ IMDG-Code UN 2300 2-METHYL-5-ETHYLPYRIDINE, 6.1, III

■ IATA-DGR UN 2300 2-METHYL-5-ETHYLPYRIDINE, 6.1, III

Ord.No.	Packaging	Quantity	Price
8.43971.0250	Glass bottle	250 ml	inquire
8.43971.1000	Glass bottle	1 l	inquire

N-Ethyl-2-methylquinolinium iodide → 1-Ethylquinadinium iodide page 884

## 801295 4-Ethylmorpholine for synthesis

C<sub>6</sub>H<sub>13</sub>NO

N-Ethylmorpholine

■ CAS-No. 100-74-3

■ EC-No. 202-885-0

■ Refractive index 1.4415 (20 °C, 589 nm)

■ Vapour pressure 8.1 hPa (20 °C)

■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C)

■ Explosive limit 1.9 % (V)

■ Flash point 30 °C

■ Kin. viscosity 1 mm<sup>2</sup>/s (23 °C)■ Solub. in H<sub>2</sub>O (20 °C) soluble

■ M = 115.17 g/mol

■ pH value 11.8 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point -63 - -62 °C

■ Boiling point 138 °C (1013 hPa)

■ Ignition temp. 160 °C

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 3,

H226; Acute toxicity, Category 3, Dermal, H311;

Acute toxicity, Category 4, Oral, H302; Skin

corrosion, Category 1B, H314, P210, P260, P280,

P301 + P330 + P331, P302 + P352, P305 + P351

+ P338, P309 + P310

■ LD50 oral rat 1640 mg/kg

■ LD50 dermal rabbit 900 mg/kg

■ LGK 3

■ HS-No. 2934 99 90

■ ADR-RID UN 2734 Amine, flüssig, ätzend,

entzündbar, n.a.g.(4-ETHYLMORPHOLIN), 8 (3), II

■ IMDG-Code UN 2734 AMINES, LIQUID,  
 CORROSIVE, FLAMMABLE, N.O.S.(4-ETHYLMORPHOLINE), 8 (3), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2734 AMINES, LIQUID,

CORROSIVE, FLAMMABLE, N.O.S.(4-ETHYLMORPHOLINE), 8 (3), II

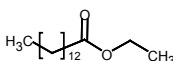
## Specification

Assay (GC, area%) ..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.913 - 0.916  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01295.0250	Glass bottle	250 ml	inquire

N-Ethylmorpholine → 4-Ethylmorpholine page 304

## 818970 Ethyl myristate for synthesis

C<sub>16</sub>H<sub>32</sub>O<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>12</sub>COOC<sub>2</sub>H<sub>5</sub>

Ethyl tetradecanoate, Myristic acid ethyl ester

■ CAS-No. 124-06-1

■ EC-No. 204-675-4

■ Refractive index 1.4381 (20 °C, 589 nm)

■ Vapour pressure &lt; 1 hPa (20 °C)

■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)

■ Flash point 113 °C

■ Solub. in H<sub>2</sub>O (20 °C) insoluble

■ M = 256.42 g/mol

■ Melting point 12 °C

■ Boiling point 295 °C (1013 hPa)

■ Ignition temp. 315 °C

■ WGK 2

■ LD50 oral rat &gt; 5000 mg/kg

■ LD50 dermal rabbit &gt; 5000 mg/kg

■ LGK 10

■ HS-No. 2915 90 70

■ Disposal 3

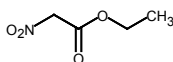
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.860 - 0.862  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18970.0250	Glass bottle	250 ml	inquire
8.18970.1000	Glass bottle	1 l	inquire

Ethyl nicotinate → Ethyl 3-pyridinecarboxylate page 883

## 841475 Ethyl nitroacetate for synthesis

C<sub>4</sub>H<sub>7</sub>NO<sub>2</sub>

Nitroacetic acid ethyl ester

■ CAS-No. 626-35-7

■ EC-No. 210-944-7

■ Spec. density 1.202 g/cm<sup>3</sup> (20 °C)

■ Flash point 92 °C

■ M = 133.1 g/mol

■ Boiling point 93 - 95 °C (13.3 hPa)

■ WGK 3

■ LGK 10

■ HS-No. 2915 90 70

■ Disposal 3

## Specification

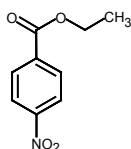
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.198 - 1.204  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41475.0005	Glass bottle	5 ml	inquire



# Ethyl

## 843400 Ethyl 4-nitrobenzoate for synthesis



$C_9H_9NO_4$   
 ■ CAS-No. 99-77-4 ■ EC-No. 202-786-2

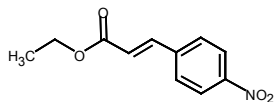
- Solub. in  $H_2O$  (20 °C) slightly soluble
- $M = 195.17$  g/mol ■ Melting point 54 - 57 °C
- Bulk density 380 kg/m<sup>3</sup> ■ Boiling point 320 °C
- WGK 2
- LD50 oral rat 2660 mg/kg
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) .....  $\geq 99.0$  % (a/a)

Melting range (lower value) .....  $\geq 54$  °C  
 Melting range (upper value) .....  $\leq 57$  °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43400.0025	Glass bottle	25 g	inquire
8.43400.0100	Glass bottle	100 g	inquire

## 821855 Ethyl-4-nitrocinnamate for synthesis



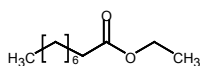
$C_{11}H_{11}NO_4$   
 4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH=CHCOOC<sub>2</sub>H<sub>5</sub>  
 4-Nitrocinnamic acid ethyl ester

- CAS-No. 953-26-4 ■ EC-No. 213-463-0
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  (20 °C) insoluble
- $M = 221.21$  g/mol
- Melting point 138 - 140 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) .....  $\geq 98.0$  % (a/a)  
 Melting range (lower value) .....  $\geq 135$  °C  
 Melting range (upper value) .....  $\leq 138$  °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21855.0010	Glass bottle	10 g	inquire

## 820916 Ethyl nonanoate for synthesis



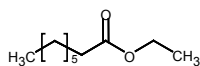
$C_{11}H_{22}O_2$   
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>COOC<sub>2</sub>H<sub>5</sub>  
 Nonanoic acid ethyl ester, Ethyl pelargonate, Pelargonic acid ethyl ester

- CAS-No. 123-29-5 ■ EC-No. 204-615-7
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point 93 °C ■ Solub. in  $H_2O$  (20 °C) insoluble
- $M = 186.29$  g/mol
- Melting point -44 °C
- Boiling point 220 - 222 °C
- WGK 2
- LGK 10

■ HS-No. 2915 90 70 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) .....  $\geq 95.0$  % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.865 - 0.866  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20916.0250	Glass bottle	250 ml	inquire

## 800202 Ethyl octanoate for synthesis



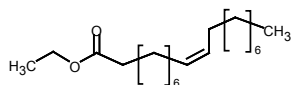
$C_{10}H_{20}O_2$   
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>6</sub>COOC<sub>2</sub>H<sub>5</sub>  
 Ethyl caprylate, Octanoic acid ethyl ester  
 ■ CAS-No. 106-32-1 ■ EC-No. 203-385-5  
 ■ Refractive index 1.4166 (20 °C, 589 nm)  
 ■ Vapour pressure 0.2 hPa (20 °C)

- Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 % (V) ■ Flash point 79 °C
- Solub. in  $H_2O$  0.070 g/l (25 °C) ■  $M = 172.27$  g/mol
- Melting point -47 °C ■ Boiling point 208 °C (1013 hPa) ■ Ignition temp. 325 °C
- WGK 2
- LD50 oral rat 25960 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10
- HS-No. 2915 90 70 ■ Disposal 3

**Specification**  
 Assay (GC, area%) .....  $\geq 98.0$  Area %  
 Density (d 20 °C/ 4 °C) ..... 0.865 - 0.867  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00202.0005	Glass bottle	5 ml	inquire
8.00202.0250	Glass bottle	250 ml	inquire

## 814762 Ethylolate (mixture of esters) for synthesis



■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 110 °C ■ Solub. in  $H_2O$  (20 °C) insoluble ■ Melting point -32 °C

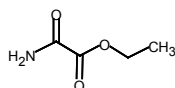
- Boiling point 168 °C (1.3 hPa)
- WGK 1
- LGK 10
- HS-No. 3824 90 97 ■ Disposal 3

**Specification**  
 Density (d 20 °C/ 4 °C) ..... 0.869 - 0.874  
 Assay (acidimetric) .....  $\geq 98.0$  %  
 Iodine value ..... 75 - 84

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14762.0250	Glass bottle	250 ml	inquire
8.14762.1000	Glass bottle	1 l	inquire

## 822117 Ethyl oxamate for synthesis



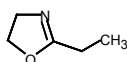
$C_4H_7NO_3$   
 $C_2H_5OOCCONH_2$   
 Oxalic acid monoethyl ester amide, Oxamic acid

- ethyl ester, Oxamethane
- CAS-No. 617-36-7 ■ EC-No. 210-512-8
  - Solub. in  $H_2O$  (20 °C) soluble ■  $M = 117.1$  g/mol
  - Melting point 112 - 114 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2924 19 00 ■ Disposal 3

**Specification**  
 Assay (ex N) .....  $\geq 98.0$  %  
 Melting range (lower value) .....  $\geq 114$  °C  
 Melting range (upper value) .....  $\leq 116$  °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22117.0025	Plastic bottle	25 g	inquire

## 814009 2-Ethyl-2-oxazoline for synthesis

C<sub>5</sub>H<sub>9</sub>NO

2-Ethyl-4,5-dihydro-oxazole

■ CAS-No. 10431-98-8 ■ EC-No. 233-912-4  
 ■ Refractive index 1.438 (20 °C, 589 nm) ■ Vapour pressure 10 hPa (20 °C) ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Flash point 29 °C DIN 51755 Part 1  
 ■ Solub. in H<sub>2</sub>O (20 °C) miscible ■ M = 99.13 g/mol ■ pH value 10 - 12 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -62 °C ■ Boiling point 128 °C (1013 hPa) ■ Ignition temp. 410 °C DIN 51794

■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314; Skin sensitisation, Category 1, H317, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 3086 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2934 99 90 ■ Disposal 1  
 ■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(2-ETHYL-2-OXAZOLIN), 8 (3), II  
 ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(2-ETHYL-2-OXAZOLINE), 8 (3), II, Segregation Group: 18

(Alkalis)

■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(2-ETHYL-2-OXAZOLINE), 8 (3), II

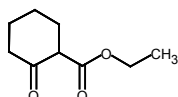
## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,974 - 0,976  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14009.0100	Glass bottle	100 ml	inquire
8.14009.0500	Glass bottle	500 ml	inquire

Ethylloxirane → 1,2-Epoxybutane page 836

## 822118 Ethyl 2-oxocyclohexanecarboxylate for synthesis

C<sub>9</sub>H<sub>14</sub>O<sub>3</sub>2-(O=C<sub>6</sub>H<sub>9</sub>COOC<sub>2</sub>H<sub>5</sub>)

2-Oxocyclohexanecarboxylic acid ethyl ester, Cyclohexanone-2-carboxylic acid ethyl ester

ester, 2-Carbethoxycyclohexanone

■ CAS-No. 1655-07-8 ■ EC-No. 216-731-5  
 ■ Refractive index 1.4792 (20 °C, 589 nm)  
 ■ Spec. density 1.071 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 101 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 170.2 g/mol  
 ■ Boiling point 106 - 107 °C (15 hPa)  
 ■ WGK 2  
 ■ LGK 10

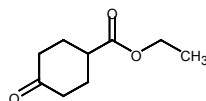
■ HS-No. 2918 30 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,069 - 1,074  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22118.0025	Glass bottle	25 ml	inquire
8.22118.0100	Glass bottle	100 ml	inquire

## 814249 Ethyl 4-oxocyclohexanecarboxylate for synthesis

C<sub>9</sub>H<sub>14</sub>O<sub>3</sub>

Cyclohexanone-4-carboxylic acid ethyl ester

■ CAS-No. 17159-79-4

■ Refractive index 1.4594 (25 °C, 589 nm)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 170.2 g/mol  
 ■ Boiling point 150 - 152 °C (53 hPa)  
 ■ WGK 2  
 ■ LGK 10  
 ■ HS-No. 2918 30 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,071 - 1,073  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14249.0006	Glass bottle	5 ml	inquire

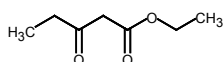
Ethyl 3-oxohexanoate → Ethyl butyrylacetate page 855

Ethyl 2-oxopropanoate → Ethyl pyruvate page 883

Ethyl 4-oxopentanoate → Ethyl levulinate page 873

Ethyl 2-oxopropionate → Ethyl pyruvate page 883

## 841196 Ethyl 3-oxovalerate for synthesis

C<sub>7</sub>H<sub>12</sub>O<sub>3</sub>

Ethyl propionylacetate, Propionylacetic acid ethyl ester

■ CAS-No. 4949-44-4 ■ EC-No. 225-593-5  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 77 °C ■ M = 144.17 g/mol  
 ■ Boiling point 190 - 192 °C  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2918 30 00 ■ Disposal 3

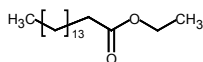
## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.003 - 1.009  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41196.0005	Glass bottle	5 ml	inquire

Ethyl 4-oxovalerate → Ethyl levulinate page 873

## 818775 Ethyl palmitate for synthesis

C<sub>18</sub>H<sub>36</sub>O<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>14</sub>COOC<sub>2</sub>H<sub>5</sub>

Palmitic acid ethyl ester

■ CAS-No. 628-97-7 ■ EC-No. 211-064-6  
 ■ Refractive index 1.438 (25 °C, 589 nm)

■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 164 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 284.48 g/mol  
 ■ Melting point 23 - 26 °C  
 ■ Boiling point 192 - 194 °C (13 hPa)  
 ■ WGK 1  
 ■ LGK 10  
 ■ HS-No. 2915 70 40 ■ Disposal 3

## Specification

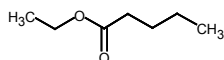
Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 21 °C  
 Melting range (upper value) ..... ≤ 24 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18775.0005	Glass bottle	5 ml	inquire
8.18775.0250	Glass bottle	250 g	inquire

Ethyl pelargonate → Ethyl nonanoate page 878

# Ethylp

## 808540 Ethyl pentanoate for synthesis



C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>COOC<sub>2</sub>H<sub>5</sub>  
*Ethyl valerate, Valeric acid ethyl ester, Pentanoic acid ethyl ester*  
 ■ CAS-No. 539-82-2 ■ EC-No. 208-726-1  
 ■ Refractive index 1.399 (20 °C, 589 nm) ■ Vapour pressure 3 hPa (20 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 % (V)

■ Flash point 35 °C ■ Solub. in H<sub>2</sub>O 2.23 g/l (20 °C) ■ M = 130.18 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point -91 °C  
 ■ Boiling point 145 °C (1013 hPa)  
 ■ Ignition temp. 400 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LGK 3  
 ■ HS-No. 2915 60 90 ■ Disposal 3  
 ■ ADR-RID UN 3272 Ester, n.a.g.(ETHYLVALERAT), 3, III ■ IMDG-Code UN 3272 ESTERS,

N.O.S.(ETHYL-N-VALERATE), 3, III  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(ETHYL-N-VALERATE), 3, III

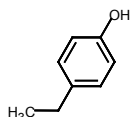
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,874 - 0,875  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08540.0005	Glass bottle	5 ml	inquire
8.08540.0250	Glass bottle	250 ml	inquire

Ethyl pentyl carbinol → 3-Octanol page 1242

Ethyl pentyl ketone → 3-Octanone page 1243

## 821290 4-Ethylphenol for synthesis



C<sub>8</sub>H<sub>10</sub>O  
 4-(C<sub>2</sub>H<sub>5</sub>)C<sub>6</sub>H<sub>4</sub>OH  
 ■ CAS-No. 123-07-9 ■ EC-No. 204-598-6  
 ■ Refractive index 1.5328 (20 °C, 589 nm)  
 ■ Vapour pressure 0.9 hPa (20 °C)  
 ■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)

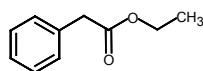
■ Flash point 100 °C ■ Solub. in H<sub>2</sub>O 4900 mg/l (25 °C) ■ M = 122.17 g/mol  
 ■ Melting point 40 - 43 °C  
 ■ Boiling point 218 - 219 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8A  
 ■ HS-No. 2907 19 90 ■ Disposal 3  
 ■ ADR-RID UN 2430 Alkylphenole, fest, n.a.g., 8, III ■ IMDG-Code UN 2430 ALKYLPHENOLS, SOLID,

N.O.S., 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2430 ALKYLPHENOLS, SOLID, N.O.S., 8, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 40 °C  
 Melting range (upper value) ..... ≤ 45 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21290.0005	Glass bottle	5 g	inquire
8.21290.0250	Glass bottle	250 g	inquire

## 807286 Ethyl phenylacetate for synthesis



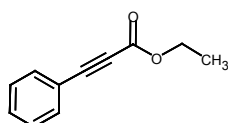
C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>  
 C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>  
*Phenylacetic acid ethyl ester*  
 ■ CAS-No. 101-97-3 ■ EC-No. 202-993-8  
 ■ Refractive index 1.4955 (25 °C, 589 nm)  
 ■ Vapour pressure 31 hPa (120 °C)

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 97 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 164.2 g/mol  
 ■ Melting point -29 °C  
 ■ Boiling point 226 - 229 °C (1013 hPa)  
 ■ WGK 2  
 ■ LD50 oral rat 3300 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2916 39 10 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,030 - 1,033  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07286.0100	Glass bottle	100 ml	inquire
8.07286.0500	Glass bottle	500 ml	inquire

## 821013 Ethyl phenylacetylenecarboxylate for synthesis



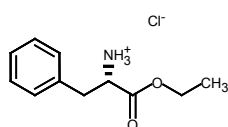
C<sub>11</sub>H<sub>10</sub>O<sub>2</sub>  
*Phenylacetylenecarboxylic acid ethyl ester, Ethyl phenylpropiolate*

■ CAS-No. 2216-94-6 ■ EC-No. 218-703-8  
 ■ Refractive index 1.549 (25 °C, 589 nm)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 174.20 g/mol  
 ■ Boiling point 128 °C (13 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.056 - 1.058  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21013.0005	Glass bottle	5 ml	inquire

## 841143 L-Ethylphenylalanate hydrochloride for synthesis



C<sub>11</sub>H<sub>16</sub>ClNO<sub>2</sub>

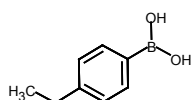
*L-Phenylalanine ethyl ester hydrochlorid*  
 ■ CAS-No. 3182-93-2 ■ EC-No. 221-673-9  
 ■ M = 229.71 g/mol ■ Melting point 157 - 158 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

Melting range (lower value) ..... ≥ 153 °C  
 Melting range (upper value) ..... ≤ 156 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=5 in ethanol) 34.0 - 37.0 °  
 Identity (IR) ..... passes test

**Specification**  
 Assay (argentometric) ..... ≥ 99,0 %

Ord.No.	Packaging	Quantity	Price
8.41143.0005	Plastic bottle	5 g	inquire
8.41143.0025	Plastic bottle	25 g	inquire

## 814957 4-Ethylphenylboronic acid for synthesis



C<sub>8</sub>H<sub>11</sub>BO<sub>2</sub>  
 ■ CAS-No. 63139-21-9  
 ■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Spec. density 1.125 g/cm<sup>3</sup> (20 °C) ■ Solub. in

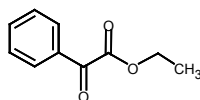
H<sub>2</sub>O 1.2 g/l (20 °C) ■ M = 149.99 g/mol  
 ■ Melting point 152.5 °C  
 ■ Boiling point 507 - 511 °C (1013 hPa)  
 ■ Ignition temp. >403 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat > 300 - 2000 mg/kg  
 ■ LD50 dermal rat > 2000 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 96,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14957.0005	Glass bottle	5 g	inquire

Ethyl phenyl carbinol → 1-Phenyl-1-propanol page 1310

## 818544 Ethyl phenylglyoxylate for synthesis



C<sub>10</sub>H<sub>10</sub>O<sub>3</sub>  
C<sub>6</sub>H<sub>5</sub>COCOOC<sub>2</sub>H<sub>5</sub>  
Phenylglyoxylic acid ethyl ester

- CAS-No. 1603-79-8 ■ EC-No. 216-504-0
- Refractive index 1.5198 (22 °C, 589 nm)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- M = 178.18 g/mol ■ Boiling point 129 - 131 °C (13 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2918 30 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.125 - 1.135  
Identity (IR) ..... passes test

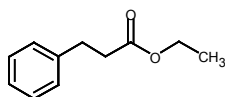
Ord.No.	Packaging	Quantity	Price
8.18544.0025	Glass bottle	25 ml	inquire

Ethyl phenyl ketone → Propiophenone page 1374

Ethyl trans-3-phenylpropenoate → Ethyl cinnamate page 857

Ethyl phenylpropiolate → Ethyl phenylacetylenecarboxylate page 880

## 818778 Ethyl 3-phenylpropionate for synthesis



C<sub>11</sub>H<sub>14</sub>O<sub>2</sub>  
C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>  
Ethyl hydrocinnamate, 3-Phenylpropionic acid ethyl ester

- CAS-No. 2021-28-5 ■ EC-No. 217-966-6
- Refractive index 1.4946 (20 °C, 589 nm)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 178.23 g/mol
- Boiling point 126 - 128 °C (20 hPa)
- WGK 3
- LGK 10
- HS-No. 2916 39 90 ■ Disposal 3

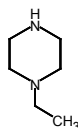
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1,013 - 1,015  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18778.0025	Glass bottle	25 ml	inquire
8.18778.0101	Glass bottle	100 ml	inquire

Ethyl 2-picolinate → Ethyl 2-pyridinecarboxylate page 883

## 814685 N-Ethylpiperazine for synthesis



C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>  
■ CAS-No. 5308-25-8 ■ EC-No. 226-166-6

- Spec. density 0.90 g/cm<sup>3</sup> (20 °C)
- Flash point 43 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 114.19 g/mol ■ Boiling point 157 °C

- (1013 hPa) ■ Ignition temp. >350 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P262
- LC50 rat > 9.2 mg/l
- LD50 oral rat 2158 mg/kg
- LGK 3
- HS-No. 2933 59 95 ■ Disposal 3
- ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(ETHYLPIPERAZIN), 3 (8), III ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N-ETHYLPIPERAZINE), 3 (8), III, Segregation

Group: 18 (Alkalis)

■ IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N-ETHYLPIPERAZINE), 3 (8), III

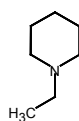
## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,898 - 0,903  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14685.0025	Glass bottle	25 ml	inquire

Ethyl N-piperazinecarboxylate → 1-Ethoxycarbonyl piperazine page 845

## 800956 1-Ethylpiperidine for synthesis



C<sub>7</sub>H<sub>13</sub>N

- CAS-No. 766-09-6 ■ EC-No. 212-161-6
- Refractive index 1.448 (20 °C, 589 nm) ■ Vapour pressure 10.3 hPa (20 °C) ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 12.1 % (V)
- Flash point 17 °C ■ Solub. in H<sub>2</sub>O 6.0 g/l (20 °C)
- M = 113.2 g/mol ■ pH value 12.2 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -50 °C

- Boiling point 130 - 131 °C (1013 hPa)
- Ignition temp. 205 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 2.4 mg/l
- LD50 oral rat 280 mg/kg
- LGK 3
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 2386 1-Ethylpiperidin, 3 (8), II

■ IMDG-Code UN 2386 1-ETHYLPIPERIDINE, 3 (8), II, Segregation Group: 18 (Alkalis)

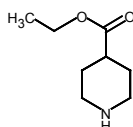
■ IATA-DGR UN 2386 1-ETHYLPIPERIDINE, 3 (8), II

## Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,824 - 0,826  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00956.0250	Glass bottle	250 ml	inquire
8.00956.1000	Glass bottle	1 l	inquire

## 818615 Ethyl 4-piperidinecarboxylate for synthesis



C<sub>8</sub>H<sub>15</sub>NO<sub>2</sub>  
4-Piperidinecarboxylic acid ethyl ester

- CAS-No. 1126-09-6 ■ EC-No. 214-416-7

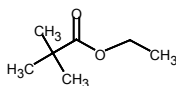
- Refractive index 1.4569 (23 °C, 589 nm)
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point 80 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 157.21 g/mol ■ Boiling point 203 - 205 °C (1013 hPa)
- WGK 3
- GHS: P262
- LGK 10
- HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.019 - 1.020  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18615.0025	Glass bottle	25 ml	inquire
8.18615.0100	Glass bottle	100 ml	inquire

## 801300 Ethyl pivalate for synthesis



C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>  
 (CH<sub>3</sub>)<sub>3</sub>CCOOC<sub>2</sub>H<sub>5</sub>  
*Pivalic acid ethyl ester, Ethyl trimethylacetate, Trimethylacetic acid ethyl ester, 2,2-Dimethylpropionic acid ethyl ester*  
 ■ CAS-No. 3938-95-2 ■ EC-No. 223-520-1

- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 130.18 g/mol
- Boiling point 118 °C (1013 hPa)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210
- LGK 3
- HS-No. 2915 60 90 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(ETHYLPIVALAT), 3, II ■ IMDG-Code UN 3272 ESTERS, N.O.S.(ETHYL

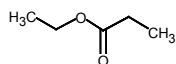
PIVALATE), 3, II  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(ETHYL PIVALATE), 3, II

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,854 - 0,856  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01300.0100	Glass bottle	100 ml	inquire

Ethyl propionate → Ethyl acetylenecarboxylate page 849

## 800606 Ethyl propionate for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>  
 CH<sub>3</sub>CH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>  
*Propionic acid ethyl ester*  
 ■ CAS-No. 105-37-3 ■ EC-No. 203-291-4  
 ■ Vapour pressure 26.7 hPa (20 °C)  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 11 % (V) ■ Flash point 12 °C ■ Solub. in

- H<sub>2</sub>O 17 g/l (20 °C) ■ M = 102.13 g/mol
- pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point -74 °C
- Boiling point 99 °C (1013 hPa)
- Ignition temp. 475 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P260, P262
- LD50 oral rat 8732 mg/kg
- EC-Index-No. 607-028-00-8 ■ LGK 3
- HS-No. 2915 50 00
- ADR-RID UN 1195 Ethylpropionat, 3, II ■ IMDG-

Code UN 1195 ETHYL PROPIONATE, 3, II  
 ■ IATA-DGR UN 1195 ETHYL PROPIONATE, 3, II

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,889 - 0,891  
 Identity (IR) ..... conforms

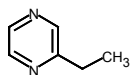
Ord.No.	Packaging	Quantity	Price
8.00606.0100	Glass bottle	100 ml	inquire
8.00606.0500	Glass bottle	500 ml	inquire

2-Ethylpropionic acid → 2-Methylbutyric acid page 1141

Ethyl propionylacetate → Ethyl 3-oxovalerate page 879

Ethyl propyl ketone → 3-Hexanone page 956

## 814478 2-Ethylpyrazine for synthesis



C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>  
*2-Ethyl-1,4-diazine*  
 ■ CAS-No. 13925-00-3 ■ EC-No. 237-691-5  
 ■ Refractive index 1.4969 (25 °C, 589 nm)  
 ■ Vapour pressure 5 hPa (20 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 23 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

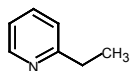
- M = 108.14 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Boiling point 152 - 153 °C (1013 hPa)
- WGK 3
- GHS: Flammable liquid, Warning, H226, P210
- LGK 3
- HS-No. 2933 99 80
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-ETHYLPYRAZIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-ETHYLPYRAZINE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-ETHYLPYRAZINE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 97 %  
 Density (d 20 °C/ 4 °C) ..... 0.990 - 0.995  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14478.0005	Glass bottle	5 ml	inquire

## 800230 2-Ethylpyridine for synthesis



C<sub>7</sub>H<sub>9</sub>N  
 2-(C<sub>2</sub>H<sub>5</sub>)C<sub>5</sub>H<sub>4</sub>N  
 ■ CAS-No. 100-71-0 ■ EC-No. 202-881-9  
 ■ Refractive index 1.4964 (20 °C, 589 nm)  
 ■ Vapour pressure 5 hPa (20 °C)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 37 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O 42 g/l (20 °C) ■ M = 107.16 g/mol  
 ■ pH value 10 (100 g/l, H<sub>2</sub>O, 20 °C)

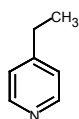
- Melting point -63 °C ■ Boiling point 149 °C (1013 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P305 + P351 + P338
- LGK 3
- HS-No. 2933 39 99
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-ETHYLPYRIDIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-

ETHYLPYRIDINE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-ETHYLPYRIDINE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,931 - 0,933  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00230.0100	Glass bottle	100 ml	inquire
8.00230.0500	Glass bottle	500 ml	inquire

## 800232 4-Ethylpyridine for synthesis



C<sub>7</sub>H<sub>9</sub>N  
 4-(C<sub>2</sub>H<sub>5</sub>)C<sub>5</sub>H<sub>4</sub>N  
 ■ CAS-No. 536-75-4 ■ EC-No. 208-646-7  
 ■ Refractive index 1.5009 (20 °C, 589 nm)  
 ■ Vapour pressure 0.5 hPa (20 °C)  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 54 °C DIN 51755 Part 1 ■ Solub. in

- H<sub>2</sub>O 107 g/l (25 °C) ■ M = 107.15 g/mol
- pH value 10 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -91 °C
- Boiling point 167 - 169 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2933 39 99

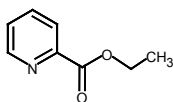
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4-ETHYLPYRIDIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4-ETHYLPYRIDINE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(4-ETHYLPYRIDINE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,941 - 0,942  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00232.0050	Glass bottle	50 ml	inquire



## 807057 Ethyl 2-pyridinecarboxylate for synthesis

C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>2-(C<sub>2</sub>H<sub>5</sub>OOC)C<sub>5</sub>H<sub>4</sub>N

Ethyl nicotinate, 2-Pyridinecarboxylic acid ethyl ester, Picolinic acid ethyl ester, Ethyl 2-picolinate

- CAS-No. 2524-52-9 ■ EC-No. 219-758-0
- Refractive index 1.5088 (20 °C, 589 nm)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 151.16 g/mol
- Melting point 1 - 3 °C
- Boiling point 239 - 241 °C
- WGK 3
- LGK 10

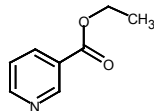
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,118 - 1,122  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07057.0025	Glass bottle	25 ml	inquire

## 806754 Ethyl 3-pyridinecarboxylate for synthesis

C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>3-(C<sub>2</sub>H<sub>5</sub>OOC)C<sub>5</sub>H<sub>4</sub>N

Ethyl nicotinate, 3-Pyridinecarboxylic acid ethyl ester, Nicotinic acid ethyl ester

■ CAS-No. 614-18-6 ■ EC-No. 210-370-7

- Refractive index 1.504 (20 °C, 589 nm)
- Spec. density 1.11 g/cm<sup>3</sup> (20 °C)
- Flash point 93 °C ■ Solub. in H<sub>2</sub>O 50 g/l (20 °C)
- M = 151.16 g/mol ■ Melting point 8 - 9 °C
- Boiling point 103 - 105 °C (7 hPa)
- WGK 2
- GHS: Danger, Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334, P260, P304 + P341, P305 + P351 + P338, P342 + P311
- LD50 oral rat > 2005 mg/kg
- LGK 10 - 13

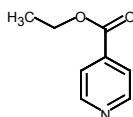
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,106 - 1,108  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06754.0050	Glass bottle	50 ml	inquire
8.06754.0250	Glass bottle	250 ml	inquire

## 806750 Ethyl 4-pyridinecarboxylate for synthesis

C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>4-(C<sub>2</sub>H<sub>5</sub>OOC)C<sub>5</sub>H<sub>4</sub>N

Isonicotinic acid ethyl ester, Ethyl isonicotinate, 4-

- Pyridinecarboxylic acid ethyl ester
- CAS-No. 1570-45-2 ■ EC-No. 216-379-2
  - Refractive index 1.5009 (20 °C, 589 nm)
  - Spec. density 1.10 g/cm<sup>3</sup> (20 °C)
  - Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 151.16 g/mol
  - Melting point 23 °C ■ Boiling point 220 °C (1013 hPa)
  - WGK 3

- LGK 10

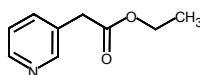
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,102 - 1,105  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06750.0100	Glass bottle	100 ml	inquire

## 841203 Ethyl 3-pyridylacetate for synthesis

C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub>

3-Pyridylacetic acid ethyl ester

- CAS-No. 39931-77-6 ■ EC-No. 254-707-6
- Spec. density 1.086 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ M = 165.19 g/mol

- Boiling point 79 - 80 °C (0.533 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.089 - 1.093  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41203.0005	Glass bottle	5 ml	inquire

## 842196 1-Ethyl-2-pyrrolidinone for synthesis

C<sub>6</sub>H<sub>11</sub>NO

- CAS-No. 2687-91-4 ■ EC-No. 220-250-6
- Vapour pressure 0.5 hPa (32 °C)
- Spec. density 1.0 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 7.7 % (V) ■ Flash point 91 °C

- Kin. viscosity 2.1 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 113.16 g/mol
- pH value 8.2 (100 g/l, H<sub>2</sub>O, 23 °C)
- Melting point < -75 °C ■ Boiling point 97 °C (33 hPa) ■ Ignition temp. 250 °C DIN 51794
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338
- LC50 rat > 5.1 mg/l
- LD50 oral rat 3200 mg/kg ■ LD50 dermal rat >

2000 mg/kg

- LGK 10 - 13

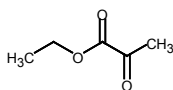
- HS-No. 2933 79 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 0.997 - 0.999  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42196.0025	Glass bottle	25 ml	inquire

## 806617 Ethyl pyruvate for synthesis

C<sub>5</sub>H<sub>8</sub>O<sub>3</sub>CH<sub>3</sub>COCOOCH<sub>2</sub>C<sub>2</sub>H<sub>5</sub>

Pyruvic acid ethyl ester, Ethyl 2-oxopropanoate, Ethyl 2-oxopropionate

- CAS-No. 617-35-6 ■ EC-No. 210-511-2
- Refractive index 1.4056 (20 °C, 589 nm)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C)

- Flash point 52 °C ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C)
- M = 116.11 g/mol ■ pH value 2.2 (300 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -58 °C
- Boiling point 144 - 146 °C (1013 hPa)
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P235 + P410
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2918 30 00 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(ETHYLPYRUVAT),

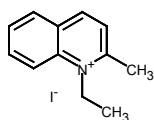
3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(ETHYL PYRUVATE), 3, III  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(ETHYL PYRUVATE), 3, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,044 - 1,049  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06617.0100	Glass bottle	100 ml	inquire
8.06617.0500	Glass bottle	500 ml	inquire

## 821935 1-Ethylquinolindinium iodide for synthesis

C<sub>12</sub>H<sub>14</sub>IN

- N*-Ethyl-2-methylquinolindinium iodide  
 ■ CAS-No. 606-55-3 ■ EC-No. 210-120-7  
 ■ Solub. in H<sub>2</sub>O 250 g/l (20 °C) ■ M = 299.15 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 90 ■ Disposal 3

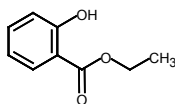
## Specification

Assay (argentometric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21935.0050	Glass bottle	50 g	inquire

O-Ethylsalicylamide → 2-Ethoxybenzamide page 845

## 841018 Ethyl salicylate for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>

- Salicylic acid ethyl ester, Ethyl-2-hydroxybenzoate*  
 ■ CAS-No. 118-61-6 ■ EC-No. 204-265-5  
 ■ Vapour pressure 0.1 hPa (20 °C)  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 1.1 % (V) ■ Flash point 100 °C ■ Solub. in H<sub>2</sub>O 0.25 g/l (20 °C) ■ M = 166.17 g/mol  
 ■ Melting point 1.3 °C ■ Boiling point 232 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1320 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13

- HS-No. 2918 23 00 ■ Disposal 3

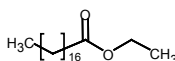
## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.128 - 1.132  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41018.0250	Glass bottle	250 ml	inquire
8.41018.1000	Glass bottle	1 l	inquire

Ethyl silicate → Tetraethyl orthosilicate page 1530

## 814352 Ethyl stearate for synthesis

C<sub>20</sub>H<sub>40</sub>O<sub>2</sub>

- Stearic acid ethyl ester*  
 ■ CAS-No. 111-61-5 ■ EC-No. 203-887-4  
 ■ Refractive index 1.4292 (40 °C, 589 nm)  
 ■ Flash point > 112 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 312.53 g/mol  
 ■ Melting point 22 - 26 °C ■ Boiling point 224 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 70 50 ■ Disposal 3

Assay Ethl palmitate (GC, area%) ..... 45,0 - 50,0 Area %  
 Assay Ethyl stearate (GC, area%) ..... 48,0 - 52,0 Area %  
 Identity (IR)..... conforms

## Specification

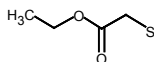
Total ester content (GC, area%) ..... ≥ 95,0 Area %  
 Melting range (lower value)..... ≥ 22 °C  
 Melting range (upper value)..... ≤ 26 °C

Ord.No.	Packaging	Quantity	Price
8.14352.0050	Plastic bottle	50 g	inquire

Ethyl sulfate → Diethyl sulfate page 750

Ethyl tetradecanoate → Ethyl myristate page 877

## 820764 Ethyl thioglycolate for synthesis

C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>S

- HSC<sub>2</sub>H<sub>4</sub>COOC<sub>2</sub>H<sub>5</sub>*  
*Thioglycolic acid ethyl ester, Mercaptoacetic acid ethyl ester, Ethyl mercaptoacetate*  
 ■ CAS-No. 623-51-8 ■ EC-No. 210-800-3  
 ■ Refractive index 1.4571 (20 °C, 589 nm)  
 ■ Vapour pressure 23 hPa (55 °C)  
 ■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 60.5 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 120.16 g/mol

- Melting point -80 °C  
 ■ Boiling point 156 - 159 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 178 mg/kg  
 ■ LGK 6.1A ■ Store below +15°C.  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 3071 Mercaptane, flüssig, giftig,

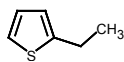
entzündbar, n.a.g.(ETHYLTHIOGLYCOLAT), 6.1 (3), II  
 ■ IMDG-Code UN 3071 MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S.(ETHYL THIOGLYCOLATE), 6.1 (3), II  
 ■ IATA-DGR UN 3071 MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S.(ETHYL THIOGLYCOLATE), 6.1 (3), II

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.092 - 1.095  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20764.0250	Glass bottle	250 ml	inquire

## 841544 2-Ethylthiophene for synthesis

C<sub>6</sub>H<sub>8</sub>S

- CAS-No. 872-55-9 ■ EC-No. 212-830-2  
 ■ Spec. density 0.991 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 21 °C ■ Solub. in H<sub>2</sub>O 0.29 g/l (25 °C) ■ M = 112.18 g/mol  
 ■ Boiling point 133 - 134 °C

- WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P262  
 ■ LGK 3  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-ETHYLTHIOPHEN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-ETHYLTHIOPHENE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(2-ETHYLTHIOPHENE), 3, II

## Specification

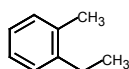
Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.991 - 0.995  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41544.0025	Glass bottle	25 ml	inquire

Ethyl titanate(IV) → Tetraethyl orthotitanate page 1531

Ethyl p-toluate → Ethyl 4-methylbenzoate page 875

## 820044 2-Ethyltoluene for synthesis

C<sub>9</sub>H<sub>12</sub>2-(C<sub>2</sub>H<sub>5</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>

- CAS-No. 611-14-3 ■ EC-No. 210-255-1
- Refractive index 1.5039 (20 °C, 589 nm)
- Vapour pressure 2.8 hPa (20 °C)
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C)
- Flash point 53 °C ■ Solub. in H<sub>2</sub>O 74.6 mg/l (25 °C) (experimental) ■ M = 120.19 g/mol

- Saturation conc. 14 g/m<sup>3</sup> (20 °C)
- Melting point -17 °C
- Boiling point 164 - 165 °C (1013 hPa)
- Ignition temp. 440 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P262
- LD50 oral rat 5000 mg/kg
- LGK 3
- HS-No. 2902 90 00 ■ Disposal 1
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-ETHYLTOLUEN), 3, III ■ IMDG-Code UN

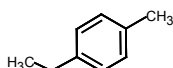
1993 FLAMMABLE LIQUID, N.O.S.(2-ETHYLTOLUENE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-ETHYLTOLUENE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.880 - 0.881  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20044.0010	Glass bottle	10 ml	inquire

## 820046 4-Ethyltoluene for synthesis

C<sub>9</sub>H<sub>12</sub>4-(C<sub>2</sub>H<sub>5</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>

- CAS-No. 622-96-8 ■ EC-No. 210-761-2
- Refractive index 1.4945 (20 °C, 589 nm)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 7 % (V) ■ Flash point 43 °C ■ Solub. in H<sub>2</sub>O 94.9 mg/l (25 °C) (experimental)
- M = 120.19 g/mol ■ Saturation conc. 16 g/m<sup>3</sup>

- (20 °C) Air ■ Melting point -62 °C
- Boiling point 160 - 162 °C (1013 hPa)
- Ignition temp. 475 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P262
- LD50 oral rat 4850 mg/kg
- LGK 3
- HS-No. 2902 90 00 ■ Disposal 1
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4-ETHYLTOLUEN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4-

ETHYLTOLUENE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(4-ETHYLTOLUENE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.86 - 0.88  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20046.0025	Glass bottle	25 ml	inquire

## 843970 N-Ethyltoluene-4-sulfonamide for synthesis

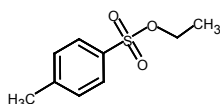
C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub>S

- CAS-No. 80-39-7 ■ EC-No. 201-275-1
- Spec. density 1.26 g/cm<sup>3</sup> ■ Flash point 127 °C
- M = 199.27 g/mol ■ Melting point 63 - 65 °C
- WGK 3

- LGK 10 - 13
- HS-No. 2935 00 90 ■ Disposal 3

Ord.No.	Packaging	Quantity	Price
8.43970.0050	Glass bottle	50 g	inquire
8.43970.0250	Glass bottle	250 g	inquire

## 808332 Ethyl 4-toluenesulfonate for synthesis

C<sub>9</sub>H<sub>12</sub>O<sub>3</sub>S4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>C<sub>2</sub>H<sub>5</sub>*p*-Toluenesulfonic acid ethyl ester

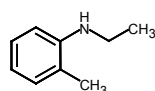
- CAS-No. 80-40-0 ■ EC-No. 201-276-7

- Vapour pressure 0.6 hPa (14 °C)
- Spec. density 1.174 g/cm<sup>3</sup> (20 °C)
- Flash point 158 °C ■ Solub. in H<sub>2</sub>O 1.24 g/l (25 °C) ■ M = 200.25 g/mol
- Melting point 30 - 32 °C ■ Boiling point 221 °C (1013 hPa) ■ Ignition temp. 500 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2904 10 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 Area %  
 Melting range (lower value) ..... ≥ 29 °C  
 Melting range (upper value) ..... ≤ 32 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08332.0100	Glass bottle	100 g	inquire
8.08332.0500	Glass bottle	500 g	inquire

843602 N-Ethyl-*o*-toluidine for synthesisC<sub>9</sub>H<sub>13</sub>N

■ CAS-No. 94-68-8 ■ EC-No. 202-354-3

- Vapour pressure 0.13 hPa (20 °C)
- Spec. density 0.95 g/ml ■ Explosive limit 1.2 - 5.9 % (V) ■ Flash point 88 °C ■ Solub. in

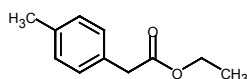
- H<sub>2</sub>O 1 g/l (20 °C) ■ M = 135.21 g/mol
- Melting point < -15 °C ■ Boiling point 217 °C
- Ignition temp. 445 °C
- WGK 1
- LD50 oral rat 2400 mg/kg
- LGK 6.1A
- HS-No. 2921 43 00 ■ Disposal 3
- ADR-RID UN 2754 n-Ethyltoluidine, 6.1, II
- IMDG-Code UN 2754 N-ETHYLTOLUIDINES, 6.1, II

■ IATA-DGR UN 2754 N-ETHYLTOLUIDINES, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.947 - 0.951  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43602.0100	Glass bottle	100 ml	inquire
8.43602.0500	Glass bottle	500 ml	inquire

6-Ethyl-*o*-toluidine → 2-Ethyl-6-methylaniline page 874841048 Ethyl *p*-tolylacetate for synthesisC<sub>11</sub>H<sub>14</sub>O<sub>2</sub>*p*-Tolylacetic acid ethyl ester, 4-

Methylphenylacetic acid ethyl ester

- CAS-No. 14062-19-2 ■ EC-No. 237-904-1
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point 109 °C ■ M = 178.23 g/mol
- Boiling point 240 - 241 °C
- WGK 3
- LGK 10
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.008 - 1.012  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41048.0010	Glass bottle	10 ml	inquire

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

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R

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V

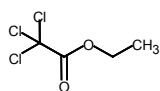
W

X

Y

Z

## 843427 Ethyl trichloroacetate for synthesis



$C_4H_5Cl_3O_2$   
 ■ CAS-No. 515-84-4 ■ EC-No. 208-212-7  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O < 0.1 g/l

(20 °C) ■ M = 191.44 g/mol ■ Boiling point 168 °C (1013 hPa) ■ Ignition temp. 450 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P302 + P352  
 ■ LD50 oral rat 900 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 40 00 ■ Disposal 2

## Specification

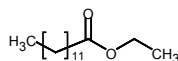
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.381 - 1.384  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43427.0025	Glass bottle	25 ml	inquire
8.43427.0100	Glass bottle	100 ml	inquire

Ethyltrichlorosilane → Trichloroethylsilane page 1579

Ethyl trichlorosilane → Trichloroethylsilane page 1579

## 808634 Ethyl tridecanoate for synthesis



$C_{15}H_{30}O_2$   
 $CH_3(CH_2)_{11}COOC_2H_5$   
 Tridecanoic acid ethyl ester

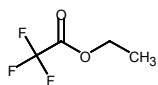
■ CAS-No. 28267-29-0 ■ EC-No. 248-929-2  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 242.4 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 90 70 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,860 - 0,864  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08634.0010	Glass bottle	10 ml	inquire

## 821163 Ethyl trifluoroacetate for synthesis



$C_4H_5F_3O_2$   
 $CF_3COOC_2H_5$   
 Trifluoroacetic acid ethyl ester  
 ■ CAS-No. 383-63-1 ■ EC-No. 206-851-6  
 ■ Refractive index 1.3073 (20 °C, 589 nm)  
 ■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Flash point - 17 °C ■ Solub. in H<sub>2</sub>O 4 g/l (20 °C)

■ M = 142.07 g/mol ■ pH value 4 (4 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -78 °C  
 ■ Boiling point 60 - 62 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319, P210, P223, P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2915 90 70 ■ Disposal 3  
 ■ ADR-RID UN 3272 Ester, n.a.g.(ETHYL-TRIFLUOROACETAT), 3, II ■ IMDG-Code UN 3272

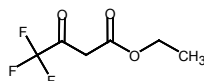
ESTERS, N.O.S.(ETHYL TRIFLUORO ACETATE), 3, II  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(ETHYL TRIFLUORO ACETATE), 3, II

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.187 - 1.189  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21163.0050	Glass bottle	50 ml	inquire

## 818777 Ethyl 4,4,4-trifluoroacetoacetate for synthesis



$C_6H_7F_3O_3$   
 $CF_3COCH_2COOC_2H_5$   
 4,4,4-Trifluoroacetoacetic acid ethyl ester  
 ■ CAS-No. 372-31-6 ■ EC-No. 206-750-7  
 ■ Refractive index 1.3783 (15 °C, 589 nm)  
 ■ Vapour pressure 8 hPa (20 °C)  
 ■ Spec. density 1.24 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 38.5 °C ■ Solub. in H<sub>2</sub>O 10 g/l

(20 °C) ■ M = 184.11 g/mol ■ pH value 6.2 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -39 °C  
 ■ Boiling point 131 °C (946 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P210, P262  
 ■ LD50 oral rat 855 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2918 30 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

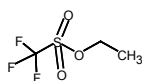
n.a.g.(ETHYL-4,4,4-TRIFLUOROACETOACETAT), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHYL-4,4,4-TRIFLUOROACETATE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHYL-4,4,4-TRIFLUOROACETATE), 3, III

## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1,250 - 1,253  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18777.0010	Glass bottle	10 ml	inquire

## 843962 Ethyltrifluoromethanesulfonate for synthesis



$C_3H_5F_3O_3S$   
 ■ CAS-No. 425-75-2 ■ EC-No. 207-037-3  
 ■ Spec. density 1.374 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 35 °C ■ Solub. in H<sub>2</sub>O (20 °C) decomposes ■ M = 178.12 g/mol  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2905 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar,  
 n.a.g.(ETHYLTRIFLUORMETHANSULFONAT), 8 (3), II  
 ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(ETHYL TRIFLUOROMETHANESULPHONATE), 8 (3), II  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(ETHYL

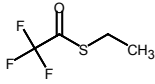
TRIFLUOROMETHANESULPHONATE), 8 (3), II

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.380 - 1.390  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43962.0010	Glass bottle	10 ml	inquire
8.43962.0025	Glass bottle	25 ml	inquire

## 821911 S-Ethyl trifluorothioacetate for synthesis

C<sub>4</sub>H<sub>5</sub>F<sub>3</sub>O<sub>2</sub>CF<sub>3</sub>COSC<sub>2</sub>H<sub>5</sub>

Trifluorothioacetic acid S-ethyl ester

- CAS-No. 383-64-2 ■ EC-No. 206-852-1
- Refractive index 1.3755 (25 °C, 589 nm)
- Spec. density 1.24 g/cm<sup>3</sup> (20 °C)

- Flash point 18 °C ■ M = 158.13 g/mol
- Boiling point 89 - 91 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P260, P262
- LGK 3 ■ Store below +15°C.
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(S-ETHYL-TRIFLUOROTHIOACETAT), 3, II
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(S-ETHYL-TRIFLUOROTHIOACETATE), 3, II

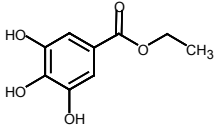
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(S-ETHYL-TRIFLUOROTHIOACETATE), 3, II

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1,239 - 1,242  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21911.0005	Glass bottle	5 ml	inquire

## 820597 Ethyl 3,4,5-trihydroxybenzoate for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>5</sub>3,4,5-(OH)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>

Ethyl gallate, Gallic acid ethyl ester, 3,4,5-Trihydroxybenzoic acid ethyl ester

- CAS-No. 831-61-8 ■ EC-No. 212-608-5
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 198.17 g/mol ■ Melting point 150 - 152 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

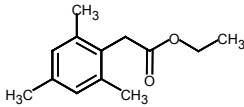
## Specification

Assay (acidimetric)..... ≥ 98,0 %  
Melting range (lower value)..... ≥ 150 °C  
Melting range (upper value)..... ≤ 152 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20597.0100	Plastic bottle	100 g	inquire

Ethyl trimethylacetate → Ethyl pivalate page 882

## 841411 Ethyl 2,4,6-trimethylphenyl-acetate for synthesis

C<sub>13</sub>H<sub>18</sub>O<sub>2</sub>

Ethyl mesitylacetate, Mesitylacetic acid ethyl ester

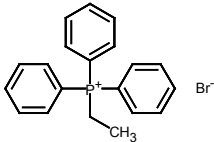
- CAS-No. 5460-08-2
- Spec. density 1.034 g/cm<sup>3</sup> (20 °C)
- M = 206.28 g/mol ■ Boiling point 135 - 140 °C (12 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 96,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.998 - 1.004  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41411.0001	Glass bottle	1 ml	inquire

## 801019 Ethyltriphenylphosphonium bromide for synthesis

C<sub>20</sub>H<sub>20</sub>BrP[C<sub>6</sub>H<sub>5</sub>P(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>]Br

Triphenylethylphosphonium bromide

- CAS-No. 1530-32-1 ■ EC-No. 216-223-3
- Flash point >200 °C ■ Solub. in H<sub>2</sub>O 174 g/l (20 °C) ■ M = 371.25 g/mol
- Melting point 205 - 207 °C

- Bulk density 730 kg/m<sup>3</sup>
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301, P302 + P352, P309 + P310
- LD50 oral rat > 200 - 2000 mg/kg
- LD50 dermal rat 1200 mg/kg
- LGK 6.1C
- HS-No. 2931 90 90
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(ETHYLTRIPHENYLPHOSPHONIUMBROMID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(ETHYLTRIPHENYLPHOSPHONIUM

BROMIDE), 6.1, III

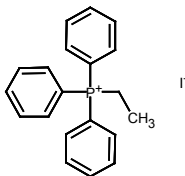
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(ETHYLTRIPHENYLPHOSPHONIUM BROMIDE), 6.1, III

## Specification

Assay (argentometric)..... ≥ 98,0 % (m)  
Melting range (lower value)..... ≥ 205 °C  
Melting range (upper value)..... ≤ 209 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.01019.0100	Glass bottle	100 g	inquire

## 814600 Ethyltriphenylphosphonium iodide for synthesis

C<sub>20</sub>H<sub>20</sub>I<sub>2</sub>P

■ CAS-No. 4736-60-1 ■ EC-No. 225-245-2

■ Vapour pressure &lt; 0.13 hPa (25 °C)

■ Spec. density 1 g/cm<sup>3</sup> ■ Flash point >226 °C■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

■ M = 418.25 g/mol ■ Melting point 163 - 166 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319, P305 + P351 + P338, P309 + P310
- LD50 oral rat 79 mg/kg
- LGK 6.1C
- HS-No. 2931 90 90 ■ Disposal 9
- ADR-RID UN 3464 Organische Phosphorverbindung, fest, giftig, n.a.g.(ETHYLTRIPHENYLPHOSPHONIUMIODID), 6.1, III ■ IMDG-Code UN 3464 ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.(ETHYLTRIPHENYLPHOSPHONIUM IODIDE), 6.1, III

- IATA-DGR UN 3464 ORGANOPHOSPHORUS COMPOUND, SOLID, TOXIC, N.O.S.(ETHYLTRIPHENYLPHOSPHONIUM IODIDE), 6.1, III

## Specification

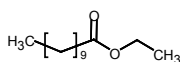
Assay (argentometric)..... ≥ 99,0 % (m)  
Melting range (lower value)..... ≥ 163 °C  
Melting range (upper value)..... ≤ 166 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14600.0050	Glass bottle	50 g	inquire
8.14600.0250	Glass bottle	250 g	inquire

Ethyl triphenylphosphoranyliden-acetate → Ethoxycarbonylmethylene-triphenylphosphorane page 845



## 808465 Ethyl undecanoate for synthesis



C<sub>13</sub>H<sub>26</sub>O<sub>2</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>9</sub>COOC<sub>2</sub>H<sub>5</sub>  
*Undecanoic acid ethyl ester*  
 ■ CAS-No. 627-90-7 ■ EC-No. 211-018-5

- Refractive index 1.428 (20 °C, 589 nm)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 214.34 g/mol
- Boiling point 104 - 106 °C (5 hPa)
- WGK 3
- LGK 10
- HS-No. 2915 90 70 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) .....0,862 - 0,864  
 Identity (IR)..... conforms

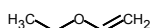
Ord.No.	Packaging	Quantity	Price
8.08465.0100	Glass bottle	100 ml	inquire

Ethyl valerate → Ethyl pentanoate page 880

Ethylvanillin → 3-Ethoxy-4-hydroxybenzaldehyde page 847

Ethyl vinyl carbinol → 1-Penten-3-ol page 1272

## 801391 Ethyl vinyl ether (stabilised with potassium hydroxide) for synthesis



C<sub>4</sub>H<sub>8</sub>O  
 C<sub>2</sub>H<sub>5</sub>OCH=CH<sub>2</sub>  
*Vinyl ethyl ether*  
 ■ CAS-No. 109-92-2 ■ EC-No. 203-718-4  
 ■ Refractive index 1.3757 (20 °C, 589 nm)  
 ■ Vapour pressure 560 hPa (20 °C)  
 ■ Spec. density 0.75 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 12.0 % (V) ■ Flash point -45 °C ■ Solub. in H<sub>2</sub>O 8.3 g/l (15 °C) ■ M = 72.11 g/mol  
 ■ Melting point -115 °C ■ Boiling point 36 °C

- (1013 hPa) ■ Ignition temp. 178 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P240
- LC50 rat > 21.2 mg/l
- LD50 oral rat 6120 mg/kg ■ LD50 dermal rabbit > 15000 mg/kg
- LGK 3 ■ Store below +15 °C.
- HS-No. 2909 19 90 ■ Disposal 3
- ADR-RID UN 1302 Vinylethylether, stabilisiert, 3, I ■ IMDG-Code UN 1302 VINYL ETHYL ETHER, STABILIZED, 3, I

- IATA-DGR UN 1302 VINYL ETHYL ETHER, STABILIZED, 3, I

## Specification

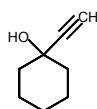
Assay (GC, area%)..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) .....0.752 - 0.754  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.01391.0100	Glass bottle	100 ml	inquire
8.01391.1000	Glass bottle	1 l	inquire

Ethynylbenzene → Phenylacetylene page 1297

Ethynyl carbinol → 2-Propyn-1-ol page 1377

## 841522 1-Ethynylcyclohexanol for synthesis



C<sub>8</sub>H<sub>12</sub>O  
 ■ CAS-No. 78-27-3 ■ EC-No. 201-100-9  
 ■ Vapour pressure 1 hPa (50 °C)  
 ■ Spec. density 0.976 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 8.7 % (V) ■ Flash point 73 °C ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 124.18 g/mol  
 ■ pH value 7 (1 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 30 - 32 °C ■ Boiling point 180 °C (1013 hPa) ■ Ignition temp. 365 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 583 mg/kg ■ LD50 dermal rabbit 973 mg/kg
- LGK 6.1C
- HS-No. 2906 19 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1-ETHINYLCYCLOHEXANOL), 6.1, III

- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-ETHINYLCYCLOHEXANOL), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-ETHINYLCYCLOHEXANOL), 6.1, III

## Specification

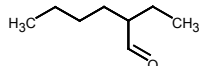
Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) .....0,972 - 0,979  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41522.0100	Glass bottle	100 ml	inquire

Ethynyl pentyl carbinol → 1-Octyne-3-ol page 1245

2-(2-Ethoxyethoxy)-ethanol → Diethylene glycol monoethyl ether page 301

## 842513 2-Etylhexanal for synthesis



C<sub>8</sub>H<sub>16</sub>O  
 ■ CAS-No. 123-05-7 ■ EC-No. 204-596-5  
 ■ Vapour pressure 2 hPa (20 °C)  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 6.6 % (V) ■ Flash point 45.5 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O 0.01 g/l (20 °C)  
 ■ M = 128.22 g/mol ■ Melting point -85 °C

- Boiling point 162 °C (1013 hPa)
- Ignition temp. 180 °C DIN 51794
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315, P210, P302 + P352
- LC50 rat > 21 mg/l
- LD50 oral rat 2732 mg/kg
- LGK 3
- HS-No. 2912 19 00 ■ Disposal 3
- ADR-RID UN 1191 Octylaldehyde, 3, III ■ IMDG-

- Code UN 1191 OCTYL ALDEHYDES, 3, III
- IATA-DGR UN 1191 OCTYL ALDEHYDES, 3, III

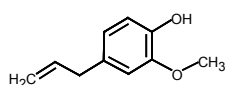
## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0.818 - 0.821  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42513.0050	Glass bottle	50 ml	inquire

Ethyl4-oxo-1-piperidinecarboxylate → N-Ethoxycarbonyl-4-piperidone page 846

## 818455 Eugenol for synthesis



C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>  
 2-(CH<sub>3</sub>O)-4-(CH<sub>2</sub>=CHCH<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>OH  
*4-Allyl-2-methoxyphenol*  
 ■ CAS-No. 97-53-0 ■ EC-No. 202-589-1  
 ■ Refractive index 1.5405 (20 °C, 589 nm)  
 ■ Vapour pressure < 0.1 hPa (25 °C)

- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O 2.46 g/l (25 °C) ■ M = 164.2 g/mol ■ Melting point -9.2 °C
- Boiling point 252 °C (1013 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P260, P262, P280, P302 + P352
- LD50 oral rat 1930 mg/kg
- LGK 10 - 13

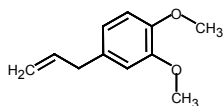
- HS-No. 2909 50 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....1.064 - 1.066  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18455.0100	Glass bottle	100 ml	inquire
8.18455.0500	Glass bottle	500 ml	inquire

## 841579 Eugenol methyl ether for synthesis

C<sub>11</sub>H<sub>14</sub>O<sub>2</sub>

1,2-Dimethoxy-4-(2-propenyl)benzene, 4-Allyl-1,2-dimethoxybenzene

■ CAS-No. 93-15-2 ■ EC-No. 202-223-0

- Vapour pressure 1.3 hPa (85 °C)
- Spec. density 1.036 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l (25 °C) ■ M = 178.23 g/mol ■ Melting point -4 °C
- Boiling point 255 °C (1013 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 1179 mg/kg ■ LD50 dermal rabbit

- > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2909 30 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.034 - 1.038  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41579.0050	Glass bottle	50 ml	inquire

Eurenor® → Isobutylisopropyldimethoxysilane page 1044

Eurenor® 5021 → Diisopropyldimethoxysilane page 767

## 112156 Europium(III) oxide 99+

Eu<sub>2</sub>O<sub>3</sub>

- CAS-No. 1308-96-9 ■ EC-No. 215-165-6
- Spec. density 7.42 g/cm<sup>3</sup> (20 °C)
- M = 351.93 g/mol ■ Melting point 2291 °C
- WGK nwg
- GHS: P260

- LGK 10 - 13
- HS-No. 2846 90 00 ■ Disposal 27

Identity (elemental analysis)..... passes test

**Specification**

Assay (complexometric, calc. on the ignited basis)..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
1.12156.0001	Glass bottle	1 g	inquire

Evans'reagent → (S)-(-)-4-Isopropyl-2-oxazolidinone page 1055

## Evolution of gas

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1039	103956	Iron(II) sulfide	1097	105986	Marble granular	1549	108170	Thioacetamide
Exaltone → Cyclopentadecanone page 676			Exit cannulae for Extrelut® 1 and Extrelut® 3 → page 7					
Exhaust air filter for HPLC bottle adapter S40, disposal → page 327			Exit cannulas → page 7					

## Extraction analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
613	102442	Chloroform	995	107098	8-Hydroxyquinoline	1421	101515	Silver diethyldithiocarbamate
316	102930	1,2-Dichlorobenzene	319	106146	Isobutyl methyl ketone	1432	106689	Sodium diethyldithiocarbamate trihydrate
172	103092	Dithizone	1394	107495	Pyrrolidine-1-dithiocarboxylic acid ammonium salt			

Extract of malt → page 111

Extract of yeast → page 113

Extract of meat → page 111

Extran® → page 889

## Extran® accessories

## 965535 Adapter composed of PP for 10 l and 25 l EXTRAN canister

- HS-No. 3923 90 00

Ord.No.	Packaging	Quantity	Price
9.67212.0001	Plastic bag	1 st	inquire

## 967086 Dosing aid made of PP, 20ml, 28mm, natural for Extran®, AWH

- HS-No. 8424 90 00

Ord.No.	Packaging	Quantity	Price
9.57571.1020	Fibre carton	1 st	inquire

## Extran® for apparatus cleaning

## 107558 Extran® AP 11 mildly alkaline



Glass purification, Cleaning agents

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.3 (3 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 700 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 3402 20 90 ■ Disposal 30
- ADR-RID UN 3262 Ätzender basischer

anorganischer fester Stoff, n.a.g.(ENTH. NATRIUM-META-SILICAT), 8, III ■ IMDG-Code UN 3262 CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.(CONT. SODIUM-META-SILICATE), 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 3262 CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.(CONT. SODIUM-META-SILICATE), 8, III

**Specification**

Identity..... passes test

pH-value (1 %; water)..... 11.5 - 12.5  
 Foaming volume (5 %; water)..... ≤ 1 ml  
 Bulk density..... 65 - 75 g/100 ml

Ord.No.	Packaging	Quantity	Price
1.07558.2000	Plastic bottle	2 kg	inquire
	Plastic bottle	4 x 2 kg	inquire
1.07558.9010	Bucket, plastic	10 kg	inquire
1.07558.9025	Fibre carton	25 kg	inquire

## 107563 Extran® AP 12 alkaline

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 12.3 (3 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 900 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 3402 20 90 ■ Disposal 30

- ADR-RID UN 1823 Natriumhydroxid, fest, 8, II
  - IMDG-Code UN 1823 SODIUM HYDROXIDE, SOLID, 8, II, Segregation Group: 18 (Alkalis)
  - IATA-DGR UN 1823 SODIUM HYDROXIDE, SOLID, 8, II
- Specification**  
 Identity..... passes test  
 pH-value (1 %; water)..... ≥ 12.5

Foaming volume (5 %; water)..... ≤ 1 ml  
 Bulk density..... about 90g/100 ml

Ord.No.	Packaging	Quantity	Price
1.07563.2000	Plastic bottle	2 kg	inquire
	Plastic bottle	4 x 2 kg	inquire
1.07563.9010	Bucket, plastic	10 kg	inquire
1.07563.9025	Plastic drum	25 kg	inquire

## 107565 Extran® AP 13 alkaline with detergents

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 12.2 (3 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 850 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 3402 20 90 ■ Disposal 30

- ADR-RID UN 1823 Natriumhydroxid, fest, 8, II
  - IMDG-Code UN 1823 SODIUM HYDROXIDE, SOLID, 8, II, Segregation Group: 18 (Alkalis)
  - IATA-DGR UN 1823 SODIUM HYDROXIDE, SOLID, 8, II
- Specification**  
 Identity..... passes test  
 pH-value (1 %; water)..... ≥ 12.5

Foaming volume (5 %; water)..... ≤ 1 ml  
 Bulk density..... about 85g/100 ml

Ord.No.	Packaging	Quantity	Price
1.07565.2000	Plastic bottle	2 kg	inquire
	Plastic bottle	4 x 2 kg	inquire
1.07565.9010	Fibre carton	10 kg	inquire
1.07565.9025	Plastic drum	25 kg	inquire

## 107573 Extran® AP 14 liquid mildly alkaline

- Spec. density 1.32 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.2 (5 g/l, H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319; Carcinogenicity, Category 2, H351, P281, P305 + P351 + P338, P308 + P313

- LGK 10 - 13 ■ Store at +15°C to +25°C.
  - HS-No. 3402 20 90 ■ Disposal 30
- Specification**  
 Density (d 20 °C/ 4 °C)..... 1.27 - 1.32  
 Free alkali (as ammonia)..... 3.4 - 3.7 %  
 Water (according to Karl Fischer)..... 59 - 66%

Ord.No.	Packaging	Quantity	Price
1.07573.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07573.9010	Plastic container	10 l	inquire
1.07573.9025	Plastic container	25 l	inquire

## 107575 Extran® AP 15 liquid alkaline

- Spec. density 1.31 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 12.2 (3 g/l, H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314; Carcinogenicity, Category 2, H351, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B

- HS-No. 3402 20 90 ■ Disposal 30
  - ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
  - IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
  - IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II
- Specification**  
 Nitriooacetic acid trisodium salt..... 29 - 30%

Density (d 20 °C/ 4 °C)..... 1.275 - 1.295  
 Free alkali (as NH<sub>3</sub>)..... 4.6 - 4.8 %

Ord.No.	Packaging	Quantity	Price
1.07575.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07575.9010	Plastic container	10 l	inquire
1.07575.9025	Plastic container	25 l	inquire

## 140001 Extran® AP16 liquid, mild alkaline concentrate

- Spec. density 1.315 g/cm<sup>3</sup> (20 °C) ■ pH value 13 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 8 A
- HS-No. 3402 20 90 ■ Disposal 30
- ADR-RID UN 3266 Ätzender basischer anorganischer flüssiger Stoff, n.a.g.(ENTH. NATRIUMCARBONATLOESUNG), 8, III ■ IMDG-Code UN 3266 CORROSIVE LIQUID, BASIC,

- INORGANIC, N.O.S.(CONT. SODIUM CARBONATE), 8, III, Segregation Group: 18 (Alkalis)
  - IATA-DGR UN 3266 CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(CONT. SODIUM CARBONATE), 8, III
- Specification**  
 sequestering agent content (complexometric). 33.0 - 36.0 %

Density (d 20 °C/ 4 °C)..... 1.29 - 1.33  
 Free alkali (as ammonia)..... 3.0 - 4.0 %

Ord.No.	Packaging	Quantity	Price
1.40001.2500	Plastic bottle	2.5 l	inquire
1.40001.5000	Plastic bottle	5 l	inquire
1.40001.9010	Plastic container	10 l	inquire
1.40001.9025	Plastic container	25 l	inquire

## 140006 Extran® AP17 liquid, alkaline concentrate

- Spec. density 1.294 g/cm<sup>3</sup> (20 °C) ■ pH value 13 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 A
- HS-No. 3402 20 90 ■ Disposal 30

- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
  - IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
  - IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II
- Specification**  
 sequestering agent content (complexometric). 29.5 - 34.5 %

Density (d 20 °C/ 4 °C)..... 1.27 - 1.31  
 Free alkali (as NH<sub>3</sub>)..... 4.3 - 5.3 %

Ord.No.	Packaging	Quantity	Price
1.40006.2500	Plastic bottle	2.5 l	inquire
1.40006.5000	Plastic bottle	5 l	inquire
1.40006.9010	Plastic container	10 l	inquire
1.40006.9025	Plastic container	25 l	inquire

## 107559 Extran® AP 21 acidic with phosphoric acid

- Spec. density 1.37 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.0 (2 g/l, H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B

- HS-No. 3402 20 90 ■ Disposal 30
  - ADR-RID UN 1805 Phosphorsäure, Lösung, 8, III
  - IMDG-Code UN 1805 PHOSPHORIC ACID SOLUTION, 8, III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 1805 PHOSPHORIC ACID, SOLUTION, 8, III
- Specification**  
 Assay (acidimetric)..... 53.0 - 57.0 %

Ord.No.	Packaging	Quantity	Price
1.07559.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07559.9010	Plastic container	10 l	inquire
1.07559.9025	Plastic container	25 l	inquire

**107561 Extran® AP 22** acidic with citric acid 

- Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.0 (2 g/l, H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 3402 20 90 ■ Disposal 30

**Specification**

Free acid (as citric acid).....	32.0 - 35.0 %
Density (d 20 °C/ 4 °C).....	1.140 - 1.150

Ord.No.	Packaging	Quantity	Price
1.07561.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07561.9010	Plastic container	10 l	inquire
1.07561.9025	Plastic container	25 l	inquire

**140007 Extran® AP33** liquid, anti-foaming agent

- pH value 4 - 8 (H<sub>2</sub>O)
- WGK 1
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3910 00 00

**Specification**

Application test.....	passes test
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Ord.No.	Packaging	Quantity	Price
1.40007.2500	Plastic bottle	2.5 l	inquire

**107570 Extran® AP 41** enzymatic 

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.4 (3 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 750 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 10 - 13

- HS-No. 3507 90 90 ■ Disposal 30

**Specification**

pH-value (1 %; water).....	11 - 12
Foaming volume (5 %; water).....	≤ 1 ml
Bulk density.....	65 - 80 g/100ml
Enzymeactivity.....	0.060 - 0.090 Anson-U/g

Ord.No.	Packaging	Quantity	Price
1.07570.2000	Plastic bottle	2 kg	inquire
1.07570.9025	Plastic drum	25 kg	inquire

**Extran® for manual cleaning**

**107555 Extran® MA 01** alkaline 

- Vapour pressure < 23.4 hPa (20 °C)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.6 (20 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point >100 °C (1013 hPa)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 3402 20 90 ■ Disposal 30

- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III

**Specification**

pH-value (5 %; water).....	11.0 - 12.0
Density (d 20 °C/ 4 °C).....	1.065 - 1.075
Foaming volume (5 %; water).....	≥ 70 ml

Ord.No.	Packaging	Quantity	Price
1.07555.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.07555.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07555.5000	Plastic bottle	5 l	inquire
1.07555.9010	Plastic container	10 l	inquire
1.07555.9025	Plastic container	25 l	inquire

**107553 Extran® MA 02** neutral 

- Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.5 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point 100 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 3402 20 90 ■ Disposal 30

**Specification**

pH-value (5 %; water).....	6 - 8
Density (d 20 °C/ 4 °C).....	1.057 - 1.067
Foaming volume (5 %; water).....	≥ 80 ml

Ord.No.	Packaging	Quantity	Price
1.07553.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07553.5000	Plastic bottle	5 l	inquire
1.07553.9010	Plastic container	10 l	inquire
1.07553.9025	Plastic container	25 l	inquire

**107550 Extran® MA 03** phosphate-free 

- Spec. density 1.06 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.6 (20 g/l, H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Carcinogenicity, Category 2, H351; Corrosive to metals, Category 1, H290, P281, P302 + P352, P305 + P351 + P338, P308 + P313
- LGK 8B


- HS-No. 3402 20 90 ■ Disposal 30
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III

**Specification**

Nitriloacetic acid trisodium salt.....	6.5 - 8.5 %
Density (d 20 °C/ 4 °C).....	1.058 - 1.066

Free alkali (as NaOH)..... 1.5 - 2.5 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.07550.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07550.9010	Plastic container	10 l	inquire
1.07550.9025	Plastic container	25 l	inquire

**140000 Extran® MA05** liquid, alkaline, phosphate-free concentrate 

- Spec. density 1.056 g/cm<sup>3</sup> (20 °C) ■ pH value 13 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 3402 20 90 ■ Disposal 30
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III

- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
  - IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III
- Specification**
- |  |              |
|--|--------------|
| sequestering agent content (alkalimetric)..... | 8.5 - 10.0 % |
| Density (d 20 °C/ 4 °C).....                   | 1.05 - 1.09  |

Free alkali (as NaOH)..... 1.5 - 2.5 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.40000.2500	Plastic bottle	2.5 l	inquire
1.40000.5000	Plastic bottle	5 l	inquire
1.40000.9010	Plastic container	10 l	inquire
1.40000.9025	Plastic container	25 l	inquire

EXTrelut® NT → page 7  
EXTrelut® NT 1 → page 8

EXTrelut® NT 3 → page 8  
EXTrelut® NT 20 → page 8

EXTrelut® NT collection tubes → page 7  
EXTrelut® NT Refill pack → page 7

# Famben

## 101771 FAM Benzine DIN 51635

■ CAS-No. 64742-49-0 ■ EC-No. 265-151-9  
 ■ Vapour pressure 10 hPa (20 °C)  
 ■ Spec. density 0.76 g/cm<sup>3</sup> (15 °C) ■ Explosive limit 0.7 - 8.3 % (V) ■ Flash point -26 °C ■ Solub. in H<sub>2</sub>O 0.002 g/l (20 °C) slightly soluble  
 ■ Melting point < -30 °C ■ Boiling point 65 °C (1013 hPa) ■ Ignition temp. 245 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336, P210, P233, P240, P273, P301 + P310, P302 + P352,

P331  
 ■ LD50 oral rat > 5840 mg/kg  
 ■ EC-Index-No. 649-328-00-1 ■ LGK 3  
 ■ HS-No. 2710 12 21 ■ Disposal 1  
 ■ ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM SPIRIT), 3, II  
 ■ IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II

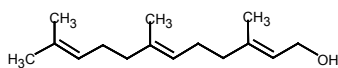
**Specification**  
 Colour ..... ≤ 10 Hazen  
 Density (15°C/DIN 51757) ..... 0.690 - 0.710

Boiling range (DIN 51751 (60-90°C)) ..... 85 - 95 % (v/v)  
 Aniline point (DIN ISO 2977) ..... 59.0 - 61.0 °C  
 Aromatics (as benzene) ..... ≤ 0.1 %  
 n-Hexane (GC) ..... ≤ 5.0 %  
 Non volatile matter ..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.01771.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01771.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.01771.6025	Drum stainl. st.	25 l	inquire

FAM-Benzine standard → Petroleum benzine page 313

## 818570 Farnesol for synthesis



C<sub>15</sub>H<sub>26</sub>O  
 (CH<sub>3</sub>)<sub>2</sub>C=CHCH<sub>2</sub>CH<sub>2</sub>C(CH<sub>3</sub>)=CHCH<sub>2</sub>CH<sub>2</sub>C(CH<sub>3</sub>)=CHCH<sub>2</sub>OH  
 3,7,11-Trimethyl-2,6,10-dodecatrien-1-ol  
 ■ CAS-No. 4602-84-0 ■ EC-No. 225-004-1

■ Refractive index 1.4869 (20 °C, 589 nm)  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 96 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 222.37 g/mol  
 ■ Boiling point 155 - 157 °C (16 hPa)  
 ■ Ignition temp. 240 °C  
 ■ WGK 2  
 ■ LD50 oral rat 6000 mg/kg  
 ■ LGK 10

■ HS-No. 2905 22 00 ■ Disposal 3

**Specification**  
 Assay isomers (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.886 - 0.888  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18570.0025	Glass bottle	25 ml	inquire

Fast green FCF (C.I. 42053) → page 189

Fats (degree of deterioration) → page 65

Fats (Fritest®) → page 65

Fat determination acc. to Gerber → Sulfuric acid 90-91% page 1511

Fats (degree of rancidity) → page 65

Fat test → page 65

## Fatty acid methyl esters

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
44	109637	Methyl decanoate	44	109736	Methyl myristate	44	109602	Methyl stearate
44	109693	Methyl laurate	44	109633	Methyl octanoate			
44	109754	Methyl margarate	44	109743	Methyl oleate			

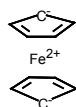
## Fatty acids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
557	800457	Butyric acid	1270	800821	Pentanoic acid	1624	800813	Undecylenic-10 acid

Fermtch base materials for biotechnology → page 111

Ferric chloride → page 1038

## 803978 Ferrocene for synthesis



C<sub>10</sub>H<sub>10</sub>Fe  
 (C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>Fe  
 Dicyclopentadienyliron, Iron dicyclopentadienyl  
 ■ CAS-No. 102-54-5 ■ EC-No. 203-039-3  
 ■ Vapour pressure 3.4 hPa (100 °C)  
 ■ Spec. density 1.49 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 186.03 g/mol  
 ■ Melting point 172 - 175 °C

■ Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 249 °C  
 ■ Ignition temp. >150 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable solid, Category 1, H228; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P210, P260, P273  
 ■ LD50 oral rat 1320 mg/kg ■ LD50 dermal rat > 3000 mg/kg  
 ■ LGK 4.1B  
 ■ HS-No. 2931 90 90 ■ Disposal 14  
 ■ ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(FERROCEN), 4.1, II ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC,

N.O.S.(FERROCENE), 4.1, II  
 ■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(FERROCENE), 4.1, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98 %  
 Melting range  
 - (lower value) ..... ≥ 173 °C  
 - (upper value) ..... ≤ 176 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.03978.0050	Glass bottle	50 g	inquire

## 109161 Ferroin indicator solution for waste water analysis

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4 - 7 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ GHS: Chronic aquatic toxicity, Category 3, H412, P273  
 ■ LGK 10 - 13

■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.2 %; buffer pH 4.0) ..... 2.4 - 2.8  
 pH-value (20 °C) ..... 3.5 - 4.5

Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09161.0100	Glass bottle	100 ml	inquire
1.09161.0500	Glass bottle	500 ml	inquire

## 109193 Ferroin solution (1,10-phenanthroline iron(II) sulfate) 1/40 mol/l redox indicator

1,10-Phenanthroline iron(II) salt solution  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ GHS: Chronic aquatic toxicity, Category 3, H412, P273

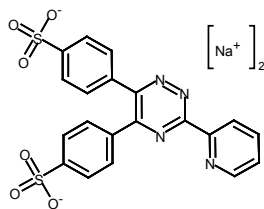
■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.003 %; buffer pH 7.0) ..... 180 - 200  
 Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09193.0100	Glass bottle	100 ml	inquire
1.09193.0500	Glass bottle	500 ml	inquire



## 111613 Ferrospectral® GR for analysis (reagent for iron)

C<sub>20</sub>H<sub>12</sub>N<sub>4</sub>Na<sub>2</sub>O<sub>6</sub>S<sub>2</sub>

3-(2-Pyridyl)-5,6-bis(4-phenylsulfonic acid)-1,2,4-

triazine disodium salt

- CAS-No. 28048-33-1 ■ EC-No. 248-797-6
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 514.44 g/mol
- Bulk density 350 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2933 69 80 ■ Disposal 3

**Specification**

Assay (Perchloric acid titration, calc. on anhydrous substance) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... passes test  
 Identity (UV/VIS-Spectrum) ..... passes test

Absorption maximum λ<sub>max</sub> (water).... 280 - 285 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.01 g/l; water; calculated on anhydrous substance).... 410 - 440

Water (according to Karl Fischer)..... ≤ 8 %  
 Suitability for photometric Iron determination ..... passes test

Ord.No.	Packaging	Quantity	Price
1.11613.0001	Glass bottle	1 g	inquire

Ferulic acid → 4-Hydroxy-3-methoxycinnamic acid  
 page 987

Fesago → page 191

Fibrinogenase → Thrombin page 1556

Filling nozzle (stainless steel) → page 326

Filling nozzle (tap), self-closing, with G3/8" thread  
 → page 326

Filter insert Inline 2 μm → page 7

## Filtration auxiliaries

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
370	115754	Aluminium oxide	9	102688	Celite® Hyflo Supercel	1396	107536	QUARTZ FINE GRANULAR,
9	102692	Celite® 503	590	102186	Charcoal activated	1413	107712	Sea sand
9	102693	Celite® 545	922	104086	Glass wool			
Fischer's base → 1,3,3-Trimethyl-2-methyleneindoline page 1604			Fish industry → Hygiene monitoring			Fittings for capillaries with 3.2 mm O.D., for HPLC bottle adapter S40 → page 327		

## Fixatives

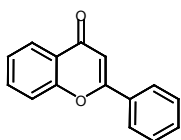
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
336	100063	Acetic acid (glacial) 100%	186	112327	LEUCOGNOST® Fixing Mixture	1335	824566	Platinum(II) chloride (73% Pt)
315	100014	Acetone	1104	104419	Mercury(II) chloride	1348	104864	Potassium dichromate
641	100229	Chromium(VI) oxide	319	106009	Methanol	308	100996	1-Propanol
317	100983	Ethanol	186	103981	M-FIX™ spray fixative	320	100997	1-Propanol
185	100496	Formaldehyde solution 4%, buffered, pH 6.9	1211	100443	Nitric acid 65%	320	109634	2-Propanol
185	103999	Formaldehyde solution min. 37% free from acid	1211	100456	Nitric acid 65%	1576	100807	Trichloroacetic acid
185	104239	Glutardialdehyde solution 25%	186	109266	Osmic acid solution 2%	1621	100583	Tungstophosphoric acid hydrate
185	112179	Glutardialdehyde solution 25%	186	124505	Osmium(VIII) oxide			
186	111955	Hemacolor® Rapid staining of blood smear	1335	807347	Platinum(IV) chloride (57.5% Pt)			

Fixing staining → Hemacolor®

Flat-bottomed long tubes with screw caps → page 90

Flat-bottomed tubes with screw caps → page 90

## 841257 Flavone for synthesis

C<sub>15</sub>H<sub>10</sub>O<sub>2</sub>

2-Phenyl-4H-1-benzopyran-4-one, 2-Phenylchromon

- CAS-No. 525-82-6 ■ EC-No. 208-383-8
- M = 222.24 g/mol ■ Melting point 96 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 94 °C  
 Melting range (upper value) ..... ≤ 97 °C  
 Identity (IR) ..... passes test

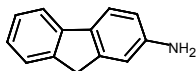
Ord.No.	Packaging	Quantity	Price
8.41257.0001	Plastic bottle	1 g	inquire

Flow cell → page 93

Fluid thioglycolate G → page 107

Fluid thioglycolate medium → Microbiology

## 820573 2-Fluorenamine for synthesis

C<sub>13</sub>H<sub>11</sub>N

2-Aminofluorene

■ CAS-No. 153-78-6 ■ EC-No. 205-817-8

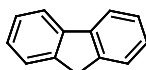
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 181.24 g/mol
- Melting point 124 - 127 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2921 49 00 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>) ..... ≥ 98.0 %

Melting range (lower value) ..... ≥ 126 °C  
 Melting range (upper value) ..... ≤ 129 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20573.0010	Glass bottle	10 g	inquire

## 820572 Fluorene for synthesis

C<sub>13</sub>H<sub>10</sub>

Diphenylenemethane

■ CAS-No. 86-73-7 ■ EC-No. 201-695-5

■ Vapour pressure 13 hPa (146 °C)

■ Flash point 152 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 166.22 g/mol
- Melting point 113 - 115 °C
- Boiling point 295 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2902 90 00 ■ Disposal 3

**Specification**

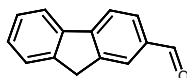
Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Melting range (lower value) ..... ≥ 113 °C

Melting range (upper value) ..... ≤ 115 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20572.0100	Plastic bottle	100 g	inquire
8.20572.0250	Plastic bottle	250 g	inquire

# Fluore

## 841426 Fluorene-2-carbaldehyde for synthesis



C<sub>14</sub>H<sub>10</sub>O  
 ■ CAS-No. 30084-90-3 ■ EC-No. 250-035-2  
 ■ M = 194.23 g/mol ■ Melting point 86 - 87 °C  
 ■ WGK 3

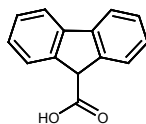
■ LGK 10 - 13  
 ■ HS-No. 2912 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(FLUOREN-2-CARBALDEHYD), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(FLUORENE-2-CARBOXALDEHYDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(FLUORENE-2-CARBOXALDEHYDE), 6.1, III

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 82 °C  
 Melting range (upper value)..... ≤ 84 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41426.0005	Glass bottle	5 g	inquire

## 818306 9-Fluorencarboxylic acid for synthesis



C<sub>14</sub>H<sub>10</sub>O<sub>2</sub>  
 9-Carboxyfluorene

■ CAS-No. 1989-33-9 ■ EC-No. 217-866-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 210.23 g/mol ■ Melting point 226 - 229 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 3

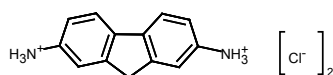
### Specification

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 226 °C  
 Melting range (upper value)..... ≤ 229 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18306.0010	Plastic bottle	10 g	inquire

## 820575 2,7-Fluorenediammonium dichloride for synthesis



C<sub>13</sub>H<sub>14</sub>Cl<sub>2</sub>N<sub>2</sub>  
 2,7-Diaminofluorene dihydrochloride

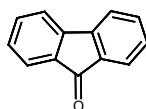
■ CAS-No. 13548-69-1 ■ EC-No. 236-924-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 269.17 g/mol ■ Melting point 260 - 310 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 59 90 ■ Disposal 3

### Specification

Assay (argentometric)..... ≥ 96.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20575.0001	Glass bottle	1 g	inquire

## 803977 9-Fluorenone for synthesis



C<sub>13</sub>H<sub>8</sub>O  
 ■ CAS-No. 486-25-9 ■ EC-No. 207-630-7  
 ■ Spec. density 0.9 g/cm<sup>3</sup> (20 °C)

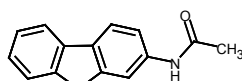
■ Flash point 163 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 180.21 g/mol  
 ■ Melting point 81 - 83 °C ■ Boiling point 342 °C (1013 hPa) ■ Ignition temp. 608 °C  
 ■ WGK 2  
 ■ LD50 oral rat > 3900 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 81 °C  
 Melting range (upper value)..... ≤ 84 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.03977.0250	Plastic bottle	250 g	inquire

## 820576 N-Fluorene-2-ylacetamide for synthesis



C<sub>15</sub>H<sub>13</sub>NO  
 2-Acetamidofluorene  
 ■ CAS-No. 53-96-3 ■ EC-No. 200-188-6

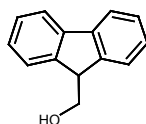
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 223.27 g/mol ■ Melting point 190 - 193 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341, P201, P280, P281, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2924 29 98 ■ Disposal 9

### Specification

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 190 °C  
 Melting range (upper value)..... ≤ 193 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20576.0010	Glass bottle	10 g	inquire

## 814895 9-Fluorenylmethanol for synthesis



C<sub>14</sub>H<sub>12</sub>O

■ CAS-No. 24324-17-2 ■ EC-No. 246-167-5  
 ■ M = 196.25 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3

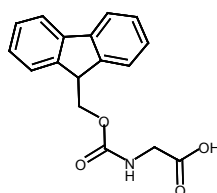
### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)

Melting range (lower value)..... ≥ 104 °C  
 Melting range (upper value)..... ≤ 107 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14895.0005	Glass bottle	5 g	inquire
8.14895.0025	Glass bottle	25 g	inquire

## 841866 N-(9-Fluorenylmethoxycarbonyl)-glycine for synthesis



C<sub>17</sub>H<sub>15</sub>NO<sub>4</sub>

### Fmoc-Glycine

■ CAS-No. 29022-11-5 ■ EC-No. 249-373-3  
 ■ M = 297.31 g/mol ■ Melting point 177.4 °C  
 ■ WGK 2  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2924 29 98 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

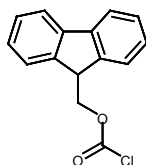
### Specification

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 175 °C  
 Melting range (upper value)..... ≤ 178 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41866.0001	Plastic bottle	1 g	inquire
8.41866.0005	Plastic bottle	5 g	inquire

N-(9H-Fluoren-9-ylmethoxycarbonyloxy)succinimide → 9-Fluorenylmethyl-succinimidyl-carbonate page 895

## 818203 (9-Fluorenylmethyl) chloroformate for synthesis

C<sub>15</sub>H<sub>11</sub>ClO<sub>2</sub>

Chloroformic acid 9-fluorenylmethyl ester, FMOCCI

- CAS-No. 28920-43-6 ■ EC-No. 249-313-6
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)

- M = 258.7 g/mol ■ Melting point 60 - 63 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(9-FLUORENYLMETHYL-CHLOROFORMIAT), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(9-FLUORENYLMETHYL-CHLOROFORMATE), 8, II

- IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(9-FLUORENYLMETHYL-CHLOROFORMATE), 8, II

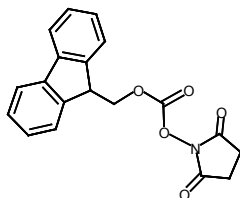
## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 60 °C  
 Melting range (upper value) ..... ≤ 64 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18203.0005	Glass bottle	5 g	inquire
8.18203.0025	Glass bottle	25 g	inquire
8.18203.8500	Glass bottle	500 mg	inquire

(9-Fluorenylmethyl) chloroformate → page 280

## 814307 9-Fluorenylmethyl-succinimidyl-carbonate for synthesis

C<sub>19</sub>H<sub>15</sub>NO<sub>5</sub>

Fmoc-ONSu, N-(9-Fluoren-9-ylmethoxycarbonyloxy)succinimide

- CAS-No. 82911-69-1 ■ EC-No. 433-520-5
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 337.33 g/mol

- mol ■ Melting point 145 - 148 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352
- EC-Index-No. 613-306-00-X ■ LGK 10 - 13
- HS-No. 2929 90 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.((2,5-DIOXOPYRROLIDIN-1-YL)-9H-FLUOREN-9-YLMETHYLCARBONAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.((2,5-DIOXOPYRROLIDIN-1-YL)-9H-FLUOREN-9-

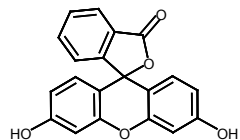
YLMETHYL CARBONATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.((2,5-DIOXOPYRROLIDIN-1-YL)-9H-FLUOREN-9-YLMETHYL CARBONATE), 9, III

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 146 °C  
 Melting range (upper value) ..... ≤ 149 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14307.0005	Glass bottle	5 g	inquire

## 103990 Fluorescein (C.I.45350) Reag. Ph Eur

C<sub>20</sub>H<sub>12</sub>O<sub>5</sub>

CAS-No. 2321-07-5 ■ EC-No. 219-031-8

- M = 332.31 g/mol ■ Melting point 314 - 316 °C
- Bulk density 530 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 3204 12 00

## Specification

Assay (TBAH; calc. on dried substance) ..... ≥ 95 %  
 Identity (IR-spectrum) ..... passes test  
 Melting point (DSC (differential scanning

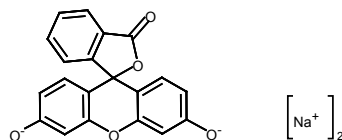
calorimetry)) ..... about 315 °C  
 Absorption maximum λ max (Ethanol) ..... 275 - 280 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.02 g/l; ethanol; calc. on dried substance) ..... 200 - 300  
 Loss on drying (105 °C) ..... ≤ 5 %

Ord.No.	Packaging	Quantity	Price
1.03990.0025	Glass bottle	25 g	inquire

Fluorescein complexone → Calcein indicator page 172

Fluorescein-5-isothiocyanate (FITC) → page 191

## 103887 Fluorescein sodium (C.I. 45350) indicator Reag. Ph Eur

C<sub>20</sub>H<sub>10</sub>Na<sub>2</sub>O<sub>5</sub>

- CAS-No. 518-47-8 ■ EC-No. 208-253-0
- Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 376.27 g/mol ■ pH value 8.3 (10 g/l, H<sub>2</sub>O, 20 °C)

- Melting point >300 °C ■ Bulk density 600 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat 6720 mg/kg
- LGK 10 - 13
- HS-No. 3204 12 00 ■ Disposal 3

## Specification

Appearance...Redishbrown powder, eventually with granular and bright parts.  
 Identity (UV/VIS-Spectrum) ..... passes test  
 Identity (IR-spectrum) ..... passes test  
 Absorption maximum λ max (buffer pH 8.0). 490 -

492 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.005 g/l; buffer pH 8.0; calc. on dried substance) ..... ≥ 1850  
 Loss on drying (110 °C) ..... ≤ 10 %  
 Suitability as indicator (Adsorption indicator for argentometry) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.03887.0050	Glass bottle	50 g	inquire
1.03887.0250	Glass bottle	250 g	inquire

Fluorescence indicator for TLC → Fluorescent indicator F<sub>254</sub> page 896

## Fluorescence Indicators &amp; Dyes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
351	821655	Acridine	722	109676	2',7'-Dichlorofluorescein	1300	107243	1,2-Phenylenediamine
189	115931	Acridine orange zinc chloride double salt (C.I.46005)	189	115935	Eosin Y (yellowish) (C.I. 45380)	1301	807246	1,4-Phenylenediamine
396	821949	4-Aminonaphthalene-1-sulfonic acid sodium salt	189	115936	Erythrosine B (C.I. 45430)	190	107518	Pyronine G (C.I. 45005)
191	101301	Auramine O (C.I. 41000)	191	124546	Fluorescein-5-isothiocyanate (FITC)	1396	102282	Quinaldine red
191	109211	Azure II (C.I. 52010/52015)	189	105231	Fuchsin acid (C.I. 42685)	1397	802304	(-)-Quinine
172	102315	Calcein indicator	189	105231	Fuchsin acid (C.I. 42685)	308	802407	Quinoline
172	102498	Chromotropic acid disodium salt dihydrate	980	800233	2-Hydroxycinnamic acid	191	107599	Rhodamine B (C.I. 45170)
657	822316	Coumarin	980	820668	7-Hydroxycoumarin	1560	101307	Titan yellow (C.I. 19540)
191	124653	4',6-Diamidino-2-phenylindole dihydrochloride (DAPI)	1199	800597	1-Naphthoic acid			
			190	107509	Pararosaniline (chloride) (C.I. 42500)			

# Fluore

## 109182 Fluorescent indicator F<sub>254</sub>

■ CAS-No. 68611-47-2 ■ EC-No. 271-896-0  
 ■ Spec. density 4.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C) ■ pH value 7.0 (H<sub>2</sub>O) suspension ■ Melting point 1500 °C  
 ■ Bulk density 1450 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: P260

■ LGK 10 - 13  
 ■ HS-No. 3206 50 00 ■ Disposal 3  
 Green fluorescent if irradiating with UV-light (254 nm)

Fe (Iron)..... ≤ 0.01 %  
 Water..... ≤ 0.3 %  
 Application test for DC..... conforms

**Specification**  
 Identity..... conforms

Ord.No.	Packaging	Quantity	Price
1.09182.0050	Plastic bottle	50 g	inquire

Fluorexon → Calcein indicator page 172

Fluoride Cell Test → page 64

## Fluoride, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
362	101010	Alizarin-3-methylamine-N,N-diacetic acid dihydrate	172	103164	Eriochrome cyanine R (C.I. 43820)	1558	116770	TISAB-III solution
763	107998	1,8-Dihydroxy-2-(4-sulfophenylazo)naphthalene-3,6-disulfonic acid trisodium salt	40	109869	Fluoride standard	1558	115368	TISAB solution

## Fluorides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
411	101164	Ammonium fluoride	40	109869	Fluoride standard	165	106450	Sodium fluoride
422	807839	Antimony(III) fluoride	40	119814	Fluoride standard solution	1435	106449	Sodium fluoride
423	812034	Antimony(V) fluoride	165	105686	Lithium fluoride			
164	101722	Barium fluoride	1351	104994	Potassium fluoride			

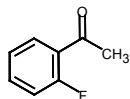
Fluoride standard for aqueous matrices ready for use → page 40

Fluoride Test → page 64

o-Fluornitrobenzene → 1-Fluoro-2-nitrobenzene page 902

Fluoride standard for aqueous matrices → page 40

## 841206 2'-Fluoroacetophenone for synthesis



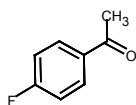
C<sub>8</sub>H<sub>7</sub>FO  
 1-(2-Fluorophenyl)ethanone  
 ■ CAS-No. 445-27-2 ■ EC-No. 207-156-0  
 ■ Spec. density 1.137 g/cm<sup>3</sup> (20 °C)

■ Flash point 61 °C ■ M = 138.14 g/mol  
 ■ Boiling point 187 - 189 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 70 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.136 - 1.140  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41206.0005	Glass bottle	5 ml	inquire
8.41206.0025	Glass bottle	25 ml	inquire

## 841210 4'-Fluoroacetophenone for synthesis



C<sub>8</sub>H<sub>7</sub>FO  
 ■ CAS-No. 403-42-9 ■ EC-No. 206-960-9  
 ■ Spec. density 1.141 g/cm<sup>3</sup> (20 °C)

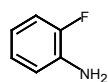
■ Flash point 71 °C ■ M = 138.14 g/mol  
 ■ Melting point 4 °C ■ Boiling point 196 - 199 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 70 00

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.140 - 1.144  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41210.0025	Glass bottle	25 ml	inquire

Fluoroammonium → Ammonium fluoride page 411

## 820565 2-Fluoroaniline for synthesis



C<sub>6</sub>H<sub>6</sub>FN  
 2-(F)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>  
 1-Amino-2-fluorobenzene  
 ■ CAS-No. 348-54-9 ■ EC-No. 206-478-9  
 ■ Refractive index 1.5421 (20 °C, 589 nm)  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C)

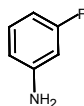
■ Flash point 60 °C ■ Solub. in H<sub>2</sub>O 17 g/l (20 °C)  
 ■ M = 111.11 g/mol ■ Melting point -29 °C  
 ■ Boiling point 171 - 173 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2921 42 00 ■ Disposal 3

■ ADR-RID UN 2941 Fluoroaniline, 6.1, III ■ IMDG-Code UN 2941 FLUOROANILINES, 6.1, III  
 ■ IATA-DGR UN 2941 FLUOROANILINES, 6.1, III

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.150 - 1.153  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20565.0100	Glass bottle	100 ml	inquire

## 820566 3-Fluoroaniline for synthesis

C<sub>6</sub>H<sub>6</sub>FN3-(F)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>

1-Amino-3-fluorobenzene

■ CAS-No. 372-19-0 ■ EC-No. 206-747-0

■ Refractive index 1.5445 (20 °C, 589 nm)

- Spec. density 1.16 g/cm<sup>3</sup> (20 °C)
- Flash point 77 °C ■ Solub. in H<sub>2</sub>O 8 g/l (25 °C) (calculated) ■ M = 111.11 g/mol
- Boiling point 187 - 189 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10
- HS-No. 2921 42 00 ■ Disposal 3
- ADR-RID UN 2941 Fluoranthiline, 6.1, III ■ IMDG-

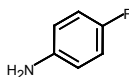
Code UN 2941 FLUOROANILINES, 6.1, III  
 ■ IATA-DGR UN 2941 FLUOROANILINES, 6.1, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.154 - 1.156  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20566.0005	Glass bottle	5 ml	inquire
8.20566.0025	Glass bottle	25 ml	inquire

## 820567 4-Fluoroaniline for synthesis

C<sub>6</sub>H<sub>6</sub>FN

1-Amino-4-fluorobenzene

■ CAS-No. 371-40-4 ■ EC-No. 206-735-5

■ Refractive index 1.5395 (20 °C, 589 nm)

■ Vapour pressure 25 hPa (85 °C)

■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C)■ Flash point 73 °C ■ Solub. in H<sub>2</sub>O 33 g/l (20 °C)

- M = 111.12 g/mol ■ Melting point -1 °C
- Boiling point 186 - 188 °C (1013 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 417 mg/kg
- LGK 10
- HS-No. 2921 42 00 ■ Disposal 3
- ADR-RID UN 2941 Fluoranthiline, 6.1, III ■ IMDG-

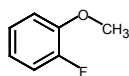
Code UN 2941 FLUOROANILINES, 6.1, III  
 ■ IATA-DGR UN 2941 FLUOROANILINES, 6.1, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.157 - 1.159  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20567.0100	Glass bottle	100 ml	inquire

## 841162 2-Fluoroanisole for synthesis

C<sub>7</sub>H<sub>7</sub>FO

■ CAS-No. 321-28-8 ■ EC-No. 206-284-4

■ Spec. density 1.124 g/cm<sup>3</sup> (20 °C)

■ Flash point 53 °C ■ M = 126.13 g/mol

■ Melting point -39 °C

■ Boiling point 154 - 155 °C (1013 hPa)

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2909 30 90
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-FLUORANISOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-FLUOROANISOLE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

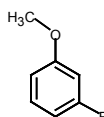
N.O.S.(2-FLUOROANISOLE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.124 - 1.130  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41162.0025	Glass bottle	25 ml	inquire
8.41162.0100	Glass bottle	100 ml	inquire

## 814959 3-Fluoroanisole for synthesis

C<sub>7</sub>H<sub>7</sub>FOF(C<sub>6</sub>H<sub>4</sub>)OCH<sub>3</sub>

■ CAS-No. 456-49-5 ■ EC-No. 207-267-4

■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)

■ Flash point 45 °C ■ M = 126.13 g/mol

- pH value (H<sub>2</sub>O) not applicable ■ Melting point -35 °C ■ Boiling point 156 - 158 °C (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2909 30 90
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-FLUORANISOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-FLUOROANISOLE), 3, III

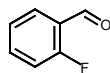
■ IATA-DGR UN 1993 FLAMMABLE LIQUID,  
 N.O.S.(3-FLUOROANISOLE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.112 - 1.115  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14959.0025	Glass bottle	25 ml	inquire
8.14959.0100	Glass bottle	100 ml	inquire

## 814714 2-Fluorobenzaldehyde for synthesis

C<sub>7</sub>H<sub>5</sub>FO

■ CAS-No. 446-52-6 ■ EC-No. 207-171-2

■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C)

■ Flash point 55 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 124.11 g/mol

■ Melting point -44.5 °C

■ Boiling point 172 - 174 °C (1013 hPa)

- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P210, P302 + P352
- LD50 oral rat 1900 mg/kg
- LGK 3
- HS-No. 2913 00 00 ■ Disposal 3
- ADR-RID UN 1989 Aldehyde, n.a.g.(2-FLUORBENZALDEHYD), 3, III ■ IMDG-Code UN 1989 ALDEHYDES, N.O.S.(2-FLUORBENZALDEHYDE), 3, III

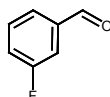
■ IATA-DGR UN 1989 ALDEHYDES, N.O.S.(2-FLUORBENZALDEHYDE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.182 - 1.187  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14714.0010	Glass bottle	10 ml	inquire
8.14714.0050	Glass bottle	50 ml	inquire

## 814258 3-Fluorobenzaldehyde for synthesis

C<sub>7</sub>H<sub>5</sub>FO3(F)C<sub>6</sub>H<sub>4</sub>CHO

■ CAS-No. 456-48-4 ■ EC-No. 207-266-9

■ Refractive index 1.516 (25 °C, 589 nm)

■ Spec. density 1.18 g/cm<sup>3</sup> (20 °C)

■ Flash point 56 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 124.11 g/mol
- Boiling point 67 °C (25 hPa)
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P210, P302 + P352
- LD50 oral rat 1300 mg/kg
- LGK 3
- HS-No. 2913 00 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-FLUORBENZALDEHYD), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-FLUORBENZALDEHYDE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID,  
 N.O.S.(3-FLUORBENZALDEHYDE), 3, III

**Specification**

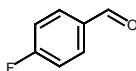
Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1.176 - 1.180  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14258.0010	Glass bottle	10 ml	inquire





## 818537 4-Fluorobenzaldehyde for synthesis



C<sub>7</sub>H<sub>5</sub>FO  
4-(F)C<sub>6</sub>H<sub>4</sub>CHO  
■ CAS-No. 459-57-4 ■ EC-No. 207-293-6  
■ Vapour pressure 19 hPa (70 °C)  
■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C)  
■ Flash point 62 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 124.11 g/mol

■ Melting point -10 °C ■ Boiling point 70 - 72 °C (19 hPa)  
■ WGK 2  
■ GHS: Warning, Skin irritation, Category 2, H315, P302 + P352  
■ LGK 10  
■ HS-No. 2913 00 00  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(4-FLUORBENZALDEHYD), 6,1, III  
■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(4-FLUORBENZALDEHYDE), 6,1, III

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(4-FLUORBENZALDEHYDE), 6,1, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.176 - 1.180  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18537.0025	Glass bottle	25 ml	inquire
8.18537.0100	Glass bottle	100 ml	inquire

## 802965 Fluorobenzene for synthesis



C<sub>6</sub>H<sub>5</sub>F  
■ CAS-No. 462-06-6 ■ EC-No. 207-321-7  
■ Refractive index 1.4653 (20 °C, 589 nm)  
■ Vapour pressure 83 hPa (20 °C)  
■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 8.9 % (V) ■ Flash point -15 °C ■ Solub. in H<sub>2</sub>O 1.54 g/l (30 °C) ■ M = 96.1 g/mol

■ Melting point -41 °C ■ Boiling point 84 - 86 °C  
■ Ignition temp. 630 °C  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P233  
■ LD50 oral rat 4399 mg/kg  
■ LGK 3  
■ HS-No. 2903 99 90 ■ Disposal 3  
■ ADR-RID UN 2387 Fluorbenzen, 3, II ■ IMDG-Code UN 2387 FLUOROBENZENE, 3, II, Segregation Group: 10 (Liquid halogenated hydrocarbons)

■ IATA-DGR UN 2387 FLUOROBENZENE, 3, II

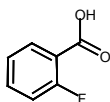
## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,024 - 1,026  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02965.0005	Glass bottle	5 ml	inquire
8.02965.0250	Glass bottle	250 ml	inquire

3-Fluoro-1,2-benzenedicarboxylic acid → 3-Fluorophthalic acid page 905

## 820569 2-Fluorobenzoic acid for synthesis



C<sub>7</sub>H<sub>5</sub>FO<sub>2</sub>  
2-(F)C<sub>6</sub>H<sub>4</sub>COOH  
■ CAS-No. 445-29-4 ■ EC-No. 207-158-1  
■ Spec. density 1.46 g/cm<sup>3</sup> (20 °C) ■ Solub. in

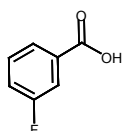
H<sub>2</sub>O 7.2 g/l (25 °C) ■ M = 140.11 g/mol  
■ Melting point 121 - 124 °C  
■ Bulk density 700 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 98,0 %  
Melting range (lower value) ..... ≥ 121 °C  
Melting range (upper value) ..... ≤ 124 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20569.0025	Plastic bottle	25 g	inquire

## 841826 3-Fluorobenzoic acid for synthesis



C<sub>7</sub>H<sub>5</sub>FO<sub>2</sub>  
■ CAS-No. 455-38-9 ■ EC-No. 207-248-0

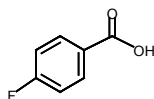
■ Solub. in H<sub>2</sub>O 1.5 g/l (25 °C) ■ M = 140.11 g/mol  
■ Melting point 121 - 124 °C  
■ WGK 1  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 122 °C  
Melting range (upper value) ..... ≤ 125 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41826.0025	Glass bottle	25 g	inquire

## 814626 4-Fluorobenzoic acid for synthesis



C<sub>7</sub>H<sub>5</sub>FO<sub>2</sub>  
FC<sub>6</sub>H<sub>4</sub>COOH  
■ CAS-No. 456-22-4 ■ EC-No. 207-259-0  
■ Spec. density 1.47 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 1.2 g/l (25 °C) ■ M = 140.11 g/mol  
■ Melting point 182 - 184 °C  
■ Bulk density 400 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2916 39 90 ■ Disposal 3

## Specification

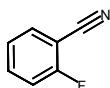
Assay (HPLC, area%) ..... ≥ 99,0 Area %  
Melting range (lower value) ..... ≥ 182 °C  
Melting range (upper value) ..... ≤ 184 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14626.0010	Plastic bottle	10 g	inquire
8.14626.0050	Plastic bottle	50 g	inquire

2-Fluoro-benzoic acid chloride → 2-Fluorobenzoyl chloride page 899

4-Fluorobenzoic acid ethyl ester → Ethyl 4-fluorobenzoate page 868

## 841211 2-Fluorobenzonitrile for synthesis



C<sub>7</sub>H<sub>4</sub>FN  
■ CAS-No. 394-47-8 ■ EC-No. 206-897-7  
■ Spec. density 1.138 g/cm<sup>3</sup> (20 °C)  
■ Flash point 74 °C ■ M = 121.11 g/mol  
■ Boiling point 84 - 86 °C (18.7 hPa)

■ WGK 3  
■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352  
■ LGK 10  
■ HS-No. 2926 90 95 ■ Disposal 3  
■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(2-FLUORBENZONITRIL), 6,1, III ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(2-FLUORBENZONITRILE), 6,1, III

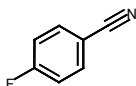
■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(2-FLUORBENZONITRILE), 6,1, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.136 - 1.140  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41211.0010	Glass bottle	10 ml	inquire

## 841013 4-Fluorobenzonitrile for synthesis

C<sub>7</sub>H<sub>4</sub>FN

- CAS-No. 1194-02-1 ■ EC-No. 214-784-9
- Flash point 65 °C ■ M = 121.11 g/mol
- Melting point 37 - 40 °C
- Boiling point 186 - 188 °C
- WGK 3

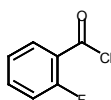
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(4-FLUORBENZONITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(4-FLUORBENZONITRILE), 6.1, III
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(4-FLUORBENZONITRILE), 6.1, III

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 33 °C  
 Melting range (upper value)..... ≤ 36 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41013.0010	Glass bottle	10 g	inquire

## 841208 2-Fluorobenzoyl chloride for synthesis

C<sub>7</sub>H<sub>4</sub>ClFO

2-Fluoro-benzoic acid chloride

- CAS-No. 393-52-2 ■ EC-No. 206-887-2
- Spec. density 1.331 g/cm<sup>3</sup> (20 °C)
- Flash point 82 °C ■ M = 158.55 g/mol
- Melting point 4 - 6 °C ■ Boiling point 89 - 91 °C

(18.7 hPa)

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2600 mg/kg
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(2-FLUORBENZOYLCHLORID), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(2-

FLUORBENZOYL CHLORIDE), 8, II

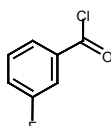
- IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(2-FLUORBENZOYL CHLORIDE), 8, II

## Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.332 - 1.337  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41208.0025	Glass bottle	25 ml	inquire

## 814262 3-Fluorobenzoyl chloride for synthesis

C<sub>7</sub>H<sub>4</sub>ClFO3-(F)C<sub>6</sub>H<sub>4</sub>COCl

- CAS-No. 1711-07-5 ■ EC-No. 216-977-3
- Refractive index 1.5285 (20 °C, 589 nm)
- Spec. density 1.32 g/cm<sup>3</sup> (20 °C)

- Flash point 82 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 158.55 g/mol
- Melting point -30 °C ■ Boiling point 189 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(3-FLUORBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID,

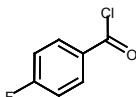
ACIDIC, ORGANIC, N.O.S.(3-FLUORO BENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3-FLUORO BENZOYL CHLORIDE), 8, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,319 - 1,323  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14262.0010	Glass bottle	10 ml	inquire

## 820571 4-Fluorobenzoyl chloride for synthesis

C<sub>7</sub>H<sub>4</sub>ClFO4-(F)C<sub>6</sub>H<sub>4</sub>COCl

- CAS-No. 403-43-0 ■ EC-No. 206-961-4
- Refractive index 1.5296 (20 °C, 589 nm)
- Spec. density 1.32 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 158.56 g/mol
- Melting point 9 °C ■ Boiling point 82 °C

(27 hPa)

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(4-FLUORBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-FLUORO BENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

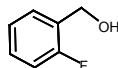
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-FLUORO BENZOYL CHLORIDE), 8, II

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.321 - 1.323  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20571.0025	Glass bottle	25 ml	inquire

## 814743 2-Fluorobenzyl alcohol for synthesis

C<sub>7</sub>H<sub>7</sub>FO

2-Fluorophenyl methanol

- CAS-No. 446-51-5 ■ EC-No. 207-170-7
- Spec. density 1.173 g/cm<sup>3</sup> (20 °C)

- Flash point 90 °C ■ M = 126.13 g/mol
- Boiling point 97 - 101 °C (27 hPa)
- WGK 3
- LGK 10
- HS-No. 2906 29 00 ■ Disposal 3

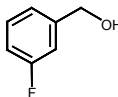
## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.172 - 1.177

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14743.0005	Glass bottle	5 ml	inquire
8.14743.0025	Glass bottle	25 ml	inquire

## 814261 3-Fluorobenzyl alcohol for synthesis

C<sub>7</sub>H<sub>7</sub>FO3-(F)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH

- CAS-No. 456-47-3 ■ EC-No. 207-265-3

- Refractive index 1.513 (20 °C, 589 nm)
- Spec. density 1.17 g/cm<sup>3</sup> (20 °C)
- Flash point 90 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 126.13 g/mol
- Boiling point 104 - 105 °C (29 hPa)
- WGK 1
- LGK 10
- HS-No. 2906 29 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,168 - 1,170  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14261.0005	Glass bottle	5 ml	inquire

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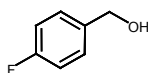
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## 814744 4-Fluorobenzyl alcohol for synthesis



C<sub>7</sub>H<sub>7</sub>FO  
 ■ CAS-No. 459-56-3 ■ EC-No. 207-292-0  
 ■ Spec. density 1.156 g/cm<sup>3</sup> (20 °C)

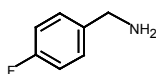
- Flash point 90 °C ■ M = 126.13 g/mol
- Melting point 22 - 23 °C
- Boiling point 79 - 81 °C (9 hPa)
- WGK 3
- LGK 10
- HS-No. 2906 29 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,160 - 1,164  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14744.0025	Glass bottle	25 ml	inquire

## 814260 4-Fluorobenzylamine for synthesis



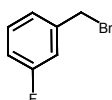
C<sub>7</sub>H<sub>8</sub>FN  
 4-(F)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>NH<sub>2</sub>  
 ■ CAS-No. 140-75-0 ■ EC-No. 205-430-4  
 ■ Refractive index 1.5117 (20 °C, 589 nm)  
 ■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 66 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 125.14 g/mol ■ Boiling point 183 °C

- (1013 hPa)
- WGK 3
  - GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
  - LGK 8A
  - HS-No. 2921 49 00 ■ Disposal 3
  - ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(4-FLUORBENZYLAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE,

N.O.S.(4-FLUORBENZYLAMINE), 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(4-FLUORBENZYLAMINE), 8, III  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,102 - 1,106  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14260.0010	Glass bottle	10 ml	inquire

## 841191 3-Fluorobenzyl bromide for synthesis



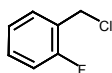
C<sub>7</sub>H<sub>6</sub>BrF  
 α-Bromo-3-fluorotoluene  
 ■ CAS-No. 456-41-7 ■ EC-No. 207-263-2  
 ■ Spec. density 1.546 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 91 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition) ■ M = 189.02 g/mol

- pH value (H<sub>2</sub>O, 20 °C) acidic
- Boiling point 87 - 88 °C (27 hPa)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(3-FLUORBENZYLBRÖMID), 8, III ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(3-

FLUORBENZYL BROMIDE), 8, III  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(3-FLUORBENZYL BROMIDE), 8, III  
**Specification**  
 Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41191.0010	Glass bottle	10 ml	inquire

## 818465 2-Fluorobenzyl chloride for synthesis



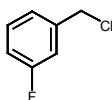
C<sub>7</sub>H<sub>6</sub>ClF  
 2-(F)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>Cl  
 ■ CAS-No. 345-35-7 ■ EC-No. 206-460-0  
 ■ Refractive index 1.5154 (24 °C, 589 nm)  
 ■ Spec. density 1.215 g/cm<sup>3</sup> ■ Flash point 57 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 144.57 g/mol ■ Boiling point 59 - 60 °C (13 hPa)

- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3 ■ Store below +15 °C.
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(2-FLUORBENZYLCHLORID), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(2-FLUORBENZYLCHLORIDE),

8 (3), II  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(2-FLUORBENZYLCHLORIDE), 8 (3), II  
**Specification**  
 Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.212 - 1.217  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18465.0025	Glass bottle	25 ml	inquire

## 818419 3-Fluorobenzyl chloride for synthesis



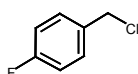
C<sub>7</sub>H<sub>6</sub>ClF  
 ■ CAS-No. 456-42-8 ■ EC-No. 207-264-8  
 ■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O 40 g/l (20 °C)  
 ■ M = 144.57 g/mol ■ Boiling point 176 - 177 °C (1013 hPa)  
 ■ WGK 2

- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(3-FLUORBENZYLCHLORID), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(3-FLUORBENZYL CHLORIDE), 8 (3), II
- IATA-DGR UN 2920 CORROSIVE LIQUID,

FLAMMABLE, N.O.S.(3-FLUORBENZYL CHLORIDE), 8 (3), II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.212 - 1.214  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18419.0010	Glass bottle	10 ml	inquire
8.18419.0050	Glass bottle	50 ml	inquire

## 818411 4-Fluorobenzyl chloride for synthesis



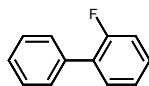
C<sub>7</sub>H<sub>6</sub>ClF  
 4-(F)-C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>Cl  
 Chloro-4-fluorotoluene  
 ■ CAS-No. 352-11-4 ■ EC-No. 206-516-4  
 ■ Refractive index 1.5103 (25 °C, 589 nm)  
 ■ Vapour pressure 26.5 hPa (20 °C)  
 ■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.30 % (V) ■ Flash point 70.5 - 71 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 144.57 g/mol

- Melting point -18 °C
- Boiling point 181.2 °C (1013 hPa)
- Ignition temp. 590 °C
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(4-FLUORBENZYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-FLUORBENZYL

CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-FLUORBENZYL CHLORIDE), 8, II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.212 - 1.214  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18411.0025	Glass bottle	25 ml	inquire

## 841722 2-Fluorobiphenyl for synthesis



C<sub>12</sub>H<sub>9</sub>F  
 ■ CAS-No. 321-60-8 ■ EC-No. 206-290-7

- M = 172.2 g/mol ■ Melting point 72 - 75 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

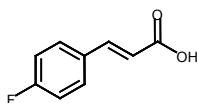
**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 70 °C

Melting range (upper value) ..... ≤ 73 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41722.0001	Plastic bottle	1 g	inquire

## 840002 4-Fluorocinnamic acid for synthesis



C<sub>9</sub>H<sub>7</sub>FO<sub>2</sub>  
 3-(4-Fluorophenyl)-propenoic acid

- CAS-No. 459-32-5 ■ EC-No. 207-288-9
- Spec. density 1 g/cm<sup>3</sup> ■ M = 166.15 g/mol
- Melting point 209 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 208 °C  
 Melting range (upper value) ..... ≤ 211 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40002.0010	Glass bottle	10 g	inquire

Fluorocult® → page 98

Fluorocult® (agar / broth) → page 98

Fluorocult® brila broth → page 98

Fluorocult® culture media → page 98

Fluorocult® DEV Lactose-peptone broth → page 98

Fluorocult® ECD agar → page 98

Fluorocult® Lactose-peptone broth → page 98

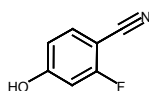
Fluorocult® Laurylsulfate-bouillon → page 98

Fluorocult® Laurylsulfate broth → page 98

Fluorocult® VRB agar → page 98

5-Fluoro-2,4-dihydroxypyrimidine → 5-Fluorouracil page 907

## 814962 2-Fluoro-4-hydroxybenzonitrile for synthesis



C<sub>7</sub>H<sub>4</sub>FNO  
 4-Cyano-3-fluorophenol  
 ■ CAS-No. 82380-18-5 ■ EC-No. 422-810-7  
 ■ Spec. density 1.45 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 4.7 g/l (20 °C) ■ M = 137.11 g/mol  
 ■ pH value 4.2 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution) ■ Melting point 124 °C  
 ■ Bulk density 340 kg/m<sup>3</sup>  
 ■ WGK 2

- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 2, H411, P273, P280, P305 + P351 + P338
- LD50 oral rat 688 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- EC-Index-No. 608-062-00-6 ■ LGK 10 - 13
- HS-No. 2926 90 95
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2-FLUORO-4-HYDROXYBENZONITRIL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-FLUORO-4-HYDROXYBENZONITRILE), 9, III, Marine Pollutant: P

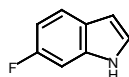
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-FLUORO-4-HYDROXYBENZONITRILE), 9, III

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 122 °C  
 Melting range (upper value) ..... ≤ 125 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14962.0005	Glass bottle	5 g	inquire
8.14962.0025	Glass bottle	25 g	inquire

## 814875 6-Fluoroindole for synthesis



C<sub>8</sub>H<sub>6</sub>FN  
 ■ CAS-No. 399-51-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 135.14 g/mol ■ Melting point 72 - 77 °C  
 ■ WGK 3

- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**

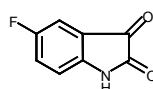
Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 73 °C

Melting range (upper value) ..... ≤ 75 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14875.0005	Glass bottle	5 g	inquire
8.14875.0025	Glass bottle	25 g	inquire

5-Fluoro-2,3-indolindione → 5-Fluoroisatin page 901

## 841272 5-Fluoroisatin for synthesis



C<sub>8</sub>H<sub>4</sub>FNO<sub>2</sub>  
 5-Fluoro-2,3-indolindione  
 ■ CAS-No. 443-69-6

- M = 165.12 g/mol ■ Melting point 224 - 226 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 79 00 ■ Disposal 3

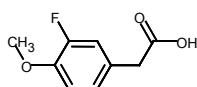
**Specification**

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41272.0001	Plastic bottle	1 g	inquire

1-Fluoro-2-methoxy-benzene → 2-Fluoroanisole page 897

## 843872 3-Fluoro-4-methoxyphenylacetic acid for synthesis



C<sub>9</sub>H<sub>9</sub>FO<sub>3</sub>  
 ■ CAS-No. 452-14-2  
 ■ M = 184.16 g/mol

- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

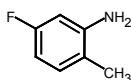
**Specification**

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 112 °C

Melting range (upper value) ..... ≤ 116 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43872.0005	Glass bottle	5 g	inquire
8.43872.0010	Glass bottle	10 g	inquire

## 818593 5-Fluoro-2-methylaniline for synthesis



$C_7H_8FN$   
5-(F)-2-(CH<sub>3</sub>)-C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>  
2-Amino-4-fluorotoluene, 2-Methyl-5-fluoroaniline  
■ CAS-No. 367-29-3 ■ EC-No. 206-689-6  
■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)  
■ Flash point 100 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 125.15 g/mol  
■ Melting point 36 - 38 °C  
■ Boiling point 94 - 96 °C (20 hPa)  
■ WGK 2  
■ LGK 6.1A  
■ HS-No. 2921 43 00 ■ Disposal 3  
■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(5-FLUOR-2-METHYLANILIN), 6.1, III  
■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(5-FLUOR-2-METHYLANILINE), 6.1, III  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(5-FLUOR-2-METHYLANILINE), 6.1, III

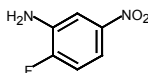
## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Melting range (lower value) ..... ≥ 35 °C  
Melting range (upper value) ..... ≤ 38 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18593.0010	Plastic bottle	10 g	inquire

1-Fluoro-2-methylbenzene → 2-Fluorotoluene page 906

## 841836 2-Fluoro-5-nitroaniline for synthesis



$C_6H_5FN_2O_2$   
■ CAS-No. 369-36-8 ■ EC-No. 206-720-3  
■ Flash point 91 °C ■ Solub. in  
H<sub>2</sub>O (20 °C) practically insoluble ■ M = 156.12 g/mol  
■ Melting point 101 - 104 °C

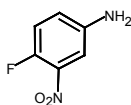
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2921 42 00 ■ Disposal 3  
■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-FLUOR-5-NITROANILIN), 6.1, III  
■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-FLUORO-5-NITROANILINE), 6.1, III  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-FLUORO-5-NITROANILINE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Melting range (lower value) ..... ≥ 101 °C  
Melting range (upper value) ..... ≤ 104 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41836.0005	Plastic bottle	5 g	inquire

## 814089 4-Fluoro-3-nitroaniline for synthesis



$C_6H_5FN_2O_2$   
4(F)3(NO<sub>2</sub>) \* C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>  
■ CAS-No. 364-76-1 ■ EC-No. 206-665-5  
■ Spec. density 0.43 g/cm<sup>3</sup> (20 °C)  
■ Flash point 91 °C ■ Solub. in

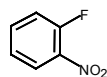
H<sub>2</sub>O (20 °C) practically insoluble ■ M = 156.12 g/mol  
■ Melting point 93 - 96 °C  
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
■ LC50 rat > 50 mg/l  
■ LD50 oral rat 1100 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2921 42 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98.0 Area %  
Melting range (lower value) ..... ≥ 93 °C  
Melting range (upper value) ..... ≤ 96 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14089.0010	Glass bottle	10 g	inquire

## 821798 1-Fluoro-2-nitrobenzene for synthesis



$C_6H_4FNO_2$   
1-(F)C<sub>6</sub>H<sub>4</sub>-2-(NO<sub>2</sub>)  
o-Fluornitrobenzene  
■ CAS-No. 1493-27-2 ■ EC-No. 216-088-0  
■ Refractive index 1.5323 (17 °C, 589 nm)  
■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C)

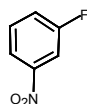
■ Flash point 94 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 141.1 g/mol ■ Melting point -8 °C  
■ Boiling point 215 °C (1013 hPa)  
■ WGK 2  
■ LGK 10 - 13  
■ HS-No. 2904 90 95 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
■ IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C / 4 °C) ..... 1.333 - 1.335  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21798.0025	Glass bottle	25 ml	inquire
8.21798.0100	Glass bottle	100 ml	inquire

## 821799 1-Fluoro-3-nitrobenzene for synthesis



$C_6H_4FNO_2$   
1-(F)C<sub>6</sub>H<sub>4</sub>-3-(NO<sub>2</sub>)  
m-Fluornitrobenzene  
■ CAS-No. 402-67-5 ■ EC-No. 206-953-0

■ Refractive index 1.528 (17 °C, 589 nm)  
■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C)  
■ Flash point 76 °C ■ Solub. in  
H<sub>2</sub>O (20 °C) insoluble ■ M = 141.1 g/mol  
■ Melting point 1.7 °C ■ Boiling point 205 °C  
■ WGK 2  
■ LGK 10 - 13  
■ HS-No. 2904 90 95 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

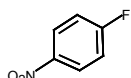
■ IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C / 4 °C) ..... 1.318 - 1.325  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21799.0025	Glass bottle	25 ml	inquire

## 820580 1-Fluoro-4-nitrobenzene for synthesis



$C_6H_4FNO_2$   
1-(F)C<sub>6</sub>H<sub>4</sub>-4-(NO<sub>2</sub>)  
p-Fluornitrobenzene  
■ CAS-No. 350-46-9 ■ EC-No. 206-502-8  
■ Refractive index 1.5312 (20 °C, 589 nm)  
■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C)

■ Flash point 83 °C ■ Solub. in  
H<sub>2</sub>O (20 °C) insoluble ■ M = 141.1 g/mol  
■ Melting point 21 °C ■ Boiling point 205 °C (1013 hPa)  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331, P304 + P340, P309 + P310  
■ LC50 rat 2.6 mg/l  
■ LGK 6.1C  
■ HS-No. 2904 90 95 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

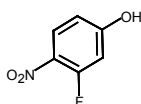
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C / 4 °C) ..... 1.329 - 1.332  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20580.0050	Glass bottle	50 ml	inquire



## 841285 3-Fluoro-4-nitrophenol for synthesis

C<sub>6</sub>H<sub>4</sub>FNO<sub>3</sub>

- CAS-No. 394-41-2 ■ EC-No. 206-895-6
- M = 157.1 g/mol ■ Melting point 90 - 93 °C

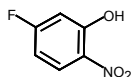
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2908 99 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 90 °C  
 Melting range (upper value)..... ≤ 93 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41285.0001	Plastic bottle	1 g	inquire

## 841204 5-Fluoro-2-nitrophenol for synthesis

C<sub>6</sub>H<sub>4</sub>FNO<sub>3</sub>

- CAS-No. 446-36-6 ■ EC-No. 207-168-6
- Vapour pressure 0.03 hPa (25 °C)
- Flash point 91 °C ■ Solub. in H<sub>2</sub>O 1.4 g/l (25 °C)
- M = 157.1 g/mol ■ Melting point 33 - 36 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2908 99 00 ■ Disposal 3

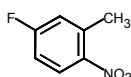
## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)

Melting range (lower value)..... ≥ 32 °C  
 Melting range (upper value)..... ≤ 35 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41204.0010	Glass bottle	10 g	inquire

## 841443 5-Fluoro-2-nitrotoluene for synthesis

C<sub>7</sub>H<sub>6</sub>FNO<sub>2</sub>

- CAS-No. 446-33-3 ■ EC-No. 207-164-4
- Spec. density 1.27 g/cm<sup>3</sup> (20 °C)
- Flash point 87 °C ■ M = 155.12 g/mol
- Boiling point 97 - 98 °C (13 hPa)

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2904 90 95 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.275 - 1.280  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41443.0005	Glass bottle	5 ml	inquire
8.41443.0025	Glass bottle	25 ml	inquire

1-(2-Fluorophenyl)ethanone → 2'-

Fluoroacetophenone page 896

1-(4-Fluorophenyl)ethanone → 4'-

Fluoroacetophenone page 896

1-(4-Fluorophenyl)-2-propanone → 4-

Fluorophenylacetone page 904

3-(4-Fluorophenyl)-propenoic acid → 4-

Fluorocinnamic acid page 901

(4-Fluoro-phenyl)trifluoromethyl ether → 4-

(Trifluoromethoxy)-1-fluorobenzene page 1593

## 821800 2-Fluorophenol for synthesis

C<sub>6</sub>H<sub>5</sub>FO2-(F)C<sub>6</sub>H<sub>4</sub>OH

- CAS-No. 367-12-4 ■ EC-No. 206-681-2
- Refractive index 1.5152 (18 °C, 589 nm)
- Spec. density 1.22 g/cm<sup>3</sup> (20 °C)
- Flash point 46 °C ■ Solub. in H<sub>2</sub>O 37.7 g/l (20 °C) ■ M = 112.1 g/mol ■ Melting point 16 °C

- Boiling point 151 - 152 °C (1013 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338
- LGK 3
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-FLUORPHENOL), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-

FLUOROPHENOLS), 6.1, II

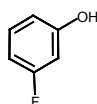
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-FLUOROPHENOLS), 6.1, II

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.214 - 1.218  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21800.0010	Glass bottle	10 ml	inquire

## 818515 3-Fluorophenol for synthesis

C<sub>6</sub>H<sub>5</sub>FO3-(F)-C<sub>6</sub>H<sub>4</sub>-OH

- CAS-No. 372-20-3 ■ EC-No. 206-748-6
- Refractive index 1.5129 (20 °C, 589 nm)
- Spec. density 1.24 g/cm<sup>3</sup> (20 °C)
- Flash point 71 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 112.1 g/mol
- Melting point 13.7 °C ■ Boiling point 178 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(3-FLUORPHENOL), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-

FLUOROPHENOLS), 6.1, II

- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-FLUOROPHENOLS), 6.1, II

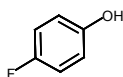
## Specification

Assay (GC, area%)..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.235 - 1.240  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18515.0010	Glass bottle	10 ml	inquire



## 4-Fluorophenol



C<sub>6</sub>H<sub>5</sub>FO  
 FC<sub>6</sub>H<sub>4</sub>OH  
*p*-Fluorophenol  
 ■ CAS-No. 371-41-5 ■ EC-No. 206-736-0  
 ■ Vapour pressure 23 hPa (87 °C)

■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 68 °C ■ Solub. in H<sub>2</sub>O 80 g/l (20 °C)  
 ■ M = 112.1 g/mol ■ pH value 5.4 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution)  
 ■ Melting point 44 - 47 °C ■ Bulk density 400 kg/m<sup>3</sup> ■ Boiling point 185 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single

exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 340 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2908 19 00 ■ Disposal 3



## 820581 4-Fluorophenol for synthesis

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 43 °C  
 Melting range (upper value)..... ≤ 46 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20581.0025	Glass bottle	25 g	inquire

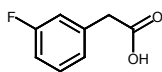
## 110539 4-Fluorophenol GR for analysis

**Specification**  
 Purity (GC)..... ≥ 99% (a/a)  
 Identity (IR-spectrum)..... conforms  
 Melting range..... 45 - 48 °C

Chloride (Cl)..... ≤ 0.002 %  
 Nitrate (NO<sub>3</sub>)..... ≤ 0.001 %  
 Nitrite (NO<sub>2</sub>)..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.10539.0010	Glass bottle	10 g	inquire

## 841867 3-Fluorophenylacetic acid for synthesis



C<sub>8</sub>H<sub>7</sub>FO<sub>2</sub>  
 ■ CAS-No. 331-25-9 ■ EC-No. 206-360-7  
 ■ Flash point >110 °C ■ M = 154.14 g/mol

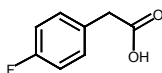
■ Melting point 44.0 - 45.2 °C  
 ■ WGK 3  
 ■ HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 45 °C  
 Melting range (upper value)..... ≤ 47 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41867.0005	Glass bottle	5 g	inquire

## 814094 4-Fluorophenylacetic acid for synthesis



C<sub>8</sub>H<sub>7</sub>FO<sub>2</sub>  
 4(F) \* C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>COOH  
 ■ CAS-No. 405-50-5 ■ EC-No. 206-972-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 154.14 g/mol

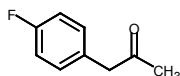
mol ■ Melting point 81 - 84 °C  
 ■ Boiling point 164 °C (3 hPa)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 81 °C

Melting range (upper value)..... ≤ 84 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14094.0010	Glass bottle	10 g	inquire
8.14094.0050	Glass bottle	50 g	inquire

## 814522 4-Fluorophenylacetone for synthesis



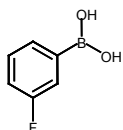
C<sub>9</sub>H<sub>9</sub>FO  
 1-(4-Fluorophenyl)-2-propanone  
 ■ CAS-No. 459-03-0 ■ EC-No. 207-284-7

■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 91 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.16 g/mol  
 ■ Boiling point 85 °C (13 hPa)  
 ■ WGK 2  
 ■ LGK 10  
 ■ HS-No. 2914 70 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,103 - 1,105  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14522.0005	Glass bottle	5 ml	inquire

## 814936 3-Fluorophenylboronic acid for synthesis



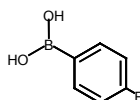
C<sub>6</sub>H<sub>6</sub>BF<sub>2</sub>O<sub>2</sub>  
 ■ CAS-No. 768-35-4

■ M = 139.92 g/mol ■ Melting point 216 - 218 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 32

**Specification**  
 Assay (HPLC, area%)..... ≥ 96,0 % (a/a)  
 Melting range (lower value)..... ≥ 215 °C  
 Melting range (upper value)..... ≤ 218 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14936.0005	Glass bottle	5 g	inquire

## 814937 4-Fluorophenylboronic acid for synthesis



C<sub>6</sub>H<sub>6</sub>BF<sub>2</sub>O<sub>2</sub>  
 ■ CAS-No. 1765-93-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 139.92 g/mol ■ Melting point 263 - 265 °C

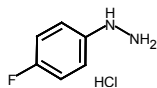
■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%)..... ≥ 96,0 % (a/a)

Melting range (lower value)..... ≥ 250 °C  
 Melting range (upper value)..... ≤ 260 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14937.0005	Glass bottle	5 g	inquire

## 841521 4-Fluoro-phenylhydrazine hydrochloride for synthesis

C<sub>6</sub>H<sub>8</sub>ClFN<sub>2</sub>C<sub>6</sub>H<sub>7</sub>FN<sub>2</sub>\*HCl

- CAS-No. 823-85-8 ■ EC-No. 212-521-2
- M = 162.59 g/mol
- Melting point 258 - 259 °C (decomposition)
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B,

H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P260, P273, P280, P302 + P352, P304 + P340, P309 + P310

■ LGK 6.1A

■ HS-No. 2928 00 90 ■ Disposal 9

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-FLUORPHENYLHYDRAZINIUMCHLORID), 6.1, III

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-FLUOROPHENYLHYDRAZINE HYDROCHLORIDE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-FLUOROPHENYLHYDRAZINE HYDROCHLORIDE), 6.1, III

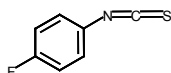
**Specification**

Assay (argentometric)..... ≥ 98.0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41521.0005	Glass bottle	5 g	inquire

## 841066 4-Fluorophenyl isothiocyanate for synthesis

C<sub>7</sub>H<sub>4</sub>FNS

- CAS-No. 1544-68-9 ■ EC-No. 216-280-4
- Flash point 89 °C ■ M = 153.17 g/mol
- Melting point 26 - 28 °C
- Boiling point 229 - 230 °C
- WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Respiratory sensitisation, Category 1, H334, P260, P304 + P341, P309 + P310, P342 + P311

■ LGK 6.1C ■ Store below +15°C.

■ HS-No. 2930 90 99 ■ Disposal 9

■ ADR-RID UN 2206 Isocyanate, giftig, n.a.g.(4-FLUORPHENYLISOTHIOCYANAT), 6.1, III ■ IMDG-Code UN 2206 ISOCYANATES, TOXIC, N.O.S.(4-FLUOROPHENYLISOTHIOCYANATE), 6.1, III

■ IATA-DGR UN 2206 ISOCYANATES, TOXIC,

N.O.S.(4-FLUOROPHENYLISOTHIOCYANATE), 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 26 °C

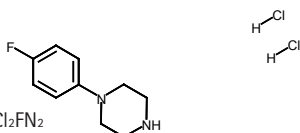
Melting range (upper value)..... ≤ 28 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41066.0005	Glass bottle	5 g	inquire

2-Fluorophenyl methanol → 2-Fluorobenzyl alcohol page 899

## 843931 1-(4-Fluorophenyl) piperazine dihydrochloride for synthesis

C<sub>10</sub>H<sub>15</sub>Cl<sub>2</sub>FN<sub>2</sub>C<sub>10</sub>H<sub>13</sub>FN<sub>2</sub>\*2HCl

- CAS-No. 64090-19-3
- M = 253.14 g/mol ■ Melting point 233 - 237 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P305 + P351 + P338, P309 +

P310

■ LD50 oral rat 169 - 320 mg/kg

■ LGK 6.1C

■ HS-No. 2933 59 95 ■ Disposal 3

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1-(4-FLUOROPHENYL) PIPERAZINDIHYDROCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-(4-FLUOROPHENYL) PIPERAZINE DIHYDROCHLORIDE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-(4-FLUOROPHENYL) PIPERAZINE DIHYDROCHLORIDE), 6.1, III

**Specification**

Colour (visual)..... white to pink

Appearance of substance (visual)..... powder

Assay (argentometric)..... ≥ 98.0 % (m)

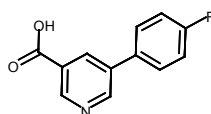
Assay (HClO<sub>4</sub>)..... ≥ 98.0 % (m)

Loss on drying..... ≤ 1.00 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.43931.0005	Glass bottle	5 g	inquire
8.43931.0025	Glass bottle	25 g	inquire

## 843818 5-(4-Fluorophenyl)pyridine-3-carboxylic acid for synthesis

C<sub>12</sub>H<sub>8</sub>FNO<sub>2</sub>

5-(4-Fluorophenyl)nicotinic acid

- CAS-No. 364064-17-5
- Spec. density 0.5 g/cm<sup>3</sup> (20 °C) ■ M = 217.20 g/

mol ■ pH value 5.7 (5 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 215 °C

■ WGK 2

■ LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 4

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**

Colour (visual)..... white to offwhite

Appearance of substance (visual)..... powder

Assay (acidimetric)..... ≥ 97.0 %

Water (K. F.)..... ≤ 1.0 %

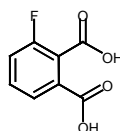
Melting range (lower value)..... ≥ 210 °C

Melting range (upper value)..... ≤ 215 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43818.0005	Glass bottle	5 g	inquire
8.43818.0025	Glass bottle	25 g	inquire

## 841139 3-Fluorophthalic acid for synthesis

C<sub>8</sub>H<sub>5</sub>FO<sub>4</sub>

3-Fluoro-1,2-benzenedicarboxylic acid

■ CAS-No. 1583-67-1 ■ EC-No. 216-433-5

■ M = 184.12 g/mol ■ Melting point 158 - 161 °C

■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2917 39 95 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 99.0 %

Melting range (lower value)..... ≥ 158 °C

Melting range (upper value)..... ≤ 161 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41139.0001	Plastic bottle	1 g	inquire

## 841430 2-Fluoropyridine for synthesis

C<sub>5</sub>H<sub>4</sub>FN

- CAS-No. 372-48-5 ■ EC-No. 206-757-5
- Spec. density 1.129 g/cm<sup>3</sup> (20 °C)
- Flash point 24 °C ■ M = 97.09 g/mol
- Boiling point 124 - 126 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3,

H226; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 3

■ HS-No. 2933 39 99 ■ Disposal 3

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-FLUOROPYRIDIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-FLUOROPYRIDINE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(2-FLUOROPYRIDINE), 3, III

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)

Density (d 20 °C / 4 °C)..... 1.129 - 1.133

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41430.0025	Glass bottle	25 ml	inquire

## 842782 3-Fluoropyridine for synthesis

C<sub>5</sub>H<sub>4</sub>FN

- CAS-No. 372-47-4 ■ EC-No. 206-755-4
- Spec. density 1.136 g/cm<sup>3</sup> (20 °C)
- Flash point 13 °C ■ M = 97.09 g/mol
- Boiling point 107 - 108 °C (1013 hPa)
- WGK 3
- GHS: Danger, Flammable liquid, Category 2,

H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P302 + P352, P304 + P340, P305 + P351 + P338

- LGK 3
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-FLUOROPYRIDIN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-FLUOROPYRIDINE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

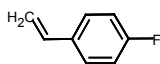
N.O.S.(3-FLUOROPYRIDINE), 3, II

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.134 - 1.138  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42782.0001	Glass bottle	1 ml	inquire
8.42782.0025	Glass bottle	25 ml	inquire

## 841433 4-Fluorostyrene (stabilised) for synthesis

C<sub>8</sub>H<sub>7</sub>F

- CAS-No. 405-99-2 ■ EC-No. 206-975-0
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point 26 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 122.14 g/mol
- Boiling point 145 - 148 °C (1013 hPa)

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3 ■ Store below +15°C.
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4-FLUOROSTYROL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4-FLUOROSTYRENE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

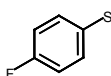
N.O.S.(4-FLUOROSTYRENE), 3, III

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.021 - 1.026  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41433.0001	Glass bottle	1 ml	inquire

## 841428 4-Fluorothiophenol for synthesis

C<sub>6</sub>H<sub>5</sub>FS

- CAS-No. 371-42-6 ■ EC-No. 206-737-6
- Spec. density 1.203 g/cm<sup>3</sup> (20 °C)
- Flash point 54 °C ■ M = 128.16 g/mol
- Boiling point 170 - 172 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3,

H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P302 + P352, P304 + P340, P305 + P351 + P338

- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(4-FLUORTHIOPHENOL), 3 (6.1), III
- IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(4-FLUOROTHIOPHENOL), 3 (6.1), III
- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC,

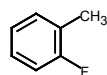
N.O.S.(4-FLUOROTHIOPHENOL), 3 (6.1), III

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.195 - 1.201  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41428.0005	Glass bottle	5 ml	inquire

## 822054 2-Fluorotoluene for synthesis

C<sub>7</sub>H<sub>7</sub>F

- 2-(F)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>  
1-Fluoro-2-methylbenzene
- CAS-No. 95-52-3 ■ EC-No. 202-428-5
  - Refractive index 1.4727 (20 °C, 589 nm)
  - Vapour pressure 25 hPa (20 °C)
  - Spec. density 1.005 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 % (V) ■ Flash point 12 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 110.13 g/mol ■ Melting point -62 °C ■ Boiling point 114 °C

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P262
- LC50 rat > 5.77 mg/l
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 3
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2388 Fluortoluene, 3, II ■ IMDG-Code UN 2388 FLUOROTOLUENES, 3, II,

Segregation Group: 10 (Liquid halogenated hydrocarbons)

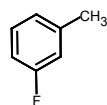
■ IATA-DGR UN 2388 FLUOROTOLUENES, 3, II

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1,004 - 1,005  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22054.0100	Glass bottle	100 ml	inquire
8.22054.0500	Glass bottle	500 ml	inquire

## 820582 3-Fluorotoluene for synthesis

C<sub>7</sub>H<sub>7</sub>F

- 3-(F)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>
- CAS-No. 352-70-5 ■ EC-No. 206-524-8
  - Vapour pressure 28.3 hPa (25 °C)
  - Spec. density 1.00 g/cm<sup>3</sup> (20 °C)
  - Flash point 12 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 110.13 g/mol ■ Melting point -88 °C ■ Boiling point 116 °C

- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P262
- LD50 oral rat 5000 mg/kg ■ LD50 dermal rat > 10000 mg/kg
- LGK 3
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2388 Fluortoluene, 3, II ■ IMDG-Code UN 2388 FLUOROTOLUENES, 3, II,

Segregation Group: 10 (Liquid halogenated hydrocarbons)

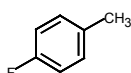
■ IATA-DGR UN 2388 FLUOROTOLUENES, 3, II

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.997 - 0.999  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20582.0025	Glass bottle	25 ml	inquire

## 821802 4-Fluorotoluene for synthesis

C<sub>7</sub>H<sub>7</sub>F

- 4-(F)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>
- CAS-No. 352-32-9 ■ EC-No. 206-520-6
  - Refractive index 1.4688 (20 °C, 589 nm)
  - Vapour pressure 23 hPa (20 °C)
  - Spec. density 1.00 g/cm<sup>3</sup> (20 °C)
  - Flash point 10 °C ■ Solub. in H<sub>2</sub>O 200 mg/l

(20 °C) ■ M = 110.13 g/mol ■ Melting point -57 °C ■ Boiling point 116 °C

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P223, P262
- LD50 oral rat 7000 mg/kg
- LGK 3
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2388 Fluortoluene, 3, II ■ IMDG-Code UN 2388 FLUOROTOLUENES, 3, II, Segregation Group: 10 (Liquid halogenated

hydrocarbons)

■ IATA-DGR UN 2388 FLUOROTOLUENES, 3, II

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.996 - 0.998  
Identity (IR)..... passes test

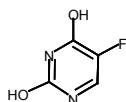
Ord.No.	Packaging	Quantity	Price
8.21802.0100	Glass bottle	100 ml	inquire

1-Fluoro-4-(trifluoromethoxy)benzene → 4-(Trifluoromethoxy)-1-fluorobenzene page 1593

2-Fluoro-5-(trifluoromethyl)aniline → 3-Amino-4-fluorobenzotrifluoride page 388

4-Fluoro-3-(trifluoromethyl)aniline → 5-Amino-2-fluorobenzotrifluoride page 388

## 818505 5-Fluorouracil for synthesis



C<sub>4</sub>H<sub>3</sub>FN<sub>2</sub>O<sub>2</sub>

5-Fluoro-2,4-dihydroxypyrimidine

- CAS-No. 51-21-8 ■ EC-No. 200-085-6
- Solub. in H<sub>2</sub>O 12 g/l (20 °C) ■ M = 130.08 g/mol
- pH value 4.3 - 5.3 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 282 - 283 °C (decomposition)

- Boiling point 190 - 200 °C (0.13 hPa)
- WGK 3
- GHS: Danger, Carcinogenicity, Category 2, H351; Acute toxicity, Category 3, Oral, H301, P262, P281, P309 + P310
- LD50 oral rat 230 mg/kg
- LGK 6.1C
- HS-No. 2933 59 95 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(5-FLUOR-2,4-DIHYDROXYPYRIMIDIN), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID,

ORGANIC, N.O.S.(5-FLUORO-2,4-DIHYDROXYPYRIMIDINE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(5-FLUORO-2,4-DIHYDROXYPYRIMIDINE), 6.1, III

### Specification

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18505.0005	Plastic bottle	5 g	inquire

Fmoc-Lys<sub>2</sub>-Lys-β-Ala-Wang resin → page 266  
 Fmoc-Lys<sub>4</sub>-Lys<sub>2</sub>-Lys-β-Ala-Wang resin → page 266  
 Fmoc-Lys<sub>4</sub>-Lys<sub>2</sub>-Lys-Cys(Acm)-β-Ala-Wang resin → page 266  
 (2S,3S)-Fmoc-Abu(3-N3)-OH → page 227  
 Fmoc-γ-Abu-OH → page 227  
 Fmoc-Abu-OH → page 227  
 Fmoc-ACA-OH → page 227  
 Fmoc-ADMA(Pbf)-OH → page 228  
 Fmoc-L-Agp(Boc)<sub>2</sub>-OH → page 228  
 Fmoc-ε-Ahx-OH → page 227  
 Fmoc-Aib-OH → page 228  
 Fmoc-Ala-(Dmb)Gly-OH → page 257  
 Fmoc-Ala-NovaSyn® TGA → page 274  
 Fmoc-Ala-NovaSyn® TGT → page 274  
 Fmoc-β-Ala-OH → page 227  
 Fmoc-D-Ala-OH → page 227  
 Fmoc-Ala-OH → page 227  
 Fmoc-Ala-OPfp → page 227  
 Fmoc-Ala-Ser(psiMe,Mepro)-OH → page 255  
 Fmoc-Ala-4-Sulfamylbutyryl Rink Amide AM resin → page 262  
 Fmoc-Ala-Thr(psiMe,Mepro)-OH → page 256  
 Fmoc-D-Ala-Wang resin → page 275  
 Fmoc-β-Ala-Wang resin (100-200 mesh) → page 275  
 Fmoc-Ala-Wang resin (100-200 mesh) → page 275  
 Fmoc-Ala-Wang resin LL → page 277  
 Fmoc-L-allysine ethylene acetal → page 235  
 (S)-N-Fmoc-alpha-4-n-pentenylalanine → page 227  
 Fmoc-Arg(Boc)<sub>2</sub>-OH → page 228  
 Fmoc-Arg(bis-Boc-resin)-AMC → page 260  
 Fmoc-Arg(Me,Pbf)-OH → page 228

Fmoc-Gln(Trt)-Thr(psiMe,Mepro)-OH → page 255  
 Fmoc-D-Gln(Trt)-Wang resin → page 276  
 Fmoc-Gln(Trt)-Wang resin (100-200 mesh) → page 276  
 Fmoc-Gln(Trt)-Wang resin LL → page 277  
 Fmoc-Glu(biotinyl-PEG)-OH → page 231  
 Fmoc-Glu(EDANS)-OH → page 231  
 Fmoc-Glu(NovaSyn®TGA)-OAll → page 274  
 Fmoc-Glu-OAll → page 231  
 Fmoc-Glu(OAll)-OH → page 231  
 Fmoc-Glu-OBzl → page 231  
 Fmoc-Glu(OBzl)-OH → page 231  
 Fmoc-D-Glu-ODmab → page 231  
 Fmoc-Glu-ODmab → page 231  
 Fmoc-Glu(ODmab)-OH → page 231  
 Fmoc-Glu-OtBu → page 231  
 Fmoc-Glu(OtBu)-NovaSyn TGA → page 274  
 Fmoc-Glu(OtBu)-NovaSyn® TGT → page 274  
 Fmoc-D-Glu(OtBu)-OH → page 231  
 Fmoc-Glu(OtBu)-OH → page 231  
 Fmoc-Glu(OtBu)-OPfp → page 231  
 Fmoc-Glu(OtBu)-Ser(psiMe,Mepro)-OH → page 256  
 Fmoc-Glu(OtBu)-Thr(psiMe,Mepro)-OH → page 256  
 Fmoc-D-Glu(OtBu)-Wang resin → page 276  
 Fmoc-Glu(OtBu)-Wang resin (100-200 mesh) → page 276  
 Fmoc-Glu(OtBu)-Wang resin LL → page 277  
 Fmoc-Glu-O-2-PhiPr → page 231  
 Fmoc-Glu(O-2-PhiPr)-OH → page 231  
 Fmoc-Glu(Wang resin LL)-OAll → page 278  
 Fmoc-Glu(Wang resin LL)-ODmab → page 278  
 Fmoc-Glu(Wang resin)-OAll → page 277

Fmoc-NH-(PEG)<sub>2</sub>-COOH (20 atoms) → page 259  
 Fmoc-NH-(PEG)<sub>3</sub>-COOH (16 atoms) → page 259  
 Fmoc-NH-(PEG)<sub>4</sub>-COOH (19 atoms) → page 259  
 Fmoc-NH-(PEG)<sub>11</sub>-COOH (40 atoms) → page 259  
 Fmoc-NH-(PEG)<sub>27</sub>-COOH (88 atoms) → page 259  
 Fmoc-NH-(PEG)-COOH (9 atoms) → page 259  
 Fmoc-NH-(PEG)<sub>5</sub>-COOH (22 atoms) → page 259  
 Fmoc-D-Nle-OH → page 235  
 Fmoc-Nle-OH → page 235  
 Fmoc-D-Nva-OH → page 236  
 Fmoc-Nva-OH → page 236  
 Fmoc-ONSu → 9-Fluorenylmethyl-succinimidyl-carbonate page 895  
 Fmoc-D-Orn(Boc)-OH → page 236  
 Fmoc-Orn(Boc)-OH → page 236  
 Fmoc-Orn(ivDde)-OH → page 236  
 Fmoc-Orn(Mtt)-OH → page 236  
 Fmoc-OSu → page 280  
 Fmoc-Oxyma → page 280  
 Fmoc-PABA-OH → page 227  
 Fmoc-PAL AM resin → page 265  
 Fmoc-PEG Biotin NovaTag™ resin → page 261  
 Fmoc-Pen(Trt)-OH → page 230  
 Fmoc-Phe(bis-Boc-4-guanidino)-OH → page 236  
 Fmoc-Phe(CF<sub>2</sub>PO<sub>3</sub>)-OH → page 236  
 Fmoc-Phe(4-Cl)-OH → page 236  
 Fmoc-Phe(4-F)-OH → page 236  
 Fmoc-Phe(4-NO<sub>2</sub>)-OH → page 236  
 Fmoc-Phe-NovaSyn® TGA → page 274  
 Fmoc-Phe-NovaSyn® TGT → page 275  
 Fmoc-D-Phe-OH → page 236



# Fmocly

**A** Fmoc-Arg(Pbf)-NovaSyn® TGA → page 274

Fmoc-Arg(Pbf)-NovaSyn® TGT → page 275

**B** Fmoc-D-Arg(Pbf)-OH → page 228

Fmoc-Arg(Pbf)-OH → page 228

Fmoc-Arg(Pbf)-OPfp → page 228

**C** Fmoc-D-Arg(Pbf)-Wang resin (100-200 mesh) → page 277

Fmoc-Arg(Pbf)-Wang resin (100-200 mesh) → page 275

Fmoc-Arg(Pbf)-Wang resin LL → page 277

**D** Fmoc-D-Arg(Pmc)-OH → page 228

Fmoc-Arg(Pmc)-OH → page 228

Fmoc-Arg(Pmc)-Wang resin (100-200 mesh) → page 275

**E** Fmoc-Asn(Ac<sub>3</sub>AcNH-β-Glc)-OH → page 228

Fmoc-Asn(Dmcp)-OH → page 228

Fmoc-D-Asn-OH → page 228

Fmoc-Asn-OH → page 228

**F** Fmoc-Asn(Trt)-NovaSyn® TGA → page 274

Fmoc-Asn(Trt)-NovaSyn® TGT → page 274

Fmoc-D-Asn(Trt)-OH → page 228

**G** FMOC-Asn(Trt)-OH → page 228

Fmoc-Asn(Trt)-OPfp → page 228

Fmoc-Asn(Trt)-Ser(psiMe,Mepro)-OH → page 256

Fmoc-Asn(Trt)-Thr(psiMe,Mepro)-OH → page 256

Fmoc-D-Asn(Trt)-Wang resin → page 276

Fmoc-Asn(Trt)-Wang resin (100-200 mesh) → page 275

Fmoc-Asn(Trt)-Wang resin LL → page 277

**H** Fmoc-Asp-O-2PhiPr → page 229

Fmoc-Asp(biotinyl-PEG)-OH → page 229

Fmoc-Asp(EDANS)-OH → page 229

Fmoc-Asp(NovaSyn® TGA)-OAll → page 274

Fmoc-Asp-OAll → page 229

**I** Fmoc-Asp(OAll)-OH → page 229

Fmoc-Asp-OBzl → page 229

Fmoc-Asp(OBzl)-OH → page 229

Fmoc-Asp-ODmab → page 229

Fmoc-Asp(ODmab)-OH → page 229

**J** Fmoc-Asp(OMpe)-OH → page 229

Fmoc-D-Asp-OtBu → page 229

Fmoc-Asp-OtBu → page 229

**K** Fmoc-Asp(OtBu)-(Dmb)Gly-OH → page 257

Fmoc-Asp(OtBu)-NovaSyn® TGA → page 274

Fmoc-Asp(OtBu)-NovaSyn® TGT → page 274

**L** Fmoc-D-Asp(OtBu)-OH → page 229

Fmoc-Asp(OtBu)-OH → page 229

Fmoc-Asp(OtBu)-OPfp → page 229

Fmoc-Asp(OtBu)-Ser(psiMe,Mepro)-OH → page 256

Fmoc-Asp(OtBu)-Thr(psiMe,Mepro)-OH → page 255

Fmoc-D-Asp(OtBu)-Wang resin → page 276

Fmoc-Asp(OtBu)-Wang resin (100-200 mesh) → page 276

Fmoc-Asp(OtBu)-Wang resin LL → page 277

**M** Fmoc-Asp(O-2-PhiPr)-OH → page 229

Fmoc-Asp(Wang-resin)-AMC → page 260

Fmoc-Asp(Wang resin LL)-OAll → page 277

Fmoc-Asp(Wang resin LL)-ODmab → page 277

Fmoc-Asp(Wang resin)-OAll (100-200 mesh) → page 277

**N** Fmoc-L-β-Azidoalanine → page 227

Fmoc-L-γ-azidohomoalanine-OH → page 227

Fmoc-L-azidolysine → page 235

Fmoc-L-δ-azidonorvaline-OH → page 236

Fmoc-L-bishomopropargylglycine → page 232

Fmoc-α-t-butylglycine → page 229

**O** Fmoc-Glu(Wang resin)-ODmab (100-200 mesh) → page 277

FMOC-Glycine → N-(9-Fluorenylmethoxycarbonyl)-glycine page 894

Fmoc-Gly-(Dmb)Gly-OH → page 257

Fmoc-Gly-NovaSyn® TGT → page 274

Fmoc-Gly-OH → page 232

Fmoc-Gly-OPfp → page 232

Fmoc-Gly-Ser(psiMe,Mepro)-OH → page 255

Fmoc-Gly-4-Sulfamylbutyryl Rink Amide AM resin → page 262

Fmoc-Gly-Thr(psiMe,Mepro)-OH → page 255

Fmoc-Gly-Wang resin (100-200 mesh) → page 276

Fmoc-Gly-Wang resin LL → page 277

**P** Fmoc-hArg(Pbf)-OH → page 233

Fmoc-hCys(Trt)-OH → page 233

Fmoc-His(Boc)-OH-CHA → page 232

Fmoc-His(Mtt)-OH → page 232

Fmoc-His(Trt)-NovaSyn® TGT → page 274

Fmoc-D-His(Trt)-OH → page 232

Fmoc-His(Trt)-OH → page 232

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Fmoc-L-homopropargylglycine → page 232

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4-Fmoc-hydrazinobenzoyl AM NovaGel™ → page 266

**Q** Fmoc-Hyp-OH → page 233

Fmoc-Hyp(tBu)-OH → page 233

Fmoc-Ile-(Dmb)Gly-OH → page 257

Fmoc-Ile-NovaSyn® TGA → page 274

Fmoc-Ile-NovaSyn TGT → page 274

Fmoc-Ile-OH → page 233

**R** Fmoc-Ile-OPfp → page 233

Fmoc-Ile-Ser(psiMe,Mepro)-OH → page 256

Fmoc-Ile-Thr(psiMe,Mepro)-OH → page 256

Fmoc-Ile-Wang resin (100-200 mesh) → page 276

**S** Fmoc-Ile-Wang resin LL → page 277

Fmoc-Isn-OH → page 234

Fmoc-Leu-(Dmb)Gly-OH → page 257

Fmoc-Leu-NovaSyn® TGA → page 274

Fmoc-Leu-NovaSyn® TGT → page 274

Fmoc-D-Leu-OH → page 234

Fmoc-Leu-OH → page 234

Fmoc-Leu-OPfp → page 234

Fmoc-Leu-Ser(psiMe,Mepro)-OH → page 256

Fmoc-Leu-Thr(psiMe,Mepro)-OH → page 256

Fmoc-D-Leu-Wang resin → page 276

Fmoc-Leu-Wang resin (100-200 mesh) → page 276

Fmoc-Leu-Wang resin LL → page 277

**T** Fmoc-Lys(Ac)-OH → page 234

Fmoc-Lys(Alloc)-OH → page 235

Fmoc-Lys(biotin)-OH → page 235

Fmoc-Lys(biotinyl-ε-aminocaproyl)-OH → page 235

Fmoc-Lys(Boc)-NovaSyn® TGA → page 274

Fmoc-Lys(Boc)-NovaSyn® TGT → page 274

Fmoc-D-Lys(Boc)-OH → page 234

Fmoc-Lys(Boc)-OH → page 234

Fmoc-Lys(Boc)-OPfp → page 234

Fmoc-Lys(Boc)-Ser(psiMe,Mepro)-OH → page 256

Fmoc-Lys(Boc)-Thr(psiMe,Mepro)-OH → page 256

Fmoc-D-Lys(Boc)-Wang resin → page 276

Fmoc-Lys(Boc)-Wang resin (100-200 mesh) → page 276

**U** Fmoc-Phe-OH → page 236

Fmoc-Phe-OPfp → page 236

Fmoc-Phe-Ser(psiMe,Mepro)-OH → page 256

Fmoc-Phe-Thr(psiMe,Mepro)-OH → page 256

Fmoc-D-Phe-Wang resin → page 276

Fmoc-Phe-Wang resin (100-200 mesh) → page 276

Fmoc-Phe-Wang resin LL → page 277

**V** Fmoc-D-Phg-OH → page 237

Fmoc-Phg-OH → page 237

Fmoc-Pro-NovaSyn® TGT → page 275

cis-Fmoc-Pro(4-N<sub>3</sub>)-OH → page 237

Fmoc-D-Pro-OH → page 237

Fmoc-Pro-OH → page 237

Fmoc-Pro-OPfp → page 237

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**W** FMOC-RINK LINKER → page 279

Fmoc-Sar-OH → page 237

Fmoc-SDMA(Boc)<sub>2</sub>-ONa → page 228

Fmoc-Sec(pMeOBzl)-OH → page 237

Fmoc-Ser(Ac<sub>3</sub>AcNH-α-Gal)-OH → page 238

Fmoc-Ser(Ac<sub>3</sub>AcNH-β-Glc)-OH → page 238

Fmoc-Ser(Bzl)-OH → page 237

Fmoc-D-Ser-OH → page 237

Fmoc-Ser-OH → page 237

Fmoc-D-Ser(PO(OBzl)OH)-OH → page 238

Fmoc-Ser(PO(OBzl)OH)-OH → page 237

Fmoc-Ser(tBu)-NovaSyn® TGA → page 274

Fmoc-Ser(tBu)-NovaSyn® TGT → page 275

Fmoc-D-Ser(tBu)-OH → page 237

Fmoc-Ser(tBu)-OH → page 237

**X** Fmoc-Ser(tBu)-OPfp → page 238

Fmoc-Ser(tBu)-Ser(psiMe,Mepro)-OH → page 256

Fmoc-Ser(tBu)-Thr(psiMe,Mepro)-OH → page 256

Fmoc-D-Ser(tBu)-Wang resin → page 276

Fmoc-Ser(tBu)-Wang resin (100-200 mesh) → page 276

Fmoc-Ser(tBu)-Wang resin LL → page 277

**Y** Fmoc-D-Ser(Trt)-OH → page 238

Fmoc-Ser(Trt)-OH → page 237

Fmoc-Sta-OH → page 238

Fmoc-D-Thi-OH → page 238

Fmoc-Thi-OH → page 238

Fmoc-L-thioproline → page 230

Fmoc-Thr(Ac<sub>3</sub>AcNH-β-Glc)-OH → page 239

Fmoc-Thr(Ac<sub>3</sub>AcNH-α-Gal)-OH → page 239

Fmoc-Thr(Bzl)-OH → page 238

Fmoc-D-Thr-OH → page 238

Fmoc-Thr-OH → page 238

Fmoc-D-Thr(PO(OBzl)OH)-OH → page 239

Fmoc-Thr(PO(OBzl)OH)-OH → page 238

Fmoc-Thr(tBu)-NovaSyn® TGA → page 274

Fmoc-Thr(tBu)-NovaSyn® TGT → page 275

Fmoc-D-Thr(tBu)-OH → page 238

Fmoc-Thr(tBu)-OH → page 238

Fmoc-D-Thr(tBu)-Wang resin → page 276

Fmoc-Thr(tBu)-Wang resin (100-200 mesh) → page 276

Fmoc-Thr(tBu)-Wang resin LL → page 277

**Z** Fmoc-D-Thr(Trt)-OH → page 238

Fmoc-Thr(Trt)-OH → page 238

Fmoc-D-Tic-OH → page 238

Fmoc-Tic-OH → page 238

Fmoc-D- $\alpha$ -t-butylglycine → page 229	Fmoc-Lys(Boc)-Wang resin LL → page 277	Fmoc-TOAC-OH → page 261
Fmoc-p-Bz-Phe-OH → page 236	Fmoc-Lys(carbamate wang resin)-AMC → page 260	Fmoc-Trp(Boc)-NovaSyn® TGA → page 274
Fmoc-D-Cha-OH → page 230	Fmoc-Lys(DabcyI)-OH → page 235	Fmoc-Trp(Boc)-NovaSyn® TGT resin → page 275
Fmoc-Cha-OH → page 229	Fmoc-D-Lys(Dde)-OH → page 234	Fmoc-D-Trp(Boc)-OH → page 239
Fmoc-Cit-OH → page 229	Fmoc-Lys(Dde)-OH → page 234	Fmoc-Trp(Boc)-OH → page 239
FMOCCI → (9-Fluorenylmethyl) chloroformate page 895	Fmoc-Lys(Dnp)-OH → page 235	Fmoc-Trp(Boc)-OPfp → page 239
Fmoc-L-4-cyanophenylalanine → page 236	Fmoc-Lys(Fmoc)-OH → page 234	Fmoc-Trp(Boc)-Ser(ψMe,Mepro)-OH → page 256
Fmoc-D-Cys(Acm)-OH → page 230	Fmoc-Lys(ivDde)-OH → page 234	Fmoc-Trp(Boc)-Thr(ψMe,Mepro)-OH → page 256
Fmoc-Cys(Acm)-OH → page 230	Fmoc-Lys(ivDde)-Wang resin (100-200 mesh) → page 277	Fmoc-D-Trp(Boc)-Wang resin (100-200 mesh) → page 277
Fmoc-D-Cys(Acm)-Wang resin → page 276	Fmoc-Lys(Mca)-OH → page 234	Fmoc-Trp(Boc)-Wang resin (100-200 mesh) → page 276
Fmoc-Cys(Acm)-Wang resin (100-200 mesh) → page 276	Fmoc-Lys(Me) <sub>2</sub> -OH HCl → page 235	Fmoc-Trp(Boc)-Wang resin LL → page 277
Fmoc-Cys(Mmt)-OH → page 230	Fmoc-Lys(Me,Boc)-OH → page 235	Fmoc-Trp-NovaSyn® TGT → page 275
Fmoc-Cys(tBu)-OH → page 230	Fmoc-Lys(Me <sub>3</sub> Cl)-OH → page 235	Fmoc-D-Trp-OH → page 239
Fmoc-Cys(tButhio)-OH → page 230	Fmoc-Lys(Mmt)-OH → page 235	Fmoc-Trp-OH → page 239
Fmoc-Cys(tButhio)-Wang resin (100-200 mesh) → page 276	Fmoc-Lys(Mtt)-OH → page 234	Fmoc-Tyr(2-Br-Z)-OH → page 239
Fmoc-Cys(Trt)-NovaSyn® TGA → page 274	Fmoc-Lys(Mtt)-Wang resin (100-200 mesh) → page 276	Fmoc-Tyr(2-ClTrt)-OH → page 239
Fmoc-Cys(Trt)-NovaSyn® TGT → page 274	Fmoc-Lys-OH → page 234	Fmoc-Tyr(Me)-OH → page 239
Fmoc-D-Cys(Trt)-OH → page 230	Fmoc-Lys(Tfa)-OH → page 234	Fmoc-Tyr-OH → page 239
Fmoc-Cys(Trt)-OH → page 230	Fmoc-Lys(Z)-OH → page 234	Fmoc-Tyr(PO <sub>3</sub> H <sub>2</sub> )-OH → page 239
Fmoc-Cys(Trt)-OPfp → page 230	Fmoc-D-MeAla-OH → page 227	Fmoc-Tyr(PO(NMe <sub>2</sub> ) <sub>2</sub> )-OH → page 239
Fmoc-Cys(Trt)-Wang resin (100-200 mesh) → page 276	Fmoc-MeAla-OH → page 227	Fmoc-D-Tyr(PO(OBzl)OH)-OH → page 239
Fmoc-Cys(Trt)-Wang resin LL → page 277	Fmoc-N-Me-Asn(Trt)-OH → page 228	Fmoc-Tyr(PO(OBzl)OH)-OH → page 239
Fmoc-Dab(Boc)-OH → page 230	Fmoc-N-Me-Asp(OtBu)-OH → page 229	Fmoc-Tyr(SO <sub>3</sub> NP)-OH → page 240
Fmoc-D-Dab(ivDde)-OH → page 230	Fmoc-N-Me-Cys(Trt)-OH → page 230	Fmoc-Tyr(SO <sub>3</sub> .NnBu <sub>4</sub> )-OH → page 239
Fmoc-Dab(ivDde)-OH → page 230	Fmoc-N-Me-Glu(OtBu)-OH → page 231	Fmoc-Tyr(tBu)-NovaSyn® TGA → page 274
Fmoc-Dab(Mtt)-OH → page 230	Fmoc-N-Me-His(Trt)-OH → page 232	Fmoc-Tyr(tBu)-NovaSyn TGT → page 275
Fmoc-3,4-dehydro-Pro-OH → page 237	Fmoc-Melle-OH → page 233	Fmoc-D-Tyr(tBu)-OH → page 239
Fmoc-(Dmb)Gly-OH → page 232	Fmoc-MeLeu-OH → page 234	Fmoc-Tyr(tBu)-OH → page 240
Fmoc-DOPA(acetonide)-OH → page 231	Fmoc-N-Me-Lys(Boc)-OH → page 235	Fmoc-Tyr(tBu)-OPfp → page 239
Fmoc-Dpr(Boc-Aoa)-OH → page 262	Fmoc-N-Me-Met-OH → page 235	Fmoc-Tyr(tBu)-Ser(ψMe,Mepro)-OH → page 256
Fmoc-Dpr(Boc)-OH → page 230	Fmoc-MePhe-OH → page 236	Fmoc-Tyr(tBu)-Thr(ψMe,Mepro)-OH → page 256
Fmoc-Dpr(Boc-Ser(tBu))-OH → page 262	Fmoc-N-Me-Ser(tBu)-OH → page 238	Fmoc-D-Tyr(tBu)-Wang resin → page 276
Fmoc-D-Dpr(ivDde)-OH → page 231	Fmoc-N-Me-Thr(tBu)-OH → page 239	Fmoc-Tyr(tBu)-Wang resin (100-200 mesh) → page 276
Fmoc-Dpr(ivDde)-OH → page 231	Fmoc-1-methyl-L-histidine → page 232	Fmoc-Tyr(tBu)-Wang resin LL → page 277
Fmoc-Dpr(Mtt)-OH → page 230	Fmoc-3-methyl-L-histidine → page 232	Fmoc-Val-(Dmb)Gly-OH → page 257
Fmoc-(FmocHmb)Ala-OH → page 227	Fmoc-Met-NovaSyn® TGA → page 274	Fmoc-Val-NovaSyn® TGA → page 274
Fmoc-(FmocHmb)Gly-OH → page 232	Fmoc-Met-NovaSyn® TGT → page 275	Fmoc-Val-NovaSyn® TGT → page 275
Fmoc-(FmocHmb)Leu-OH → page 234	Fmoc-Met(O <sub>2</sub> )-OH → page 235	Fmoc-D-Val-OH → page 240
Fmoc-(FmocHmb)Lys(Boc)-OH → page 234	Fmoc-D-Met-OH → page 235	Fmoc-Val-OH → page 240
Fmoc-(FmocHmb)Phe-OH → page 236	Fmoc-Met-OH → page 235	Fmoc-Val-OPfp → page 240
Fmoc-(FmocHmb)Val-OH → page 240	Fmoc-Met(O)-OH → page 235	Fmoc-Val-Ser(ψMe,Mepro)-OH → page 256
Fmoc-Gln(Dmcp)-OH → page 232	Fmoc-Met-OPfp → page 235	Fmoc-Val-Thr(ψMe,Mepro)-OH → page 256
Fmoc-D-Gln-OH → page 231	Fmoc-N-Me-Trp(Boc)-OH → page 239	Fmoc-D-Val-Wang resin → page 277
Fmoc-Gln-OH → page 231	Fmoc-D-Met-Wang resin → page 276	Fmoc-Val-Wang resin (100-200 mesh) → page 277
Fmoc-Gln(Trt)-NovaSyn® TGA → page 274	Fmoc-Met-Wang resin (100-200 mesh) → page 276	Fmoc-Val-Wang resin LL → page 277
Fmoc-Gln(Trt)-NovaSyn® TGT → page 274	Fmoc-Met-Wang resin LL → page 277	FMPB AM resin → page 265
Fmoc-D-Gln(Trt)-OH → page 232	Fmoc-N-Me-Tyr(tBu)-OH → page 240	FMPB NovaGel™ HL → page 265
Fmoc-Gln(Trt)-OH → page 232	Fmoc-MeVal-OH → page 240	FMPE polystyrene HL → page 267
Fmoc-Gln(Trt)-OPfp → page 232	Fmoc-NCS → page 236	
Fmoc-Gln(Trt)-Ser(ψMe,Mepro)-OH → page 256	Fmoc-NH-(PEG) <sub>2</sub> -COOH (13 atoms) → page 259	

## 103984 Folic acid for biochemistry

C<sub>19</sub>H<sub>19</sub>N<sub>7</sub>O<sub>6</sub>

*Pteroylglutamic acid*

- CAS-No. 59-30-3 ■ EC-No. 200-419-0
- Solub. in H<sub>2</sub>O 0.002 g/l (25 °C) ■ M = 441.4 g/mol
- pH value 4.0 - 4.8 (100 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 250 °C ■ Bulk density 110 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2936 29 00 ■ Disposal 3

### Specification

Assay (HPLC, calc. on anhydrous substance)... 97.0 - 102.0 %

Identity (HPLC)..... conforms

Identity (IR-spectrum)..... conforms

Absorption ratio (A<sub>256</sub>/A<sub>365</sub>)..... 2.80 - 3.00

Spec. rotation (α 20/D; 10 g/l; NaOH 0,1 mol/l; calc. on anhydrous subst.)..... +18 - +22 °

Related substances (HPLC)

- (N-(4-aminobenzoyl)-L-glutamic acid (impurity

A))..... ≤ 0.5 %

- (Pterioic acid (impurity D))..... ≤ 0.6 %

- (sum of impurities (except impurity A and D))..... ≤ 1.0 %

Water (according to Karl Fischer)..... 5.0 - 8.5 %

Ord.No.	Packaging	Quantity	Price
1.03984.0005	Glass bottle	5 g	inquire
1.03984.0025	Glass bottle	25 g	inquire

## 109001 Folin-Ciocalteu's phenol reagent

Reagent for phenol and bovine serum albumine acc. to Folin and Ciocalteu

- Spec. density 1.24 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 3
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff,

n.a.g.(PHOSPHORSAEURE UND ENTH. SALZSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(PHOSPHORIC ACID AND CONT. HYDROCHLORIC ACID), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(PHOSPHORIC ACID AND CONT. HYDROCHLORIC ACID), 8, III

The reagent corresponds in its composition to molybdate-tungstenate reagent R (DAB 10) and to

phenol reagent stock solution for the determination of pepsin activity (FIP).

## Specification

Equivalent acid .....c(H<sup>+</sup>) = 2 mol/l (2N)  
Sensitivity (to phenol)..... conforms  
Sensitivity (to bovine serum albumin)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09001.0100	Glass bottle	100 ml	inquire
1.09001.0500	Glass bottle	500 ml	inquire

## Food and beverages analysis with the Reflectoquant® system

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
50	116892	Ammonium Test	71	116995	Nitrate Test	80	116992	Potassium Test
52	116981	Ascorbic Acid Test	71	116971	Nitrate Test	91	116970	Reflectometer
53	116125	Calcium Test	75	116975	Peracetic Acid Test	91	116998	Software
91	116957	Check Set	75	116976	Peracetic Acid Test	83	116141	Sucrose (Saccharose) Test
56	116896	Chlorine Test	75	116974	Peroxide Test	84	116987	Sulfite Test
65	116720	Glucose Test	75	116731	Peroxide Test	87	116997	Total Hardness Test
67	116127	Lactic Acid Test	79	116978	Phosphate Test	88	116136	Total Sugar Test (glucose and fructose)
68	116124	Magnesium Test	77	116894	pH Test			
68	116128	Malic Acid Test	77	116996	pH Test			

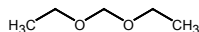
Food hygiene, production → Hygiene monitoring

Formaldehyde Cell Test → page 64

Formaldehyde, determination → page 64

Formal → page 910

## 814549 Formaldehyde diethyl acetal (stabilised with 2,6-di-tert-butyl-4-methylphenol) for synthesis



C<sub>5</sub>H<sub>12</sub>O<sub>2</sub>

Diethoxymethane

- CAS-No. 462-95-3 ■ EC-No. 207-330-6
- Vapour pressure 70 hPa (20 °C)
- Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 % (V) ■ Flash point -6 °C ■ Solub. in H<sub>2</sub>O 91 g/l (18 °C) ■ M = 104.15 g/mol
- Melting point -66 °C ■ Boiling point 88 °C

(1013 hPa) ■ Ignition temp. 174 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P260
- LC50 rat 28.8 mg/l
- LD50 oral rat 3536 mg/kg ■ LD50 dermal rat > 16600 mg/kg
- LGK 3
- HS-No. 2911 00 00 ■ Disposal 3
- ADR-RID UN 2373 Diethoxymethan, 3, II
- IMDG-Code UN 2373 DIETHOXYMETHANE, 3, II

- IATA-DGR UN 2373 DIETHOXYMETHANE, 3, II

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,829 - 0,832  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14549.0250	Glass bottle	250 ml	inquire
8.14549.1000	Glass bottle	1 l	inquire

## Formaldehyde dimethyl acetal



C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>

CH<sub>2</sub>(OCH<sub>3</sub>)<sub>2</sub>

Formal, Methylal, Dimethoxymethane

- CAS-No. 109-87-5 ■ EC-No. 203-714-2
- Refractive index 1.3541 (20 °C, 589 nm)
- Vapour pressure 440 hPa (20 °C)

- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 17.6 % (V) ■ Flash point -18 °C ■ Solub. in H<sub>2</sub>O 285 g/l (20 °C) ■ M = 76.09 g/mol
- Saturation conc. 1375 g/m<sup>3</sup> (20 °C)
- Melting point -105 °C ■ Boiling point 43 °C
- Ignition temp. 235 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P260

- LC50 rat 47.47 mg/l
- LD50 oral rat 6653 mg/kg
- LGK 3 ■ Store below +15 °C.
- HS-No. 2911 00 00 ■ Disposal 3
- ADR-RID UN 1234 Methylal, 3, II ■ IMDG-Code UN 1234 METHYLAL, 3, II
- IATA-DGR UN 1234 METHYLAL, 3, II

## 820493 Formaldehyde dimethyl acetal for synthesis

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Methanol (GC, area%)..... ≤ 0.50 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.858 - 0.860

Water (K. F.)..... ≤ 0.30 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20493.0250	Glass bottle	250 ml	inquire
8.20493.1000	Glass bottle	1 l	inquire

## 806017 Formaldehyde dimethyl acetal for synthesis

## Specification

Assay (GC, area%)..... ≥ 93,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,857 - 0,859  
Methanol (GC, area%)..... ≤ 7,0 Area %

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06017.1000	Glass bottle	1 l	inquire
8.06017.2500	Glass bottle	2.5 l	inquire

Formaldehyde ethylene acetal → 1,3-Dioxolane page 812

Formaldehyde solution 4%, buffered, pH 6.9 → page 185

## Formaldehyde solution min. 37%



## Formaline solution, Methanal solution, Methylaldehyde solution

- Vapour pressure 1.3 hPa (Formaldehyde)
- Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 7 - 73 % (V) (Formaldehyde)
- Flash point 62 °C (Formaldehyde) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.8 - 4.0 (H<sub>2</sub>O, 20 °C) ■ Melting point < -15 °C
- Boiling point 93 - 96 °C (1013 hPa)
- Ignition temp. 300 °C (Formaldehyde)

- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 2, H351; Specific target organ toxicity - single exposure, Category 1, H370; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P302 + P352, P304 +

- P340, P305 + P351 + P338, P309 + P310
- LGK 6.1C ■ Store at +15 °C to +25 °C.
- HS-No. 2912 11 00 ■ Disposal 9
- ADR-RID UN 2209 Formaldehydlösung, 8, III
- IMDG-Code UN 2209 FORMALDEHYDE SOLUTION, 8, III
- IATA-DGR UN 2209 FORMALDEHYDE SOLUTION, 8, III

## 818708 Formaldehyde solution 37% (stabilized with about 10% methanol) for synthesis

## Specification

Identity..... passes test  
Assay (acidimetric after oxidation).... 37.0 - 38.0 %  
Density (20 °C)..... 1.084 - 1.090 g/ml

Ord.No.	Packaging	Quantity	Price
8.18708.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.18708.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire

## 104003 Formaldehyde solution min. 37% GR for analysis stabilized with about 10% methanol ACS, Reag. Ph Eur

## Specification

Assay (acidimetric after oxidation).... 37.0 - 38.0 %  
Identity..... passes test  
Colour..... ≤ 10 Hazen  
Appearance of solution..... passes test  
Free acid (as HCOOH)..... ≤ 0.025 %  
Density (20 °C)..... 1.080 - 1.090 g/ml  
Chloride (Cl)..... ≤ 0.0001 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %  
Heavy metals (as Pb)..... ≤ 0.0002 %  
Fe (Iron)..... ≤ 0.0001 %  
Methanol (GC)..... 9.0 - 11.0 %  
Sulfated ash..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.04003.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.04003.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.04003.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire
1.04003.9025	Plastic container	25 l	inquire

## 104002 Formaldehyde solution min. 37% stabilized with about 10% methanol Ph Eur, BP, USP

## Specification

Assay (acidimetric after oxidation).... 37.0 - 38.0 %  
Identity..... passes test  
Colour..... passes test  
Appearance of solution..... passes test  
Free acid (as HCOOH)..... ≤ 0.03 %  
Density (d 20 °C / 4 °C)..... 1.08 - 1.09 g/ml  
Chloride (Cl)..... ≤ 0.001 %  
Heavy metals (as Pb)..... ≤ 0.0005 %  
Fe (Iron)..... ≤ 0.0005 %

Methanol (GC)..... 9.0 - 11.0 %  
..... 12.3 - 15.0 % (v/v)  
Other residual solvents (ICH Q3C)..... excluded by production process  
Sulfated ash..... ≤ 0.1 %  
Residues of metal catalysts or metal reagents acc. to EMEA/CHMP/SWP/4446/2000 are not likely to be present.  
Corresponds to Ph.Eur., BP, USP

Ord.No.	Packaging	Quantity	Price
1.04002.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.04002.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.04002.9025	Plastic container	25 l	inquire
1.04002.9180	Barrel PE/met	180 l	inquire

## 103999 Formaldehyde solution min. 37% free from acid stabilized with about 10% methanol and calcium carbonate for histology

Ord.No.	Packaging	Quantity	Price
1.03999.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.03999.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.03999.9025	Plastic container	25 l	inquire

Formaldehyde sulfoxylate sodium → Sodium formaldehydesulfoxylate hydrate page 1435  
Formaldehyde Test → page 64

Formaline solution → page 911  
Formalin solution → page 185

## Formamide



CH<sub>3</sub>NO  
HCONH<sub>2</sub>  
Formic acid amide, Methane amide  
■ CAS-No. 75-12-7 ■ EC-No. 200-842-0  
■ Vapour pressure 0.08 hPa (20 °C)

- Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 109.5 (25 °C) ■ El. dipole moment 3.4 (20 °C) ■ Explosive limit 2.7 - 19.0 % (V)
- Flash point 175 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 45.04 g/mol
- pH value 8 - 10 (200 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. 0.24 g/m<sup>3</sup> (20 °C) Air
- Melting point 2.9 °C ■ Boiling point 210 °C (1013 hPa) ■ Ignition temp. 500 °C

- WGK 1
- GHS: Danger, Reproductive toxicity, Category 1B, H360D, P201, P308 + P313
- LC50 rat > 7.3 mg/l
- LD50 oral rat 5800 mg/kg ■ LD50 dermal rabbit 17000 mg/kg
- EC-Index-No. 616-052-00-8 ■ LGK 6.1C
- HS-No. 2924 19 00 ■ Disposal 9

## 104008 Formamide EMPLURA®

## Specification

Assay (N; Kjeldahl)..... ≥ 99.0 %  
Identity (IR)..... passes test  
Density (d 20 °C / 4 °C)..... 1.132 - 1.135

Water (according to Karl Fischer)..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.04008.1000	Plastic bottle	1 l	inquire
1.04008.2500	Plastic bottle	2.5 l	inquire
1.04008.9025	Plastic container	25 l	inquire



# Formam

## 109684 Formamide for analysis EMSURE® ACS, Reag. Ph Eur

### Specification

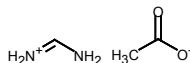
Assay (N; Kjeldahl) ..... ≥ 99.5 %  
 Identity (IR) ..... passes test  
 Appearance ..... Clear, colorless liquid.  
 Colour (APHA) ..... ≤ 10 APHA  
 Density (d 20 °C / 4 °C) ..... 1.132 - 1.135  
 Solidification point ..... 2.0 - 3.0 °C  
 Boiling point (2 kPa) ..... about 103 °C  
 Chloride (Cl) ..... ≤ 0.0001 %

Cd (Cadmium) ..... ≤ 0.0001 %  
 Cu (Copper) ..... ≤ 0.0001 %  
 Fe (Iron) ..... ≤ 0.0001 %  
 Pb (Lead) ..... ≤ 0.0001 %  
 Zn (Zinc) ..... ≤ 0.0001 %  
 Formic acid ..... ≤ 0.02 %  
 Ammonium Formate ..... ≤ 0.1 %  
 Sulfated ash (600 °C) ..... ≤ 0.005 %

Water (according to Karl Fischer) ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.09684.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09684.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

## 814653 Formamidine acetate for synthesis



C<sub>3</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>

CH<sub>4</sub>N<sub>2</sub> \* C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>

■ CAS-No. 3473-63-0 ■ EC-No. 222-442-5

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 832 g/l (20 °C) ■ M = 104.11 g/mol ■ pH value 8 (400 g/l)

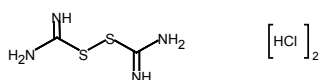
H<sub>2</sub>O, 20 °C) ■ Melting point 156 - 160 °C  
 ■ Ignition temp. 565 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin sensitisation, Category 1, H317, P262, P280, P302 + P352  
 ■ LD50 oral rat 2510 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2925 29 00 ■ Disposal 3

### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14653.0100	Plastic bottle	100 g	inquire
8.14653.0500	Plastic bottle	500 g	inquire

## 814609 Formamidine disulfide dihydrochloride for synthesis



C<sub>2</sub>H<sub>6</sub>Cl<sub>2</sub>N<sub>4</sub>S<sub>2</sub>

C<sub>2</sub>H<sub>6</sub>N<sub>4</sub>S<sub>2</sub>\*2HCl

■ CAS-No. 14807-75-1 ■ EC-No. 238-876-3

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 223.15 g/mol

■ Melting point 175 - 179 °C

■ WGK 3

■ GHS: P262

■ LGK 10 - 13 ■ Store at +2 °C to +8 °C.

■ HS-No. 2930 90 99 ■ Disposal 3

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

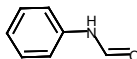
### Specification

Assay (argentometric) ..... ≥ 97.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14609.0010	Glass bottle	10 g	inquire

Formamidinesulfonic acid → Aminoiminomethanesulfonic acid page 390

## 841718 Formanilide for synthesis



C<sub>7</sub>H<sub>7</sub>NO

■ CAS-No. 103-70-8 ■ EC-No. 203-136-0

■ Spec. density 1.132 g/cm<sup>3</sup> (50 °C) ■ Solub. in

H<sub>2</sub>O 25 - 28 g/l (20 °C) ■ M = 121.13 g/mol

■ Melting point 46 - 50 °C ■ Boiling point 271 °C

■ WGK 2

■ LGK 10 - 13

■ HS-No. 2924 29 98 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %

Melting range (lower value) ..... ≥ 46 °C

Melting range (upper value) ..... ≤ 48 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41718.0050	Glass bottle	50 g	inquire

## 822254 Formic acid for synthesis



CH<sub>2</sub>O<sub>2</sub>

HCOOH

*Methanoic acid, Formylic acid*

■ CAS-No. 64-18-6 ■ EC-No. 200-579-1

■ Vapour pressure 42 hPa (20 °C)

■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C) ■ Dielectricity

constant 58.5 (16 °C) ■ Explosive

limit 12 - 38 % (V) ■ Flash point 48 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 46.03 g/mol

■ pH value 2.2 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Saturation conc. 80 g/m<sup>3</sup> (20 °C) Air

■ Melting point 4 °C ■ Boiling point 101 °C

(1013 hPa) ■ Ignition temp. 480 °C

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 3,

H226; Corrosive to metals, Category 1, H290; Skin

corrosion, Category 1A, H314, P210, P280, P301 +

P330 + P331, P305 + P351 + P338, P309 + P310

■ LC50 rat 7.4 mg/l

■ LD50 oral rat 730 mg/kg

■ EC-Index-No. 607-001-00-0 ■ LGK 3

■ HS-No. 2915 11 00 ■ Disposal 4

■ ADR-RID UN 1779 Ameisensäure, 8 (3), II

■ IMDG-Code UN 1779 FORMIC ACID MORE THAN

85%, 8 (3), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1779 FORMIC ACID, 8 (3), II

### Specification

Assay (acidimetric) ..... ≥ 99.0 %

Density (d 20 °C / 4 °C) ..... 1.218 - 1.221

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22254.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.22254.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 113365 Formic acid-D<sub>2</sub> deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™



CD<sub>2</sub>O<sub>2</sub>

*Dideuteroformic acid*

■ CAS-No. 920-42-3 ■ EC-No. 213-057-3

■ Spec. density 1.27 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 10 - 45.5 % (V) ■ Flash point 69 °C ■ Solub.

in H<sub>2</sub>O (20 °C) soluble ■ M = 48.04 g/mol

■ Melting point 5.9 °C ■ Boiling point 101 °C

■ Ignition temp. 520 °C

■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1A, H314,

P260, P280, P301 + P330 + P331, P305 + P351 +

P338, P309 + P310

■ LC50 rat 7.4 mg/l

■ LD50 oral rat 730 mg/kg

■ LGK 8A

■ HS-No. 2845 90 10 ■ Disposal 4

■ ADR-RID UN 1779 Ameisensäure, 8 (3), II

■ IMDG-Code UN 1779 FORMIC ACID MORE THAN

85%, 8 (3), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1779 FORMIC ACID, 8 (3), II

### Specification

Deuteration degree (NMR) ..... ≥ 99.50 %

Water (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O) ..... ≤ 3.00 %

Performance test (NMR-spectrum) ..... passes test

Assay ..... ≥ 97.00 %

Ord.No.	Packaging	Quantity	Price
1.13365.0010	Glass ampoule	10 ml	inquire



## 100253 Formic acid 89–91% for analysis EMSURE® ACS

*Methanoic acid solution, Formylic acid solution*

- Spec. density 1.2 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 10 – 45.5 % (V) ■ Flash point 71 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O) strongly acid ■ Melting point -9 °C ■ Boiling point 107 °C ■ Ignition temp. 485 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2915 11 00 ■ Disposal 4
- ADR-RID UN 1779 Ameisensäure, 8 (3), II
- IMDG-Code UN 1779 FORMIC ACID MORE THAN 85%, 8 (3), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1779 FORMIC ACID, 8 (3), II

**Specification**

Assay (acidimetric).....	89.0 – 91.0 %
Colour.....	≤ 10 Hazen
Acetic acid (CH <sub>3</sub> COOH).....	≤ 500 ppm
Chloride (Cl).....	≤ 5 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 5 ppm
Sulfite (SO <sub>3</sub> ).....	≤ 10 ppm
Heavy metals (as Pb).....	≤ 5 ppm
Ag (Silver).....	≤ 0.02 ppm
Al (Aluminium).....	≤ 0.05 ppm
Ba (Barium).....	≤ 0.05 ppm
Be (Beryllium).....	≤ 0.02 ppm
Bi (Bismuth).....	≤ 0.10 ppm
Ca (Calcium).....	≤ 0.2 ppm
Cd (Cadmium).....	≤ 0.05 ppm
Co (Cobalt).....	≤ 0.02 ppm
Cr (Chromium).....	≤ 0.05 ppm
Cu (Copper).....	≤ 0.02 ppm
Fe (Iron).....	≤ 2 ppm
Ge (Germanium).....	≤ 0.05 ppm
K (Potassium).....	≤ 0.1 ppm

Li (Lithium).....	≤ 0.02 ppm
Mg (Magnesium).....	≤ 0.5 ppm
Mn (Manganese).....	≤ 0.05 ppm
Mo (Molybdenum).....	≤ 0.02 ppm
Na (Sodium).....	≤ 0.5 ppm
NH <sub>4</sub> (Ammonium).....	≤ 10 ppm
Ni (Nickel).....	≤ 0.05 ppm
Pb (Lead).....	≤ 0.02 ppm
Sr (Strontium).....	≤ 0.02 ppm
Ti (Titanium).....	≤ 0.1 ppm
Tl (Thallium).....	≤ 0.05 ppm
V (Vanadium).....	≤ 0.05 ppm
Zn (Zinc).....	≤ 0.05 ppm
Zr (Zirconium).....	≤ 0.1 ppm
Non volatile matter.....	≤ 10 ppm
Dilution test.....	passes test ACS

Ord.No.	Packaging	Quantity	Price
1.00253.1000	Glass bottle	1 l	inquire

## 110854 Formic acid 90 % for determination of viscosity acc. to DIN EN ISO 307

*Methanoic acid solution, Formylic acid solution*

- Spec. density 1.2 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 10 – 45.5 % (V) ■ Flash point 71 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O) strongly acid ■ Melting point -9 °C ■ Boiling point 107 °C ■ Ignition temp. 485 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1,

- H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2915 11 00 ■ Disposal 4
- ADR-RID UN 1779 Ameisensäure, 8 (3), II
- IMDG-Code UN 1779 FORMIC ACID MORE THAN 85%, 8 (3), II, Segregation Group: 1 (Acids)

- IATA-DGR UN 1779 FORMIC ACID, 8 (3), II

**Specification**

Assay (acidimetric).....	90.00 – 90.15 %
Acetic acid (CH <sub>3</sub> COOH).....	≤ 0.050 %

Ord.No.	Packaging	Quantity	Price
1.10854.2500	Glass bottle	2.5 l	inquire

## Formic acid 98–100%



CH<sub>2</sub>O<sub>2</sub>  
HCOOH

*Methanoic acid, Formylic acid*

- CAS-No. 64-18-6 ■ EC-No. 200-579-1
- Vapour pressure 42 hPa (20 °C)
- Spec. density 1.22 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 58.5 (16 °C) ■ Explosive

- limit 12 – 38 % (V) ■ Flash point 48 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 46.03 g/mol
- pH value 2.2 (10 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. 80 g/m<sup>3</sup> (20 °C) Air
- Melting point 4 °C ■ Boiling point 101 °C (1013 hPa) ■ Ignition temp. 480 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LC50 rat 7.4 mg/l
- LD50 oral rat 730 mg/kg
- EC-Index-No. 607-001-00-0 ■ LGK 3 ■ Store at +15°C to +25°C.
- HS-No. 2915 11 00 ■ Disposal 4
- ADR-RID UN 1779 Ameisensäure, 8 (3), II
- IMDG-Code UN 1779 FORMIC ACID MORE THAN 85%, 8 (3), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1779 FORMIC ACID, 8 (3), II

## 100264 Formic acid 98–100% for analysis EMSURE® ACS, Reag. Ph Eur

**Specification**

Assay (alkalimetric).....	≥ 98.0 %
Colour.....	≤ 10 Hazen
Acetic acid (CH <sub>3</sub> COOH).....	≤ 500 ppm
Chloride (Cl).....	≤ 5 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 5 ppm
Sulfite (SO <sub>3</sub> ).....	≤ 10 ppm
Heavy metals (as Pb).....	≤ 10 ppm
Ag (Silver).....	≤ 0.020 ppm
Al (Aluminium).....	≤ 0.050 ppm
Ba (Barium).....	≤ 0.050 ppm
Be (Beryllium).....	≤ 0.020 ppm
Bi (Bismuth).....	≤ 0.10 ppm
Ca (Calcium).....	≤ 0.20 ppm
Cd (Cadmium).....	≤ 0.050 ppm
Co (Cobalt).....	≤ 0.020 ppm
Cr (Chromium).....	≤ 0.050 ppm
Cu (Copper).....	≤ 0.020 ppm

Fe (Iron).....	≤ 2.0 ppm
Ge (Germanium).....	≤ 0.050 ppm
K (Potassium).....	≤ 0.10 ppm
Li (Lithium).....	≤ 0.020 ppm
Mg (Magnesium).....	≤ 0.50 ppm
Mn (Manganese).....	≤ 0.050 ppm
Mo (Molybdenum).....	≤ 0.020 ppm
NH <sub>4</sub> (Ammonium).....	≤ 10 ppm
Na (Sodium).....	≤ 0.50 ppm
Ni (Nickel).....	≤ 0.050 ppm
Pb (Lead).....	≤ 0.020 ppm
Sr (Strontium).....	≤ 0.020 ppm
Ti (Titanium).....	≤ 0.10 ppm
Tl (Thallium).....	≤ 0.050 ppm
V (Vanadium).....	≤ 0.050 ppm
Zn (Zinc).....	≤ 0.050 ppm
Zr (Zirconium).....	≤ 0.10 ppm

Evaporation residue.....	≤ 10 ppm
Dilution test.....	passes test ACS, Ph Eur-Reagent

Ord.No.	Packaging	Quantity	Price
1.00264.0100	Glass bottle	100 ml	inquire
1.00264.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00264.1011	Plastic bottle	1 l	inquire
1.00264.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00264.2510	Safebreak btl.	2.5 l	inquire
1.00264.2511	Plastic bottle	2.5 l	inquire
1.00264.9026	Plastic container	25 l	inquire

# Formic

## 111670 Formic acid 98-100% Suprapur®

### Specification

Assay (acidimetric).....	≥ 98.0 %
Colour.....	≤ 10 Hazen
Chloride (Cl).....	≤ 1000 ppb
Phosphate, Phosphite (as PO <sub>4</sub> ).....	≤ 100 ppb
Sulfate and sulphite (as SO <sub>4</sub> ).....	≤ 500 ppb
Acetic acid (CH <sub>3</sub> COOH).....	≤ 100000 ppb
Ag (Silver).....	≤ 0.5 ppb
Al (Aluminium).....	≤ 5 ppb
As (Arsenic).....	≤ 1 ppb
Au (Gold).....	≤ 0.5 ppb
Ba (Barium).....	≤ 1 ppb
Be (Beryllium).....	≤ 0.5 ppb
Bi (Bismuth).....	≤ 0.5 ppb
Ca (Calcium).....	≤ 10 ppb
Cd (Cadmium).....	≤ 0.5 ppb
Co (Cobalt).....	≤ 0.5 ppb

Cr (Chromium).....	≤ 1 ppb
Cu (Copper).....	≤ 1 ppb
Fe (Iron).....	≤ 5 ppb
Ga (Gallium).....	≤ 0.5 ppb
Ge (Germanium).....	≤ 0.5 ppb
Hg (Mercury).....	≤ 1 ppb
In (Indium).....	≤ 0.5 ppb
K (Potassium).....	≤ 5 ppb
Li (Lithium).....	≤ 0.5 ppb
Mg (Magnesium).....	≤ 2 ppb
Mn (Manganese).....	≤ 0.5 ppb
Mo (Molybdenum).....	≤ 0.5 ppb
Na (Sodium).....	≤ 5 ppb
Ni (Nickel).....	≤ 1 ppb
Pb (Lead).....	≤ 1 ppb
Pd (Palladium).....	≤ 1 ppb

Pt (Platinum).....	≤ 1 ppb
Sb (Antimony).....	≤ 1 ppb
Sn (Tin).....	≤ 0.5 ppb
Sr (Strontium).....	≤ 0.5 ppb
Ti (Titanium).....	≤ 0.5 ppb
Tl (Thallium).....	≤ 0.5 ppb
U (Uranium).....	≤ 0.5 ppb
V (Vanadium).....	≤ 0.5 ppb
Zn (Zinc).....	≤ 5 ppb
Zr (Zirconium).....	≤ 0.5 ppb
Residue on ignition (as sulphate).....	≤ 2000 ppb

Ord.No.	Packaging	Quantity	Price
1.11670.0250	Glass bottle	250 ml	inquire
1.11670.1000	Glass bottle	1 l	inquire

Formic acid amide → page 304

Formic acid amyl ester → Amyl formate page 417

Formic acid butyl ester → Butyl formate page 299

Formic acid diethylamide → N,N-Diethylformamide page 302

Formic acid dimethylamide → page 293

Formic acid ethyl ester → page 303

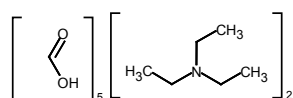
Formic acid methyl ester → Methyl formate page 1151

Formic acid N-methylanilide → N-Methylformanilide page 1151

Formic acid pentyl ester → Amyl formate page 417

Formic acid propyl ester → Propyl formate page 1376

## 818028 Formic acid-triethylamine 5:2 addition compound for synthesis



C<sub>17</sub>H<sub>40</sub>N<sub>2</sub>O<sub>10</sub>

- CAS-No. 15077-13-1
- Spec. density 1.03 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 432.51 g/mol

- Boiling point 192 - 194 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2942 00 00 ■ Disposal 4
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(AMEISENSÄURE-TRIETHYLAMIN), 8, II
- IMDG-Code UN 1760 CORROSIVE LIQUID,

N.O.S.(FORMIC ACID-TRIETHYLAMINE), 8, II  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(FORMIC ACID-TRIETHYLAMINE), 8, II

### Specification

Assay (HClO <sub>4</sub> ).....	≥ 98,0 % (m)
Density (d 20 °C/ 4 °C).....	1,034 - 1,036
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.18028.0050	Glass bottle	50 ml	inquire

Formin → Methenamine page 1113

Formin® → Methenamine page 1113

4-Formylacetanilide → 4-Acetamidobenzaldehyde page 332

2-Formylbenzoic acid → Phthalaldehydic acid page 1324

4-Formylbenzoic acid → Terephthalaldehydic acid page 1520

4-Formylbenzoic acid methyl ester → Methyl 4-formylbenzoate page 1152

3-Formylbenzonitrile → 3-Cyanobenzaldehyde page 664

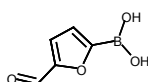
4-Formylbenzonitrile → 4-Cyanobenzaldehyde page 664

6-Formyl-2,3-dimethoxybenzoic acid → 5,6-Dimethoxyphthalaldehydic acid page 772

4-(4-Formyl-3,5-dimethoxyphenoxy)butyric acid → page 279

p-Formyldimethylaniline → page 776

## 843928 5-Formylfuran-2-boronic acid for synthesis



C<sub>5</sub>H<sub>5</sub>BO<sub>4</sub>

- CAS-No. 27329-70-0 ■ EC-No. 445-900-8
- Solub. in H<sub>2</sub>O 1.38 g/l (20 °C) ■ M = 139.90 g/mol
- Melting point 137 °C (decomposition)
- Ignition temp. 380 °C
- WGK 1

- GHS: Danger, Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 3, H412, P280, P273, P305 + P351 + P338, P313
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2932 19 00 ■ Disposal 3

### Specification

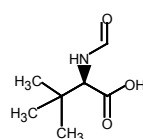
Colour (visual).....	white to brown
Appearance of substance (visual).....	powder

Assay (HPLC, area%).....	≥ 98,0 Area %
2-Furaldehyde (HPLC, area%).....	≤ 1,0 Area %
Total impurities (HPLC, area%).....	≤ 1,0 Area %
Loss on drying.....	≤ 1,0 % (m)
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
8.43928.0005	Glass bottle	5 g	inquire
8.43928.0025	Glass bottle	25 g	inquire

(3-Formylindolyl)acetamidomethyl polystyrene → page 267

## 818263 (+)-N-Formyl-D-tert-leucine for synthesis



C<sub>7</sub>H<sub>13</sub>NO<sub>3</sub>

(CH<sub>3</sub>)<sub>3</sub>CCH(NHCHO)COOH

(+)-N-Formyl-3-methyl-D-valine

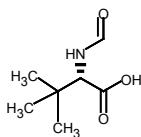
- CAS-No. 92571-59-0
- Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 159.18 g/mol
- Melting point 219 - 221 °C
- Bulk density 430 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

### Specification

Assay (acidimetric).....	≥ 99.0 %
Melting range (lower value).....	≥ 219 °C
Melting range (upper value).....	≤ 221 °C
Spec. rotation [α <sub>D</sub> <sup>20</sup> ] (c=1 in 1N NaOH).....	34.0 - 36.0 °
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.18263.0005	Plastic bottle	5 g	inquire

## 818264 (-)-N-Formyl-L-tert-leucine for synthesis



C<sub>7</sub>H<sub>13</sub>NO<sub>3</sub>  
(CH<sub>3</sub>)<sub>3</sub>CCH(NHCHO)COOH

(-)-N-Formyl-3-methyl-L-valine

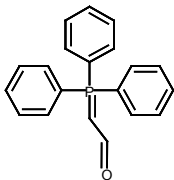
- CAS-No. 92571-61-4
- Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 159.18 g/mol
- Melting point 215 - 217 °C
- Bulk density 430 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99.0 %  
Melting range (lower value)..... ≥ 215 °C  
Melting range (upper value)..... ≤ 217 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup> (c=1 in 1N NaOH)..... -39.0 -  
-35.0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18264.0005	Plastic bottle	5 g	inquire

## 841108 Formylmethylenetriphenylphosphorane for synthesis



C<sub>20</sub>H<sub>17</sub>OP

(Triphenylphosphoranylidene)acetaldehyde

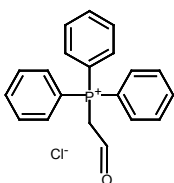
- CAS-No. 2136-75-6 ■ EC-No. 218-375-6
- M = 304.32 g/mol ■ Melting point 180 - 184 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 97.0 % (a/a)  
Melting range (lower value)..... ≥ 180 °C  
Melting range (upper value)..... ≤ 184 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41108.0005	Glass bottle	5 g	inquire

## 818177 Formylmethyltriphenylphosphonium chloride for synthesis



C<sub>20</sub>H<sub>18</sub>ClOP

C<sub>20</sub>H<sub>18</sub>ClOP

Triphenylformylmethylphosphonium chloride

- CAS-No. 62942-43-2 ■ EC-No. 263-767-2
- M = 340.78 g/mol ■ Melting point 205 - 210 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

## Specification

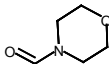
Assay (argentometric)..... ≥ 98.0 %  
Melting range (lower value)..... ≥ 205 °C  
Melting range (upper value)..... ≤ 210 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18177.0025	Glass bottle	25 g	inquire

(+)-N-Formyl-3-methyl-D-valine → (+)-N-Formyl-D-tert-leucine page 914

(-)-N-Formyl-3-methyl-L-valine → (-)-N-Formyl-L-tert-leucine page 915

## 818582 N-Formylmorpholine for synthesis



C<sub>5</sub>H<sub>9</sub>NO<sub>2</sub>

4-Morpholinecarboxaldehyde

- CAS-No. 4394-85-8 ■ EC-No. 224-518-3
- Refractive index 1.484 (25 °C, 589 nm) ■ Vapour pressure 1 hPa (50 °C) ■ Spec. density 1.15 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 1.2 - 8.2 % (V)
- Flash point 118 °C DIN 51758 ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 115.13 g/mol

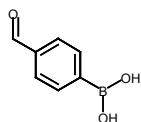
- pH value 10 (250 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 23 °C ■ Boiling point 240 °C (1013 hPa) ■ Ignition temp. 345 °C DIN 51794
- WGK 1
- GHS: Warning, Skin sensitisation, Category 1, H317, P280, P302 + P352
- LD50 oral rat > 7360 mg/kg
- LD50 dermal rabbit > 18400 mg/kg
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.149 - 1.151  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18582.0100	Glass bottle	100 ml	inquire
8.18582.0500	Glass bottle	500 ml	inquire

## 843933 4-Formylphenyl boronic acid for synthesis



C<sub>7</sub>H<sub>7</sub>BO<sub>3</sub>

- CAS-No. 87199-17-5 ■ EC-No. 438-670-5
- Solub. in H<sub>2</sub>O < 10 g/l (20 °C) ■ M = 149.94 g/mol ■ pH value 5.5 (1 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 224 °C ■ Bulk density 429 kg/m<sup>3</sup>

- WGK 1
- GHS: Warning, Skin sensitisation, Category 1, H317, P280, P302 + P352
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- EC-Index-No. 005-014-00-0 ■ LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

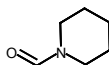
## Specification

Colour (visual)..... white to yellow

Appearance of substance (visual)..... powder  
Assay (HPLC, area%)..... ≥ 99.0 Area %  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.43933.0001	Glass bottle	1 g	inquire
8.43933.0005	Glass bottle	5 g	inquire

## 818730 N-Formylpiperidine for synthesis



C<sub>6</sub>H<sub>11</sub>NO

C<sub>6</sub>H<sub>10</sub>N-CHO

- CAS-No. 2591-86-8 ■ EC-No. 219-986-0
- Vapour pressure 0.1 hPa (20 °C)
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point 92 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 113.16 g/mol ■ Melting point -31 °C
- Boiling point 222 °C (1013 hPa)
- WGK 1

- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 887 mg/kg ■ LD50 dermal rabbit 856 mg/kg
- LGK 10

- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1-FORMYLPIPERIDIN), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1-FORMYLPIPERIDINE), 6.1, III

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1-FORMYLPIPERIDINE), 6.1, III

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.018 - 1.022  
Identity (IR)..... passes test

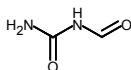
Ord.No.	Packaging	Quantity	Price
8.18730.0100	Glass bottle	100 ml	inquire
8.18730.0500	Glass bottle	500 ml	inquire

2-Formylpyrrole → 2-Pyrrolecarbaldehyde page 1393

2-Formylthiophene → Thiophene-2-carbaldehyde page 1552

# Formyl

## 814217 N-Formylurea for synthesis



C<sub>2</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>  
H<sub>2</sub>NCONHCHO  
■ CAS-No. 1190-24-5 ■ EC-No. 214-719-4

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 88.06 g/mol
- Melting point 166 - 169 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

**Specification**  
Assay (ex N) ..... ≥ 99,0 %(m)

Melting range (lower value)..... ≥ 166 °C  
Melting range (upper value)..... ≤ 169 °C  
Identity (IR)..... conforms

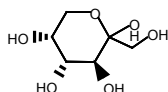
Fractogel® → page 45  
Fractogel® EMD → page 45  
Fractogel® Ion exchangers → page 45

Free Sulfurous Acid → page 65  
Fritest® → page 65  
Fritest®, determination → page 65

Ord.No.	Packaging	Quantity	Price
8.14217.0025	Plastic bottle	25 g	inquire

Fritest® Refill pack → page 65  
Frits (PTFE) → page 6

## 104007 D(-)-Fructose for biochemistry



C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>  
*Laevulose, Levulose*  
■ CAS-No. 57-48-7 ■ EC-No. 200-333-3  
■ Spec. density 1.59 g/cm<sup>3</sup> (20 °C) OECD Test Guideline 109 ■ Solub. in H<sub>2</sub>O 790 g/l (20 °C) OECD Test Guideline 105 ■ M = 180.15 g/mol ■ pH value 5 - 6 (100 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 100 - 110 °C (decomposition)
  - Bulk density 700 - 800 kg/m<sup>3</sup>
  - Ignition temp. 360 °C
  - WGK nwg
  - LGK 10 - 13
  - HS-No. 1702 50 00 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- D(-)-Fructose exhibits mutarotation from α 20°/D = -132.2° to [α] 20°/D = -92.4° at c = 4 in water.

**Specification**  
Purity (HPLC)..... ≥ 99,0 %  
Identity (IR-spectrum)..... conforms  
Spec. rotation (α 20°/D; 10 %; water; calc. on anhydrous substance)..... -93.5 - -91.0 °  
Heavy metals (as Pb)..... ≤ 0.001 %  
Glucose (HPLC)..... ≤ 0.5 %  
Water..... ≤ 0.5 %

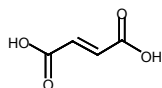
Ord.No.	Packaging	Quantity	Price
1.04007.0250	Plastic bottle	250 g	inquire
1.04007.1000	Plastic bottle	1 kg	inquire

Fuchsin acid (C.I. 42685) → page 189

Fuchsin (C.I. 42510) → page 189

Fuchsin lactose agar acc. to ENDO → page 101

## 800269 Fumaric acid for synthesis



C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>  
HOOCCHCHCOOH  
*trans-1,2-Ethylentricarboxylic acid*  
■ CAS-No. 110-17-8 ■ EC-No. 203-743-0  
■ Vapour pressure < 0.001 hPa (20 °C)  
■ Spec. density 1.64 g/cm<sup>3</sup> (20 °C)

- Flash point 273 °C ■ Solub. in H<sub>2</sub>O 4.9 g/l (20 °C) ■ M = 116.07 g/mol ■ pH value 2.1 (4.9 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 287 °C
- Boiling point 290 °C (1013 hPa) (sublimed)
- Ignition temp. 375 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 9300 mg/kg ■ LD50 dermal rabbit 20000 mg/kg
- EC-Index-No. 607-146-00-X ■ LGK 10 - 13

- HS-No. 2917 19 90

**Specification**  
Assay (acidimetric)..... ≥ 99,0 %(m)  
Identity (IR)..... conforms

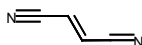
Ord.No.	Packaging	Quantity	Price
8.00269.0100	Plastic bottle	100 g	inquire
8.00269.1000	Plastic bottle	1 kg	inquire
8.00269.2500	Plastic bottle	2.5 kg	inquire
8.00269.9050	Fibre carton	50 kg	inquire

Fumaric acid diethyl ester → Diethyl fumarate page 746

Fumaric acid dimethyl ester → Dimethyl fumarate page 790

Fumaric acid disodium salt → di-Sodium fumarate page 1436

## 800277 Fumaronitrile for synthesis



C<sub>4</sub>H<sub>2</sub>N<sub>2</sub>  
NCCH=CHCN  
■ CAS-No. 764-42-1 ■ EC-No. 212-122-3  
■ Vapour pressure 0.26 hPa (25 °C)  
■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O < 1 g/l (21 °C) ■ M = 78.07 g/mol  
■ Melting point 93 - 96 °C ■ Boiling point 186 °C  
■ WGK 1

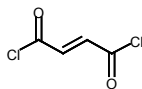
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310
- LD50 oral rat 132 mg/kg
- LGK 6.1C
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(FUMARSAEUREDINITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(FUMARONITRILE), 6.1, III
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(FUMARONITRILE), 6.1, III

**Specification**  
Assay (GC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 93 °C  
Melting range (upper value)..... ≤ 96 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00277.0025	Glass bottle	25 g	inquire

Fumaroyl dichloride → Fumaryl chloride page 916

## 800272 Fumaryl chloride for synthesis



C<sub>4</sub>H<sub>2</sub>Cl<sub>2</sub>O<sub>2</sub>  
ClCOCH=CHCOCl  
*Fumaryl dichloride*  
■ CAS-No. 627-63-4 ■ EC-No. 211-005-4  
■ Refractive index 1.4988 (20 °C, 589 nm)  
■ Vapour pressure 1.86 hPa (20 °C)  
■ Spec. density 1.41 g/cm<sup>3</sup> (20 °C)

- Flash point 73 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 152.96 g/mol
- Melting point -2 °C ■ Boiling point 161 - 164 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1142 mg/kg ■ LD50 dermal rabbit 1988 mg/kg
- LGK 8A

- HS-No. 2917 19 90 ■ Disposal 11
- ADR-RID UN 1780 Fumarylchlorid, 8, II ■ IMDG-Code UN 1780 FUMARYL CHLORIDE, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1780 FUMARYL CHLORIDE, 8, II

**Specification**  
Assay (morpholine method)..... ≥ 96,0 %(m)  
Density (d 20 °C/ 4 °C)..... 1,407 - 1,412  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00272.0050	Glass bottle	50 ml	inquire

Fungus culture medium acc. to SABOURAUD → page 106

Funnel → Laboratory equipment, auxiliaries

## 820594 Furan (stabilised) for synthesis

C<sub>4</sub>H<sub>4</sub>O

Furfuran

■ CAS-No. 110-00-9 ■ EC-No. 203-727-3  
 ■ Refractive index 1.4207 (20 °C, 589 nm)  
 ■ Vapour pressure 670 hPa (20 °C)  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.3 - 14.3 % (V) ■ Flash point -36 °C ■ Solub. in H<sub>2</sub>O 10 g/l (25 °C) ■ M = 68.07 g/mol  
 ■ Saturation conc. 1870 g/m<sup>3</sup> ■ Melting point - 86 °C ■ Boiling point 32 °C (1013 hPa)

■ Ignition temp. 390 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 1, H224; Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 3, H412, P201, P210, P233, P240, P273, P281, P302 + P352, P308 + P313  
 ■ LC50 rat 5.3 mg/l  
 ■ EC-Index-No. 603-105-00-5 ■ LGK 3

■ HS-No. 2932 19 00 ■ Disposal 9  
 ■ ADR-RID UN 2389 Furan, 3, I ■ IMDG-Code UN 2389 FURAN, 3, I  
 ■ IATA-DGR UN 2389 FURAN, 3,

## Specification

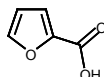
Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.936 - 0.938  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20594.0250	Glass bottle	250 ml	inquire
8.20594.1000	Glass bottle	1 l	inquire

2-Furanacrylic acid → 3-(2-Furyl)acrylic acid page 919

2-Furancarbaldehyde → page 918

## 801924 2-Furancarboxylic acid for synthesis

C<sub>5</sub>H<sub>4</sub>O<sub>3</sub>

α-Furoic acid

■ CAS-No. 88-14-2 ■ EC-No. 201-803-0  
 ■ Vapour pressure 1.8 hPa (96 °C) ■ Solub. in H<sub>2</sub>O 37 g/l (15 °C) ■ M = 112.08 g/mol  
 ■ Melting point 127 - 130 °C  
 ■ Boiling point 141 - 144 °C (27 hPa)  
 ■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8B  
 ■ HS-No. 2932 19 00 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(FURAN-2-CARBONSAEURE), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-FURANCARBOXYLIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-FURANCARBOXYLIC ACID),

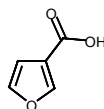
8, III

## Specification

Assay (acidimetric) ..... ≥ 98.0 % (m)  
 Melting range (lower value) ..... ≥ 127 °C  
 Melting range (upper value) ..... ≤ 130 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01924.0100	Plastic bottle	100 g	inquire

## 814504 3-Furancarboxylic acid for synthesis

C<sub>5</sub>H<sub>4</sub>O<sub>3</sub>

3-Furoic acid

■ CAS-No. 488-93-7 ■ EC-No. 207-689-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 112.08 g/mol  
 ■ Melting point 119 - 122 °C

■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8A  
 ■ HS-No. 2932 19 00 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(FURAN-3-CARBONSAEURE), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(FURAN-3-CARBONIC ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(FURAN-3-CARBONIC ACID), 8, III

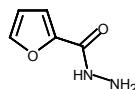
## Specification

Assay (acidimetric) ..... ≥ 97.0 % (m)  
 Melting range (lower value) ..... ≥ 119 °C  
 Melting range (upper value) ..... ≤ 122 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14504.0005	Glass bottle	5 g	inquire

2-Furancarboxylic acid chloride → 2-Furoyl chloride page 919

## 841178 2-Furancarboxylic acid hydrazide for synthesis

C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>

2-Furoic acid hydrazide

■ CAS-No. 3326-71-4 ■ EC-No. 222-046-2  
 ■ M = 126.11 g/mol ■ Melting point 79 - 81 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 19 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)

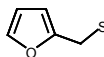
Melting range (lower value) ..... ≥ 73 °C  
 Melting range (upper value) ..... ≤ 80 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41178.0010	Plastic bottle	10 g	inquire

2-Furancarboxylic acid methyl ester → Methyl 2-furancarboxylate page 1152

2,5-Furanedione → page 1091

## 820595 2-Furanmethanethiol for synthesis

C<sub>5</sub>H<sub>6</sub>OS

Furfuryl mercaptan

■ CAS-No. 98-02-2 ■ EC-No. 202-628-2  
 ■ Refractive index 1.5304 (20 °C, 589 nm)  
 ■ Vapour pressure 4 hPa (20 °C)  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 51 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 114.16 g/mol

■ Boiling point 155 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210, P260, P262  
 ■ LGK 3  
 ■ HS-No. 2932 19 00 ■ Disposal 6  
 ■ ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(FURAN-3-METHANTHIOI), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(2-FURANMETHANETHIOL), 6.1 (3), II  
 ■ IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE,

ORGANIC, N.O.S.(2-FURANMETHANETHIOL), 6.1 (3), II

## Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.126 - 1.128  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20595.0025	Glass bottle	25 ml	inquire
8.20595.0100	Glass bottle	100 ml	inquire

2-Furanmethylaniline → Furfurylaniline page 918



# Furano

## 814054 2(5H)-Furanone for synthesis



C<sub>4</sub>H<sub>4</sub>O<sub>2</sub>  
*γ*-Crotonolactone, 2-Buten-1,4-olide, 2,5-Dihydro-2-furanone  
 ■ CAS-No. 497-23-4 ■ EC-No. 207-839-3  
 ■ Refractive index 1.467 (20 °C, 589 nm)

■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 84.07 g/mol  
 ■ Melting point 3 - 4 °C ■ Boiling point 85 - 87 °C (13 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2932 20 90 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code Non Dangerous Good

■ IATA-DGR No Dangerous Good

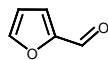
### Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,192 - 1,198  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14054.0001	Glass bottle	1 ml	inquire

Furans → Heterocycles

## Furfural



C<sub>5</sub>H<sub>4</sub>O<sub>2</sub>  
 2-Furancarbaldehyde  
 ■ CAS-No. 98-01-1 ■ EC-No. 202-627-7  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 41.9 (20 °C) ■ Explosive limit 2.1 - 19.3 %(V) ■ Flash point 60 °C ■ Solub. in H<sub>2</sub>O 83 g/l (20 °C) ■ M = 96.08 g/mol

■ Saturation conc. 5.8 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -37 °C ■ Boiling point 162 °C (1013 hPa) ■ Ignition temp. 315 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Carcinogenicity, Category 2, H351; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P281, P304 + P340, P302 +

P352, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.7 mg/l  
 ■ LD50 oral rat 65 mg/kg  
 ■ EC-Index-No. 605-010-00-4 ■ LGK 3  
 ■ HS-No. 2932 12 00 ■ Disposal 9  
 ■ ADR-RID UN 1199 Furaldehyde, 6.1 (3), II  
 ■ IMDG-Code UN 1199 FURALDEHYDES, 6.1 (3), II  
 ■ IATA-DGR UN 1199 FURALDEHYDES, 6.1 (3), II  
 Reagent for the detection of aromatic amines (e.g. aniline).



## 804012 Furfural for synthesis

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,158 - 1,160  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04012.0100	Glass bottle	100 ml	inquire
8.04012.0500	Glass bottle	500 ml	inquire
8.04012.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 104013 Furfural GR for analysis ACS,Reag. Ph Eur

### Specification

Purity (GC)..... ≥ 98,0 % (a/a)  
 Identity (IR-spectrum)..... passes test  
 Titrable free acid..... ≤ 0,02 meq/g  
 Distilling range (159 °C - 162 °C)..... Conforms to

Reag PhEur  
 Density (d 20 °C/20 °C)..... 1.155 - 1.161  
 Evaporation residue..... ≤ 0,5 %

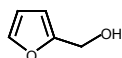
Ord.No.	Packaging	Quantity	Price
1.04013.0020	Glass bottle	20 ml	inquire
1.04013.0100	Glass bottle	100 ml	inquire

Furfuran → Furan page 917

Furfurol → page 918

Furfuryladenine → 6-(Furfurylamino)purine page 919

## 804015 Furfuryl alcohol for synthesis



C<sub>5</sub>H<sub>6</sub>O<sub>2</sub>  
 2-Furylmethanol  
 ■ CAS-No. 98-00-0 ■ EC-No. 202-626-1  
 ■ Refractive index 1.4845 (20 °C, 589 nm)  
 ■ Vapour pressure 0.53 hPa (20 °C)  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 16.3 %(V) ■ Flash point 65 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 98.1 g/mol  
 ■ pH value 6 (300 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Saturation conc. 2.1 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -31 °C  
 ■ Boiling point 170 - 171 °C (1013 mbar)

■ Ignition temp. 390 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 3, Dermal, H311; Eye irritation, Category 2, H319; Carcinogenicity, Category 2, H351; Specific target organ toxicity - single exposure, Category 3, H335; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.95 mg/l  
 ■ LD50 oral rat 177 mg/kg ■ LD50 dermal rabbit 400 mg/kg  
 ■ EC-Index-No. 603-018-00-2 ■ LGK 6.1A

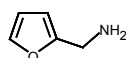
■ HS-No. 2932 13 00 ■ Disposal 3  
 ■ ADR-RID UN 2874 Furfurylalkohol, 6.1, III  
 ■ IMDG-Code UN 2874 FURFURYL ALCOHOL, 6.1, III  
 ■ IATA-DGR UN 2874 FURFURYL ALCOHOL, 6.1, III

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,131 - 1,133  
 Water (K. F.)..... ≤ 0,20 %(m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04015.0100	Glass bottle	100 ml	inquire
8.04015.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 804016 Furfurylamine for synthesis



C<sub>5</sub>H<sub>7</sub>NO  
 (2-Furylmethyl)amine, 2-Aminomethylfuran, 2-Furanmethylamine  
 ■ CAS-No. 617-89-0 ■ EC-No. 210-536-9  
 ■ Refractive index 1.49 (20 °C, 589 nm) ■ Vapour pressure 4 hPa (20 °C) ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 %(V)  
 ■ Flash point 46 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 97.11 g/mol  
 ■ pH value 11.6 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point -70 °C  
 ■ Boiling point 145 - 146 °C (1013 hPa)  
 ■ Ignition temp. 350 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 4, Inhalation, H332, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 1.3 mg/l  
 ■ LD50 oral rat 200 - 2000 mg/kg  
 ■ LD50 dermal rat 100 mg/kg

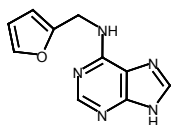
■ LGK 3  
 ■ HS-No. 2932 19 00 ■ Disposal 9  
 ■ ADR-RID UN 2526 Furfurylamin, 3 (8), III  
 ■ IMDG-Code UN 2526 FURFURYLAMINE, 3 (8), III  
 ■ IATA-DGR UN 2526 FURFURYLAMINE, 3 (8), III

### Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.049 - 1.052  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.04016.0250	Glass bottle	250 ml	inquire

## 124807 6-(Furfurylamino)purine for biochemistry

C<sub>10</sub>H<sub>9</sub>N<sub>5</sub>O

Kinetine, Furfuryladenine, Quinetine

- CAS-No. 525-79-1 ■ EC-No. 208-382-2
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble

- M = 215.21 g/mol ■ pH value 5.5 - 6.5 (10 g/l, H<sub>2</sub>O, 20 °C) (filtered suspension)
  - Melting point 265 - 270 °C
  - Bulk density 360 kg/m<sup>3</sup>
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2934 99 90 ■ Disposal 3
- Plant growth factor for laboratory experiments in the field of plant physiology, plant metabolism and plant growth regulation.

## Specification

Assay (HPLC)..... ≥ 99%  
 Identity (IR-spectrum)..... passes test  
 Heavy metals (as Pb)..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.24807.0001	Glass bottle	1 g	inquire
1.24807.0250	Glass bottle	250 mg	inquire

α-Furfurylideneacetic acid → 3-(2-Furyl)acrylic acid page 919

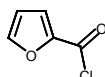
3-Furoic acid → 3-Furancarboxylic acid page 917

2-Furoic acid hydrazide → 2-Furancarboxylic acid hydrazide page 917

Furfuryl mercaptan → 2-Furanmethanethiol page 917

α-Furoic acid → 2-Furancarboxylic acid page 917

## 820169 2-Furoyl chloride for synthesis

C<sub>5</sub>H<sub>5</sub>ClO<sub>2</sub>

2-Furancarboxylic acid chloride

- CAS-No. 527-69-5 ■ EC-No. 208-422-9
- Refractive index 1.531 (20 °C, 589 nm)
- Spec. density 1.33 g/cm<sup>3</sup> (20 °C)
- Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 130.53 g/mol
- Melting point -2 °C ■ Boiling point 174 °C (1013 hPa)

- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 616 mg/kg
- LGK 8A
- HS-No. 2932 19 00 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(FURAN-2-CARBONSAEURECHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC,

N.O.S.(2-FUROYL CHLORIDE), 8, II, Segregation

Group: 1 (Acids)

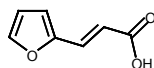
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-FUROYL CHLORIDE), 8, II

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.322 - 1.325  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20169.0025	Glass bottle	25 ml	inquire
8.20169.0100	Glass bottle	100 ml	inquire

## 814022 3-(2-Furyl)acrylic acid for synthesis

C<sub>7</sub>H<sub>6</sub>O<sub>3</sub>

α-Furfurylideneacetic acid, 2-Furanacrylic acid

- CAS-No. 539-47-9 ■ EC-No. 208-718-8
- Solub. in H<sub>2</sub>O 2 g/l (15 °C) ■ M = 138.12 g/mol

- Melting point 140 - 143 °C
- Boiling point 286 °C (1013 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2932 19 00 ■ Disposal 4

## Specification

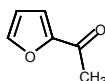
Assay (acidimetric)..... ≥ 98.0 % (m)  
 Melting range (lower value)..... ≥ 140 °C

Melting range (upper value)..... ≤ 143 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14022.0010	Glass bottle	10 g	inquire

2-Furylmethanol → Furfuryl alcohol page 304

## 804017 2-Furyl methyl ketone for synthesis

C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>

2-Acetylfuran

- CAS-No. 1192-62-7 ■ EC-No. 214-757-1
- Refractive index 1.5065 (20 °C, 589 nm)
- Vapour pressure < 1.33 hPa (20 °C)
- Spec. density 1.098 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 - 15.2 % (V) ■ Flash point 71 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 110.11 g/mol
- Melting point 29 - 33 °C
- Boiling point 66 - 68 °C (13 hPa)

- Ignition temp. 370 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 1.13 mg/l
- LD50 oral rat 33 mg/kg ■ LD50 dermal rat 500 - 2000 mg/kg
- LGK 6.1A ■ Store below +15 °C.
- HS-No. 2932 19 00 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester

Stoff, n.a.g.(2-FURYL METHYLKETON), 6.1, II

- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-FURYL METHYLKETONE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-FURYL METHYLKETONE), 6.1, II

## Specification

Assay (GC, area%)..... ≥ 99.0 Area %  
 Melting range (lower value)..... ≥ 27 °C  
 Melting range (upper value)..... ≤ 30 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04017.0050	Glass bottle	50 g	inquire

(2-Furylmethyl)amine → Furfurylamine page 918

Fusing agent for x-ray fluorescence analysis → Spectromelt® A 10 page 167

# Gaba

GABA → 4-Aminobutyric acid page 382

## 112167 Gadolinium(III) oxide 99+

Gd<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 12064-62-9 ■ EC-No. 235-060-9  
 ■ Spec. density 7.4 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 362.49 g/mol  
 ■ Melting point 2330 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319,

P305 + P351 + P338  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2846 90 00 ■ Disposal 27

**Specification**  
 Assay (complexometric, calc. on the ignited basis).

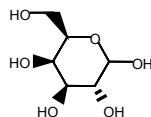
..... ≥ 99.0 %  
 Identity (elemental analysis)..... passes test

Ord.No.	Packaging	Quantity	Price
1.12167.0005	Glass bottle	5 g	inquire
1.12167.0025	Glass bottle	25 g	inquire

Galactaric acid → Mucic acid page 1194

D-Galactopyranose → D(+)-Galactose page 920

## 104058 D(+)-Galactose for biochemistry



C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>  
 Lactoglucose, D-Galactopyranose  
 ■ CAS-No. 59-23-4 ■ EC-No. 200-416-4  
 ■ Spec. density 1.5 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 180.16 g/mol

■ pH value 4.5 - 6.0 (H<sub>2</sub>O) Aqueous solution  
 ■ Melting point 163 - 169 °C  
 ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2940 00 00 ■ Disposal 3  
 D(+)-Galactose exhibits mutarotation: α-form from [α]<sub>D</sub><sup>20</sup> = + 150.7°, β-form from [α]<sub>D</sub><sup>20</sup> = + 52.8° to [α]<sub>D</sub><sup>20</sup> = +80.2° at c = 5 in water.

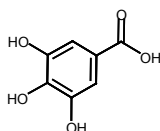
**Specification**  
 Purity (HPLC)..... ≥ 98.0 %

Identity (IR-spectrum)..... passes test  
 Spec. rotation (α<sub>D</sub><sup>20</sup>; 10 %; water; calculated on dried substance)..... 79.0 - 81.0 °  
 Glucose (HPLC)..... ≤ 0.1 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Water (according to Karl Fischer)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.04058.0025	Plastic bottle	25 g	inquire
1.04058.0100	Plastic bottle	100 g	inquire

D(+)-Galactose → page 111

## 842649 Gallic acid (anhydrous) for synthesis



C<sub>7</sub>H<sub>6</sub>O<sub>5</sub>  
 ■ CAS-No. 149-91-7 ■ EC-No. 205-749-9  
 ■ M = 170.12 g/mol  
 ■ Melting point 239.1 °C (decomposition)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 29 00 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42649.0025	Plastic bottle	25 g	inquire
8.42649.0250	Plastic bottle	250 g	inquire

Gallic acid dodecyl ester → Dodecyl 3,4,5-trihydroxybenzoate page 830

Gallic acid lauryl ester → Dodecyl 3,4,5-trihydroxybenzoate page 830

Gallic acid propyl ester → Propyl 3,4,5-trihydroxybenzoate page 1377

Gallic acid ethyl ester → Ethyl 3,4,5-trihydroxybenzoate page 887

Gallic acid octyl ester → Octyl gallate page 1244

Gallic acid trimethyl ether → 3,4,5-Trimethoxybenzoic acid page 1599

## 112169 Gallium 99+

Ga  
 ■ CAS-No. 7440-55-3 ■ EC-No. 231-163-8  
 ■ Spec. density 5.904 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 69.72 g/mol  
 ■ Melting point 29.8 °C ■ Boiling point 2000 °C  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1,

H290  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 8112 92 89 ■ Disposal 27  
 ■ ADR-RID UN 2803 Gallium, 8, III ■ IMDG-Code UN 2803 GALLIUM, 8, III  
 ■ IATA-DGR UN 2803 GALLIUM, 8, III

**Specification**  
 Assay (complexometric)..... ≥ 99.5 %  
 Identity (elemental analysis)..... passes test

Ord.No.	Packaging	Quantity	Price
1.12169.0005	Glass bottle	5 g	inquire

## Gallium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
426	100128	Aurin tricarboxylic acid ammonium salt	995	107098	8-Hydroxyquinoline	173	108677	Xylenol orange tetrasodium salt
663	105227	Cupferron	191	107599	Rhodamine B (C.I. 45170)			

## 112171 Gallium(III) nitrate hydrate 98+

Ga<sub>2</sub>(NO<sub>3</sub>)<sub>6</sub>·xH<sub>2</sub>O  
 Ga(NO<sub>3</sub>)<sub>3</sub>·xH<sub>2</sub>O  
 ■ CAS-No. 69365-72-6 ■ EC-No. 236-815-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 65 °C  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 2, H272; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 +

P338  
 ■ LGK 5.1B  
 ■ HS-No. 2834 29 80 ■ Disposal 14  
 ■ ADR-RID UN 1477 Nitrate, anorganische, n.a.g., 5.1, II ■ IMDG-Code UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II  
 ■ IATA-DGR UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II

**Specification**  
 Assay (complexometric, calc. on the ignited basis)..... ≥ 98.0 %  
 Ga (Gallium)..... 15.0 - 25.0 %  
 Identity (elemental analysis)..... passes test

Ord.No.	Packaging	Quantity	Price
1.12171.0005	Glass bottle	5 g	inquire

## Gas analysis / Gas purification

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1355	105545	Potassium hydroxide solution 47%						

Gas chromatography

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
42	100012	Acetone	44	109604	n-Heptadecane	44	109719	n-Pentane
42	100017	Acetonitrile	44	109686	n-Heptane	43	101772	Petroleum benzene boiling range 40-60°C
44	109646	Benzene	44	109605	n-Hexadecane	43	116740	Petroleum benzene boiling range 40-60°C
44	109649	N,O-Bis(trimethylsilyl)acetamide	44	112186	1,1,1,3,3,3-Hexamethyldisilazane	43	109726	Polyethylene glycol 400
44	110255	Bis(trimethylsilyl)trifluoroacetamide	42	104371	n-Hexane	43	109729	Polyethylene glycol 1000
42	101995	tert-Butyl methyl ether	42	104369	n-Hexane	43	109727	Polyethylene glycol 4000
44	109656	D-Camphor	44	109687	n-Hexane	43	100998	2-Propanol
43	109631	Charcoal activated	43	104340	Isohexane	43	109762	Silicon oil 550
43	109624	Charcoal activated	43	115440	Isooctane	44	109608	n-Tetradecane
42	102432	Chloroform	43	106011	Methanol	43	108389	Toluene
44	102333	Chlorotrimethylsilane	292	109643	2-Methylbutane	43	100849	Toluene
42	102817	Cyclohexane	44	109637	Methyl decanoate	291	100849	Toluene
292	109667	Cyclohexanol	44	109693	Methyl laurate	43	108388	Toluene
44	109603	n-Decane	44	109754	Methyl margarate	44	109768	Toluene
42	106054	Dichloromethane	44	109736	Methyl myristate	44	109609	n-Tridecane
42	110983	N,N-Dimethylformamide	44	109633	Methyl octanoate	44	112513	Trifluoroacetic anhydride
43	109678	Dimethyl sulfoxide	44	109743	Methyl oleate	44	111805	2,2,2-Trifluoro-N-methyl-N-(trimethylsilyl)acetamide
43	109669	Dinonyl phthalate	44	109602	Methyl stearate	44	109771	N-(Trimethylsilyl)imidazole
44	109658	n-Dodecane	44	109606	n-Octadecane	43	112298	Triton® X-100
42	110972	Ethyl acetate	44	109716	n-Octane	44	109794	n-Undecane
44	109635	Ethylbenzene	44	109607	n-Pentadecane	44	109797	m-Xylene
44	109709	Ethyl methyl ketone	43	107288	n-Pentane	44	109798	o-Xylene
						44	109799	p-Xylene

Gas chromatography → page 43

GASSNER-agar → page 101

Gelatin → page 111

Gel electrophoresis → Electrophoresis

804079 Germanium(IV) chloride for synthesis



Cl<sub>4</sub>Ge

GeCl<sub>4</sub>

Germanium tetrachloride

- CAS-No. 10038-98-9 ■ EC-No. 233-116-7
- Vapour pressure 101 hPa ■ Spec. density 1.88 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.463 (273.2 K) ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis, (decomposition) ■ M = 214.4 g/mol
- pH value < 1 (H<sub>2</sub>O, 20 °C) ■ Melting point - 49.5 °C ■ Boiling point 83.1 °C
- WGK 1

- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2827 39 85 ■ Disposal 24
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(GERMANIUMTETRACHLORID), 8, II ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(GERMANIUM TETRACHLORIDE)

, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(GERMANIUM TETRACHLORIDE), 8, II

Specification

Assay (argentometric).....≥ 99,0 %(m)  
 Density (d 20 °C/ 4 °C).....1,875 - 1,877

Ord.No.	Packaging	Quantity	Price
8.04079.0025	Glass bottle	25 ml	inquire

Germanium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
815	103087	1,5-Diphenylcarbazone	995	107098	8-Hydroxyquinoline			

112177 Germanium(IV) oxide 99+



GeO<sub>2</sub>

- CAS-No. 1310-53-8 ■ EC-No. 215-180-8
- Spec. density 4.23 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 4.5 g/l (25 °C) ■ M = 104.61 g/mol
- Melting point 1115 °C ■ Bulk density 1430 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral,

- H302; Acute toxicity, Category 4, Inhalation, H332
- LC50 rat > 1.4 mg/l
- LD50 oral rat 1250 mg/kg
- LGK 10 - 13
- HS-No. 2825 60 00 ■ Disposal 27

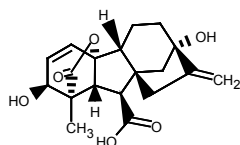
Specification

Identity (elemental analysis).....conforms

Ord.No.	Packaging	Quantity	Price
1.12177.0002	Glass bottle	2 g	inquire
1.12177.0005	Glass bottle	5 g	inquire
1.12177.0025	Glass bottle	25 g	inquire

Germanium tetrachloride → Germanium(IV) chloride page 921

814464 Gibberellic acid for synthesis



- Spec. density 1.34 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 5 g/l (25 °C) ■ M = 346.37 g/mol
- Melting point 233 - 235 °C
- WGK 1
- LD50 oral rat 6300 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

Specification

Assay (HPLC, area%) .....≥ 95,0 Area %  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=2 in methanol) .....  
 .....77,0 - 82,0 °  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14464.0001	Glass bottle	1 g	inquire
8.14464.0005	Glass bottle	5 g	inquire
8.14464.8500	Glass bottle	500 mg	inquire

C<sub>19</sub>H<sub>22</sub>O<sub>6</sub>

- CAS-No. 77-06-5 ■ EC-No. 201-001-0

Giemsa's azur-eosin-methylene blue → page 191

Giemsa's azur eosin methylene blue solution → page 194

GIOLITTI-CANTONI-broth → page 101

# Glassb

## 104014 Glass beads 2 mm

■ HS-No. 7017 90 00

Identity.....conforms

Specification

Ord.No.	Packaging	Quantity	Price
1.04014.0500	Plastic bottle	500 g	inquire

## 104015 Glass beads 3 mm

■ HS-No. 7017 90 00

Identity.....conforms

Specification

Ord.No.	Packaging	Quantity	Price
1.04015.0500	Plastic bottle	500 g	inquire

## 104016 Glass beads 4 mm

■ HS-No. 7017 90 00

Identity.....conforms

Specification

Ord.No.	Packaging	Quantity	Price
1.04016.0500	Plastic bottle	500 g	inquire

## 104017 Glass beads 5 mm

■ HS-No. 7017 90 00

Identity.....conforms

Specification

Ord.No.	Packaging	Quantity	Price
1.04017.0500	Plastic bottle	500 g	inquire

## 104018 Glass beads 6 mm

■ HS-No. 7017 90 00

Identity.....passes test

Specification

Ord.No.	Packaging	Quantity	Price
1.04018.0500	Plastic bottle	500 g	inquire

Glass bottle 2.5 l → page 328

Glass bottles → Laboratory equipment, auxiliaries

Glass bottles, 50 ml → page 14

Glass bottles, 100 ml → page 328

Glass bottles 250 ml → page 328

Glass bottles, 500 ml → page 328

Glass bottles 1 l → page 328

Glass bottles, 1 l → page 328

Glass bottles 2.5 l → page 328

## Glass bottles for liquids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
328	902666	Glass bottle 2.5 l	328	113313	Glass bottles, 500 ml	328	110393	Glass bottles, 1 l
328	110390	Glass bottles, 100 ml	328	110392	Glass bottles, 500 ml	328	110394	Glass bottles 2.5 l
328	110391	Glass bottles 250 ml	328	113314	Glass bottles 1 l			

Glass columns (empty) 3 ml → page 6

Glass purification → page 889

Glass rods → page 328

Glass rods (plastic-coated) → page 328

## 104086 Glass wool

■ CAS-No. 65997-17-3 ■ EC-No. 266-046-0  
 ■ Spec. density 2.3 - 2.5 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 9 - 11 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry) ■ Bulk density 20 - 160 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ GHS: P260  
 ■ LGK 10 - 13

■ HS-No. 7019 90 00  
 Filtration aid, temperature-isolation material

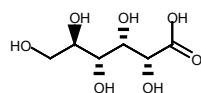
Specification

Substances soluble in hydrochloric acid ..... ≤ 1 %  
 Alkali soluble in water (as Na<sub>2</sub>O) ..... ≤ 0.1 %  
 Heavy metals (as Pb) ..... ≤ 0.005 %

Diameter of fibre (15-25 µm)..... passes test

Ord.No.	Packaging	Quantity	Price
1.04086.0250	Metal can	250 g	inquire
1.04086.1000	Fibre carton	1 kg	inquire

## 822057 Gluconic acid (50% solution in water) for synthesis



■ Spec. density 1.24 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.2 (500 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point 105 - 106 °C

■ WGK 1  
 ■ GHS: P262  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 16 00 ■ Disposal 3

Specification

Assay (acidimetric)..... 48.0 - 52.0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,230 - 1,245

Ord.No.	Packaging	Quantity	Price
8.22057.0100	Plastic bottle	100 ml	inquire
8.22057.1000	Plastic bottle	1 l	inquire
8.22057.2500	Plastic bottle	2.5 l	inquire
8.22057.9025	Plastic container	25 l	inquire

## 820601 Gluconic acid potassium salt for synthesis

C<sub>6</sub>H<sub>11</sub>KO<sub>7</sub>

Potassium gluconate

■ CAS-No. 299-27-4 ■ EC-No. 206-074-2  
 ■ Spec. density 1.73 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 590 g/l (20 °C) ■ M = 234.24 g/mol ■ pH value 7.0 - 8.3 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 174 - 176 °C  
 ■ Bulk density 600 kg/m<sup>3</sup> ■ Ignition temp. >200 °C

■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 16 00 ■ Disposal 3

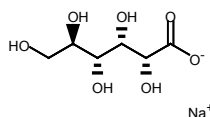
Specification

Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=10 in water)] ..... 10.5 - 11.5 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20601.0100	Plastic bottle	100 g	inquire
8.20601.0500	Plastic bottle	500 g	inquire

## 822058 Gluconic acid sodium salt for synthesis



C<sub>6</sub>H<sub>11</sub>NaO<sub>7</sub>

Sodium gluconate

■ CAS-No. 527-07-1 ■ EC-No. 208-407-7  
 ■ Solub. in H<sub>2</sub>O 590 g/l (25 °C) ■ M = 218.14 g/mol ■ pH value 7.0 - 8.0 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 170 - 175 °C  
 ■ Bulk density 700 - 1000 kg/m<sup>3</sup>  
 ■ Ignition temp. >200 °C  
 ■ WGK 1  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 16 00 ■ Disposal 3

Specification

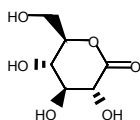
Assay (HClO<sub>4</sub>)..... ≥ 99.0 %  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=10 in water)] ..... 11.5 - 12.5 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22058.0100	Plastic bottle	100 g	inquire
8.22058.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.22058.2500	Plastic bottle	2.5 kg	inquire
	Plastic bottle	4 x 2.5 kg	inquire
8.22058.9050	Fibre carton	50 kg	inquire



**843794 D-(+)-Glucono-delta-lactone for synthesis**



C<sub>6</sub>H<sub>10</sub>O<sub>6</sub>  
 ■ CAS-No. 90-80-2 ■ EC-No. 202-016-5

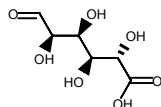
- Solub. in H<sub>2</sub>O 590 g/l (25 °C) Hydrolysis
- M = 178.14 g/mol ■ pH value 3.6 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 151 - 154 °C (decomposition)
- Bulk density 750 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 99.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43794.0100	Plastic bottle	100 g	inquire

**843961 D-Glucuronic acid for synthesis**



C<sub>6</sub>H<sub>10</sub>O<sub>7</sub>  
 ■ CAS-No. 6556-12-3 ■ EC-No. 229-486-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 194.14 g/

- mol ■ Melting point 159 - 161 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

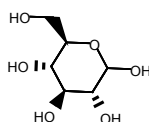
**Specification**

Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 160 °C

Melting range (upper value)..... ≤ 164 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43961.0010	Glass bottle	10 g	inquire
8.43961.0025	Glass bottle	25 g	inquire

**108337 D(+)-Glucose anhydrous for biochemistry Reag. Ph Eur**



C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>  
*Dextrose*  
 ■ CAS-No. 50-99-7 ■ EC-No. 200-075-1  
 ■ Solub. in H<sub>2</sub>O 470 g/l (20 °C) ■ M = 180.16 g/mol  
 ■ pH value 6 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 146 °C ■ Bulk density 630 kg/m<sup>3</sup>  
 ■ Ignition temp. 500 °C  
 ■ WGK 1  
 ■ LD50 oral rat 25800 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 1702 30 50 ■ Disposal 3

D(+)-Glucose exhibits mutarotation: from [α] 20°/D = +112.2° to [α] 20°/D = +52.7° at c = 4 in water.

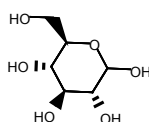
**Specification**

Identity..... passes test  
 Appearance of solution..... passes test  
 Spec. rotation (α 20/D; 10 %; water; calc. on anhydrous substance)..... 52.5 - 53.2 °  
 Acidity or alkalinity..... passes test  
 pH-value (10 %; water)..... 5.7 - 7.0  
 Chloride (Cl)..... ≤ 0.0125 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.02 %  
 Sulfite (as SO<sub>2</sub>)..... passes test %  
 As (Arsenic)..... ≤ 0.0001 %  
 Ba (Barium)..... passes test  
 Ca (Calcium)..... ≤ 0.02 %  
 Pb (Lead)..... ≤ 0.00005 %

Foreign sugars, soluble starch, dextrans. passes test  
 Maltose (HPLC)..... ≤ 0.2 %  
 Heavy metals as Pb (as Pb)..... ≤ 0.001 %  
 Sulfated ash..... ≤ 0.1 %  
 Water (according to Karl Fischer)..... ≤ 0.2 %  
 Residual solvents (Ph Eur)..... excluded by the production process  
 Residues of metal catalysts or metal reagents acc. to EMEA/C HMP/SWP/4446/2000 are not likely to be present.  
 Corresponds to Reag Ph Eur

Ord.No.	Packaging	Quantity	Price
1.08337.0250	Plastic bottle	250 g	inquire
1.08337.1000	Plastic bottle	1 kg	inquire
1.08337.5000	Plastic bottle	5 kg	inquire
1.08337.9050	Fibre carton	50 kg	inquire

**104074 D(+)-Glucose monohydrate for biochemistry**



C<sub>6</sub>H<sub>12</sub>O<sub>6</sub> \* H<sub>2</sub>O  
*Dextrose*  
 ■ CAS-No. 14431-43-7 ■ EC-No. 200-075-1  
 ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 198.17 g/mol  
 ■ pH value 6 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 83 °C ■ Bulk density 630 kg/m<sup>3</sup>

- Ignition temp. 500 °C
- WGK 1
- LD50 oral rat 25800 mg/kg
- LGK 10 - 13
- HS-No. 1702 30 50 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good
- D(+)-Glucose exhibits mutarotation: from [α] 20°/D = +112.2° to [α] 20°/D = +52.7° at c = 4 in water.

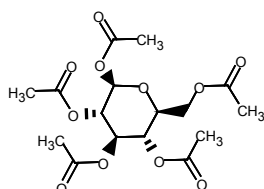
**Specification**

Identity (IR-spectrum)..... passes test  
 Spec. rotation (α 20/D; 10 %; water; calc. on anhydrous substance)..... 52.5 - 53.0 °  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Maltose (HPLC)..... ≤ 0.2 %  
 Water..... 8 - 10 %

Ord.No.	Packaging	Quantity	Price
1.04074.0500	Plastic bottle	500 g	inquire
1.04074.1000	Plastic bottle	1 kg	inquire
1.04074.5000	Plastic bottle	5 kg	inquire
1.04074.9050	Fibre carton	50 kg	inquire

D(+)-Glucose monohydrate → page 111

**814812 β-D-Glucose pentaacetate for synthesis**



C<sub>16</sub>H<sub>22</sub>O<sub>11</sub>  
*Pentaacetyl-β-D-glucose, 1,2,3,4,6-Penta-O-*

- acetyl-β-D-glucopyranose*
- CAS-No. 604-69-3 ■ EC-No. 210-074-8
- Flash point >150 °C ■ Solub. in H<sub>2</sub>O < 5 g/l (25 °C) ■ M = 390.34 g/mol
- Melting point 130 - 132 °C
- Ignition temp. >500 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2940 00 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 130 °C  
 Melting range (upper value)..... ≤ 132 °C  
 Spec. rotation [α<sup>20</sup>/D (c=10 in CHCl<sub>3</sub>)..... 3,0 - 6,0 °  
 Identity (IR)..... passes test

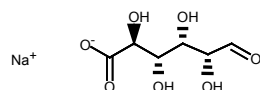
Ord.No.	Packaging	Quantity	Price
8.14812.0005	Glass bottle	5 g	inquire
8.14812.0025	Glass bottle	25 g	inquire
8.14812.0100	Glass bottle	100 g	inquire

Glucose peptone agar acc. to Sabouraud modified → page 104

Glucose peptone broth acc. to Sabouraud → page 106

Glucose Test → page 65

**814723 D(+)-Glucuronic acid sodium salt monohydrate for synthesis**



C<sub>6</sub>H<sub>9</sub>NaO<sub>7</sub>\*H<sub>2</sub>O  
*Sodium D-glucuronate*

- CAS-No. 207300-70-7 ■ EC-No. 239-065-7
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 234.14 g/mol
- Melting point 137 - 141 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 99.0 %  
 Spec. rotation [α<sup>20</sup>/D (c=2 in water)..... 20.0 - 22.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14723.0010	Plastic bottle	10 g	inquire

## 104114 $\beta$ -Glucuronidase/aryl sulfatase (from *Helix pomatia*) stabilized aqueous solution for biochemistry

EC 3.2.1.31 + EC 3.1.6.1

### Aryl sulfatase

- Spec. density 1.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- WGK 1
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 3507 90 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

The preparation is stabilised with sodium azide and sodium mercuriothiolate. Activity  $\beta$ -glucuronidase acc. to Fishman: ca. 100000 units/ml. Hydrolysis of glucuronides, e.g. steroid conjugates and mucopolysaccharides; protoplast formation of yeasts.

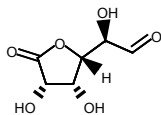
### Specification

$\beta$ -Glucuronidase (4-Nitrophenyl- $\beta$ -D-glucuronide;

pH 3.8; 38.0 °C).....about 30 U/ml  
Arylsulfatase (4-Nitrophenylsulfate potassiumsalt; pH 6.2; 38.0 °C).....about 60 U/ml

Ord.No.	Packaging	Quantity	Price
1.04114.0002	Glass bottle	2 ml	inquire

## 841864 D-(+)-Glucuronolactone for synthesis



- M = 176.12 g/mol ■ Melting point 170 - 175 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

### Specification

Assay (acidimetric).....≥ 97,0 %  
Melting range (lower value).....≥ 170 °C  
Melting range (upper value).....≤ 175 °C

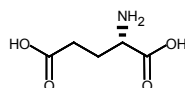
Spec. rotation [ $\alpha$ <sup>20</sup>/D (c=8 in water) ...17,0 - 19,0 °  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41864.0025	Plastic bottle	25 g	inquire
8.41864.0100	Plastic bottle	100 g	inquire
8.41864.0500	Plastic bottle	500 g	inquire

C<sub>6</sub>H<sub>8</sub>O<sub>6</sub>

■ CAS-No. 32449-92-6 ■ EC-No. 251-053-3

## 100291 L-Glutamic acid for biochemistry



Soluble in water and mineral acids

### Specification

Assay (alkalimetric, calculated on dried substance).....≥ 99,0 %  
Identity (IR-spectrum).....passes test  
Appearance.....white to almost white, crystalline powder or colorless crystals  
Appearance of solution (0.5 mol/l, hydrochloric acid 1 mol/l).....clear and colorless  
Spec. rotation ( $\alpha$  20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance).....+31.5 to +32.5°  
UV-Absorption (260 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l).....≤ 0.10  
UV-Absorption (280 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l).....≤ 0.10  
Chloride (Cl).....≤ 0.02 %  
Sulfate (SO<sub>4</sub>).....≤ 0.01 %  
Heavy metals (as Pb).....≤ 0.001 %

As (Arsenic).....≤ 0.0005 %  
Ca (Calcium).....≤ 0.001 %  
Co (Cobalt).....≤ 0.0005 %  
Fe (Iron).....≤ 0.0005 %  
K (Potassium).....≤ 0.0005 %  
Mg (Magnesium).....≤ 0.0005 %  
Na (Sodium).....≤ 0.01 %  
NH<sub>4</sub> (Ammonium).....≤ 0.01 %  
Zn (Zinc).....≤ 0.0005 %  
Foreign amino acids.....≤ 0.3 %  
Other ninhydrine positive substances.....≤ 0.1 %  
Loss on drying (105 °C; 3 h).....≤ 0.3 %

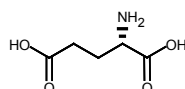
Ord.No.	Packaging	Quantity	Price
1.00291.0250	Plastic bottle	250 g	inquire
1.00291.1000	Plastic bottle	1 kg	inquire
1.00291.9010	Plastic drum	10 kg	inquire

C<sub>5</sub>H<sub>9</sub>NO<sub>4</sub>

L- $\alpha$ -Aminoglutaric acid, Glu, L- $\alpha$ -Aminoglutaric acid

- CAS-No. 56-86-0 ■ EC-No. 200-293-7
- Spec. density 1.54 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 11.1 g/l (25 °C) ■ M = 147.13 g/mol
- pH value 3.0 - 3.5 (8.6 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 160 °C ■ Bulk density 460 kg/m<sup>3</sup>
- LD50 oral rat > 30000 mg/kg
- LGK 10 - 13
- HS-No. 2922 42 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## 816004 (S)-(+)-Glutamic acid for synthesis



- H<sub>2</sub>O 11.1 g/l (25 °C) ■ M = 147.13 g/mol
- pH value 3.0 - 3.5 (8.6 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 160 °C ■ Bulk density 460 kg/m<sup>3</sup>
- LD50 oral rat > 30000 mg/kg
- LGK 10 - 13
- HS-No. 2922 42 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

### Specification

Assay (acidimetric).....≥ 99,0 % (m)  
Spec. rotation [ $\alpha$ <sup>20</sup>/D (c=10 in HCl 2 mol/l).....30,0 - 32,5 °  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.16004.0100	Plastic bottle	100 g	inquire
8.16004.1000	Plastic bottle	1 kg	inquire

C<sub>5</sub>H<sub>9</sub>NO<sub>4</sub>

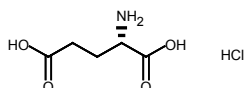
L- $\alpha$ -Aminoglutaric acid, Glu, L- $\alpha$ -Aminoglutaric acid

- CAS-No. 56-86-0 ■ EC-No. 200-293-7
- Spec. density 1.54 g/cm<sup>3</sup> (20 °C) ■ Solub. in

L-Glutamic acid → (S)-(+)-Glutamic acid page 924

L-Glutamic acid-5-amide → L-Glutamine page 925

## 814632 L-Glutamic acid hydrochloride for synthesis



- H<sub>2</sub>O 490 g/l (20 °C) ■ M = 183.59 g/mol
- pH value 1 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 191 - 193 °C decomposes
- Bulk density 630 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LGK 10 - 13
- HS-No. 2922 42 00 ■ Disposal 3

### Specification

Assay (argentometric).....≥ 98,0 % (m)  
Spec. rotation [ $\alpha$ <sup>20</sup>/D (c=10 in HCl 2 mol/l).....24,5 - 26,0 °  
Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14632.0250	Plastic bottle	250 g	inquire
8.14632.1000	Plastic bottle	1 kg	inquire

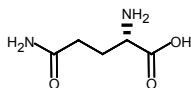
C<sub>5</sub>H<sub>10</sub>ClNO<sub>4</sub>

C<sub>5</sub>H<sub>9</sub>NO<sub>4</sub>·HCl

L- $\alpha$ -Aminoglutaric acid hydrochloride

- CAS-No. 138-15-8 ■ EC-No. 205-315-9
- Spec. density 1.525 g/cm<sup>3</sup> ■ Solub. in

## 100289 L-Glutamine for biochemistry

C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>*L*-Glutamic acid-5-amide, Gln

- CAS-No. 56-85-9 ■ EC-No. 200-292-1
- Solub. in H<sub>2</sub>O 100 g/l (40 °C) ■ M = 146.15 g/mol ■ pH value 4.0 - 6.0 (25 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 185 - 186 °C
- Bulk density 640 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat 7500 mg/kg
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

Soluble in water and mineral acids

## Specification

Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %

Identity (IR-spectrum) ..... passes test

Appearance ..... white to almost white, fine powder

Appearance of solution (1 mol/l, hydrochloric acid 1 mol/l) ..... clear and colorless

Spec. rotation (α<sub>D</sub><sup>20</sup>, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +32.3 to +33.3°

UV-Absorption (260 nm, 1 mol/l, 1 cm, hydrochloric acid 1 mol/l) ..... ≤ 0.20

UV-Absorption (280 nm, 1 mol/l, 1 cm, hydrochloric acid 1 mol/l) ..... ≤ 0.02

Chloride (Cl) ..... ≤ 0.02 %

Sulfate (SO<sub>4</sub>) ..... ≤ 0.01 %

Heavy metals (as Pb) ..... ≤ 0.001 %

As (Arsenic) ..... ≤ 0.0005 %

Ca (Calcium) ..... ≤ 0.001 %

Co (Cobalt) ..... ≤ 0.0005 %

Fe (Iron) ..... ≤ 0.0005 %

K (Potassium) ..... ≤ 0.0005 %

Mg (Magnesium) ..... ≤ 0.0005 %

Na (Sodium) ..... ≤ 0.005 %

NH<sub>4</sub> (Ammonium) ..... ≤ 0.1 %

Zn (Zinc) ..... ≤ 0.0005 %

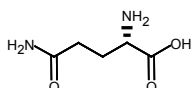
Foreign amino acids ..... ≤ 0.3 %

Other ninhydrine positive substances ..... ≤ 0.2 %

Loss on drying (105 °C; 3 h) ..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.00289.0025	Plastic bottle	25 g	inquire
1.00289.0100	Plastic bottle	100 g	inquire
1.00289.1000	Plastic bottle	1 kg	inquire
1.00289.9010	Plastic drum	10 kg	inquire

## 816016 (S)-(+)-Glutamine for synthesis

C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>*L*-Glutamic acid-5-amide, Gln

- CAS-No. 56-85-9 ■ EC-No. 200-292-1
- Solub. in H<sub>2</sub>O 100 g/l (40 °C) ■ M = 146.15 g/mol

mol ■ pH value 4.0 - 6.0 (25 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 185 - 186 °C
- Bulk density 640 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat 7500 mg/kg
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99.0 % (m)

Spec. rotation [α<sub>D</sub><sup>20</sup> (c=10 in HCl 2 mol/l) ..... 31,5 - 33,0 °

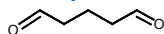
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16016.0025	Plastic bottle	25 g	inquire
8.16016.0100	Plastic bottle	100 g	inquire

L-Glutamine → (S)-(+)-Glutamine page 925

L-(+)-Glutamic acid 5-amide → (S)-(+)-Glutamine page 925

## Glutardialdehyde



Pentanedial

- Vapour pressure 0.27 hPa (20 °C)
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)
- Flash point >95 °C ■ Kin. viscosity 12.75 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value >3.0 (H<sub>2</sub>O, 20 °C) ■ Melting point - 6 °C ■ Boiling point 100.5 °C (1013 hPa)

- Ignition temp. 275 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400, P280, P273, P301 + P330 + P331, P302 + P352,

P304 + P340, P305 + P351 + P338, P309 + P310

- LGK 6.1B
- HS-No. 2912 19 00 ■ Disposal 9
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(GLUTARDIALDEHYDLOESUNG), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(GLUTARDIALDEHYDE), 8 (6.1), II
- IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(GLUTARDIALDEHYDE), 8 (6.1), II

## 820603 Glutardialdehyde (25% solution in water) for synthesis

## Specification

Assay (hydrogensulfit methode) ...23,0 - 27,0 % (m)

Density (d 20 °C/ 4 °C) ..... 1,055 - 1,065

Ord.No.	Packaging	Quantity	Price
8.20603.0100	Plastic bottle	100 ml	inquire
	Plastic bottle	6 x 100 ml	inquire
8.20603.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.20603.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.20603.9025	Plastic container	25 l	inquire

## 814393 Glutardialdehyde (50% solution in water) for synthesis

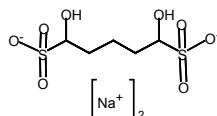
## Specification

Assay (hydrogensulfit methode) ...47,0 - 53,0 % (m)

Density (d 20 °C/ 4 °C) ..... 1,125 - 1,130

Ord.No.	Packaging	Quantity	Price
8.14393.0100	Plastic bottle	100 ml	inquire
8.14393.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

## 804240 Glutardialdehyde bis (sodium hydrogen sulfite) for synthesis

C<sub>5</sub>H<sub>10</sub>Na<sub>2</sub>O<sub>8</sub>S<sub>2</sub>

- CH<sub>2</sub>[CH<sub>2</sub>CH(OH)SO<sub>3</sub>Na]<sub>2</sub>
- Pentane-1,5-dial-bis(sodium bisulfite)*
- CAS-No. 7420-89-5 ■ EC-No. 231-043-5
  - Solub. in H<sub>2</sub>O 285 g/l (20 °C) ■ M = 308.22 g/mol ■ pH value 3 - 5 (100 g/l, H<sub>2</sub>O, 20 °C)
  - WGK 3
  - LGK 10 - 13

- HS-No. 2905 59 98 ■ Disposal 3

## Specification

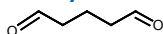
Assay (iodometric) ..... ≥ 95,0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04240.0250	Plastic bottle	250 g	inquire

# Glutar

## Glutardialdehyde solution 25%



- Vapour pressure 0.27 hPa (20 °C)
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >3.0 (H<sub>2</sub>O, 20 °C)
- Melting point -6 °C ■ Boiling point 100.5 °C (1013 hPa) ■ Ignition temp. 275 °C
- WGK 3

- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

- LGK 6.1B ■ Store at +2°C to +8°C.
- HS-No. 2912 19 00 ■ Disposal 9
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(GLUTARDIALDEHYDLOESUNG), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(GLUTARDIALDEHYDE), 8 (6.1), II
- IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(GLUTARDIALDEHYDE), 8 (6.1), II



## 104239 Glutardialdehyde solution 25% for electron microscopy

### Specification

Assay (alkalimetric) ..... 23.5 - 26.5 %  
 pH-value ..... ≥ 3.0  
 Density (d 20 °C/ 4 °C) ..... 1.060 - 1.065  
 Absorbance A (235 nm; 1:200 deluted with water; 1 cm) ..... ≤ 0.3

Ord.No.	Packaging	Quantity	Price
1.04239.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
1.04239.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04239.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 112179 Glutardialdehyde solution 25% for electron microscopy, acc. to P.J. Anderson (purified and filled under nitrogen)

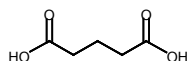
### Specification

Assay (alkalimetric) ..... 24.7 - 25.7 %  
 Identity ..... conforms  
 Free acid (as glutaric acid) ..... ≤ 0.2 %  
 Methanol (HS-GC) ..... ≤ 0.3 %

Optical purity (E 280 nm / E 235 nm) ..... ≥ 3.0

Ord.No.	Packaging	Quantity	Price
1.12179.0025	Glass bottle	25 ml	inquire
	Glass bottle	6 x 25 ml	inquire
1.12179.0100	Glass bottle	100 ml	inquire
	Glass bottle	6 x 100 ml	inquire

## 800295 Glutaric acid for synthesis



- C<sub>5</sub>H<sub>8</sub>O<sub>4</sub>  
 HOOC(CH<sub>2</sub>)<sub>3</sub>COOH  
*Pentanedioic acid*  
 ■ CAS-No. 110-94-1 ■ EC-No. 203-817-2  
 ■ Vapour pressure 0.022 hPa (18.5 °C)  
 ■ Spec. density 1.43 g/cm<sup>3</sup> (15 °C)  
 ■ Flash point 200 °C DIN 51758 ■ Solub. in

- H<sub>2</sub>O 640 g/l (20 °C) ■ M = 132.11 g/mol  
 ■ Melting point 98 °C ■ Boiling point 302 - 304 °C (1013 hPa) (slow decomposition)  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P260, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

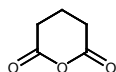
Melting range (upper value) ..... ≤ 99 °C  
 Identity (IR) ..... conforms

**Specification**  
 Assay (acidimetric) ..... ≥ 99,0 % (m)  
 Melting range (lower value) ..... ≥ 95 °C

Ord.No.	Packaging	Quantity	Price
8.00295.0100	Plastic bottle	100 g	inquire
8.00295.0250	Plastic bottle	250 g	inquire
8.00295.1000	Plastic bottle	1 kg	inquire

Glutaric acid dimethyl ester → page 300

## 820604 Glutaric anhydride for synthesis



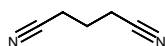
- C<sub>5</sub>H<sub>6</sub>O<sub>3</sub>  
*Tetrahydropyran-2,6-dione*  
 ■ CAS-No. 108-55-4 ■ EC-No. 203-593-6  
 ■ Vapour pressure 0.05 hPa (50 °C)  
 ■ Spec. density 1.24 g/cm<sup>3</sup> (60 °C)  
 ■ Flash point 174 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 114.1 g/mol

- Melting point 53 - 57 °C ■ Bulk density 990 kg/m<sup>3</sup> ■ Boiling point 290.5 °C (1013 hPa)  
 ■ Ignition temp. 320 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338  
 ■ LD50 dermal rabbit 1780 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

**Specification**  
 Assay (morpholine method) ..... ≥ 95,0 % (m)  
 Melting range (lower value) ..... ≥ 53 °C  
 Melting range (upper value) ..... ≤ 57 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20604.0005	Glass bottle	5 g	inquire
8.20604.0250	Plastic bottle	250 gr	inquire

## 804105 Glutaronitrile for synthesis



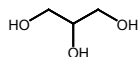
- C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>  
 NC(CH<sub>2</sub>)<sub>3</sub>CN  
*Pentanedinitrile*  
 ■ CAS-No. 544-13-8 ■ EC-No. 208-861-6  
 ■ Refractive index 1.4345 (20 °C, 589 nm)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 112 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (25 °C) ■ M = 94.11 g/mol ■ Melting point -29 °C

- Boiling point 285 - 287 °C  
 ■ WGK 1  
 ■ GHS: P262  
 ■ LGK 10  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(GLUTARSAEUREDINITRIL), 6.1, II ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(GLUTARONITRILE), 6.1, II  
 ■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(GLUTARONITRILE), 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,987 - 0,990  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04105.0025	Glass bottle	25 ml	inquire
8.04105.0100	Glass bottle	100 ml	inquire

## Glycerol



C<sub>3</sub>H<sub>8</sub>O<sub>3</sub>  
(HOCH<sub>2</sub>)<sub>2</sub>CHOH  
1,2,3-

Propanetriol, Trihydroxypropane, Protol, Glycerin  
■ CAS-No. 56-81-5 ■ EC-No. 200-289-5  
■ Vapour pressure < 0.001 hPa (20 °C)

■ Spec. density 1.26 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 42.5 (20 °C) ■ Explosive limit 2.6 - 11.3 % (V) ■ Flash point 199 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 92.1 g/mol  
■ pH value 5 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 18 °C ■ Boiling point 290 °C (1013 hPa) (decomposition)  
■ Ignition temp. 400 °C  
■ WGK 1

■ LD50 oral rat 12600 mg/kg  
■ LD50 dermal rabbit > 18700 mg/kg  
■ LGK 10  
■ HS-No. 2905 45 00  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
■ IATA-DGR No Dangerous Good

## 818709 Glycerol anhydrous for synthesis

## Specification

Assay (GC, calc. on anhydrous substance) ... ≥ 99 %  
Identity (IR-spectrum) ..... passes test  
Density (d 20/4) ..... 1.259 - 1.263  
Water ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
8.18709.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.18709.5000	Plastic container	5 l	inquire
8.18709.9025	Plastic container	25 l	inquire

## 104092 Glycerol for analysis EMSURE® ACS, Reag. Ph Eur

## Specification

Assay (GC, calc. on anhydrous substance) ≥ 99.5 %  
Assay (alcalimetric, calculated on anhydrous substance) ..... 98.0 - 101.0 %  
Identity ..... passes test  
Colour ..... ≤ 10 APHA  
Appearance of solution ..... passes test  
Acidity or alkalinity ..... passes test  
Free acid (CH<sub>3</sub>COOH) ..... ≤ 0.002 %  
Neutrality ..... passes test  
Refractive index (n 20/D) ..... 1.470 - 1.475  
Chloride (Cl) ..... ≤ 0.0010 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.001 %  
Halogen compounds (as Cl) ..... ≤ 0.003 %  
Heavy metals (as Pb) ..... ≤ 0.0002 %  
Al (Aluminium) ..... ≤ 0.00005 %  
B (Boron) ..... ≤ 0.000002 %  
Ba (Barium) ..... ≤ 0.00001 %  
Ca (Calcium) ..... ≤ 0.0001 %  
Cd (Cadmium) ..... ≤ 0.000005 %

Co (Cobalt) ..... ≤ 0.000005 %  
Cr (Chromium) ..... ≤ 0.000002 %  
Cu (Copper) ..... ≤ 0.000005 %  
Fe (Iron) ..... ≤ 0.00001 %  
Mg (Magnesium) ..... ≤ 0.0001 %  
Mn (Manganese) ..... ≤ 0.00001 %  
Ni (Nickel) ..... ≤ 0.000002 %  
Pb (Lead) ..... ≤ 0.00001 %  
Sn (Tin) ..... ≤ 0.00001 %  
Zn (Zinc) ..... ≤ 0.00001 %  
Acetone ..... ≤ 0.5 %  
Other residual solvents (ICH Q3C) ..... excluded by production process  
Acrolein, glucose and ammonium compounds ..... passes test  
Aldehydes ..... ≤ 10 ppm  
Diethylene glycol and related Substances (impurity A) ..... ≤ 0.1 %  
Diethylene glycol and related Substances (any

further impurity) ..... ≤ 0.1 %  
Diethylene glycol and related Substances (Sum of all impurities) ..... ≤ 0.5 %  
Fatty acids and esters (as Butyric acid) ..... ≤ 0.05 %  
Substances darkened by sulfuric acid ..... passes test  
Sugar ..... passes test  
Sulfated ash ..... ≤ 0.005 %  
Water ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.04092.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.04092.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.04092.2511		2.5 l	inquire
1.04092.4000	Glass bottle	4 l	inquire
1.04092.9010	Plastic container	10 l	inquire

## 104095 Glycerol for fluorescence microscopy

## Specification

Purity (GC) ..... ≥ 99.5 %  
Identity (IR-spectrum) ..... passes test  
Refractive index (n 20/D) ..... 1.472 - 1.474  
Fluorescence (as quinine at 365 nm) ..... ≤ 100 ppb  
Fluorescence (as quinine at 313 nm) ..... ≤ 100 ppb

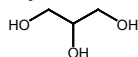
Fluorescence (as quinine at 254 nm) ..... ≤ 100 ppb  
Transmission (at 240 nm; 1 cm) ..... ≥ 60 %  
Transmission (at 260 nm; 1 cm) ..... ≥ 75 %  
Transmission (at 280 nm; 1 cm) ..... ≥ 80 %  
Transmission (from 300 nm; 1 cm) ..... ≥ 85 %

Suitability for fluorescence microscopy ..... passes test

Ord.No.	Packaging	Quantity	Price
1.04095.0250	Glass bottle	250 ml	inquire

Glycerol → page 928

## 104094 Glycerol 85% for analysis EMSURE® Reag. Ph Eur



Glycerin, 1,2,3-  
Propanetriol, Trihydroxypropane, Protol

■ Vapour pressure 8 hPa (20 °C)  
■ Spec. density 1.23 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 42.5 (20 °C) ■ Flash point 199 °C  
■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -10 °C  
■ Boiling point >130 °C (1013 hPa)  
■ Ignition temp. 429 °C  
■ WGK 1  
■ LGK 10  
■ HS-No. 2905 45 00 ■ Disposal 3

## Specification

Assay (GC; calc. on hydrous substance) ..... 84.5 - 85.5 %

Assay (alkalimetric after oxidation) ... 83.5 - 88.5 %  
Identity ..... passes test  
Appearance of solution ..... passes test  
Acidity or alkalinity ..... passes test  
Free alkali (as NH<sub>3</sub>) ..... ≤ 0.0005 %  
Free acid (as CH<sub>3</sub>COOH) ..... ≤ 0.002 %  
Refractive index (n D/20) ..... 1.449 - 1.455  
Density (d 20/4) ..... 1.218 - 1.225  
Chloride (Cl) ..... ≤ 0.0001 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.0005 %  
Heavy metals (as Pb) ..... ≤ 0.0001 %  
Halogen compounds (as Cl) ..... ≤ 0.0030 %  
Aldehydes ..... ≤ 10 ppm  
Fe (Iron) ..... ≤ 0.0001 %  
NH<sub>4</sub> (Ammonium) ..... ≤ 0.0005 %  
Fatty Esters (as glycerintributyrate) ..... ≤ 0.05 %  
Readily carbonizable substances ..... passes test  
Diethylene glycol and related Substances (impurity

A) ..... ≤ 0.1 %  
Diethylene glycol and related Substances (any further impurity) ..... ≤ 0.1 %  
Diethylene glycol and related Substances (Sum of all impurities) ..... ≤ 0.5 %  
Sugar ..... passes test  
Sulfated ash ..... ≤ 0.005 %  
Water ..... 14.5 - 15.5 %

Ord.No.	Packaging	Quantity	Price
1.04094.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
1.04094.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.04094.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.04094.9026	Plastic container	25 l	inquire

Glycerol 1-allyl ether → 3-Allyloxy-1,2-propanediol page 366

Glycerol α-chlorohydrin → 3-Chloro- 1,2-propanediol page 630

Glycerol α-chlorohydrin → 3-Chloro- 1,2-propanediol page 630

Glycerol diacetate → Diacetin page 691

Glycerol α,γ-dichlorohydrin → 1,3-Dichloro-2-propanol page 731

Glycerol α,β-dichlorohydrin → 2,3-Dichloro-1-propanol page 731

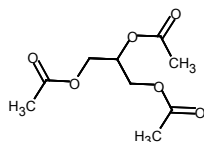
Glycerol α,γ-diethyl ether → 1,3-Diethoxy-2-propanol page 736

Glycerol gelatin → page 187



# Glycer

## 108238 Glycerol triacetate for biochemistry



C<sub>9</sub>H<sub>14</sub>O<sub>6</sub>

- CAS-No. 102-76-1 ■ EC-No. 203-051-9
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.1 - 7.7 % (V) ■ Flash point 138 °C ■ Solub. in H<sub>2</sub>O 64 g/l (20 °C) ■ M = 218.20 g/mol  
 ■ pH value 5.0 - 6.0 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -37 °C ■ Boiling point 258 °C (1013 hPa) ■ Ignition temp. 430 °C  
 ■ WGK 1  
 ■ LD50 oral rat 3000 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2915 39 00 ■ Disposal 3  
 Soluble in ether, ethanol, chloroform or benzene

### Specification

Assay (GC) ..... ≤ 99%  
 Identity (IR-spectrum) ..... passes test  
 Density (d 20/4) ..... 1.157 - 1.159  
 Water (according to Karl Fischer) ..... ≤ 0.2 %  
 Suitability as enzyme substrate (tested with Lipase) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.08238.0500	Glass bottle	500 ml	inquire

Glycerol trichlorohydrin → 1,2,3-Trichloropropane page 1581

Glycidol butyl ether → Butyl 2,3-epoxypropyl ether page 546

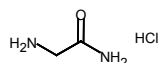
3-Glycidoxypropyltrimethoxysilane → [3-(2,3-Epoxypropoxy)-propyl]-trimethoxysilane page 837

Glycidyl allyl ether → Allyl 2,3-epoxypropyl ether page 365

Glycidyl phenyl ether → 2,3-Epoxypropyl phenyl ether page 837

(R)-(-)-Glycidyl tosylate → (2R)-(-)-2,3-Epoxypropyl toluene-4-sulfonate page 837

## 841793 Glycinamide hydrochloride for synthesis



C<sub>2</sub>H<sub>7</sub>ClN<sub>2</sub>O

C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O<sup>+</sup>HCl

- CAS-No. 1668-10-6 ■ EC-No. 216-789-1

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 110.54 g/mol  
 ■ Melting point 204 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3

### Specification

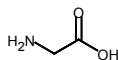
Assay (argentometric) ..... ≥ 98,0 %

Melting range (lower value) ..... ≥ 201 °C  
 Melting range (upper value) ..... ≤ 204 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41793.0025	Plastic bottle	25 g	inquire

Glycinanhydride → 2,5-Piperazinedione page 1330

## Glycine



C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub>

H<sub>2</sub>NCH<sub>2</sub>COOH

Gly, Aminoacetic acid, Aminoethanoic acid

■ CAS-No. 56-40-6 ■ EC-No. 200-272-2  
 ■ Spec. density 1.595 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 225 g/l (20 °C) ■ M = 75.06 g/mol  
 ■ pH value 5.9 - 6.4 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 232 - 236 °C (decomposition)  
 ■ Bulk density 920 kg/m<sup>3</sup>  
 ■ WGK 1

■ LD50 oral rat 7930 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Soluble in water

## 816013 Glycine for synthesis

### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16013.0250	Plastic bottle	250 g	inquire
8.16013.1000	Plastic bottle	1 kg	inquire

## 104201 Glycine GR for analysis

### Specification

Assay (perchloric acid titration) ..... ≥ 99,7 %  
 Identity (IR-spectrum) ..... passes test  
 pH (50 g/l CO<sub>2</sub>-free water) ..... 5,9 - 6,3  
 Chloride (Cl) ..... ≤ 0,003 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0,0025 %  
 Heavy metals (as Pb) ..... ≤ 0,001 %  
 Cu (Copper) ..... ≤ 0,0001 %  
 Fe (Iron) ..... ≤ 0,0001 %  
 Pb (Lead) ..... ≤ 0,0001 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0,02 %  
 Foreign amino acids ..... ≤ 0,1 %  
 Other ninhydrine positive substances ..... ≤ 0,1 %  
 In water insoluble matter ..... ≤ 0,003 %  
 Sulfated ash (600 °C) ..... ≤ 0,05 %

Ord.No.	Packaging	Quantity	Price
1.04201.0100	Plastic bottle	100 g	inquire
1.04201.0250	Plastic bottle	250 g	inquire
1.04201.1000	Plastic bottle	1 kg	inquire
1.04201.5000	Plastic bottle	5 kg	inquire
1.04201.9025	Fibre carton	25 kg	inquire

## 104169 Glycine buffer substance for electrophoresis

### Specification

Assay (perchloric acid titration) ..... ≥ 99,7 %  
 Identity (IR-spectrum) ..... passes test  
 Chloride (Cl) ..... ≤ 0,003 %  
 Heavy metals (as Pb) ..... ≤ 0,001 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0,02 %  
 Foreign amino acids ..... ≤ 0,1 %  
 Other ninhydrine positive substances ..... ≤ 0,1 %  
 Suitability (as buffer substance for electrophoresis) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.04169.1000	Plastic bottle	1 kg	inquire

Glycine tert-butyl ester → tert-Butyl glycinate page 547

Glycine methyl ester monohydrochloride → Methyl glycinate hydrochloride page 1153

Glycinol 2-chlorotrityl resin → page 272

Glycinonitrile sulphate → Aminoacetonitrile sulfate page 376

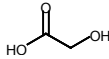
Glycocol → page 928

Glycofurol → Tetrahydrofurfuryl alcohol polyethylene glycol ether page 1534

Glycol → page 303

Glycol ethers → Hydroxyethers

## Glycolic acid

C<sub>2</sub>H<sub>4</sub>O<sub>3</sub>HOCH<sub>2</sub>COOH

Hydroxyacetic acid

■ CAS-No. 79-14-1 ■ EC-No. 201-180-5

■ Vapour pressure 10.8 hPa (80 °C)

■ Spec. density 1.49 g/cm<sup>3</sup> (25 °C)

■ Flash point &gt;300 °C (decomposition) ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 76.05 g/mol■ pH value 2 (50 g/l, H<sub>2</sub>O, 20 °C)■ Melting point 76 - 80 °C ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 100 °C (decomposition)

■ WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LC50 rat &gt; 5.2 mg/l

■ LD50 oral rat 1938 mg/kg

■ LGK 8A

■ HS-No. 2918 19 98 ■ Disposal 3

■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(GLYCOLSAEURE), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(GLYCOLLIC ACID), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(GLYCOLLIC ACID), 8, II

## 804104 Glycolic acid for synthesis

## Specification

Assay (acidimetric).....≥ 99,0 % (m)

Melting range (lower value).....≥ 76 °C

Melting range (upper value).....≤ 80 °C

Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.04104.0100	Plastic bottle	100 g	inquire
8.04104.0250	Plastic bottle	250 g	inquire
8.04104.1000	Plastic bottle	1 kg	inquire

## 814186 Glycolic acid (70% solution in water) for synthesis

## Specification

Assay (acidimetric).....67,0 - 73,0 % (m)

Density (d 20 °C/ 4 °C).....1,257 - 1,264

Ord.No.	Packaging	Quantity	Price
8.14186.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

## 104106 Glycolic acid for analysis EMSURE®

## Specification

Assay (acidimetric).....≥ 99,5 %

Identity (IR-spectrum).....conforms

Melting range.....77 - 78 °C

Heavy metals (as Pb).....≤ 10 ppm

Fe (Iron).....≤ 5 ppm

Water (according to Karl Fischer).....≤ 0,1 %

Suitability for determination (of blood sugar).....conforms

Ord.No.	Packaging	Quantity	Price
1.04106.0100	Plastic bottle	100 g	inquire

## 814662 Glycolic acid (70% solution in water) special quality

## Specification

Assay (acidimetric).....69,0 - 74,0 % (m)

Density (d 20 °C/ 4 °C).....1,260 - 1,280

Heavy metals (as Pb).....≤ 3 ppm (m)

Refractive index (n 20°/D).....1,410 - 1,415

pH-value.....0,0 - 1,0

Colour number (Hazen).....≤ 30

Ord.No.	Packaging	Quantity	Price
8.14662.1000	Plastic bottle	1 l	inquire
8.14662.5000	Plastic container	5 l	inquire
8.14662.9026	Plastic container	25 l	inquire

## 845073 Glycolic acid (70% solution in water) for pharma synthesis, non-GMP

## Specification

Appearance of substance (visual).....clear

Colour number (Hazen).....≤ 30

Assay (acidimetric).....69,0 - 74,0 % (m)

Density (d 20 °C/ 4 °C).....1,260 - 1,280

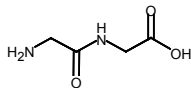
Refractive index (n 20°/D).....1,410 - 1,415

pH-value.....0,0 - 1,0

Ord.No.	Packaging	Quantity	Price
8.45073.0100	Plastic bottle	100 ml	inquire
8.45073.1000	Plastic bottle	1 l	inquire

Glycolic acid phenyl ether → Phenoxyacetic acid page 1294

## 104233 Glycylglycine buffer substance

C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>

■ CAS-No. 556-50-3 ■ EC-No. 209-127-8

■ M = 132.11 g/mol

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2924 19 00 ■ Disposal 3

Properties: pK<sub>1</sub> = 3.14 (25°C) COOH-group, pK<sub>2</sub> = 8.25 (25°C), NH<sub>2</sub>-group, pl 5.65. Soluble in water: 13.4 g/100 ml (95°C)

## Specification

Assay (perchloric acid titration, calculated on dried substance).....≥ 99%

Identity (IR-spectrum).....passes test

UV-Absorption (250 nm, 20 g/l, 1 cm, water).....≤ 0,05

Chloride (Cl).....≤ 0,005 %

Sulphate (SO<sub>4</sub>).....≤ 0,005 %

Heavy metals (as Pb).....≤ 0,0005 %

Na (Sodium).....≤ 0,01 %

Glycine.....≤ 0,15 %

Loss on drying (105 °C).....≤ 1,0 %

Ord.No.	Packaging	Quantity	Price
1.04233.0010	Glass bottle	10 g	inquire
1.04233.0100	Glass bottle	100 g	inquire
1.04233.1000	Glass bottle	1 kg	inquire

Glykuril → Acetylenediurea page 347

## 820610 Glyoxal (40% solution in water) for synthesis



■ Refractive index 1.3826 (20 °C, 589 nm)

■ Vapour pressure 20.2 hPa (20 °C)

■ Spec. density 1.27 g/cm<sup>3</sup> (20 °C)

■ Flash point &gt;84 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ pH value 2 - 3 (H<sub>2</sub>O, 20 °C)

■ Melting point -14 °C ■ Boiling point 104 °C

■ (1013 hPa) ■ Ignition temp. 285 °C

■ WGK 1

■ GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Germ cell mutagenicity, Category 2, H341, P280, P302 + P352, P305 + P351 + P338, P308 + P313

■ LC50 rat 2.44 mg/l

■ LD50 oral rat &gt; 2000 - &lt; 5000 mg/kg

■ LD50 dermal rat &gt; 2000 mg/kg

■ LGK 10

■ HS-No. 2912 19 00 ■ Disposal 3

## Specification

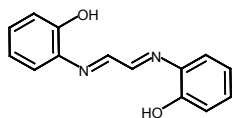
Assay (acidimetric).....39,0 - 41,0 % (m)

Density (d 20 °C/ 4 °C).....1,266 - 1,271

Ord.No.	Packaging	Quantity	Price
8.20610.0100	Glass bottle	100 ml	inquire
8.20610.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.20610.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.20610.9025	Plastic container	25 l	inquire

# Glyoxa

## 104191 Glyoxalbis(2-hydroxyanil) GR for analysis Reag. Ph Eur



C<sub>14</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>  
1,2-Bis(2-hydroxyphenylimino)ethane  
■ CAS-No. 1149-16-2 ■ EC-No. 214-560-0

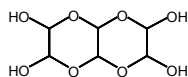
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 240.26 g/mol ■ Melting point 200 °C
- Bulk density 220 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2925 29 00 ■ Disposal 3

Reagent for calcium and uranium  
**Specification**  
Assay (ex N) ..... ≥ 97%

Identity (IR-spectrum) ..... passes test  
Melting point ..... about 200 °C  
Sulfated ash ..... ≤ 0.1 %  
Loss on drying (105 °C) ..... ≤ 0.5 %  
Suitability for metal determination ..... passes test

Ord.No.	Packaging	Quantity	Price
1.04191.0025	Glass bottle	25 g	inquire

## 804192 Glyoxal hydrate (trimer) for synthesis



C<sub>6</sub>H<sub>10</sub>O<sub>8</sub>  
Hexahydro-2,3,6,7-tetrahydroxy-p-dioxino [2,3-b]-p-dioxine  
■ CAS-No. 4405-13-4 ■ EC-No. 224-551-3  
■ Flash point >115 °C ■ Solub. in H<sub>2</sub>O 600 g/l

- (20 °C) ■ M = 210.14 g/mol ■ pH value 4 - 5 (100 g/l, H<sub>2</sub>O) ■ Bulk density 500 - 700 kg/m<sup>3</sup>
- WGK 1
  - GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352, P305 + P351 + P338
  - LD50 oral rat 3000 mg/kg
  - LGK 10 - 13

■ HS-No. 2912 50 00 ■ Disposal 3  
**Specification**  
Assay (oxime titration) ..... 77,0 - 83,0 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04192.0100	Plastic bottle	100 g	inquire

Glyoxalic acid → Glyoxylic acid page 930

Glyoxaline → page 998

## 814084 Glyoxylic acid (50% solution in water) for synthesis



*Glyoxylic acid*  
■ Refractive index 1.4149 (20 °C, 589 nm)  
■ Vapour pressure 10 hPa (25 °C)  
■ Spec. density 1.34 g/cm<sup>3</sup> (20 °C)  
■ Flash point >115 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.3 (H<sub>2</sub>O, 19.5 °C)  
■ Boiling point 111 °C (1013 hPa)  
■ WGK 1

- GHS: Danger, Corrosive to metals, Category 1, H290; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317, P280, P280, P302 + P352, P305 + P351 + P338, P313
- LD50 oral rat 2528 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 8B
- HS-No. 2918 30 00 ■ Disposal 3
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(GLYOXYLSAEURE), 8, III
- IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(GLYOXYLIC ACID), 8, III,

Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(GLYOXYLIC ACID), 8, III  
**Specification**  
Assay (acidimetric) ..... 47,0 - 53,0 % (m)  
Density (d 20 °C/ 4 °C) ..... 1,330 - 1,340

Ord.No.	Packaging	Quantity	Price
8.14084.0250	Plastic bottle	250 ml	inquire
8.14084.1000	Glass bottle	1 l	inquire

## 804107 Glyoxylic acid monohydrate for synthesis



C<sub>2</sub>H<sub>2</sub>O<sub>3</sub> \* H<sub>2</sub>O  
OCHCOOH \* H<sub>2</sub>O  
■ CAS-No. 563-96-2 ■ EC-No. 206-058-5  
■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 92.05 g/mol  
■ Melting point 46.7 °C  
■ WGK 1  
■ GHS: Danger, Serious eye damage, Category 1,

- H318; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338, P313
- LGK 8A
  - HS-No. 2918 30 00 ■ Disposal 3
  - ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(GLYOXYLSAEURE), 8, III
  - IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(GLYOXYLIC ACID), 8, III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(GLYOXYLIC ACID), 8, III

**Specification**  
Assay (acidimetric) ..... ≥ 97%  
Identity (IR-spectrum) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.04107.0025	Plastic bottle	25 g	inquire
8.04107.0100	Plastic bottle	100 g	inquire
8.04107.0250	Plastic bottle	250 g	inquire

Gold(III)chloride hydrochloric acid → Tetrachloroauric(III) acid trihydrate 99.5% page 1526

## Gold, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
776	103059	5-(4-Dimethylamino-benzylidene)-rhodanine	191	107599	Rhodamine B (C.I. 45170)			
			1432	106689	Sodium diethyldithiocarbamate trihydrate			
172	103092	Dithizone						

Gold orange → Methyl orange (C.I. 13025) page 1166

## 109868 Gold standard for 1000 mg Au, [H(AuCl<sub>4</sub>) 3H<sub>2</sub>O in 12.7% HCl] Titrisol®

■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P302 + P352, P305 +

- P351 + P338, P309 + P310
- LGK 8B
  - HS-No. 3822 00 00 ■ Disposal 27
  - ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
  - IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
  - IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

**Specification**  
content (gravimetrically) ..... 1000 mg/ Ampoule  
Determination method: Gravimetrically Accuracy of the method: +/- 5 mg

Ord.No.	Packaging	Quantity	Price
1.09868.0001	Plastic ampoule	1 amp	inquire

Gold standard for aqueous matrices → Gold standard page 930  
 Gold Test → page 65  
 Gold trichloride hydrochloride → Tetrachloroauric(III) acid trihydrate 99.5% page 1526  
 Gooch crucibles → Aluminium oxide page 370

Graham's salt → Sodium polyphosphate page 1450  
 Gram-color → page 192  
 Gram-Color modified → page 192  
 Gramine → 3-(Dimethylaminomethyl)-indole page 777

Gram's crystal violet solution → page 192  
 Gram's decolorizing solution → page 192  
 Gram's safranin solution → page 192

### 104206 Graphite fine powder extra pure

C  
 ■ CAS-No. 7782-42-5 ■ EC-No. 231-955-3  
 ■ Spec. density 2.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 12.01 g/mol  
 ■ pH value 5 - 6 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Bulk density 280 kg/m<sup>3</sup>  
 ■ WGK nwg

■ LGK 10 - 13  
 ■ HS-No. 3801 10 00 ■ Disposal 3

#### Specification

Substances soluble in Ethanol..... ≤ 0.2 %  
 Residue on ignition (800 °C)..... ≤ 1 %  
 Particle size (< 50 µm)..... ≥ 99.5 %

Bulk density..... 20 - 30 g/100 ml  
 Loss on drying (120 °C)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.04206.2500	Fibre carton	2.5 kg	inquire
1.04206.9025	Fibre carton	25 kg	inquire

Grease → Stopcock grease

Grease, determination of oxidized fatty acids → Oxifrit-Test®

### Greases for ground glass joints

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1419	107746	Silicone grease	1419	107921	Silicone high vacuum grease heavy	1501	104318	Stopcock grease

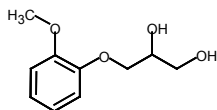
Green acid 1 → Naphthol green B (C.I. 10020) page 172

GSC -(gas-solid chromatography) → page 43  
 GSP agar → page 101

Guaethol → Pyrocatechol monoethyl ether page 1392

Grignard' reagent → Magnesium, Methylmagnesium chloride, Methylmagnesium iodide

### 804213 Guaiacol glyceryl ether for synthesis



C<sub>10</sub>H<sub>14</sub>O<sub>4</sub>  
 2-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>OCH<sub>2</sub>CH(OH)CH<sub>2</sub>OH  
 3-(2-Methoxyphenoxy)-1,2-propanediol

■ CAS-No. 93-14-1 ■ EC-No. 202-222-5  
 ■ Solub. in H<sub>2</sub>O 50 g/l (25 °C) (experimental)  
 ■ M = 198.21 g/mol ■ Melting point 78 - 81 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1510 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 49 80 ■ Disposal 3

#### Specification

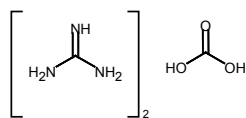
Assay (GC, area%)..... ≥ 98.0 Area %  
 Melting range (lower value)..... ≥ 78 °C  
 Melting range (upper value)..... ≤ 81 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04213.0100	Plastic bottle	100 g	inquire

Guajacol → 2-Methoxyphenol page 1122

Guanazole → 3,5-Diamino-1,2,4-triazole page 698

### 820611 Guanidinium carbonate for synthesis



C<sub>3</sub>H<sub>12</sub>N<sub>6</sub>O<sub>3</sub>  
 (CH<sub>3</sub>N<sub>3</sub>)<sub>2</sub> \* H<sub>2</sub>CO<sub>3</sub>  
 ■ CAS-No. 593-85-1 ■ EC-No. 209-813-7  
 ■ Spec. density 1.25 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 500 g/l (30 °C) ■ M = 180.17 g/mol  
 ■ pH value 11.5 (110 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 197 °C  
 ■ Bulk density 500 - 700 kg/m<sup>3</sup>  
 ■ Ignition temp. 530 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 1045 mg/kg

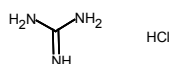
■ LGK 10 - 13  
 ■ HS-No. 2925 29 00 ■ Disposal 3

#### Specification

Assay (HClO<sub>4</sub>)..... ≥ 99.0 % (m)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20611.0100	Plastic bottle	100 g	inquire
8.20611.1000	Plastic bottle	1 kg	inquire
8.20611.9050	Fibre carton	50 kg	inquire

### Guanidinium chloride



CH<sub>6</sub>ClN<sub>3</sub>  
 H<sub>2</sub>NC(NH)NH<sub>2</sub> \* HCl  
 Guanidinium hydrochloride, Carbamimidoylazanium chloride  
 ■ CAS-No. 50-01-1 ■ EC-No. 200-002-3  
 ■ Spec. density 1.344 g/cm<sup>3</sup> (25 °C) ■ Solub. in

H<sub>2</sub>O 2150 g/l (20 °C) ■ M = 95.53 g/mol  
 ■ pH value 4.5 - 5.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 185 °C  
 ■ Bulk density 550 - 620 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat 5.3 mg/l

■ LD50 oral rat 475 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 607-148-00-0 ■ LGK 10 - 13  
 ■ HS-No. 2925 29 00 ■ Disposal 3  
 Agent for reversible denaturation low optical density for use in procedures where spectrophotometry is involved. Easily soluble in ethanol, soluble in water: 200 g / 100 ml.

### 104219 Guanidinium chloride for biochemistry

#### Specification

Assay (Perchloric acid titration, calc. on anhydrous substance)..... ≥ 99.5 %  
 Identity (IR-spectrum)..... passes test  
 pH (100 g/l, water)..... 5.5 - 6.5  
 Melting point..... 183 - 186 °C  
 Absorbance A (235 nm; 50 %; 1 cm; water) ≤ 0,2

Heavy metals (as Pb)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Sulfated ash (600 °C)..... ≤ 0.05 %  
 Water (according to Karl Fischer)..... ≤ 1 %

Ord.No.	Packaging	Quantity	Price
1.04219.0025	Plastic bottle	25 g	inquire
1.04219.0100	Plastic bottle	100 g	inquire
1.04219.0500	Plastic bottle	500 g	inquire
1.04219.9025	Plastic drum	25 kg	inquire

# Guanid

## 104220 Guanidinium chloride LAB

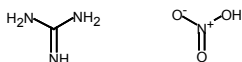
### Specification

Assay (perchloric acid titration)..... ≥ 99.0 %  
 Identity..... IR spectrum conforms  
 pH-value (10 %; water)..... 4.5 - 5.5  
 Melting range..... 182 - 186 °C

Chloride (calc. on anhydrous substance).....  
 ..... 36.1 - 37.1 %

Ord.No.	Packaging	Quantity	Price
1.04220.0100	Plastic bottle	100 g	inquire
1.04220.1000	Plastic bottle	1 kg	inquire
1.04220.5000	Plastic bottle	5 kg	inquire
1.04220.9025	Fibre carton	25 kg	inquire

## 820612 Guanidinium nitrate for synthesis



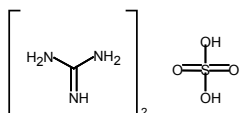
CH<sub>6</sub>N<sub>4</sub>O<sub>3</sub>  
 CH<sub>5</sub>N<sub>3</sub> \* HNO<sub>3</sub>  
 ■ CAS-No. 506-93-4 ■ EC-No. 208-060-1  
 ■ Spec. density 1.44 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O 160 g/l (20 °C) ■ M = 122.08 g/mol  
 ■ pH value 4.9 (165 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 211 - 214 °C  
 ■ Bulk density 700 kg/m<sup>3</sup> ■ Ignition temp. >360 °C  
 ■ WGK 1

■ GHS: Warning, Oxidising solid, Category 3, H272; Chronic aquatic toxicity, Category 3, H412; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P273, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat > 0.853 mg/l  
 ■ LD50 oral rat 1260 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2925 29 00 ■ Disposal 3  
 ■ ADR-RID UN 1467 Guanidinnitrat, 5.1, III  
 ■ IMDG-Code UN 1467 GUANIDINE NITRATE, 5.1,

III  
 ■ IATA-DGR UN 1467 GUANIDINE NITRATE, 5.1, III  
**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 211 °C  
 Melting range (upper value)..... ≤ 214 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20612.0100	Plastic bottle	100 g	inquire
8.20612.1000	Plastic bottle	1 kg	inquire

## 822061 Guanidinium sulfate for synthesis



C<sub>2</sub>H<sub>12</sub>N<sub>6</sub>O<sub>4</sub>S  
 (CH<sub>5</sub>N<sub>3</sub>)<sub>2</sub> \* H<sub>2</sub>SO<sub>4</sub>

■ CAS-No. 594-14-9 ■ EC-No. 209-826-8  
 ■ Solub. in H<sub>2</sub>O 2500 g/l (15 °C) ■ M = 216.21 g/mol  
 ■ pH value 9.6 (200 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 280 - 285 °C  
 ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2925 29 00 ■ Disposal 3

**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 96.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22061.0250	Plastic bottle	250 g	inquire
8.22061.1000	Plastic bottle	1 kg	inquire

## Guanidinium thiocyanate

C<sub>2</sub>H<sub>6</sub>N<sub>4</sub>S  
 H<sub>2</sub>NC(NH)NH<sub>2</sub> \* HSCN  
 ■ CAS-No. 593-84-0 ■ EC-No. 209-812-1  
 ■ Spec. density 1.29 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O 1420 g/l (20 °C) ■ M = 118.16 g/mol  
 ■ pH value 4.8 - 6.0 (1420 g/l, H<sub>2</sub>O,  
 20 °C) (saturated solution) ■ Melting point 118 °C  
 ■ Bulk density 630 kg/m<sup>3</sup>  
 ■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P304 + P340  
 ■ EC-Index-No. 615-004-00-3 ■ LGK 8A  
 ■ HS-No. 2925 29 00 ■ Disposal 6  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(GUANIDINIUMTHIOCYANAT), 8, III ■ IMDG-

Code UN 1759 CORROSIVE SOLID, N.O.S.(GUANIDINIUM THIOCYANATE), 8, III  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(GUANIDINIUM THIOCYANATE), 8, III  
 RNA solubilising agent powerful protein denaturant. Especially suitable for isolation active and undegraded RNA from material containing high concentrations of nuclease.

## 820613 Guanidinium thiocyanate for synthesis

**Specification**  
 Assay (argentometric)..... ≥ 98.0 % (m)  
 Melting range (lower value)..... ≥ 115 °C  
 Melting range (upper value)..... ≤ 120 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20613.0250	Plastic bottle	250 g	inquire
8.20613.1000	Plastic bottle	1 kg	inquire

## 104167 Guanidinium thiocyanate for biochemistry

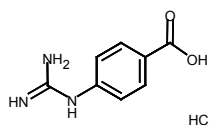
**Specification**  
 Appearance (colour)..... white  
 Appearance (description) coarse-crystalline powder  
 Assay (argentometric)..... ≥ 99.0 %  
 Melting range..... 117 - 120 °C  
 Cu (Copper)..... ≤ 0.00005 %

Fe (Iron)..... ≤ 0.0005 %  
 Pb (Lead)..... ≤ 0.00005 %  
 Zn (Zinc)..... ≤ 0.0002 %  
 Sulfated ash..... ≤ 0.05 %  
 RNases..... not detectable

Ord.No.	Packaging	Quantity	Price
1.04167.0250	Plastic bottle	250 g	inquire

Guanidinoacetic acid → N-Amidoglycine page 371

## 814120 4-Guanidinobenzoic acid hydrochloride for synthesis



C<sub>8</sub>H<sub>10</sub>ClN<sub>3</sub>O<sub>2</sub>  
 C<sub>8</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub> \* HCl

■ CAS-No. 42823-46-1 ■ EC-No. 255-956-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 215.64 g/mol  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2925 29 00 ■ Disposal 3

Melting range (lower value)..... ≥ 267 °C  
 Melting range (upper value)..... ≤ 270 °C  
 Identity (IR)..... conforms

**Specification**  
 Assay (argentometric)..... ≥ 98.0 % (m)

Ord.No.	Packaging	Quantity	Price
8.14120.0001	Glass bottle	1 g	inquire
8.14120.0005	Glass bottle	5 g	inquire

Guanidinium hydrochloride → page 931

Guanine-9-β-D-ribofuranoside → Guanosine page 933



**841609 Guanosine** for synthesisC<sub>10</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>*Vernine*

- CAS-No. 118-00-3 ■ EC-No. 204-227-8
- M = 283.24 g/mol ■ Melting point 248 °C
- WGK 1
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2934 99 90

**Specification**

Assay (HClO<sub>4</sub>, calc. on dried substance)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 245 °C  
 Melting range (upper value)..... ≤ 250 °C  
 Loss on drying ..... 1.0 - 3.0 %  
 Spec. rotation [α<sup>20</sup>/D (c=1.5 in NaOH 0,1mol/l).....  
 ..... -74.0 - -70.0 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41609.0025	Plastic bottle	25 g	inquire

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

# Haba

HABA → 2-(4-Hydroxyphenylazo)-benzoic acid page 991	H-B-Ala-OBzl . p-tosylate → page 247	Halogenated alcohols → Organohalogen compounds
H-Abu-OH → page 247	H-Ala-OBzl . p-tosylate → page 247	Halogenated amines → Organohalogen compounds
Hafnium, determination → Cupferron page 663	H-B-Ala-OMe . HCl → page 247	Halogenated carboxylic acids → Carboxylic acids
H-Ala-2-CITrt resin → page 272	H-D-Ala-OMe . HCl → page 247	Halogenated ethers → Organohalogen compounds
H-B-Ala-2-CITrt resin → page 272	H-Ala-OMe . HCl → page 247	Halogenated Heterocycles → Organohalogen compounds
H-Ala-HMPB NovaPEG resin → page 278	H-B-Ala-OtBu . HCl → page 247	Halogenated heterocycles → Organohalogen compounds
H-B-Ala-NH <sub>2</sub> . HCl → page 247	H-D-Ala-OtBu . HCl → page 247	Halogenated nitriles → Nitriles and isonitriles
H-D-Ala-NH <sub>2</sub> . HCl → page 247	H-Ala-OtBu . HCl → page 247	Halogenated phenol ethers → Phenols and phenol ethers
H-Ala-NH <sub>2</sub> . HCl → page 247	H-Ala-Sulfamylbutyryl NovaSyn® TG resin → page 262	Halogenated phenols → Phenols and phenol ethers

## Halogenation

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
422	807837	Antimony(V) chloride	703	803600	1,3-Dibromo-5,5-dimethylhydantoin	1083	818287	Lithium iodide
422	807839	Antimony(III) fluoride	300	810278	Dibromomethane	1254	807066	Oxalyl chloride
475	814283	Bis(trichloromethyl) carbonate	725	803467	Dichloromethyl methyl ether	1324	821026	Phosphoryl bromide
485	820171	Bromine	739	818198	Diethylaminosulfur trifluoride	1423	818881	Silver tetrafluoroborate
515	801949	N-Bromosuccinimide	945	820630	Hexachloroacetone	1423	818003	Silver trifluoroacetate
517	801986	Bromotrichloromethane	964	100304	Hydrobromic acid 47%	1435	106449	Sodium fluoride
518	814324	Bromotrimethylsilane	972	818068	Hydrogen fluoride	1516	807997	Sulfuryl chloride
592	102426	Chloramine T trihydrate	974	100344	Hydroiodic acid 57%	1518	112352	Tantalum(V) chloride
635	845027	N-Chlorosuccinimide	1005	104761	Iodine	1523	818164	Tetra-n-butylammonium fluoride trihydrate
635	802811	N-Chlorosuccinimide	1006	820738	Iodine monobromide	1551	808154	Thionyl chloride
635	845127	Chlorosulfonic acid	1006	804771	Iodine monochloride	1579	808607	Trichloroisocyanuric acid
635	800220	Chlorosulfonic acid	1007	804772	Iodine trichloride	1592	818292	Trifluoromethanesulfonyl chloride
665	820193	Cyanogen bromide	1013	820743	N-Iodosuccinimide	1635	818888	Xenon difluoride
665	820194	Cyanogen bromide	1014	814079	Iodotrimethylsilane			

Halogen lamp → page 92

Halogen lamp module → page 92

Hand pump ball → page 328

## 109164 Hanus solution for determination of iodine number $c(\text{IBr}) = 0.1 \text{ mol/l}$ Titripur®



Iodine solution acc. to Hanus

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)
- Flash point 40 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 12
- ADR-RID UN 2789 Essigsäure, Lösung, 8 (3), II

- IMDG-Code UN 2789 ACETIC ACID SOLUTION, 8 (3), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2789 ACETIC ACID SOLUTION, 8 (3), II

### Specification

Amount-of-substance concentration . 0.1000 mol/l  
The concentration of this volumetric solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404).  
The determined titer at 20°C was 1.000 with an

expanded measurement uncertainty of +/-0.004 (k=2 coverage factor for 95% coverage probability).  
The certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09164.1000	Glass bottle	1 l	inquire

Hardness (carbonate hardness), determination → page 54	H-Asp-OBzl → page 248	H-D-Cha-OH → page 249
Hardness, determinations → Titriplex® solution A page 1563	H-Asp(OBzl)-NH <sub>2</sub> . HCl → page 248	H-Cha-OH . HCl → page 249
Hardness (Permanent hardness), determination → page 81	H-Asp(OBzl)-OH → page 248	H-Cha-OMe . HCl → page 249
Hardness (Total hardness), determination → page 86	H-D-Asp-OtBu → page 248	HCTU → page 279
H-Arg(Boc)2-H NovaSyn® TG resin → page 263	H-Asp-OtBu → page 249	H-Cys(Acm)-2-CITrt resin → page 272
H-Arg-OMe . 2HCl → page 248	H-Asp(OtBu)-2-CITrt resin → page 272	H-Cys(Bzl)-OMe . HCl → page 249
H-Arg(Pbf)-2-CITrt resin → page 272	H-Asp(OtBu)-HMPB NovaPEG resin → page 278	H-Cys-OH → page 249
H-Arg(Pbf)-HMPB NovaPEG resin → page 278	H-Asp(OtBu)-H NovaSyn® TG resin → page 263	H-D-Cys-OH . HCl . H <sub>2</sub> O → page 249
H-Arg(Pmc)-OH → page 248	H-D-Asp(OtBu)-OH → page 248	H-Cys(tBu)-OH . HCl → page 249
Harris' Hematoxylin solution → page 195	H-Asp(OtBu)-OH → page 248	H-Cys(tButhio)-OH → page 249
H-Asn-2-CITrt resin → page 272	H-Asp(OtBu)-OMe . HCl → page 248	H-Cys(Trt)-2-CITrt resin → page 272
H-Asn-OtBu . HCl → page 248	H-Asp(OtBu)-OtBu . HCl → page 248	H-Cys(Trt)-HMPB NovaPEG resin → page 278
H-Asn(Trt)-HMPB NovaPEG resin → page 278	HATU → page 279	H-Cys(Trt)-OH → page 249
H-Asn(Trt)-OH → page 248	Hazardous liquid spillages, absorbents for → Chemizorb® Granules page 591	H-Cys(Trt)-Trityl NovaPEG resin → page 278
H-Asn(Trt)-Sulfamylbutyryl NovaSyn® TG resin → page 262	HBTU → page 279	HDEHP → Bis(2-ethylhexyl) phosphate page 470

**115265 Heating bath fluid** for heating baths up to approx. 170°C

- CAS-No. 31694-55-0 ■ EC-No. 500-075-4
- Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 15.2 % (V) ■ Flash point >278 °C
- Kin. viscosity 350 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6 - 8 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Ignition temp. 390 °C
- WGK 1

- LD50 oral rat > 2000 mg/kg
- LGK 10
- HS-No. 3907 20 20 ■ Disposal 3

**Specification**

Density (d 20/4) ..... ca. 1.15  
Flash point..... > 275 °C

Viscosity (20 °C) ..... ca. 330 mPas  
Suitability for heating bath liquid..... passes test

Ord.No.	Packaging	Quantity	Price
1.15265.2500	Plastic bottle	2.5 l	inquire

**Heating bath media**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
363	106001	Alloy acc. to Wood	1245	106900	Oil bath filling	1262	107160	Paraffin
935	115265	Heating bath fluid	1261	107162	Paraffin	1419	107742	Silicone oil

Heavy water → page 294

HEKTOEN enteric agar → page 101

Helianthine → Methyl orange (C.I. 13025) page 1166

HEMA → 2-Hydroxyethyl methacrylate page 982

Hemacolor® → page 186

Hemacolor® Rapid bloodsmear staining set → page 196

Hemacolor® Rapid staining of blood smear → page 196

Hematein (C.I. 75290) → page 191

HEMATOGNOST Fe® → page 198

HematoGnost® Fe staining kit for the identification of free ionic iron in body cells → page 198

**Hematology Staining**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
187	108562	Aquatex®	196	111661	Hemacolor® Rapid staining of blood smear	200	116302	LEUCOGNOST® PAS
198	115213	Auto-Hemacolor®				200	116303	LEUCOGNOST® POX
200	101384	Brilliant cresyl blue solution	198	112084	HEMATOGNOST Fe®	201	109249	Mayer's hemalum solution
189	111373	Buffer tablets pH 6.4	188	104699	Immersion oil	199	101424	May-Grünwald's eosine-methylene blue solution modified
189	111374	Buffer tablets pH 6.8	188	115577	Immersion oil acc. to ISO 8036			
189	109468	Buffer tablets pH 7.2	191	101350	Leishman's eosine methylene blue	191	101352	May-Grünwald's eosin methylene blue
191	109203	Giemsa's azur-eosin-methylene blue	199	105387	Leishman's eosin methylene blue solution modified	199	115332	Sangodiff® G
194	109204	Giemsa's azur eosin methylene blue solution	199	116300	LEUCOGNOST® ALPA	201	109033	Schiff's reagent
186	111955	Hemacolor® Rapid staining of blood smear	199	116304	LEUCOGNOST® AP	172	108418	Titriplex® III
198	111956	Hemacolor® Rapid staining of blood smear	200	116305	LEUCOGNOST® Basis kit	200	109277	Türk's solution
198	111957	Hemacolor® Rapid staining of blood smear	200	116301	LEUCOGNOST® EST	192	109278	Wright's eosine methylene blue
196	111674	Hemacolor® Rapid staining of blood smear	186	112327	LEUCOGNOST® Fixing Mixture	199	101383	Wright's eosin methylene blue solution
			200	116198	LEUCOGNOST® NASDCL			

Hematoxylin cryst. (C.I. 75290) → page 191

Hematoxylin monohydrate (C.I.75290) → page 189

Hematoxylin solution acc. to GILL → page 196

Hematoxylin solution acc. to Harris → page 195

Hematoxylin solution modified acc. to Gill II → page 196

Hematoxylin solution modified acc. to Gill III → page 196

Hendecanal → Undecanal page 1623

Hendecane → page 1623

2-Hendecanol → 2-Undecanol page 1624

HEPES-Na → 2-[4-(2-Hydroxyethyl)-1-piperazinyl]-ethanesulfonic acid sodium salt page 982

HEPPS → 3-[4-(2-Hydroxyethyl)-1-piperazinyl]-propanesulfonic acid page 982

**n-Heptadecane**C<sub>17</sub>H<sub>36</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>15</sub>CH<sub>3</sub>

■ CAS-No. 629-78-7 ■ EC-No. 211-108-4

- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 0.78 g/cm<sup>3</sup> (20 °C)
- Flash point 148 °C ■ Kin. viscosity < 7 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble
- M = 240.47 g/mol ■ Melting point 22 °C
- Boiling point 302 °C (1013 hPa)

- WGK 1
- GHS: Danger, Aspiration hazard, Category 1, H304, P260, P262, P301 + P310, P331
- LGK 10 - 13
- HS-No. 2901 10 00 ■ Disposal 3

**820616 n-Heptadecane** for synthesis**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Identity (GC) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20616.0010	Glass bottle	10 ml	inquire
8.20616.0050	Glass bottle	50 ml	inquire

**109604 n-Heptadecane** reference substance for gas chromatography**Specification**

Assay (GC) ..... ≥ 99.3 %  
Identity (IR-spectrum) ..... conforms

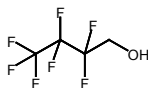
Ord.No.	Packaging	Quantity	Price
1.09604.0005	Glass bottle	5 ml	inquire

Heptadeuterodimethylformamide → Dimethylformamide-D7 page 295

Heptafluoro-butanoic acid ethyl ester → Ethyl heptafluorobutyrate page 868

# Heptaf

## 841149 Heptafluoro-1-butanol for synthesis



C<sub>4</sub>H<sub>3</sub>F<sub>7</sub>O  
 ■ CAS-No. 375-01-9 ■ EC-No. 206-782-1  
 ■ Spec. density 1.596 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 25 °C ■ M = 200.06 g/mol  
 ■ WGK 2

■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P210, P305 + P351 + P338, P302 + P352  
 ■ LD50 oral rat 3630 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2905 59 98 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(HEPTAFLUOR-1-BUTANOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

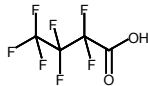
N.O.S.(HEPTAFLUORO-1-BUTANOL), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(HEPTAFLUORO-1-BUTANOL), 3, III

### Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41149.0010	Glass bottle	10 ml	inquire

## 843443 Heptafluorobutyric acid for synthesis



C<sub>4</sub>HF<sub>7</sub>O<sub>2</sub>  
 ■ CAS-No. 375-22-4 ■ EC-No. 206-786-3  
 ■ Vapour pressure 13.3 hPa (25 °C)  
 ■ Spec. density 1.65 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 214.04 g/mol  
 ■ pH value 1 (H<sub>2</sub>O, 20 °C) ■ Melting point -17.5 °C  
 ■ Boiling point 121 °C (1013 mbar)

■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 A  
 ■ HS-No. 2915 90 70 ■ Disposal 4  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(HEPTAFLUORBUTTERSÄURE), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(HEPTAFLUOROBUTYRIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC,

ORGANIC, N.O.S.(HEPTAFLUOROBUTYRIC ACID), 8, III

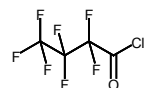
### Specification

Assay (acidimetric)..... ≥ 98.0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.43443.0005	Glass bottle	5 ml	inquire
8.43443.0025	Glass bottle	25 ml	inquire

Heptafluorobutyric acid chloride → Heptafluorobutyryl chloride page 936

## 804523 Heptafluorobutyryl chloride for synthesis



C<sub>4</sub>ClF<sub>7</sub>O  
 Heptafluorobutyryl acid chloride  
 ■ CAS-No. 375-16-6 ■ EC-No. 206-785-8  
 ■ Spec. density 1.57 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 232.48 g/mol  
 ■ Boiling point 39 °C

■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B ■ Store at +2 °C to +8 °C.  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(HEPTAFLUORBUTTERSÄURECHLORID), 8, II  
 ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(HEPTAFLUOROBUTYRYL

CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(HEPTAFLUOROBUTYRYL CHLORIDE), 8, II

### Specification

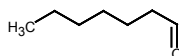
Assay (argentometric)..... ≥ 98.0 % (m)  
 Density (d 20 °C/ 4 °C)..... 1,554 - 1,556  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04523.0005	Glass bottle	5 ml	inquire

Heptaldehyde → Heptanal page 936

Heptamethylenediamine → 1,7-Diaminoheptane page 695

## 806918 Heptanal (stabilised) for synthesis



C<sub>7</sub>H<sub>14</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>5</sub>CHO  
 Enanthaldehyde, Heptaldehyde  
 ■ CAS-No. 111-71-7 ■ EC-No. 203-898-4  
 ■ Refractive index 1.4125 (20 °C, 589 nm)  
 ■ Vapour pressure 3 hPa (20 °C)  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 5.2 % (V) ■ Flash point 48 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 114.19 g/mol

■ Melting point -42 °C ■ Boiling point 150 °C (1013 hPa) ■ Ignition temp. 250 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Carcinogenicity, Category 2, H351; Germ cell mutagenicity, Category 2, H341; Skin sensitisation, Category 1, H317, P210, P280, P302 + P352, P309 + P310  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2912 19 00 ■ Disposal 3

■ ADR-RID UN 3056 n-Heptaldehyd, 3, III  
 ■ IMDG-Code UN 3056 N-HEPTALDEHYDE, 3, III  
 ■ IATA-DGR UN 3056 N-HEPTALDEHYDE, 3, III

### Specification

Assay (GC, area%)..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,818 - 0,823  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06918.0100	Glass bottle	100 ml	inquire
8.06918.0500	Glass bottle	500 ml	inquire

## n-Heptane



C<sub>7</sub>H<sub>16</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>5</sub>CH<sub>3</sub>  
 ■ CAS-No. 142-82-5 ■ EC-No. 205-563-8  
 ■ Refractive index 1.3876 ■ Vapour pressure 48 hPa (20 °C) ■ Spec. density 0.68 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 1.9 (20 °C)  
 ■ Explosive limit 1 - 7 % (V) ■ Flash point -4 °C  
 ■ Solub. in H<sub>2</sub>O 0.05 g/l (20 °C) ■ M = 100.2 g/mol

■ pH value (H<sub>2</sub>O) no data available  
 ■ Saturation conc. 196 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -90.5 °C  
 ■ Boiling point 97 - 98 °C (1013 hPa)  
 ■ Ignition temp. 215 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336;  
 Acute aquatic toxicity, Category 1, H400; Chronic

aquatic toxicity, Category 1, H410, P210, P273, P301 + P310, P302 + P352, P304 + P340, P331  
 ■ LC50 rat 103 g/m<sup>3</sup>  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit 3400 mg/kg  
 ■ EC-Index-No. 601-008-00-2 ■ LGK 3  
 ■ HS-No. 2901 10 00 ■ Disposal 1  
 ■ ADR-RID UN 1206 Heptane, 3, II ■ IMDG-Code UN 1206 HEPTANES, 3, II, Marine Pollutant: P  
 ■ IATA-DGR UN 1206 HEPTANES, 3, II

## 822332 n-Heptane for synthesis

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.683 - 0.684  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22332.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.22332.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.22332.6010	Drum stainl. st.	10 l	inquire

**104365 n-Heptane EMPLURA®****Specification**

Purity (GC).....	≥ 99.0 %
Identity (IR).....	conforms
Free acid (as CH <sub>3</sub> COOH).....	≤ 0.005 %
Density (d 20 °C/ 4 °C).....	0.683 - 0.684
Matter discoloured by H <sub>2</sub> SO <sub>4</sub> .....	≤ 10 Hazen
Evaporation residue.....	≤ 0.0050 %

Ord.No.	Packaging	Quantity	Price
1.04365.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04365.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.04365.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.04365.6025	Drum stainl. st.	25 l	inquire
1.04365.6190	Drum stainl. st.	190 l	inquire
1.04365.9011	Steel barrel	10 l	inquire

**104307 n-Heptane about 85% EMPLURA®**

Ord.No.	Packaging	Quantity	Price
1.04307.2500		2.5 l	inquire

**104379 n-Heptane for analysis EMSURE® Reag. Ph Eur****Specification**

Purity (GC).....	≥ 99.0 %	Cd (Cadmium).....	≤ 0.000005 %
Identity (IR).....	conforms	Co (Cobalt).....	≤ 0.000002 %
Colour.....	≤ 10 Hazen	Cr (Chromium).....	≤ 0.000002 %
Free acid (as CH <sub>3</sub> COOH).....	≤ 0.0005 %	Cu (Copper).....	≤ 0.000002 %
Density (d 20 °C/20 °C).....	0.683 - 0.686	Fe (Iron).....	≤ 0.00001 %
Refractive index (n 20/D).....	1.387 - 1.388	Mg (Magnesium).....	≤ 0.00001 %
Boiling range (97°C-98°C).....	≥ 95 % (v/v)	Mn (Manganese).....	≤ 0.000002 %
Aromatic hydrocarbons (as C <sub>6</sub> H <sub>6</sub> ).....	≤ 0.1 %	Ni (Nickel).....	≤ 0.000002 %
Sulfur compounds (as S).....	≤ 0.005 %	Pb (Lead).....	≤ 0.00001 %
Readily carbonizable substances.....	conforms	Sn (Tin).....	≤ 0.00001 %
Al (Aluminium).....	≤ 0.00001 %	Zn (Zinc).....	≤ 0.00001 %
B (Boron).....	≤ 0.000002 %	Evaporation residue.....	≤ 0.001 %
Ba (Barium).....	≤ 0.00001 %	Water.....	≤ 0.01 %
Ca (Calcium).....	≤ 0.00005 %	Ph Eur-reagent	

Ord.No.	Packaging	Quantity	Price
1.04379.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04379.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.04379.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.04379.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.04379.6010	Drum stainl. st.	10 l	inquire
1.04379.6025	Drum stainl. st.	25 l	inquire
1.04379.9190	Steel barrel	190 l	inquire

**104366 n-Heptane for spectroscopy Uvasol®****Specification**

Purity (GC).....	≥ 99.3 %	Transmission (at 200 nm).....	≥ 20 %	Absorbance (at 228 nm).....	≤ 0.05
Evaporation residue.....	≤ 0.0002 %	Transmission (at 210 nm).....	≥ 55 %	Absorbance (from 245 nm).....	≤ 0.01
Water.....	≤ 0.0002 %	Transmission (at 220 nm).....	≥ 80 %		
Colour.....	≤ 10 Hazen	Transmission (at 228 nm).....	≥ 90 %		
Acidity.....	≤ 0.0001 meq/g	Transmission (from 245 nm).....	≥ 98 %		
Alkalinity.....	≤ 0.0002 meq/g	Absorbance (at 200 nm).....	≤ 0.70		
Fluorescence (as quinine at 254 nm).....	≤ 1.0 ppb	Absorbance (at 210 nm).....	≤ 0.26		
Fluorescence (as quinine at 365 nm).....	≤ 1.0 ppb	Absorbance (at 220 nm).....	≤ 0.10		

Ord.No.	Packaging	Quantity	Price
1.04366.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.04366.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**104390 n-Heptane for liquid chromatography LiChrosolv®****Specification**

Purity (GC).....	≥ 99.3 %	Transmission (at 210 nm).....	≥ 50 %
Identity (IR).....	conforms	Transmission (at 220 nm).....	≥ 80 %
Evaporation residue.....	≤ 2.0 mg/l	Transmission (from 245 nm).....	≥ 98 %
Water.....	≤ 0.005 %	Filtered by 0.2 µm filter	
Acidity.....	≤ 0.0002 meq/g		
Alkalinity.....	≤ 0.0002 meq/g		

Ord.No.	Packaging	Quantity	Price
1.04390.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04390.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.04390.9010	Barrel stainl. st.	10 l	inquire
1.04390.9030	Barrel stainl. st.	30 l	inquire

**109686 n-Heptane reference substance for gas chromatography****Specification**

Assay (GC).....	≥ 99.5 %
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
1.09686.0005	Glass bottle	5 ml	inquire

3-Heptanecarboxylic acid → 2-Ethylhexanoic acid  
page 869

Heptanedioic acid → Pimelic acid page 1327

1,7-Heptanediamine → 1,7-Diaminoheptane page  
695

Heptanedioic acid dimethyl ester → Dimethyl  
pimelate page 798

**841361 1,7-Heptanediol for synthesis**

C<sub>7</sub>H<sub>16</sub>O<sub>2</sub>

Heptamethylene glycol

- CAS-No. 629-30-1 ■ EC-No. 211-085-0
- Spec. density 0.953 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ M = 132.2 g/mol

- Melting point 17 - 18 °C
- Boiling point 258 - 260 °C
- WGK 1
- LGK 10
- HS-No. 2905 39 95 ■ Disposal 3

**Specification**

Assay (GC, area%).....	≥ 97.0 % (a/a)
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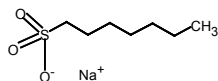
Density (d 20 °C/ 4 °C).....	0.955 - 0.962
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.41361.0005	Glass bottle	5 ml	inquire



# Heptan

## 118306 Heptane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®



- WGK 1
- LGK 10 - 13
- HS-No. 2904 10 00 ■ Disposal 3

### Specification

Assay (alkalimetric, calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... conforms  
 pH (100 g/l, water) ..... 5.5 - 7.5  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at 200 nm) ..... ≥ 70 %

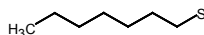
UV-transmission (0.005 mol/l; 1 cm; Water) (at 220 nm) ..... ≥ 90 %  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at 250 nm) ..... ≥ 98 %  
 Loss on drying (120 °C; 4h; Vacuum) ..... ≤ 2.0 %

C<sub>7</sub>H<sub>15</sub>NaO<sub>3</sub>S

- CAS-No. 22767-50-6 ■ EC-No. 245-210-5
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 202.24 g/mol ■ pH value 5.5 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point >300 °C ■ Bulk density 391 kg/m<sup>3</sup>

Ord.No.	Packaging	Quantity	Price
1.18306.0025	Glass bottle	25 g	inquire

## 841753 1-Heptanethiol for synthesis



- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 3071 Mercaptane, flüssig, giftig, entzündbar, n.a.g.(1-HEPTANTHIOL), 6.1 (3), II
- IMDG-Code UN 3071 MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S.(1-HEPTANETHIOL), 6.1 (3), II
- IATA-DGR UN 3071 MERCAPTANS, LIQUID,

TOXIC, FLAMMABLE, N.O.S.(1-HEPTANETHIOL), 6.1 (3), II

### Specification

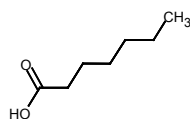
Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,842 - 0,846  
 Identity (IR) ..... passes test

C<sub>7</sub>H<sub>16</sub>S

- CAS-No. 1639-09-4 ■ EC-No. 216-678-8
- Refractive index 1.4505 ■ Vapour pressure 1.5 hPa (25 °C) ■ Spec. density 0.844 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 % (V)
- Flash point 46 °C ■ Solub. in H<sub>2</sub>O 0.009 g/l (20 °C) ■ M = 132.26 g/mol ■ Melting point -43 °C ■ Boiling point 173 - 175 °C (1013 hPa)

Ord.No.	Packaging	Quantity	Price
8.41753.0010	Glass bottle	10 ml	inquire
8.41753.0100	Glass bottle	100 ml	inquire

## 807582 Heptanoic acid for synthesis



- (20 °C) ■ Solub. in H<sub>2</sub>O 2.8 g/l (25 °C)
- M = 130.19 g/mol ■ Melting point -7.5 °C
- Boiling point 223 °C (1013 hPa)
- Ignition temp. 380 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 5 mg/l
- LD50 oral rat 7000 mg/kg
- EC-Index-No. 607-196-00-2 ■ LGK 8A
- HS-No. 2915 90 70 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(OENANTHSAEURE), 8, II

■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(HEPTANOIC ACID), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(HEPTANOIC ACID), 8, II

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,917 - 0,919  
 Identity (IR) ..... conforms

C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>

CH<sub>3</sub>(CH<sub>2</sub>)<sub>5</sub>COOH

Enanthic acid

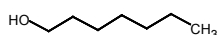
- CAS-No. 111-14-8 ■ EC-No. 203-838-7
- Refractive index 1.4221 (20 °C, 589 nm)
- Vapour pressure 1.23 hPa (50 °C)
- Spec. density 0.92 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Kin. viscosity 5.00 mm<sup>2</sup>/s

Ord.No.	Packaging	Quantity	Price
8.07582.0100	Glass bottle	100 ml	inquire
8.07582.0500	Glass bottle	500 ml	inquire

Heptanoic acid ethyl ester → Ethyl heptanoate page 868

Heptanoic acid methyl ester → Methyl heptanoate page 1153

## 820624 1-Heptanol for synthesis



- H<sub>2</sub>O 1 g/l (18 °C) ■ M = 116.2 g/mol
- Melting point -35 °C ■ Boiling point 176 °C (1013 hPa) ■ Ignition temp. 350 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 500 mg/kg ■ LD50 dermal rabbit 2000 mg/kg
- LGK 10 - 13

- HS-No. 2905 19 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.822 - 0.823  
 Identity (IR) ..... passes test

C<sub>7</sub>H<sub>16</sub>O

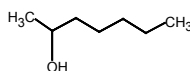
CH<sub>3</sub>(CH<sub>2</sub>)<sub>6</sub>OH

Heptyl alcohol

- CAS-No. 111-70-6 ■ EC-No. 203-897-9
- Refractive index 1.4242 (20 °C, 589 nm)
- Vapour pressure 0.5 hPa (20 °C)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 % (V) ■ Flash point 78 °C ■ Solub. in

Ord.No.	Packaging	Quantity	Price
8.20624.0100	Plastic bottle	100 ml	inquire
8.20624.0500	Plastic bottle	500 ml	inquire
8.20624.1000	Plastic bottle	1 l	inquire

## 820619 2-Heptanol for synthesis



- (25 °C) ■ M = 116.20 g/mol
- Boiling point 159 - 161 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Dermal, H312; Eye irritation, Category 2, H319, P210, P305 + P351 + P338
- LD50 oral rat 2580 mg/kg ■ LD50 dermal rabbit 1460 mg/kg
- LGK 3
- HS-No. 2905 19 00 ■ Disposal 1
- ADR-RID UN 1987 Alkohole, n.a.g.(2-HEPTANOL)

, 3, III ■ IMDG-Code UN 1987 ALCOHOLS, N.O.S.(2-HEPTANOLE), 3, III  
 ■ IATA-DGR UN 1987 ALCOHOLS, N.O.S.(2-HEPTANOLE), 3, III

### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.816 - 0.818  
 Identity (IR) ..... passes test

C<sub>7</sub>H<sub>16</sub>O

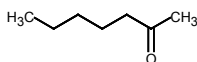
CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>CH(OH)CH<sub>3</sub>

Methyl pentyl carbinol, Methyl amyl carbinol

- CAS-No. 543-49-7 ■ EC-No. 208-844-3
- Refractive index 1.421 (20 °C, 589 nm) ■ Vapour pressure 1.6 hPa (25 °C) ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 % (V)
- Flash point 59 °C ■ Solub. in H<sub>2</sub>O 3.27 g/l

Ord.No.	Packaging	Quantity	Price
8.20619.0100	Glass bottle	100 ml	inquire

## 818711 2-Heptanone for synthesis

C<sub>7</sub>H<sub>14</sub>OCH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>COCH<sub>3</sub>*Methyl amyl ketone, n-Amyl methyl ketone, Methyl pentyl ketone*

- CAS-No. 110-43-0 ■ EC-No. 203-767-1
- Refractive index 1.4007 (20 °C, 589 nm)
- Vapour pressure 4.5 hPa (20 °C)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.11 - 7.9 % (V) ■ Flash point 43 °C ■ Solub. in H<sub>2</sub>O 4.3 g/l (20 °C) ■ M = 114.18 g/mol

- Saturation conc. 16.2 g/m<sup>3</sup> (20 °C) Air
- Melting point -35 °C
- Boiling point 150 - 152 °C (1013 hPa)
- Evaporation number 17.4
- Ignition temp. 305 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P210, P304 + P340
- LD50 oral rat 1670 mg/kg ■ LD50 dermal rabbit 10332 mg/kg
- EC-Index-No. 606-024-00-3 ■ LGK 3
- HS-No. 2914 19 90 ■ Disposal 1

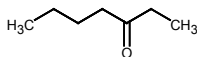
- ADR-RID UN 1110 n-Amylmethylketon, 3, III
- IMDG-Code UN 1110 N-AMYL METHYL KETONE, 3, III
- IATA-DGR UN 1110 N-AMYL METHYL KETONE, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.814 - 0.816  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18711.0100	Glass bottle	100 ml	inquire
8.18711.1000	Glass bottle	1 l	inquire

## 820621 3-Heptanone for synthesis

C<sub>7</sub>H<sub>14</sub>OCH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>COCH<sub>2</sub>CH<sub>3</sub>*Ethyl butyl ketone, Butyl ethyl ketone*

- CAS-No. 106-35-4 ■ EC-No. 203-388-1
- Refractive index 1.4085 (20 °C, 589 nm)
- Vapour pressure 5.5 hPa (20 °C)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 41 °C ■ Solub. in H<sub>2</sub>O 4.3 g/l (20 °C)
- M = 114.18 g/mol ■ Melting point -37 °C
- Boiling point 147 - 149 °C (1013 hPa)
- Ignition temp. 390 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Eye irritation, Category 2, H319, P210, P305 + P351 + P338
- LD50 oral rat 2760 mg/kg ■ LD50 dermal rabbit > 16400 mg/kg
- EC-Index-No. 606-003-00-9 ■ LGK 3
- HS-No. 2914 19 90 ■ Disposal 1
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-HEPTANON), 3, III ■ IMDG-Code UN 1993

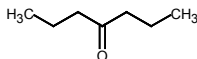
FLAMMABLE LIQUID, N.O.S.(3-HEPTANONE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-HEPTANONE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.817 - 0.818  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20621.0250	Glass bottle	250 ml	inquire
8.20621.1000	Glass bottle	1 l	inquire

## 803505 4-Heptanone for synthesis

C<sub>7</sub>H<sub>14</sub>O(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>CO*Dipropyl ketone*

- CAS-No. 123-19-3 ■ EC-No. 204-608-9
- Refractive index 1.407 (20 °C, 589 nm) ■ Vapour pressure 7 hPa (20 °C) ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 % (V)
- Flash point 49 °C ■ Solub. in H<sub>2</sub>O 3.2 g/l (25 °C)
- M = 114.18 g/mol ■ Melting point -33 °C
- Boiling point 144 - 146 °C
- Ignition temp. 430 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332, P210
- LC50 rat 19.1 mg/l
- LD50 oral rat 3021 mg/kg ■ LD50 dermal rabbit 4585 mg/kg
- EC-Index-No. 606-027-00-X ■ LGK 3
- HS-No. 2914 19 90 ■ Disposal 1

■ ADR-RID UN 2710 Dipropylketon, 3, III ■ IMDG-Code UN 2710 DIPROPYL KETONE, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.813 - 0.815  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03505.0250	Glass bottle	250 ml	inquire

## 820622 1-Heptene for synthesis

C<sub>7</sub>H<sub>14</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>CH=CH<sub>2</sub>

■ CAS-No. 592-76-7 ■ EC-No. 209-767-8

- Refractive index 1.3994 (20 °C, 589 nm)
- Vapour pressure 64 hPa (20 °C)
- Spec. density 0.70 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 7 % (V) ■ Flash point -8 °C ■ Solub. in H<sub>2</sub>O 0.02 g/l (20 °C) ■ M = 98.18 g/mol
- Melting point -119 °C ■ Boiling point 94 °C (1013 hPa) ■ Ignition temp. 250 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304, P210, P301 + P310, P331
- LGK 3
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 2278 n-Hepten, 3, II ■ IMDG-Code UN 2278 N-HEPTENE, 3, II

■ IATA-DGR UN 2278 N-HEPTENE, 3, II

**Specification**

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.697 - 0.700  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20622.0025	Glass bottle	25 ml	inquire

Heptyl alcohol → 1-Heptanol page 304

2-Heptylamine → 2-Aminoheptane page 389

Heptyl bromide → 1-Bromoheptane page 502

n-Heptyl chloride → 1-Chloroheptane page 615

n-Heptylhydride → page 304

Heptyl iodide → 1-Iodoheptane page 1010

Heptyl methyl carbinol → 2-Nonanol page 1234

Heptyl methyl ketone → 2-Nonanone page 1234

Heteroaromatic amines → Amines and ammonium compounds

Heteroauxine → Indole-3-acetic acid page 1002

## Heterocycles

## Heterocycles with 3-membered rings (e. g. oxiranes, aziridines)

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
365	800259	Allyl 2,3-epoxypropyl ether	836	820551	1,2-Epoxybutane	837	814365	(2R)-(-)-2,3-Epoxypropyl toluene-4-sulfonate
546	801553	Butyl 2,3-epoxypropyl ether	836	841219	Epoxycyclododecane	837	803202	Epoxyethylene
566	814564	(1S)-(+)-Camphorlactone-sulfonyloxaziridine	836	821862	Epoxyhexane	1376	807027	1,2-Propylene oxide
719	814672	(-)-[[8,8-Dichlorocamphoryl]-sulfonyl]-oxaziridine	836	818699	Epoxyoctane	1376	818567	(R)-(+)-1,2-Propylene oxide
735	821770	1,2:7,8-Diepoxyoctane	837	841807	[3-(2,3-Epoxypropoxy)-propyl]-trimethoxysilane	1376	818659	(S)-(-)-1,2-Propylene oxide
796	840145	2,2-Dimethyloxirane	837	818598	2,3-Epoxypropyl isopropyl ether			

# Hetero

## Heterocycles with 4-membered rings (e. g. oxetanes)

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
427	814410	Azetidine	1166	814175	3-Methyl-3-oxethanemethanol	1604	820937	1,3-Trimethylene oxide

## Heterocycles with 5-membered rings

### Furans, benzofurans

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
756	803509	2,5-Dihydro-2,5-dimethoxyfuran	917	801924	2-Furancarboxylic acid	304	804015	Furfuryl alcohol
790	841596	2,5-Dimethylfuran	917	841178	2-Furancarboxylic acid hydrazide	918	804016	Furfurylamine
818	841452	1,3-Diphenyl-isobenzofuran	917	820595	2-Furanmethanethiol	919	814022	3-(2-Furyl)acrylic acid
917	820594	Furan	918	104013	Furfural	1152	820798	2-Methylfuran

### Di- and tetrahydrofurans, butyrolactones

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
439	820138	1,2,4-Benzenetricarboxylic 1,2-anhydride	757	803635	2,5-Dihydrofuran	306	821093	2-Methyltetrahydrofuran
482	841077	Boron hydride-tetrahydrofuran complex	773	802961	2,5-Dimethoxytetrahydrofuran	296	113364	Tetrahydrofuran-D8
494	841432	2-Bromo-γ-butyrolactone	794	841502	2,3-Dimethylmaleic anhydride	1533	814503	2-Tetrahydrofuran carboxylic acid
565	818254	(1R)-(+)-Camphanic acid	924	841864	D-(+)-Glucuronolactone	308	822307	Tetrahydrofurfuryl alcohol
565	818207	(1S)-(-)-Camphanic acid	1151	841075	Methylenesuccinic anhydride	1534	841236	Tetrahydrofurfuryl chloride
756	841658	2,3-Dihydrobenzo(b)furan	1181	845103	2-Methyltetrahydrofuran			

### Pyrroles, Indoles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
427	801445	7-Azaindole	1002	822281	Indole	1157	805897	2-Methylindole
503	841001	5-Bromindole	1003	804802	Indole-3-acetonitrile	1157	820803	3-Methylindole
570	820255	Carbazole	1003	841058	Indole-5-carbonitrile	1161	814899	Methyl-2-methyl-5-methylsulfonyl-4-(1-pyrrolyl)benzoate
777	804242	3-(Dimethylaminomethyl)-indole	1004	814819	Indole-3-carboxylic acid			
872	804804	Ethyl 3-indoleacetate	1004	814820	Indole-5-carboxylic acid	1177	841012	1-Methylpyrrol-2-carbaldehyde
983	841110	5-Hydroxyindole	1099	814537	Melatonin	1177	820832	1-Methylpyrrole
983	841335	5-Hydroxyindole-2-carboxylic acid	1157	814823	Methyl-(3-indolcarboxylate)	1393	845055	Pyrrole
1002	104724	Indigo carmine (C.I. 73015)	1157	841298	1-Methylindole	1393	807492	Pyrrole
						1619	818445	Tryptamine

### Pyrrolidines, pyrrolidones, phthalimides, isatines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
392	818271	(S)-(-)-1-Amino-2-(methoxymethyl)pyrrolidine	819	824402	(2R,4R)-(+)-4-Diphenylphosphino-2-diphenylphosphino methylpyrrolidine	1178	816146	1-Methylpyrrolidine
403	814887	(3S)-(-)-Aminopyrrolidine				1208	820877	(-)-Nicotine
619	841454	N-Chloromethyl phthalimide				308	807494	Pyrrolidine
699	803603	1,5-Diazabicyclo[4.3.0]non-5-ene	820	841173	(S)-(-)-α,α-Diphenylprolinol	1394	107495	Pyrrolidine-1-dithiocarboxylic acid ammonium salt
749	818140	Diethyl pyrrolidinomethanephosphonate	883	842196	1-Ethyl-2-pyrrolidinone	1394	818884	4-(1-Pyrrolidinyl)pyridine
			901	841272	5-Fluoroisatin			
			982	841185	N-(2-Hydroxyethyl)-phthalimide			

### Thiophenes (incl. S,S-dioxides)

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
443	841538	1-Benzothiophene	1014	841186	2-Iodothiophene	1536	821095	Tetrahydrothiophene
478	841871	2,2'-Bithiophene	1181	841051	Methyl 3-thienyl ketone	309	808157	Thiophene
515	801659	2-Bromothiophene	1182	820838	2-Methylthiophene	1552	841123	Thiophene-2-acetic acid
515	814233	3-Bromothiophene	1182	841302	3-Methylthiophene	1552	841797	Thiophene-3-acetic acid
636	841746	2-Chlorothiophene	1182	841291	3-Methylthiophene-2-carbaldehyde	1552	841125	Thiophene-2-acetonitrile
700	820409	Dibenzothiophene				1552	841865	Thiophene-2-acetyl chloride
806	841440	2,5-Dimethylthiophene	1182	841255	5-Methylthiophene-2-carbaldehyde	1552	841525	Thiophene-3-carboxylic acid
884	841544	2-Ethylthiophene				1553	814308	Thiophene-2-carboxylic acid chloride
			308	807993	Sulfolane			
			1507	807994	3-Sulfolane			

### 1,3-Dioxolanes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
417	818549	(-)-1,6-Anhydro-β-D-glucopyranose	811	841858	1,4-Dioxo-8-azaspiro[4.5]decane	1332	840080	Piperonylbutoxide
452	814156	(-)-2,3-O-Benzylidene-L-threitol	1148	841872	2-Methyl-1,3-dioxolane	1332	841707	Piperonylic acid
787	814533	2,2-Dimethyl-1,3-dioxolan	1150	818489	3,4-Methylenedioxyaniline			

## Isoxazoles, oxazoles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
393	814182	3-Amino-5-methylisoxazol	793	814187	3,5-Dimethylisoxazole	1057	820723	Isoxazole
453	814642	(R)-(+)-4-Benzyl-2-oxazolidinone	796	818107	4,4-Dimethyl-2-oxazoline	1100	818697	2-Mercaptobenzoxazole
453	814643	(S)-(-)-4-Benzyl-2-oxazolidinone	879	814009	2-Ethyl-2-oxazoline	1135	821254	2-Methylbenzoxazole
618	814608	5-Chloro-2-methylbenzoxazole	1055	824505	(4R)-(+)-4-Isopropyl-2-oxazolidinone	1255	840165	2-Oxazolidinone

## Pyrazoles, indazoles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
385	107293	4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one	1175	814214	3-Methylpyrazole	1382	807572	Pyrazole
402	841044	5-Aminopyrazole-4-carbonitrile	1175	843919	1-Methylpyrazole-4-boronic acid pinacol ester	1383	841164	Pyrazole-3,5-dicarboxylic acid monohydrate
800	814523	3,5-Dimethylpyrazol	1313	843855	3-Phenyl-1H-pyrazole			
1001	841229	Indazole	1313	841580	1-Phenyl-3-pyrazolidinone			

## Imidazoles, benzimidazoles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
378	821948	2-Aminobenzimidazole	977	841365	2-Hydroxybenzimidazole	1156	818964	2-Methylimidazole
401	814852	1-(3-Aminopropyl)-imidazole	998	814223	Imidazole	1219	818257	5-Nitrobenzimidazole
440	821956	Benzimidazole	1100	814126	2-Mercaptobenzimidazole	1224	841702	4-Nitroimidazole
547	814979	1-Butyl imidazole	1101	841473	2-Mercapto-1-methylimidazole	1307	807504	2-Phenylimidazole
733	816101	4,5-Dicyanoimidazole	1133	818596	2-Methylbenzimidazole	1307	841498	4-Phenylimidazole
783	841278	5,6-Dimethylbenzimidazole	1155	841680	L-Methyl histidinat	1608	818204	N-(Trimethylsilyl)imidazole
792	803245	1,2-Dimethylimidazole	1156	805852	dihydrochloride 1-Methylimidazole			

## Imidazolidinones

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
720	814752	1,3-Dichloro-5,5-dimethylhydantoine	981	840150	1-(2-Hydroxyethyl)-2-imidazolidinone	999	804789	2-Imidazolidinone hemihydrate
302	818212	1,3-Dimethyl-2-imidazolidinone	999	820696	2-Imidazolidinethione	1308	841548	N-Phenylmaleimide

## Triazoles, tetrazoles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
391	814267	3-Amino-5-mercapto-1,2,4-triazole	443	840048	O-(1H-Benzotriazol-1-yl)-N,N,N',N'-tetramethylurionium tetrafluoroborate	758	807292	3,5-Dihydro-4-phenyl-4H-1,2,4-triazole-3,5-dione
393	814460	3-Amino-5-(methylmercapto)-1H-1,2,4-triazole	601	816122	O-(1H-6-Chlorobenzotriazol-1-yl)-1,1,3,3-tetramethylurionium hexafluorophosphate	1102	814268	3-Mercapto-1,2,4-triazole
405	814495	3-Amino-1H-1,2,4-triazole	601	816123	O-(1H-6-Chlorobenzotriazol-1-yl)-1,1,3,3-tetramethylurionium tetrafluoroborate	1315	840153	1-Phenyl-1H-tetrazole-5-thiol
405	801309	4-Amino-1,2,4-triazole	630	802314	5-Chloro-1-phenyltetrazole	1573	808388	1,2,4-Triazole
443	822315	1H-Benzotriazole	698	841080	3,5-Diamino-1,2,4-triazole	1573	814650	1H-1,2,4-Triazole sodium salt

## Thiazoles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
349	841760	2-Acetylthiazole	601	820279	2-Chlorobenzothiazole	1181	814232	2-Methyl-2-thiazoline
380	801268	2-Aminobenzothiazole	776	103059	5-(4-Dimethylaminobenzylidene)-rhodanine	1256	814388	(1S)-(-)-3-Oxocamphorsulfonylimine
396	820088	2-Amino-4-methylthiazol	784	841567	2,5-Dimethylbenzothiazole	1298	814559	2-Phenylbenzothiazole
397	841670	6-Aminopenicillanic acid	824	814598	2,2'-Dithiobisbenzothiazole	1548	841237	Thiazole
404	814586	N-Aminorhodanine	871	818143	3-Ethyl-5-(2-hydroxyethyl)-4-methylthiazolium bromide	1548	841071	2,4-Thiazolidinedione
404	801272	2-Aminothiazole	982	814928	5-(2-Hydroxyethyl)-4-methylthiazole	1548	821111	2-Thiazoline-2-thiol
404	801313	2-Amino-2-thiazoline	1100	814674	2-Mercaptobenzothiazole	1549	821112	N1-2-Thiazolylsulfanilamid
443	820141	Benzothiazole	1134	841709	2-Methylbenzothiazole	1551	840072	Thioflavine T (C.I.No.49005)
515	814661	2-Bromothiazole	1134	104527	3-Methyl-2-benzothiazolinone-hydrazonehydrochloride	1560	101307	Titan yellow (C.I. 19540)

## Other heterocycles with 5-membered rings

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
750	815100	2,5-Diethyl-1,3,4-thiadiazole	805	815101	2,5-Dimethyl-1,3,4-thiadiazole			
769	840136	2,5-Dimercapto-1,3,4-thiadiazole	818	841717	2,5-Diphenyl-1,3,4-oxadiazole			

## Heterocycles with 6-membered rings

## Alkyl-,aryl-and aralkyl pyridines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
455	801524	2-Benzylpyridine	801	805652	3,5-Dimethylpyridine	1313	840041	2-Phenylpyridine
455	801525	4-Benzylpyridine	882	800230	2-Ethylpyridine	1314	841759	3-Phenylpyridine
589	840008	1-Cetylpyridinium chloride monohydrate	882	800232	4-Ethylpyridine	309	822267	2,4,6-Trimethylpyridine
800	805734	2,4-Dimethylpyridine	306	809722	2-Methylpyridine	1630	822189	2-Vinylpyridine
801	805650	2,6-Dimethylpyridine	306	807048	3-Methylpyridine			
801	841437	3,4-Dimethylpyridine	306	807049	4-Methylpyridine			

## Halogenated and hydroxylated pyridines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
390	814539	2-Amino-3-hydroxypyridine	633	820336	2-Chloropyridine	732	820455	2,6-Dichloropyridine
514	801933	2-Bromopyridine	634	820337	3-Chloropyridine	754	841445	2,6-Difluoropyridine
514	801934	3-Bromopyridine	645	814756	Citrazinic acid	905	841430	2-Fluoropyridine
609	814134	2-Chloro-3,5-dinitropyridine	705	821756	2,5-Dibromopyridine	1263	841070	Pentachloropyridine
622	841232	2-Chloronicotinic acid	706	818644	2,6-Dibromopyridine	1388	841800	Pyridine-2,6-dimethanol
625	841273	2-Chloro-3-nitropyridine	732	841407	2,3-Dichloropyridine	1388	841665	2,3-Pyridinediol

## Aminopyridines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
381	841006	2-Amino-5-bromopyridine	395	807016	3-(Aminomethyl)pyridine	698	841183	2,3-Diaminopyridine
390	814539	2-Amino-3-hydroxypyridine	397	841448	2-Amino-3-nitropyridine	698	803575	2,6-Diaminopyridine
394	814427	2-(Aminomethyl)pyridine	397	814072	2-Amino-5-nitropyridine	698	818392	3,4-Diaminopyridine
394	822201	2-Amino-3-methylpyridine	402	801113	2-Aminopyridine	779	814107	2-(Dimethylamino)pyridine
395	800386	2-Amino-4-methylpyridine	402	801110	3-Aminopyridine	779	820499	4-(Dimethylamino)pyridine
395	820087	2-Amino-5-methylpyridine	403	801111	4-Aminopyridine	851	841888	4-(Ethylaminomethyl)pyridine
395	800417	2-Amino-6-methylpyridine	447	814831	2-(Benzylamino) pyridine			

## Pyridinaldehydes, ketones, oximes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
349	816143	N-Acetyl-4-piperidone	1385	807466	2-Pyridinecarbaldehyde oxime	1543	814294	2,2,6,6-Tetramethyl-4-piperidone
1314	822128	Phenyl 2-pyridyl ketone oxime	1385	820714	4-Pyridinecarbaldehyde oxime			

## Pyridinecarboxylic acids and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
508	841121	5-Bromonicotinic acid	173	106828	Nicotinamide	1389	814838	4-Pyridinoyl chloride hydrochloride
554	800786	Butyl 3-pyridinecarboxylate	1386	802657	2-Pyridinecarbonitrile	1389	841251	2-Pyridylacetic acid hydrochloride
622	841232	2-Chloronicotinic acid	1386	802658	3-Pyridinecarbonitrile	1615	110238	2,4,6-Tri(2-pyridyl)-1,3,5-triazine
645	814756	Citrazinic acid	1386	802659	4-Pyridinecarbonitrile			
883	841203	Ethyl 3-pyridylacetate	1387	841198	Pyridine-3,4-dicarboxylic acid			

## Other pyridines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
434	124518	Bathocuproinedisulfonic acid disodium salt	822	841109	2,2'-Dipyridyl disulfide	1288	107225	1,10-Phenanthroline monohydrate
434	124513	Bathophenanthroline	829	820546	N-Dodecylpyridinium chloride	1388	807506	Pyridine N-oxide
462	103098	2,2'-Bipyridine	877	843971	5-Ethyl-2-methylpyridine	1388	841615	Pyridine-3-sulfonic acid
462	820158	4,4'-Bipyridine	1056	802406	Isoquinoline	1388	814345	Pyridinium bromide-perbromide
514	801935	4-Bromopyridinium chloride	1176	840067	4-Methylpyridine-1-oxide			
589	818188	N-Cetylpyridinium bromide monohydrate	1203	102968	Neocuproine	1389	821055	Pyridinium chloride
620	807037	4-(Chloromethyl)-pyridinium chloride	1203	102964	Neocuproine hydrochloride monohydrate	1389	814330	Pyridinium 4-toluenesulfonate
621	818172	2-Chloro-1-methylpyridinium iodide	1229	841754	4-Nitropyridine-1-oxide	1390	841016	4-(2'-Pyridylazo)-resorcinol
634	820338	4-Chloropyridinium chloride	1287	841491	1,10-Phenanthroline	1516	818112	Sulfur trioxide pyridine complex
706	814869	3,5-Dibromopyridine	1287	107223	1,10-Phenanthroline chloride monohydrate			



## Quinolines, acridines, isoquinolines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
351	821655	Acridine	995	107098	8-Hydroxyquinoline	1396	840010	Quinaldic acid
377	818362	9-Aminoacridine	995	814528	8-Hydroxyquinoline sulfate monohydrate	1396	805805	Quinaldine
377	801112	9-Aminoacridine hydrochloride monohydrate	1056	841663	Isoquinoline-1-carboxylic acid	1531	814634	2,3,6,7-Tetrahydro-1H,5H-benzo[i,j]-quinolizin-8-ol
403	841634	3-Aminoquinoline	1056	814817	Isoquinoline-N-oxide	1532	841076	1,2,3,4-Tetrahydro-6,7-dimethoxy-isoquinoline hydrochloride
462	102955	2,2'-Biquinoline	1057	814818	Isoquinoline-5-sulfonic acid	1534	841560	1,2,3,4-Tetrahydroisoquinoline (3S)-1,2,3,4-Tetrahydro-3-isoquinolinecarboxylic acid
732	841815	4,7-Dichloroquinoline	1127	841406	6-Methoxyquinoline	1534	816148	
801	820505	2,6-Dimethylquinoline	1178	841768	6-Methylquinoline			
884	821935	1-Ethylquinaldinium iodide	1224	843161	5-Nitroisoquinoline			
995	820261	8-Hydroxyquinoline	1314	841883	2-Phenylquinoline-4-carboxylic acid			

## Piperidines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
381	818483	4-Amino-N-benzylpiperidine	304	800956	1-Ethylpiperidine	307	822299	Piperidine
454	818380	4-Benzylpiperidine	1172	806085	1-Methylpiperidine	1331	821034	Piperidinium chloride
512	814666	4-(4-Bromophenyl)-4-hydroxypiperidine	1172	841020	2-Methylpiperidine	1332	841672	4-Piperidinone monohydrate hydrochloride
611	814738	2-(2-Chloroethyl)-1-methylpiperidine hydrochloride	1172	814739	4-Methylpiperidine	1543	818132	2,2,6,6-Tetramethylpiperidine
629	814665	4-(4-Chlorophenyl)-4-hydroxypiperidine	1305	841270	N-Methylpiperidine-2-ethanol 1-(2-Phenylethyl)-4-piperidonone			
819	814973	Diphenyl-4-piperidinemethanol						

## 1,2-Diazines, chinolines, phthalazines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1160	815105	Methyl-N-methyl anthranilate	1397	815103	Quinoline-2,4-dicarboxylic acid			
1383	841777	Pyridazine	1397	815104	Quinoline-2,4-dicarboxylic acid amide			

## 1,3-Diazines, pyrimidines, chinazolines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
383	841276	2-Amino-4-chloro-6-methylpyrimidine	696	841789	2,4-Diamino-6-hydroxypyrimidine	995	814840	4-Hydroxyquinazoline
385	841666	2-Amino-4,6-dichloropyrimidine	696	814702	4,5-Diamino-6-hydroxy-2-pyrimidinethiol hemisulfate-1,5-hydrate	1102	841594	2-Mercaptopyrimidine
385	841739	2-Amino-4,6-dimethylpyrimidine	698	814037	4,6-Diamino-2-pyrimidinethiol	1177	818393	4-Methylpyrimidine
395	814580	2-Amino-4-methylpyrimidine	700	803282	1,8-Diazabicyclo[5.4.0]undec-7-ene	1377	822137	4-Propyl-2-thiouracil
403	801270	2-Aminopyrimidine	762	814866	4,6-Dihydroxy-2-methylpyrimidine	1391	843938	2(1H)-pyrimidinone monohydrochloride
405	841698	4(6)-Aminouracil	794	841337	4,6-Dimethyl-2-mercaptopyrimidine	1554	821120	2-Thiouracil
518	841743	5-Bromouracil	801	841055	4,6-Dimethylpyrimidine	1572	814764	2,4,5-Triamino-6-hydroxypyrimidine sulfate
638	841136	5-Chlorouracil	805	818214	1,3-Dimethyltetrahydro-2(1H)-pyrimidinone	1581	816121	2,4,6-Trichloropyrimidine
694	814663	2,4-Diamino-6-chloropyrimidine	907	818505	5-Flourouracil			

## 1,4-Diazines, piperazines, chinoxalines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
402	801338	2-Aminopyrazine	800	814618	2,6-Dimethylpyrazine	1329	845120	Piperazine (anhydrous)
633	841849	2-Chloropyrazine	845	814652	1-Ethoxycarbonyl piperazine	1329	807325	Piperazine anhydrous
699	803456	1,4-Diazabicyclo[2.2.2]octane	881	814685	N-Ethylpiperazine	1330	800361	2-(1-Piperazinyl)ethylamine
730	841886	1-(3,4-Dichlorophenyl)-piperazine	905	843931	1-(4-Fluorophenyl) piperazine dihydrochloride	1382	807064	Pyrazine
730	843925	1-(2,3-Dichlorophenyl) piperazine monohydrochloride	993	843929	1-(4-Hydroxyphenyl) piperazine	1398	820262	Quinoxaline
798	803580	1,4-Dimethylpiperazine	1126	814617	2-Methoxypyrazine	1534	843920	1-(Tetrahydro-2-furoyl) piperazine
799	814589	1,4-Dimethylpiperazine-2,5-dione	1171	805859	1-Methylpiperazine	1544	841794	2,3,5,6-Tetramethylpyrazine
800	814477	2,3-Dimethylpyrazine	1174	814629	2-Methylpyrazine	1595	814832	3-(Trifluoromethyl)-N-phenylpiperazine
800	814569	2,5-Dimethylpyrazine	1288	820973	Phenazine			

# Hetero

## Triazines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
427	841156	6-Azauracil	723	110888	Dichloroisocyanuric acid sodium salt dihydrate	1579	808607	Trichloroisocyanuric acid
666	820358	Cyanuric acid				1615	110238	2,4,6-Tri(2-pyridyl)-1,3,5-triazine
666	802815	Cyanuric chloride	951	818712	Hexamethylenetetramine			
697	803573	2,6-Diamino-4-phenyl-1,3,5-triazine	1572	816113	1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione			
			1573	808614	2,4,6-Triamino-1,3,5-triazine			

## Pyrans

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
692	818235	(+)-Di-O-acetyl-L-rhamnal	923	814812	$\beta$ -D-Glucose pentaacetate	1572	818251	(-)-Tri-O-acetyl-D-galactal
758	802971	3,4-Dihydro-2H-pyran	1151	841878	3-Methylflavone-8-carboxylic acid	1572	818298	(-)-Tri-O-acetyl-D-glucal
800	841649	2,6-Dimethyl-4H-pyran-4-one				1613	818238	2,4,6-Triphenylpyrylium tetrafluoroborate
849	818289	(+)-Ethyl-4,6-di-O-acetyl-2,3-dideoxy- $\alpha$ -D-erythro-hex-2-enopyranoside	1153	840024	Methyl-D-glucopyranoside			
			1409	822144	D-(+)-Saccharose octaacetate			
893	841257	Flavone	1522	818260	(-)-Tetra-O-benzoyl-2-hydroxy-D-glucal			

## 2-Pyranones (6-membered ring lactones)

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
989	841682	4-Hydroxy-6-methyl-2H-pyran-2-one	1155	822069	Methylhydroxyethylcellulose	1263	840022	1,2,3,4,6-Penta-O-acetyl- $\alpha$ -D-glycopyranose

## 1,2- and 1,3-Dioxans, 1,3,5-trioxans

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
379	818480	6-Amino-1,4-benzodioxane	930	804192	Glyoxal hydrate (trimer)	987	814890	2-(Hydroxymethyl)-1,4-benzodioxane

## 1,4-Oxazines, morpholines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
479	841512	N-tert-BOC-4-Piperidinone	1161	805894	4-Methylmorpholine	1192	841345	4-Morpholine-carbonylchloride
611	841417	N-(2-Chloroethyl)-morpholinium chloride	1161	814779	4-Methylmorpholine 4-oxide	1192	822101	Morpholinium chloride
304	801295	4-Ethylmorpholine	1161	818170	4-Methylmorpholine-4-oxide monohydrate	1193	801303	3-Morpholino propylamine
304	818582	N-Formylmorpholine	306	806127	Morpholine	1309	814859	N-Phenylmorpholine

## Sulfur compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
534	820665	1,4-Butanesultone	860	818117	2,2'-Ethylenebis(1,3-dithiane)	1548	821109	Thianthrene
762	841420	2,5-Dihydroxy-1,4-dithiane	1294	820975	Phenothiazine			

## Heterocycles with 7-membered ring

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
569	814999	$\gamma$ -Caprolactone	999	841660	Iminodibenzyl	1522	841316	1,4,8,11-Tetraazacyclotetradecane
951	804307	Hexamethyleneimine	1070	814925	Kryptofix® 222			

Heterocyclic aldehydes → Aldehydes

Heterocyclic ketones → Ketones

Heterocyclic mercaptans → ur compounds

Heterocyclic nitriles → Nitriles and isonitriles

Heterocyclic nitriles and isonitriles → Nitriles and isonitriles

5,11,17,23,29,35-Hexa-tert-butyl-37,38,39,40,41,42-hexahydroxycalix[6]arene → p-tert-Butylcalix[6]arene page 543

## 800396 Hexacarbonylmolybdenum for synthesis

$C_6MoO_6$   
 $Mo(CO)_6$   
*Molybdenum carbonyl*  
 ■ CAS-No. 13939-06-5 ■ EC-No. 237-713-3  
 ■ Vapour pressure 0.13 hPa (20 °C)  
 ■ Spec. density 1.96 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 264 g/mol  
 ■ Melting point 147 - 152 °C (decomposition)  
 ■ Boiling point 156.4 °C  
 ■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331, P304 + P340, P309 + P310  
 ■ LGK 6.1B ■ Store below +15°C.  
 ■ HS-No. 2931 90 90 ■ Disposal 14  
 ■ ADR-RID UN 3466 Metallcarbonyl, fest, n.a.g.(MOLYBDAENHEXACARBONYL), 6.1, I  
 ■ IMDG-Code UN 3466 METAL CARBONYLS, SOLID, N.O.S.(HEXACARBONYL MOLYBDENIUM), 6.1, I  
 ■ IATA-DGR UN 3466 METAL CARBONYLS, SOLID,

N.O.S.(HEXACARBONYL MOLYBDENIUM), 6.1, I

### Specification

Assay ( $Mo(CO)_6$ ) .....  $\geq 99.0\%$ (m)  
 Assay ( $Cr(CO)_3$ ) .....  $\leq 1.0\%$ (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00396.0010	Glass bottle	10 g	inquire
8.00396.0025	Glass bottle	25 g	inquire

**800888 Hexacarbonylungsten for synthesis**C<sub>6</sub>O<sub>6</sub>WW(CO)<sub>6</sub>

Tungsten carbonyl

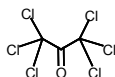
- CAS-No. 14040-11-0 ■ EC-No. 237-880-2
- Vapour pressure 1.4 hPa (67 °C)
- Spec. density 2.65 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 351.91 g/mol
- Melting point 150 °C ■ Boiling point 175 °C (1013 hPa)
- WGK 3

- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 14
- ADR-RID UN 3466 Metallcarbonyl, fest, n.a.g.(HEXACARBONYLTUNGSTEN), 6.1, III ■ IMDG-Code UN 3466 METAL CARBONYLS, SOLID, N.O.S.(HEXACARBONYLTUNGSTEN), 6.1, III
- IATA-DGR UN 3466 METAL CARBONYLS, SOLID, N.O.S.(HEXACARBONYLTUNGSTEN), 6.1, III

**Specification**

Assay (ex W) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 169 °C  
 Melting range (upper value) ..... ≤ 171 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00888.0010	Glass bottle	10 g	inquire
8.00888.0025	Glass bottle	25 g	inquire

**820630 Hexachloroacetone for synthesis**C<sub>3</sub>Cl<sub>6</sub>OCCl<sub>3</sub>COCCl<sub>3</sub>

Hexachloro-2-propanone, Perchloroacetone

- CAS-No. 116-16-5 ■ EC-No. 204-129-5
- Refractive index 1.5112 (20 °C, 589 nm)
- Spec. density 1.74 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 264.75 g/mol

- Melting point -3 °C ■ Boiling point 203 - 205 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LD50 dermal rabbit 2980 mg/kg
- EC-Index-No. 606-032-00-7 ■ LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3
- ADR-RID UN 2661 Hexachloroacetone, 6.1, III
- IMDG-Code UN 2661 HEXACHLOROACETONE, 6.1, III

- IATA-DGR UN 2661 HEXACHLOROACETONE, 6.1, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.740 - 1.742  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20630.0250	Glass bottle	250 ml	inquire

**843812 Hexachloroplatinic(IV) acid (11-15% Pt), 25-50% solution in isopropanol, for synthesis**

- Vapour pressure 43 hPa (20 °C) (2-Propanol)
- Spec. density 1.033 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 12.7 % (V) (2-Propanol)
- Flash point 12 °C (2-Propanol) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ Boiling point 82.4 °C (1013 hPa) (2-Propanol)
- Ignition temp. 425 °C (2-Propanol)
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation,

- Category 1, H317, P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P304 + P341, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 3824 90 97 ■ Disposal 27
- ADR-RID UN 3286 Entzündbarer flüssiger Stoff, giftig, ätzend, n.a.g.(HEXACHLORPLATIN(IV) SAEURELOESUNG UND ENTH. ISOPROPANOL), 3 (6.1, 8), II ■ IMDG-Code UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(HEXACHLORPLATIN(IV) ACID AND CONT. ISOPROPANOL), 3 (6.1, 8), II

- IATA-DGR UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(HEXACHLORPLATIN(IV) ACID AND CONT. ISOPROPANOL), 3 (6.1, 8), II

**Specification**

Assay (of Pt) ..... 11.0 - 15.0 %

Ord.No.	Packaging	Quantity	Price
8.43812.0001	Glass bottle	1 ml	inquire
8.43812.0005	Glass bottle	5 ml	inquire

**807340 Hexachloroplatinic(IV) acid hexahydrate (~40% Pt) for synthesis**H<sub>2</sub>Cl<sub>6</sub>Pt\*6H<sub>2</sub>OH<sub>2</sub>(PtCl<sub>6</sub>)\*6H<sub>2</sub>O

Chloroplatinic acid

- CAS-No. 18497-13-7 ■ EC-No. 241-010-7
- Spec. density 4 g/cm<sup>3</sup> (20 °C) ■ M = 517.94 g/mol ■ Melting point 150 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin

- sensitisation, Category 1, H317, P280, P301 + P330 + P331, P302 + P352, P304 + P341, P305 + P351 + P338, P309 + P310
- EC-Index-No. 078-009-00-4 ■ LGK 6.1 D
- HS-No. 2843 90 90 ■ Disposal 27
- ADR-RID UN 2507 Hexachlorplatinisäure, fest, 8, III ■ IMDG-Code UN 2507 CHLOROPLATINIC ACID, SOLID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2507 CHLOROPLATINIC ACID, SOLID, 8, III

**Specification**

Assay (of Pt) ..... 39,0 - 41,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.07340.0001	Glass bottle	1 g	inquire
8.07340.0005	Glass bottle	5 g	inquire
8.07340.8500	Glass bottle	500 mg	inquire

**107341 Hexachloroplatinic(IV) acid solution about 10% (3.8% Pt) GR for analysis**

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.6 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P301 + P330 + P331, P302 + P352, P304 + P341, P305 + P351 + P338, P309 + P310
- LGK 8 B

- HS-No. 2843 90 90 ■ Disposal 27
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(HEXACHLORPLATIN(IV)-SAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(HEXACHLORPLATIN(IV)-ACID), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(HEXACHLORPLATIN(IV)-ACID)

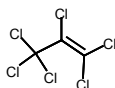
, 8, III  
 Reagent for potassium, for platinum plating.

**Specification**

Assay (gravimetrically) ..... ≥ 10.0 %

Ord.No.	Packaging	Quantity	Price
1.07341.0005	Glass bottle	5 ml	inquire
1.07341.0025	Glass bottle	25 ml	inquire

Hexachloro-2-propanone → Hexachloroacetone page 945

**820631 Hexachloropropene for synthesis**C<sub>3</sub>Cl<sub>6</sub>CCl<sub>2</sub>CCl=CCl<sub>2</sub>

Hexachloropropylene

- CAS-No. 1888-71-7 ■ EC-No. 217-560-9
- Refractive index 1.548 (20 °C, 589 nm) ■ Vapour pressure 30 hPa (100 °C) ■ Spec. density 1.76 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.25 g/l (20 °C)

- M = 248.75 g/mol ■ Melting point -73 °C
- Boiling point 209 - 210 °C (1013 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 6.1B
- HS-No. 2903 29 00 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger

Stoff, n.a.g.(HEXACHLORPROPEN), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(HEXACHLORPROPENE), 6.1, II

- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(HEXACHLORPROPENE), 6.1, II

**Specification**

Assay (GC, area%) ..... ≥ 93.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.740 - 1.760  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20631.0050	Glass bottle	50 ml	inquire

Hexachloropropylene → Hexachloropropene page 945

# Hexade

## n-Hexadecane



C<sub>16</sub>H<sub>34</sub>  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>14</sub>CH<sub>3</sub>  
Cetane

- CAS-No. 544-76-3 ■ EC-No. 208-878-9
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 0.77 g/cm<sup>3</sup> (20 °C)
- Flash point 135 °C ■ Kin. viscosity < 7 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble
- M = 226.44 g/mol ■ Melting point 18 °C

- Boiling point 287 °C
- WGK 3
- GHS: Danger, Aspiration hazard, Category 1, H304, P260, P262, P301 + P310, P331
- LGK 10 - 13
- HS-No. 2901 10 00 ■ Disposal 3



### 820633 n-Hexadecane for synthesis

#### Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,773 - 0,774  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20633.0005	Glass bottle	5 ml	inquire
8.20633.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.20633.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

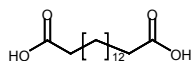
### 109605 n-Hexadecane reference substance for gas chromatography

#### Specification

Assay (GC)..... ≥ 99,5 %  
Identity (IR-spectrum)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09605.0005	Glass bottle	5 ml	inquire

### 841740 Hexadecanedioic acid for synthesis



C<sub>16</sub>H<sub>30</sub>O<sub>4</sub>  
■ CAS-No. 505-54-4 ■ EC-No. 208-013-5  
■ M = 286.41 g/mol ■ Melting point 122 - 123 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

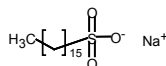
#### Specification

Assay (acidimetric)..... ≥ 96,0 % (m)  
Melting range (lower value)..... ≥ 122 °C  
Melting range (upper value)..... ≤ 126 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41740.0001	Glass bottle	1 g	inquire

### 841813 Hexadecane-1-sulfonic acid sodium salt for synthesis



C<sub>16</sub>H<sub>33</sub>NaO<sub>3</sub>S  
■ CAS-No. 15015-81-3 ■ EC-No. 239-100-6

- M = 328.48 g/mol ■ Melting point 265.3 °C
- WGK 3
- HS-No. 2904 10 00 ■ Disposal 3

#### Specification

Assay (ex Na)..... ≥ 95,0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41813.0010	Plastic bottle	10 g	inquire

### 822063 1-Hexadecanethiol for synthesis



C<sub>16</sub>H<sub>34</sub>S  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>15</sub>SH  
Cetyl mercaptan, Hexadecyl mercaptan  
■ CAS-No. 2917-26-2 ■ EC-No. 220-846-6  
■ Refractive index 1.462 (20 °C, 589 nm) ■ Vapour pressure < 0.1 hPa (20 °C) ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Flash point 102 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 258.5 g/mol
- Melting point 18 - 20 °C
- Boiling point 185 - 190 °C (9 hPa)
- Ignition temp. 260 °C
- WGK 3
- GHS: P262
- LGK 10
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

- IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(1-HEXADECANETHIOL), 9, III

#### Specification

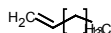
Assay (GC, area%)..... ≥ 88,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,845 - 0,850  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22063.0250	Glass bottle	250 ml	inquire

Hexadecanoic acid → Palmitic acid page 1259

Hexadecanoyl chloride → Palmitoyl chloride page 1260

### 822064 1-Hexadecene for synthesis



C<sub>16</sub>H<sub>32</sub>  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>13</sub>CH=CH<sub>2</sub>  
1-Hexadecylene  
■ CAS-No. 629-73-2 ■ EC-No. 211-105-8  
■ Refractive index 1.4401 (20 °C, 589 nm)  
■ Vapour pressure 0.35 hPa (25 °C)  
■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.5 - 5.8 % (V) ■ Flash point 132 °C

- Kin. viscosity 4.0 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.0012 g/l (25 °C) ■ M = 224.42 g/mol
- Melting point 2.2 °C ■ Boiling point 274 °C (1013 hPa) ■ Ignition temp. 240 °C
- WGK 1
- GHS: Warning, Aspiration hazard, Category 1, H304, P301 + P310, P331
- LC50 rat > 5 mg/l
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13

- HS-No. 2901 29 00 ■ Disposal 3

#### Specification

Assay (GC, area%)..... ≥ 95,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0,780 - 0,789  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22064.0100	Glass bottle	100 ml	inquire
8.22064.0500	Glass bottle	500 ml	inquire



## 822203 Hexadecylamine for synthesis

C<sub>16</sub>H<sub>35</sub>NCH<sub>3</sub>(CH<sub>2</sub>)<sub>15</sub>NH<sub>2</sub>

1-Aminohexadecan, Cetylamine

■ CAS-No. 143-27-1 ■ EC-No. 205-596-8

■ Refractive index 1.4373 (50 °C, 589 nm)

■ Vapour pressure 1.3 hPa (20 °C)

■ Flash point 140 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 241.46 g/mol

■ Melting point 43 - 46 °C ■ Bulk density 800 kg/

m<sup>3</sup> ■ Boiling point 330 °C (1013 hPa)

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 4, Oral,

H302; Skin corrosion, Category 1A, H314; Acute

aquatic toxicity, Category 1, H400; Chronic

aquatic toxicity, Category 1, H410, P280, P273,

P301 + P330 + P331, P305 + P351 + P338, P309

+ P310

■ LGK 8A

■ HS-No. 2921 19 99 ■ Disposal 3

■ ADR-RID UN 3259 Amine, fest, ätzend,

n.a.g.(HEXADECYLAMIN), 8, II ■ IMDG-Code UN

3259 AMINES, SOLID, CORROSIVE,

N.O.S.(HEXADECYLAMINE), 8, II, Segregation

Group: 18 (Alkalis)

■ IATA-DGR UN 3259 AMINES, SOLID, CORROSIVE,

N.O.S.(HEXADECYLAMINE), 8, II

**Specification**

Assay (GC, area%)..... ≥ 95,0 % (a/a)

Melting range (lower value)..... ≥ 44 °C

Melting range (upper value)..... ≤ 48 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22203.0100	Glass bottle	100 g	inquire
8.22203.0500	Glass bottle	500 g	inquire

n-Hexadecyl bromide → 1-Bromohexadecane page 502

n-Hexadecyl chloride → 1-Chlorohexadecane page 615

1-Hexadecylene → 1-Hexadecene page 946

Hexadecylethylidimethylammonium bromide →

Ethylhexadecyldimethylammonium bromide page

868

Hexadecyl iodide → 1-Iodohexadecane page 1010

Hexadecyl mercaptan → 1-Hexadecanethiol page 946

N-Hexadecyl-N,N,N-trimethylammonium bromide

→ N-Cetyl-N,N,N-trimethylammonium bromide

page 589

N-Hexadecylpyridinium bromide → N-

Cetylpyridinium bromide monohydrate page 589

Hexadecylpyridinium chloride monohydrate → 1-

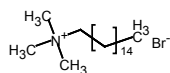
Cetylpyridinium chloride monohydrate page 589

Hexadecyltributylphosphonium bromide →

Tributylhexadecylphosphonium bromide page

1575

## 814119 Hexadecyltrimethylammonium bromide for synthesis

C<sub>19</sub>H<sub>42</sub>BrNC<sub>16</sub>H<sub>33</sub>N(CH<sub>3</sub>)<sub>3</sub>Br

■ CAS-No. 57-09-0 ■ EC-No. 200-311-3

■ Solub. in H<sub>2</sub>O 0.192 g/l (20 °C) ■ M = 364.45 g/mol ■ pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 250 - 256 °C

■ Bulk density 390 kg/m<sup>3</sup>

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302; Specific target organ toxicity - single

exposure, Category 3, H335; Skin irritation,

Category 2, H315; Eye irritation, Category 2,

H319; Acute aquatic toxicity, Category 1, H400;

Chronic aquatic toxicity, Category 1, H410, P273,

P302 + P352, P304 + P340, P305 + P351 + P338

■ LD50 oral rat 410 mg/kg

■ LGK 10 - 13

■ HS-No. 2923 90 00

■ ADR-RID UN 3077 Umweltgefährdender Stoff,

fest,

n.a.g.(HEXADECYLTRIMETHYLAMMONIUMBROMID

), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID,

N.O.S.(HEXADECYLTRIMETHYLAMMONIUMBROMI

DE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID,

N.O.S.(HEXADECYLTRIMETHYLAMMONIUMBROMI

DE), 9, III

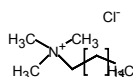
**Specification**

Assay (argentometric)..... ≥ 97,0 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14119.0100	Plastic bottle	100 g	inquire
8.14119.0500	Plastic bottle	500 g	inquire

## 814087 Hexadecyltrimethylammonium chloride (50% solution in 2-propanol/water 3:2) for synthesis



Cetyltrimethylammonium chloride

solution, Trimethylhexadecylammonium chloride

■ Refractive index 1.3778 (20 °C, 589 nm)

■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C)■ Flash point 15 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble■ pH value 5 - 7 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Boiling point 80 - 90 °C

■ WGK 3

■ GHS: Danger, Flammable liquid, Category 2,

H225; Acute toxicity, Category 4, Oral, H302; Skin

corrosion, Category 1B, H314; Specific target

organ toxicity - single exposure, Category 3,

H336; Acute aquatic toxicity, Category 1, H400,

P210, P273, P280, P301 + P330 + P331, P305 +

P351 + P338, P309 + P310

■ LD50 oral rat 500 - 2000 mg/kg

■ LGK 3

■ HS-No. 2923 90 00 ■ Disposal 3

■ ADR-RID UN 2924 Entzündbarer flüssiger Stoff,

ätzend,

n.a.g.(HEXADECYLTRIMETHYLAMMONIUMCHLORI

D UND ENTH. ISOPROPANOL), 3 (8), II ■ IMDG-

Code UN 2924 FLAMMABLE LIQUID, CORROSIVE,

N.O.S.(HEXADECYL TRIMETHYL AMMONIUM

CHLORIDE AND CONT. ISOPROPANOL), 3 (8), II

■ IATA-DGR UN 2924 FLAMMABLE LIQUID,

CORROSIVE, N.O.S.(HEXADECYL TRIMETHYL

AMMONIUM CHLORIDE AND CONT.

ISOPROPANOL), 3 (8), II

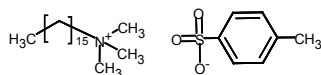
**Specification**

Assay (argentometric)..... 49,0 - 52,0 % (m)

Density (d 20 °C/ 4 °C)..... 0,887 - 0,892

Ord.No.	Packaging	Quantity	Price
8.14087.0100	Glass bottle	100 ml	inquire
8.14087.1000	Glass bottle	1 l	inquire

## 814692 Hexadecyltrimethylammonium-p-toluenesulfonate for synthesis

C<sub>26</sub>H<sub>49</sub>NO<sub>3</sub>S

Cetyltrimethylammonium tosylate, Cetats, Tricetol

■ CAS-No. 138-32-9 ■ EC-No. 205-324-8

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 10 g/l(25 °C) ■ M = 455.74 g/mol ■ pH value 6 - 8 (H<sub>2</sub>O,

20 °C) (saturated aqueous solution)

■ Melting point 245 - 250 °C

■ Ignition temp. 93 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 4, Oral,

H302; Specific target organ toxicity - single

exposure, Category 3, H335; Skin irritation,

Category 2, H315; Serious eye damage, Category

1, H318, P280, P302 + P352, P304 + P340, P305 +

P351 + P338, P313

■ LD50 oral rat 675 mg/kg

■ LGK 10 - 13

■ HS-No. 2923 90 00 ■ Disposal 3

■ ADR-RID UN 2811 Giftiger organischer fester

Stoff, n.a.g.(HEXADECYLTRIMETHYLAMMONIUM-

P-TOLUENSULFONAT), 6.1, III ■ IMDG-Code UN

2811 TOXIC SOLID, ORGANIC,

N.O.S.(HEXADECYLTRIMETHYLAMMONIUM-P-

TOLUOLSULFONATE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(HEXADECYLTRIMETHYLAMMONIUM-P-

TOLUOLSULFONATE), 6.1, III

**Specification**

Assay (HPLC, area%)..... ≥ 99,0 % (a/a)

Melting range (lower value)..... ≥ 245 °C

Melting range (upper value)..... ≤ 255 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14692.0100	Plastic bottle	100 g	inquire

Hexadeutoeroacetone → page 294

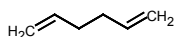
Hexadeutoerobenzene → page 294

Hexadeuterodimethyl sulfoxide → page 295

Hexadeutoeroethanol → Ethanol-D6 page 295



## 841769 1,5-Hexadiene for synthesis

C<sub>6</sub>H<sub>10</sub>

- CAS-No. 592-42-7 ■ EC-No. 209-754-7
- Vapour pressure 295 hPa (25 °C)
- Spec. density 0.692 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 6.1 % (V) ■ Flash point -8 °C ■ Solub. in H<sub>2</sub>O 169 mg/l (25 °C) ■ M = 82.14 g/mol
- Melting point -141 °C ■ Boiling point 60 °C

- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P210, P223, P304 + P340, P305 + P351 + P338
- LC50 rat > 360 mg/l
- LGK 3
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 2458 Hexadiene, 3, II ■ IMDG-

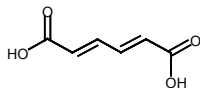
Code UN 2458 HEXADIENES, 3, II  
 ■ IATA-DGR UN 2458 HEXADIENE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,690 - 0,693  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41769.0050	Glass bottle	50 ml	inquire

## 820634 trans, trans-2,4-Hexadienedioic acid for synthesis

C<sub>6</sub>H<sub>6</sub>O<sub>4</sub>

HOOCCH=CHCH=CHCOOH

## trans, trans-Muconic acid

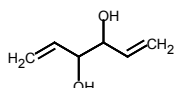
- CAS-No. 3588-17-8 ■ EC-No. 222-724-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 142.11 g/mol ■ Melting point 287 - 290 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 98,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20634.0001	Glass bottle	1 g	inquire
8.20634.0005	Plastic bottle	5 g	inquire

## 814568 1,5-Hexadiene-3,4-diol (mixture of DL- and meso form) (stabilised with Hydroquinone) for synthesis

C<sub>6</sub>H<sub>10</sub>O<sub>2</sub>

- CAS-No. 1069-23-4 ■ EC-No. 213-955-5
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 114.14 g/mol ■ Melting point 14 °C
- Boiling point 198 °C (1013 hPa)

- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302, P280, P302 + P352, P309 + P310
- LD50 oral rat 1652 mg/kg ■ LD50 dermal rabbit 408 mg/kg
- LGK 10
- HS-No. 2905 39 95 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1,5-HEXADIEN-3,4-DIOL), 6, 1, III
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

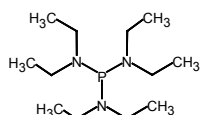
N.O.S.(1,5-HEXADIENE-3,4-DIOL), 6, 1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,5-HEXADIENE-3,4-DIOL), 6, 1, III

## Specification

Assay isomers (GC, area%) ..... ≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,017 - 1,020  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14568.0005	Glass bottle	5 ml	inquire

## 814317 Hexaethyltriaminophosphine for synthesis

C<sub>12</sub>H<sub>30</sub>N<sub>3</sub>P

## Tris(diethylamino)phosphine

- CAS-No. 2283-11-6 ■ EC-No. 218-920-8
- Refractive index 1.4578 (20 °C, 589 nm)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C)
- Flash point 58 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 247.36 g/mol
- Boiling point 120 - 122 °C (13 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

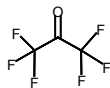
n.a.g.(HEXAETHYLTRIAMINOPHOSPHIN), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(HEXAETHYLTRIAMINOPHOSPHINE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(HEXAETHYLTRIAMINOPHOSPHINE), 3, III

## Specification

Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,899 - 0,901  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14317.0005	Glass bottle	5 ml	inquire

## 804521 Hexafluoroacetone sesquihydrate for synthesis

C<sub>3</sub>F<sub>6</sub>O \* 1,5 H<sub>2</sub>OCF<sub>3</sub>COCF<sub>3</sub> \* 1,5 H<sub>2</sub>O

## Perfluoroacetone

- CAS-No. 13098-39-0 ■ EC-No. 211-676-3
- Vapour pressure 202 hPa (30 °C)
- Spec. density 1.69 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 166.02 g/mol
- pH value 1 - 2 (H<sub>2</sub>O, 20 °C)

- Melting point 11 - 20 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 6.1B
- HS-No. 2914 70 00 ■ Disposal 9
- ADR-RID UN 2552 Hexafluoroacetonhydrat, flüssig, 6, 1, II ■ IMDG-Code UN 2552

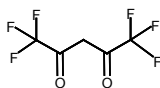
HEXAFLUOROACETONE HYDRATE, LIQUID, 6, 1, II  
 ■ IATA-DGR UN 2552 HEXAFLUOROACETONE HYDRATE, LIQUID, 6, 1, II

## Specification

Assay (acidimetric, calc. on anhydrous substance) ..... ≥ 97,0 % (m)  
 Water (K. F.) ..... 14,0 - 18,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04521.0005	Glass bottle	5 ml	inquire

## 814361 1,1,1,5,5,5-Hexafluoroacetylacetone for synthesis

C<sub>5</sub>H<sub>2</sub>F<sub>6</sub>O<sub>2</sub>CF<sub>3</sub>COCH<sub>2</sub>COCF<sub>3</sub>

## 1,1,1,5,5,5-Hexafluoro-2,4-pentadione

- CAS-No. 1522-22-1 ■ EC-No. 216-191-0
- Refractive index 1.485 (20 °C, 589 nm)
- Spec. density 1.48 - 1.49 g/cm<sup>3</sup> (20 °C)
- Flash point 32 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 208.06 g/mol

- Boiling point 70 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 290 mg/kg
- LGK 3
- HS-No. 2914 70 00 ■ Disposal 3
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(HEXAFLUORACETYLACETON), 8

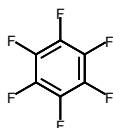
(3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(HEXAFLUORO ACETYL ACETONE), 8 (3), II  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(HEXAFLUORO ACETYL ACETONE), 8 (3), II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,487 - 1,492  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14361.0005	Glass bottle	5 ml	inquire

## 804514 Hexafluorobenzene for synthesis



C<sub>6</sub>F<sub>6</sub>  
Perfluorobenzene

- CAS-No. 392-56-3 ■ EC-No. 206-876-2
- Refractive index 1.3769 (20 °C, 589 nm)
- Vapour pressure 77 hPa (20 °C)
- Spec. density 1.62 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 186.05 g/mol
- Melting point 4 - 6 °C ■ Boiling point 79 - 81 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,617 - 1,619  
Identity (IR) ..... conforms

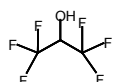
Ord.No.	Packaging	Quantity	Price
8.04514.0005	Glass bottle	5 ml	inquire

Hexafluoroisopropanol → page 304

1,1,1,3,3,3-Hexafluoroisopropyl alcohol → page 304

1,1,1,5,5,5-Hexafluoro-2,4-pentadione → 1,1,1,5,5,5-Hexafluoroacetylacetone page 948

## 1,1,1,3,3,3-Hexafluoro-2-propanol

C<sub>3</sub>H<sub>2</sub>F<sub>6</sub>OCF<sub>3</sub>CH(OH)CF<sub>3</sub>

1,1,1,3,3,3-Hexafluoroisopropyl alcohol, Hexafluoroisopropanol, HFP

- CAS-No. 920-66-1 ■ EC-No. 213-059-4
- Refractive index 1.2752 (25 °C, 589 nm)
- Vapour pressure 269 hPa (30 °C)
- Spec. density 1.62 g/cm<sup>3</sup> (20 °C)

- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 168.03 g/mol
- pH value 3 - 4 (H<sub>2</sub>O) Aqueous solution
- Melting point -3 °C ■ Boiling point 58 °C (1013 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 13.8 mg/l

- LD50 oral rat 1500 mg/kg
- LGK 8A
- HS-No. 2905 59 98 ■ Disposal 3
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL), 8, II

## 804515 1,1,1,3,3,3-Hexafluoro-2-propanol for synthesis

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Identity (IR) ..... conforms  
Density (d 20 °C/ 4 °C) ..... 1,614 - 1,618

Ord.No.	Packaging	Quantity	Price
8.04515.0025	Glass bottle	25 ml	inquire
8.04515.0100	Glass bottle	100 ml	inquire
	Glass bottle	6 x 100 ml	inquire

## 845157 1,1,1,3,3,3-Hexafluoro-2-propanol for pharma synthesis, non-GMP

## Specification

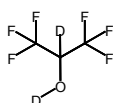
Assay (GC, area%) ..... ≥ 99,0 Area %  
Colour number (Hazen) ..... ≤ 20  
Density (d 20 °C/ 4 °C) ..... 1,614 - 1,618

Identity (IR) ..... passes test  
Pd (Palladium) (ICP MS) ..... lot specific result

Ord.No.	Packaging	Quantity	Price
8.45157.0100	Glass bottle	100 ml	inquire
8.45157.1000	Glass bottle	1 l	inquire

## 815041 1,1,1,3,3,3-Hexafluoro-2-propanol-D2 deuteration degree min. 99.5% for NMR spectroscopy

MagniSolv™

C<sub>3</sub>D<sub>2</sub>F<sub>6</sub>OCF<sub>3</sub>-CD(OD)-CF<sub>3</sub>

1,1,1,3,3,3-Hexafluoroisopropyl alcohol, Hexafluoroisopropanol, HFP

- CAS-No. 38701-74-5 ■ EC-No. 254-091-9
- Vapour pressure 269 hPa (30 °C)
- Spec. density 1.62 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 170.05 g/mol

- pH value 3 - 4 (H<sub>2</sub>O) Aqueous solution
- Melting point -3 °C ■ Boiling point 58 °C (1013 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 13.8 mg/l
- LD50 oral rat 1500 mg/kg
- LGK 8A
- HS-No. 2845 90 10 ■ Disposal 3
- ADR-RID UN 3265 Ätzender saurer organischer

flüssiger Stoff, n.a.g.(1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL), 8, II

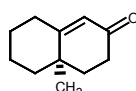
## Specification

Deuteration degree ..... ≥ 99,0 %

Ord.No.	Packaging	Quantity	Price
8.15041.0001	Glass ampoule	1 ml	inquire
8.15041.0005	Glass ampoule	5 ml	inquire

α,α,α',α',α'-Hexafluoro-3,5-xylidine → 3,5-Bis(trifluoromethyl)-aniline page 476

## 824460 (R)-(-)-4,4a,5,6,7,8-Hexahydro-4a-methyl-2(3H)-naphthalenone for synthesis

C<sub>11</sub>H<sub>16</sub>O

(R)-(-)-2,3,4,4a,5,6,7,8-Octahydro-4a-methyl-2-naphthalenone, (R)-(-)-10-Methyl-1(9)-octal-2-one

- CAS-No. 63975-59-7
- Refractive index 1.5247 (20 °C, 589 nm)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ M = 164.24 g/mol
- Boiling point 155 °C (23 hPa)
- WGK 3
- LGK 10
- HS-No. 2914 29 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1,015 - 1,017  
Spec. rotation [α<sub>D</sub><sup>20</sup> (c=1 in ethanol)] ..... -208,0 - -206,0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24460.0500	Glass bottle	500 mg	inquire

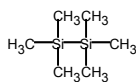
# Hexahy

Hexahydroazepine → Hexamethyleneimine page 951  
 Hexahydrobenzene → page 42  
 Hexahydrobenzoic acid → Cyclohexanecarboxylic acid page 670  
 Hexahydrobenzoxazole → Cyclohexanecarbonitrile page 670  
 Hexahydrobenzoyl chloride → Cyclohexanecarboxylic acid chloride page 670  
 Hexahydrohydroquinone → 1,4-Cyclohexanediol page 671

Hexahydrophenol → page 292  
 (1R,2R)-(-)-Hexahydrophthalic acid → (1R,2R)-(-)-1,2-Cyclohexanedicarboxylic acid page 670  
 trans-Hexahydrophthalic acid → trans-Cyclohexane-1,2-dicarboxylic acid page 671  
 Hexahydrophthalic acid anhydride → Cyclohexane-1,2-dicarboxylic anhydride page 671  
 Hexahydropyridine → page 320  
 Hexahydro-2,3,6,7-tetrahydro-p-dioxino [2,3-b]-p-dioxine → Glyoxal hydrate (trimer) page 930

Hexahydrothymol → DL-Menthol page 1099  
 Hexahydroxycyclohexane → page 111  
 1,4,7,10,13,16-Hexahydroxy-16-orthocyclophane → Crown ether/Benzo-18-crown-6 page 660  
 5,11,17,23,29,35-Hexaisopropyl-37,38,39,40,41,42-hexahydroxycalix[6]arene → p-Isopropylcalix-6-arene page 1053  
 γ-Hexalactone → γ-Caprolactone page 569  
 Hexaldehyde → Hexanal page 952

## 818889 Hexamethyldisilane for synthesis



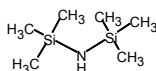
C<sub>6</sub>H<sub>18</sub>Si<sub>2</sub>  
 (CH<sub>3</sub>)<sub>3</sub>SiSi(CH<sub>3</sub>)<sub>3</sub>  
 ■ CAS-No. 1450-14-2 ■ EC-No. 215-911-0  
 ■ Refractive index 1.4207 (20 °C, 589 nm)  
 ■ Spec. density 0.73 g/cm<sup>3</sup> (20 °C) ■ Flash point -6 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 146.37 g/mol ■ Melting point 13 - 15 °C  
 ■ Boiling point 110 - 112 °C  
 ■ WGK 2

■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P210, P262, P280, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 2160 mg/kg ■ LD50 dermal rabbit 2160 mg/kg  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(HEXAMETHYLDISILAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(HEXAMETHYLDISILANE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(HEXAMETHYLDISILANE), 3, II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C).....0,726 - 0,728  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18889.0010	Glass bottle	10 ml	inquire
8.18889.0050	Glass bottle	50 ml	inquire

## 1,1,1,3,3,3-Hexamethyldisilazane



C<sub>6</sub>H<sub>19</sub>NSi<sub>2</sub>  
 Bis(trimethylsilyl)amine, HMDS  
 ■ CAS-No. 999-97-3 ■ EC-No. 213-668-5  
 ■ Vapour pressure 20 hPa (20 °C)  
 ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 25.9 % (V) ■ Flash point 15 °C  
 ■ Kin. viscosity 0.9 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) decomposes ■ M = 161.39 g/mol

■ Melting point -82 °C ■ Boiling point 126 °C (1013 mbar) ■ Ignition temp. 325 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 8.7 mg/l  
 ■ LD50 oral rat 847 mg/kg ■ LD50 dermal rabbit

550 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2931 90 90  
 ■ ADR-RID UN 3286 Entzündbarer flüssiger Stoff, giftig, ätzend, n.a.g.(HEXAMETHYLDISILAZAN), 3 (6.1, 8), II ■ IMDG-Code UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(HEXAMETHYLDISILAZANE), 3 (6.1, 8), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(HEXAMETHYLDISILAZANE), 3 (6.1, 8), II

## 804324 1,1,1,3,3,3-Hexamethyldisilazane for synthesis

**Specification**  
 Assay (GC, area%)..... ≥ 98 %  
 Density (d 20 °C/ 4 °C).....0.774 - 0.775  
 Identity (IR)..... passes test

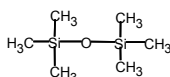
Ord.No.	Packaging	Quantity	Price
8.04324.0050	Glass bottle	50 ml	inquire
8.04324.0250	Glass bottle	250 ml	inquire
8.04324.1000	Glass bottle	1 l	inquire

## 112186 1,1,1,3,3,3-Hexamethyldisilazane for gas chromatography

**Specification**  
 Appearance of substance (colour)..... colourless  
 Assay (GC, area%)..... ≥ 98.5 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
1.12186.0025	Glass bottle	25 ml	inquire
1.12186.0100	Glass bottle	100 ml	inquire

## 814051 Hexamethyldisiloxane for synthesis



C<sub>6</sub>H<sub>18</sub>O<sub>Si<sub>2</sub></sub>  
 ((CH<sub>3</sub>)<sub>3</sub>Si)<sub>2</sub>O  
 2,2,4,4-Tetramethyl-3-oxa-2,4-disilapentane, HMDSO  
 ■ CAS-No. 107-46-0 ■ EC-No. 203-492-7  
 ■ Refractive index 1.3771 (20 °C, 589 nm)  
 ■ Vapour pressure 20 hPa (20 °C)  
 ■ Spec. density 0.76 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 0.5 - 21.8 % (V) ■ Flash point 4 °C ■ Solub. in H<sub>2</sub>O 0.00037 g/l (20 °C) insoluble ■ M = 162.38 g/mol

mol ■ Melting point -68 °C ■ Boiling point 100 °C (1013 hPa) ■ Ignition temp. 340 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P233, P240, P273  
 ■ LC50 rat 107.5 mg/l  
 ■ LD50 oral rat > 12160 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(HEXAMETHYLDISILOXAN), 3, II ■ IMDG-

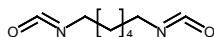
Code UN 1993 FLAMMABLE LIQUID, N.O.S.(HEXAMETHYLDISILOXANE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(HEXAMETHYLDISILOXANE), 3, II  
**Specification**  
 Assay (GC, area%)..... ≥ 98,5 Area %  
 Density (d 20 °C/ 4 °C).....0,762 - 0,764  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14051.0100	Glass bottle	100 ml	inquire
8.14051.0500	Glass bottle	500 ml	inquire

Hexamethylene → page 42  
 Hexamethylene bromide → 1,6-Dibromohexane page 704

Hexamethylene chloride → 1,6-Dichlorohexane page 722  
 Hexamethylenediamine → 1,6-Diaminohexane page 695

## 822066 Hexamethylene diisocyanate for synthesis

C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>OCN(CH<sub>2</sub>)<sub>6</sub>NCO

1,6-Diisocyanatohexane

- CAS-No. 822-06-0 ■ EC-No. 212-485-8
- Refractive index 1.4525 (20 °C, 589 nm)
- Vapour pressure 0.007 hPa (20 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 0.9 - 9.5 % (V) ■ Flash point 130 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 168.2 g/mol
- Melting point -67 °C ■ Boiling point 255 °C (1013 hPa) ■ Ignition temp. 454 °C

- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.15 mg/l
- LD50 oral rat 746 mg/kg ■ LD50 dermal rabbit 570 mg/kg
- EC-Index-No. 615-011-00-1 ■ LGK 6.1A
- HS-No. 2929 10 00 ■ Disposal 11

- ADR-RID UN 2281 Hexamethylendiisocyanat, 6.1, II ■ IMDG-Code UN 2281 HEXAMETHYLENE DIISOCYANATE, 6.1, II
- IATA-DGR UN 2281 HEXAMETHYLENE DIISOCYANATE, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,046 - 1,047  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22066.0250	Glass bottle	250 ml	inquire
8.22066.1000	Glass bottle	1 l	inquire

Hexamethylene glycol → 1,6-Hexanediol page 954

## 804307 Hexamethyleneimine for synthesis

C<sub>6</sub>H<sub>13</sub>N

Azacycloheptane, Hexahydroazepine

- CAS-No. 111-49-9 ■ EC-No. 203-875-9
- Refractive index 1.4631 (20 °C, 589 nm)
- Vapour pressure 12.5 hPa (20 °C)
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 9.9 % (V) ■ Flash point 22 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 99.18 g/mol

- Melting point -37 °C ■ Boiling point 138 °C (1013 hPa) ■ Ignition temp. 255 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P233, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 410 mg/kg
- LGK 3
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 2493 Hexamethylenimin, 3 (8), II
- IMDG-Code UN 2493 HEXAMETHYLENEIMINE, 3

- (8), II
- IATA-DGR UN 2493 HEXAMETHYLENEIMINE, 3 (8), II

## Specification

Assay (GC, area%) ..... ≥ 98 %  
Density (d 20 °C/ 4 °C) ..... 0.879 - 0.882  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.04307.0100	Glass bottle	100 ml	inquire
8.04307.0500	Glass bottle	500 ml	inquire

Hexamethylenetetramine → Methenamine page 1113

## 818712 Hexamethylenetetramine for synthesis

C<sub>6</sub>H<sub>12</sub>N<sub>4</sub>

Hexamethylenetetramine, Hexamine, Formin®, Urotropin®

- CAS-No. 100-97-0 ■ EC-No. 202-905-8
- Vapour pressure < 0.01 hPa (20 °C) (External MSDS) ■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C) ■ Flash point 250 °C ■ Solub. in H<sub>2</sub>O 895 g/l (20 °C) soluble ■ M = 140.19 g/mol
- pH value 7.0 - 9.0 (100 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 600 kg/m<sup>3</sup> ■ Ignition temp. 390 °C

- WGK 1
- GHS: Warning, Flammable solid, Category 2, H228; Skin sensitisation, Category 1, H317, P210, P280, P302 + P352
- LD50 oral rat 9200 mg/kg
- EC-Index-No. 612-101-00-2 ■ LGK 4.1B
- HS-No. 2933 69 40 ■ Disposal 3
- ADR-RID UN 1328 Hexamethylenetetramin, 4.1, III ■ IMDG-Code UN 1328 HEXAMETHYLENETETRAMINE, 4.1, III
- IATA-DGR UN 1328 HEXAMETHYLENETETRAMINE, 4.1, III

- GHS: Warning, Flammable solid, Category 2, H228; Skin sensitisation, Category 1, H317, P210, P280, P302 + P352

## Specification

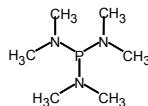
Assay (HClO<sub>4</sub>) ..... ≥ 99,0 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18712.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
8.18712.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.18712.5000	Plastic bottle	5 kg	inquire

Hexamethyl-p-rosanilinium chloride → page 189

2,6,10,15,19,23-Hexamethyl-2,6,10,14,18,22-tetracosahexaene → Squalene page 1465

## 818071 Hexamethyltriaminophosphine for synthesis

C<sub>6</sub>H<sub>18</sub>N<sub>3</sub>PP[N(CH<sub>3</sub>)<sub>2</sub>]<sub>3</sub>

Tris(dimethylamino)phosphine

- CAS-No. 1608-26-0 ■ EC-No. 216-534-4
- Refractive index 1.4636 (25 °C, 589 nm)
- Vapour pressure 3.72 hPa (20 °C)

- Spec. density 0.90 g/cm<sup>3</sup> (20 °C)
- Flash point 27 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition) ■ M = 163.2 g/mol
- Melting point -44 °C
- Boiling point 162 - 164 °C (1013 mbar)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P262
- LGK 3
- HS-No. 2929 90 00 ■ Disposal 25
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(HEXAMETRIAMINOPHOSPHIN), 3, III

- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(HEXAMETHYLTRIAMINOPHOSPHINE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(HEXAMETHYLTRIAMINOPHOSPHINE), 3, III

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 95,0 % (m)  
Density (d 20 °C/ 4 °C) ..... 0,895 - 0,900  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18071.0005	Glass bottle	5 ml	inquire
8.18071.0025	Glass bottle	25 ml	inquire

Hexamine → Methenamine page 1113

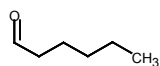
Hexammonium heptamolybdate 4-hydrate → page 411

iso-Hexan → page 43



# Hexana

## 802672 Hexanal for synthesis



C<sub>6</sub>H<sub>12</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>CHO  
*Hexaldehyde, Caproaldehyde, Hexylaldehyde*  
 ■ CAS-No. 66-25-1 ■ EC-No. 200-624-5  
 ■ Refractive index 1.4035 (20 °C, 589 nm)  
 ■ Vapour pressure 12 hPa (20 °C)  
 ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 25 °C ■ Solub. in H<sub>2</sub>O 6 g/l (20 °C)  
 ■ M = 100.16 g/mol ■ pH value 4 - 5 (4.8 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point -56 °C  
 ■ Boiling point 129 - 131 °C (1013 hPa)  
 ■ Ignition temp. 220 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P260, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 4890 mg/kg ■ LD50 dermal rabbit 5500 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2912 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1207 Hexaldehyd, 3, III ■ IMDG-

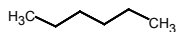
Code UN 1207 HEXALDEHYDE, 3, III  
 ■ IATA-DGR UN 1207 HEXALDEHYDE, 3, III

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,813 - 0,820  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02672.0005	Glass bottle	5 ml	inquire
8.02672.0250	Glass bottle	250 ml	inquire

## n-Hexane



C<sub>6</sub>H<sub>14</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>CH<sub>3</sub>  
 ■ CAS-No. 110-54-3 ■ EC-No. 203-777-6  
 ■ Refractive index 1.375 ■ Vapour pressure 160 hPa (20 °C) ■ Spec. density 0.66 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 8.1 % (V)  
 ■ Flash point -22 °C ■ Kin. viscosity 0.50 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.0095 g/l (20 °C)  
 ■ M = 86.18 g/mol ■ pH value (H<sub>2</sub>O) not

applicable ■ Melting point -94.3 °C  
 ■ Boiling point 69 °C (1013 hPa)  
 ■ Ignition temp. 240 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336; Chronic aquatic toxicity, Category 2,

H411, P210, P240, P273, P301 + P310, P302 + P352, P331  
 ■ LC50 rat 171.6 mg/l  
 ■ LD50 oral rat 25000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 601-037-00-0 ■ LGK 3 ■ Store below +30°C.  
 ■ HS-No. 2901 10 00 ■ Disposal 1  
 ■ ADR-RID UN 1208 Hexane, 3, II ■ IMDG-Code UN 1208 HEXANES, 3, II  
 ■ IATA-DGR UN 1208 HEXANES, 3, II

## 104368 n-Hexane EMPLURA®

### Specification

Purity (GC)..... ≥ 95.0 %  
 Identity (IR)..... conforms  
 Free acid (as acetic acid) ..... ≤ 0.005 %  
 Density (d 20 °C/ 4 °C) ..... 0.6590 - 0.6620  
 Readily carbonizable substances..... conforms  
 Water..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.04368.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04368.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.04368.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.04368.6010	Drum stainl. st.	10 l	inquire
1.04368.6025	Drum stainl. st.	25 l	inquire
1.04368.6190	Drum stainl. st.	190 l	inquire
1.04368.9011	Steel barrel	10 l	inquire
1.04368.9190	Steel barrel	190 l	inquire

## 104306 n-Hexane about 85% EMPLURA®

Ord.No.	Packaging	Quantity	Price
1.04306.1000		4 l	inquire
1.04306.2500		2.5 l	inquire

## 107023 n-Hexane absolute for analysis EMPARTA® ACS

### Specification

Purity Σ hexane isomers + methylcyclopentane (GC) ..... ≥ 98.5 %  
 Identity (IR)..... conforms  
 Colour..... ≤ 10 Hazen  
 Water-soluble titrable acid..... ≤ 0.0003 meq/g

Thiophene..... conforms  
 Sulfur compounds (as S) ..... ≤ 0.005 %  
 Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.07023.2511	Plastic bottle	2.5 l	inquire
1.07023.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.07023.6025	Drum stainl. st.	25 l	inquire

## 104367 n-Hexane for analysis EMSURE® ACS

### Specification

Purity (GC)..... ≥ 99.0 %  
 Identity (IR)..... conforms  
 Colour..... ≤ 10 Hazen  
 Alkalinity..... ≤ 0.0002 meq/g  
 Acidity..... ≤ 0.0002 meq/g  
 Density (d 20 °C/ 4 °C) ..... 0.659 - 0.662  
 Thiophene..... conforms  
 Aromatics (as benzene) ..... ≤ 0.01 %  
 Sulfur compounds (as S) ..... ≤ 0.005 %  
 Matter discoloured by H<sub>2</sub>SO<sub>4</sub>..... ≤ 10 Hazen  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.000002 %  
 Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.00005 %

Cd (Cadmium) ..... ≤ 0.000005 %  
 Co (Cobalt) ..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00001 %  
 Mg (Magnesium) ..... ≤ 0.00001 %  
 Mn (Manganese) ..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.00001 %  
 Sn (Tin) ..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %  
 Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.005 %  
 ACS

Ord.No.	Packaging	Quantity	Price
1.04367.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04367.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.04367.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.04367.6010	Drum stainl. st.	10 l	inquire
1.04367.6025	Drum stainl. st.	25 l	inquire
1.04367.9190	Steel barrel	190 l	inquire



**104374 n-Hexane for analysis EMSURE® ACS, Reag. Ph Eur**

<b>Specification</b>		
Purity (GC).....	≥ 96.0 %	Al (Aluminium)..... ≤ 0.00005 %
Purity Σ hexane isomers + methylcyclopentane (GC).....	≥ 98.5 %	B (Boron)..... ≤ 0.000002 %
Identity (IR).....	conforms	Ba (Barium)..... ≤ 0.00001 %
Colour.....	≤ 10 Hazen	Ca (Calcium)..... ≤ 0.00005 %
Water-soluble titrable acid.....	≤ 0.0003 meq/g	Cd (Cadmium)..... ≤ 0.000005 %
Refractive index (n <sub>20/D</sub> ).....	1.375 - 1.376	Co (Cobalt)..... ≤ 0.000002 %
Density (d <sub>20 °C/20 °C</sub> ).....	0.659 - 0.663	Cr (Chromium)..... ≤ 0.000002 %
Boiling range (min.95 % ).....	67 - 69 °C	Cu (Copper)..... ≤ 0.000002 %
Transmission (between 260 nm and 420 nm).....	≥ 97 %	Fe (Iron)..... ≤ 0.00001 %
Thiophene.....	conforms	Mg (Magnesium)..... ≤ 0.00001 %
Aromatics (as benzene).....	≤ 0.01 %	Mn (Manganese)..... ≤ 0.000002 %
Sulfur compounds (as S).....	≤ 0.005 %	Ni (Nickel)..... ≤ 0.000002 %
Readily carbonizable substances.....	conforms	Pb (Lead)..... ≤ 0.00001 %
		Sn (Tin)..... ≤ 0.00001 %
		Zn (Zinc)..... ≤ 0.00001 %

Evaporation residue.....	≤ 0.001 %
Water.....	≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.04374.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04374.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.04374.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.04374.4000	Glass bottle	4 l	inquire
1.04374.4004	Glass bottle	4 x 4 l	inquire
1.04374.6010	Drum stainl. st.	10 l	inquire
1.04374.6025	Drum stainl. st.	25 l	inquire

**104373 n-Hexane dried (max. 0.004% H<sub>2</sub>O) SeccoSolv®**

<b>Specification</b>		
Purity (GC).....	≥ 99.0 %	Alkalinity..... ≤ 0.0002 meq/g
Identity (IR).....	conforms	Aromatics (as C <sub>6</sub> H <sub>6</sub> )..... ≤ 0.01 %
Colour.....	≤ 10 Hazen	Evaporation residue..... ≤ 10 mg/l
Acidity.....	≤ 0.0005 meq/g	Water..... ≤ 0.004 %

Ord.No.	Packaging	Quantity	Price
1.04373.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire

**104371 n-Hexane for gas chromatography ECD and FID SupraSolv®**

<b>Specification</b>		
Purity (GC).....	≥ 98.0 %	chlorobenzene to decachlorobiphenyle, individual signals (lindane standard))..... ≤ 3 pg/ml
Sum of hexane isomers + methylcyclopentane (GC).....	≥ 99.8 %	GC/FID (retention range n-undecane to n-tetracontane, individual signals (n- tetradecane standard))..... ≤ 3 ng/ml
Identity (IR).....	conforms	suitable for residue analysis
Evaporation residue.....	≤ 3.0 mg/l	
Water.....	≤ 0.01 %	
Colour.....	≤ 10 Hazen	
GC/ECD (retention range 1,2,4-tri-		

Ord.No.	Packaging	Quantity	Price
1.04371.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04371.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.04371.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.04371.9010	Barrel stainl. st.	10 l	inquire
1.04371.9030	Barrel stainl. st.	30 l	inquire

**100795 n-Hexane for gas chromatography MS SupraSolv®**

<b>Specification</b>		
Purity (GC).....	≥ 98.0 %	Colour..... ≤ 10 Hazen
Sum of hexane isomers + methylcyclopentane (GC).....	≥ 99.8 %	GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n- tetradecane standard))..... ≤ 3 ng/ml
Identity (IR).....	conforms	Suitable for residue analysis.
Evaporation residue.....	≤ 3.0 mg/l	
Water.....	≤ 0.01 %	

Ord.No.	Packaging	Quantity	Price
1.00795.1000	Glass bottle	1 l	inquire
1.00795.2500	Glass bottle	2.5 l	inquire

**104372 n-Hexane for spectroscopy Uvasol®**

<b>Specification</b>		
Purity (GC).....	≥ 99.0 %	Transmission (at 210 nm)..... ≥ 60 %
Evaporation residue.....	≤ 0.0002 %	Transmission (at 217 nm)..... ≥ 80 %
Water.....	≤ 0.005 %	Transmission (at 225 nm)..... ≥ 90 %
Colour.....	≤ 10 Hazen	Transmission (from 245 nm)..... ≥ 98 %
Acidity.....	≤ 0.0002 meq/g	Absorbance (at 195 nm)..... ≤ 1.00
Alkalinity.....	≤ 0.0002 meq/g	Absorbance (at 210 nm)..... ≤ 0.22
Fluorescence (as quinine at 254 nm).....	≤ 1.0 ppb	Absorbance (at 217 nm)..... ≤ 0.10
Fluorescence (as quinine at 365 nm).....	≤ 1.0 ppb	Absorbance (at 225 nm)..... ≤ 0.05
Transmission (at 195 nm).....	≥ 10 %	Absorbance (from 245 nm)..... ≤ 0.01

Meet the requirements of "Specific use spectroscopy" according Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04372.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.04372.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**104391 n-Hexane for liquid chromatography LiChrosolv®**

<b>Specification</b>		
Purity (GC).....	≥ 98.0 %	Transmission (at 220 nm)..... ≥ 85 %
Identity (IR).....	conforms	Transmission (from 245 nm)..... ≥ 98 %
Evaporation residue.....	≤ 1.0 mg/l	Filtered by 0.2 µm filter
Water.....	≤ 0.01 %	
Acidity.....	≤ 0.0002 meq/g	
Alkalinity.....	≤ 0.0002 meq/g	
Transmission (at 210 nm).....	≥ 50 %	

Ord.No.	Packaging	Quantity	Price
1.04391.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04391.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.04391.4000	Glass bottle	4 l	inquire
1.04391.5000	Alu bottle	5 l	inquire
1.04391.9010	Barrel stainl. st.	10 l	inquire
1.04391.9030	Barrel stainl. st.	30 l	inquire

**104394 n-Hexane for preparative chromatography Prepsolv®**

<b>Specification</b>		
Purity (GC).....	≥ 95.0 %	Acidity..... ≤ 0.0002 meq/g
Identity (IR).....	conforms	Alkalinity..... ≤ 0.0002 meq/g
Evaporation residue.....	≤ 5.0 mg/l	Transmission (at 220 nm)..... ≥ 50 %
Water.....	≤ 0.01 %	Transmission (from 250 nm)..... ≥ 98 %

Ord.No.	Packaging	Quantity	Price
1.04394.9030	Barrel stainl. st.	30 l	inquire

# Hexane

## 104369 n-Hexane for organic trace analysis UniSolv®

### Specification

Purity (GC)..... ≥ 99.0 %  
 Sum of hexane isomers + methylcyclopentane (GC)..... ≥ 99.9 %  
 Identity (IR)..... conforms  
 Evaporation residue..... ≤ 3.0 mg/l  
 Water..... ≤ 0.005 %  
 Colour..... ≤ 10 Hazen  
 GC/ECD (retention range 1,2,4-trichlorobenzene to decachlorobiphenyle, individual signals (lindane standard))..... ≤ 2 pg/ml

GC/ECD (retention range dichloromethane to 1,2,4-trichlorobenzene individual signals (tetrachloromethane))..... ≤ 1 ng/ml  
 GC/FID (retention range n-undecane to n-tetracontane, individual signals (n- tetradecane standard))..... ≤ 2 ng/ml  
 GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n- tetradecane standard))..... ≤ 2 ng/ml  
 Recommended for analysis of polychlorinated

Dibenzodioxins and polychlorinated Dibenzofurans (PCDD/F).

Ord.No.	Packaging	Quantity	Price
1.04369.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04369.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

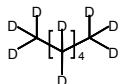
## 109687 n-Hexane reference substance for gas chromatography

### Specification

Assay (GC)..... ≥ 99.7 %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09687.0005	Glass bottle	5 ml	inquire

## 815043 n-Hexane-D14 deuteration degree min. 99% for NMR spectroscopy MagniSolv™



C<sub>6</sub>D<sub>14</sub>

CD<sub>3</sub>-(CD<sub>2</sub>)<sub>4</sub>-CD<sub>3</sub>

■ CAS-No. 21666-38-6  
 ■ Vapour pressure 160 hPa (20 °C)  
 ■ Spec. density 0.767 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 8.1 % (V) ■ Flash point -22 °C  
 ■ Kin. viscosity 0.50 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.0095 g/l (20 °C) ■ M = 100.26 g/mol

■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -94.3 °C ■ Boiling point 69 °C (1013 hPa)  
 ■ Ignition temp. 240 °C DIN 51794  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Reproductive toxicity, Category 2, H361f; Aspiration hazard, Category 1, H304; Specific target organ toxicity - repeated exposure, Category 2, H373; Specific target organ toxicity - single exposure, Category 3, H336; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P301 + P310, P302 + P352, P309 + P310, P331

■ LC50 rat 171.6 mg/l  
 ■ LD50 oral rat 25000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2845 90 10 ■ Disposal 1  
 ■ ADR-RID UN 1208 Hexane, 3, II ■ IMDG-Code UN 1208 HEXANES, 3, II  
 ■ IATA-DGR UN 1208 HEXANES, 3, II

### Specification

Deuteration degree..... ≥ 99 %

Ord.No.	Packaging	Quantity	Price
8.15043.0001	Glass ampoule	1 ml	inquire

iso-Hexane → page 319

1,6-Hexanediamine → 1,6-Diaminohexane page 695

Hexanedinitrile → Adiponitrile page 355

Hexanedioic acid → Adipic acid page 355

Hexanedioic acid dihydrazide → Adipic dihydrazide page 355

Hexanedioic diamide → Adipamide page 355

Hexanedioic bis(2-ethylhexyl ester) → Bis(2-ethylhexyl) adipate page 470

## 804308 1,6-Hexanediol for synthesis



C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>

HO(CH<sub>2</sub>)<sub>6</sub>OH

Hexamethylene glycol

■ CAS-No. 629-11-8 ■ EC-No. 211-074-0  
 ■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 6.6 - 16 % (V) ■ Flash point 147 °C ■ Solub. in H<sub>2</sub>O 5000 g/l (20 °C) ■ M = 118.17 g/mol

■ pH value 7.6 (900 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 39 - 42 °C ■ Bulk density 530 kg/m<sup>3</sup> ■ Boiling point 253 - 260 °C  
 ■ Ignition temp. 320 °C  
 ■ WGK 1  
 ■ LD50 oral rat 3730 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 39 95 ■ Disposal 3

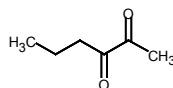
### Specification

Assay (GC, area%)..... ≥ 97,0 Area %

Melting range (lower value)..... ≥ 39 °C  
 Melting range (upper value)..... ≤ 42 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04308.0100	Plastic bottle	100 g	inquire
8.04308.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

## 818732 2,3-Hexanedione for synthesis



C<sub>6</sub>H<sub>10</sub>O<sub>2</sub>

propyl diketone, methylpropylglyoxal

■ CAS-No. 3848-24-6 ■ EC-No. 223-350-8  
 ■ Vapour pressure 13 hPa (20 °C)  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 5.9 % (V) ■ Flash point 28 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 114.15 g/mol

■ pH value 3 - 4 (54 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -30 °C ■ Boiling point 130 °C (1013 hPa) ■ Ignition temp. 245 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 3  
 ■ ADR-RID UN 1224 Ketone, flüssig, n.a.g.(2,3-HEXANDION), 3, III ■ IMDG-Code UN 1224

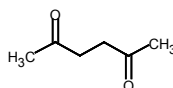
KETONES, LIQUID, N.O.S.(HEXANDIONE-2,3), 3, III  
 ■ IATA-DGR UN 1224 KETONES, LIQUID, N.O.S.(HEXANDIONE-2,3), 3, III

### Specification

Assay (GC, area%)..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.932 - 0.938  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18732.0025	Glass bottle	25 ml	inquire
8.18732.0100	Glass bottle	100 ml	inquire

## 800105 2,5-Hexanedione for synthesis



C<sub>6</sub>H<sub>10</sub>O<sub>2</sub>

CH<sub>3</sub>COCH<sub>2</sub>CH<sub>2</sub>COCH<sub>3</sub>

Acetylacetone

■ CAS-No. 110-13-4 ■ EC-No. 203-738-3  
 ■ Refractive index 1.423 (20 °C, 589 nm) ■ Vapour pressure 0.6 hPa (20 °C) ■ Spec. density 0.974 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 % (V)  
 ■ Flash point 79 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 114.14 g/mol ■ pH value 6.1 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -5.4 °C  
 ■ Boiling point 85 - 87 °C (26.6 hPa)  
 ■ Ignition temp. 400 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P262, P304 + P340, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 1600 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2914 19 90 ■ Disposal 3

■ LD50 oral rat 1600 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2914 19 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,971 - 0,973  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00105.0100	Glass bottle	100 ml	inquire
8.00105.0250	Glass bottle	250 ml	inquire

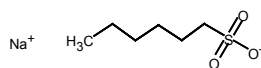
## 107060 Hexanes for analysis EMPARTA® ACS

- C<sub>6</sub>H<sub>14</sub>  
 ■ CAS-No. 110-54-3 ■ EC-No. 203-777-6  
 ■ M = 86.18 g/mol  
 ■ EC-Index-No. 601-037-00-0 ■ Store below

- +30°C.  
 ■ Disposal 1

Ord.No.	Packaging	Quantity	Price
1.07060.1000		1 l	inquire
1.07060.4000		4 l	inquire

## 118305 Hexane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®



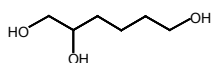
- C<sub>6</sub>H<sub>13</sub>NaO<sub>3</sub>S  
 ■ CAS-No. 2832-45-3 ■ EC-No. 220-601-3  
 ■ M = 188.22 g/mol ■ pH value 5.5 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ WGK 1

- LGK 10 - 13  
 ■ HS-No. 2904 10 00 ■ Disposal 3  
**Specification**  
 Assay (alkalimetric, calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... conforms  
 pH (100 g/l, water) ..... 5.5 - 7.5  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at 200 nm) ..... ≥ 70 %

UV-transmission (0.005 mol/l; 1 cm; Water) (at 220 nm) ..... ≥ 90 %  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at 250 nm) ..... ≥ 98 %  
 Loss on drying (120 °C; 4h; Vacuum) ..... ≤ 2.0 %

Ord.No.	Packaging	Quantity	Price
1.18305.0025	Glass bottle	25 g	inquire

## 841808 1,2,6-Hexanetriol for synthesis



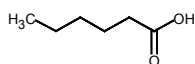
- C<sub>6</sub>H<sub>14</sub>O<sub>3</sub>  
 ■ CAS-No. 106-69-4 ■ EC-No. 203-424-6  
 ■ Vapour pressure 0.01 hPa (20 °C)  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 195 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) soluble ■ M = 134.17 g/mol  
 ■ pH value 4.5 - 7.5 (300 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 25 - 32 °C ■ Boiling point 178 °C (6.5 hPa)  
 ■ WGK 2  
 ■ LD50 oral rat 15500 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2905 49 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 96.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,100 - 1,107  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41808.0050	Glass bottle	50 ml	inquire

## 800198 Hexanoic acid for synthesis



- C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>  
*Caproic acid*  
 ■ CAS-No. 142-62-1 ■ EC-No. 205-550-7  
 ■ Refractive index 1.4162 (20 °C, 589 nm)  
 ■ Vapour pressure 0.3 hPa (20 °C)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 110 °C ■ Solub. in H<sub>2</sub>O 9.7 g/l (20 °C) ■ M = 116.16 g/mol ■ pH value 4 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -3 °C  
 ■ Boiling point 206 °C (1013 hPa)

- Ignition temp. 380 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1906 mg/kg ■ LD50 dermal rabbit 586 mg/kg  
 ■ LGK 6.1 C  
 ■ HS-No. 2915 90 70 ■ Disposal 4  
 ■ ADR-RID UN 2829 Capronsäure, 8, III ■ IMDG-Code UN 2829 CAPROIC ACID, 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2829 CAPROIC ACID, 8, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,926 - 0,927  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00198.0005	Glass bottle	5 ml	inquire
8.00198.0250	Glass bottle	250 ml	inquire
8.00198.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

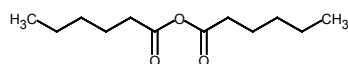
Hexanoic acid allyl ester → Allyl hexanoate page 365

Hexanoic acid methylbutyl ester → 3-Methylbutyl hexanoate page 1140

Hexanoic acid ethyl ester → Ethyl hexanoate page 869

Hexanoic acid methyl ester → Methyl hexanoate page 1154

## 820637 Hexanoic anhydride for synthesis



- C<sub>12</sub>H<sub>22</sub>O<sub>3</sub>  
 [CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>CO]<sub>2</sub>O  
*Caproic anhydride*  
 ■ CAS-No. 2051-49-2 ■ EC-No. 218-121-4  
 ■ Refractive index 1.428 (20 °C, 589 nm)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 % (V) ■ Flash point 130 °C ■ Solub. in H<sub>2</sub>O (20 °C) decomposes ■ M = 214.31 g/mol

- Melting point -40 °C ■ Boiling point 132 °C (13 hPa) ■ Ignition temp. 260 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(HEXANSAEUREANHYDRID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(HEXANOIC ANHYDRIDE),

8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(HEXANOIC ANHYDRIDE), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.927 - 0.929  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20637.0250	Glass bottle	250 ml	inquire

## 804393 1-Hexanol for synthesis



- C<sub>6</sub>H<sub>14</sub>O  
*n-Hexyl alcohol*  
 ■ CAS-No. 111-27-3 ■ EC-No. 203-852-3  
 ■ Refractive index 1.4179 (20 °C, 589 nm)  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 7.7 % (V) ■ Flash point 62 °C ■ Solub. in H<sub>2</sub>O 5.9 g/l (20 °C) ■ M = 102.18 g/mol  
 ■ Melting point -52 °C ■ Boiling point 157 °C (1013 hPa) ■ Ignition temp. 285 °C

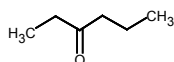
- WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LC50 rat > 21 mg/l  
 ■ LD50 oral rat 200 - 2000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 603-059-00-6 ■ LGK 10  
 ■ HS-No. 2905 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2282 Hexanole, 3, III ■ IMDG-Code UN 2282 HEXANOLS, 3, III  
 ■ IATA-DGR UN 2282 HEXANOLS, 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98 %  
 Density (d 20 °C/ 4 °C) ..... 0.818 - 0.819  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.04393.0100	Plastic bottle	100 ml	inquire
	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.04393.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

# Hexano

## 804533 3-Hexanone for synthesis



C<sub>6</sub>H<sub>12</sub>O  
Ethyl propyl ketone  
■ CAS-No. 589-38-8 ■ EC-No. 209-645-4  
■ Refractive index 1.4002 (20 °C, 589 nm)  
■ Vapour pressure 18 hPa (20 °C) (experimental)  
■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 8 % (V) ■ Flash point 14 °C ■ Solub. in H<sub>2</sub>O 14.7 g/l (25 °C) ■ M = 100.16 g/mol

■ Melting point -55 °C  
■ Boiling point 119 - 121 °C (1011 hPa)  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
■ LD50 oral rat 2738 mg/kg ■ LD50 dermal rabbit 2583 mg/kg  
■ LGK 3  
■ HS-No. 2914 19 90 ■ Disposal 1  
■ ADR-RID UN 1224 Ketone, flüssig, n.a.g.(3-HEXANON), 3, II ■ IMDG-Code UN 1224 KETONES, LIQUID, N.O.S.(3-HEXANONE), 3, II

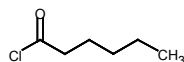
■ IATA-DGR UN 1224 KETONES, LIQUID, N.O.S.(3-HEXANONE), 3, II

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,814 - 0,816  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04533.0050	Glass bottle	50 ml	inquire

Hexanoyl chloride → page 956

## 800191 Hexanoyl chloride for synthesis



C<sub>6</sub>H<sub>11</sub>ClO  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>5</sub>COCl  
Caproyl chloride, Hexanoyl chloride, Caproic acid chloride  
■ CAS-No. 142-61-0 ■ EC-No. 205-549-1  
■ Refractive index 1.4263 (20 °C, 589 nm)  
■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)  
■ Flash point 62 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 134.6 g/mol

■ Melting point -87 °C ■ Boiling point 48 °C (20 hPa)  
■ WGK 1  
■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LGK 8A  
■ HS-No. 2915 90 70 ■ Disposal 11  
■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(HEXANSAEURECHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(CAPROYL CHLORIDE), 8,

II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(CAPROYL CHLORIDE), 8, II

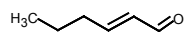
**Specification**  
Assay (morpholine method) ..... ≥ 98,0 % (m)  
Density (d 20 °C/ 4 °C) ..... 0,975 - 0,978  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00191.0100	Glass bottle	100 ml	inquire
8.00191.0250	Glass bottle	250 ml	inquire

1,4,7,10,13,16-Hexaoxacyclooctadecane → Crown ether/18-Crown-6 page 660  
4,7,13,16,21,24-Hexaoxa-1,10-diazabicyclo[8.8.8] hexacosane → Kryptofix® 222 page 1069

1,4,7,14,17,20-Hexaoxa[7.7]orthocyclophane → Crown ether/Dibenzo-18-crown-6 page 661  
2,5,8,15,18,21-Hexaoxatricyclo[20.4.0.09.14] hexacosane → Crown ether/Dicyclohexyl-18-crown-6 page 661

## 818961 trans-2-Hexenal for synthesis



C<sub>6</sub>H<sub>10</sub>O  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>2</sub>CH=CHCHO  
■ CAS-No. 6728-26-3 ■ EC-No. 229-778-1  
■ Refractive index 1.445 (20 °C, 589 nm) ■ Vapour pressure 13 hPa (20 °C) ■ Spec. density 0.846 g/cm<sup>3</sup> (20 °C) ■ Flash point 35 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 98.14 g/mol  
■ Boiling point 146 °C (1013 hPa)  
■ WGK 2

■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302, P210, P280, P302 + P352, P309 + P310  
■ LD50 oral rat 780 mg/kg ■ LD50 dermal rabbit 600 mg/kg  
■ LGK 3  
■ HS-No. 2912 19 00 ■ Disposal 3  
■ ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(TRANS-2-HEXENAL), 3 (6.1), III  
■ IMDG-Code UN 1992 FLAMMABLE LIQUID,

TOXIC, N.O.S.(TRANS-2-HEXENAL), 3 (6.1), III  
■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(TRANS-2-HEXENAL), 3 (6.1), III

**Specification**  
Assay (GC, area%) ..... ≥ 96,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,845 - 0,847  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18961.0050	Glass bottle	50 ml	inquire

## 814341 5-Hexen-1-ol for synthesis



C<sub>6</sub>H<sub>12</sub>O  
CH<sub>2</sub>=CH(CH<sub>2</sub>)<sub>4</sub>OH  
■ CAS-No. 821-41-0 ■ EC-No. 212-477-4  
■ Refractive index 1.436 (25 °C, 589 nm) ■ Vapour pressure 1.0 hPa (20 °C) ■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Flash point 59 °C ■ Solub. in H<sub>2</sub>O 18.6 g/l (20 °C) ■ M = 100.16 g/mol  
■ pH value 7 (H<sub>2</sub>O) ■ Melting point < -20 °C  
■ Boiling point 152 - 155 °C

■ Ignition temp. 275 °C  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 3  
■ HS-No. 2905 29 90 ■ Disposal 1  
■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(5-HEXEN-1-OL), 8 (3), II  
■ IMDG-Code UN 2920 CORROSIVE LIQUID,

FLAMMABLE, N.O.S.(5-HEXEN-1-OL), 8 (3), II  
■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(5-HEXEN-1-OL), 8 (3), II

**Specification**  
Assay (GC, area%) ..... ≥ 90,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,844 - 0,845  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14341.0025	Glass bottle	25 ml	inquire

## 820642 cis-3-Hexen-1-ol for synthesis



C<sub>6</sub>H<sub>12</sub>O  
CH<sub>3</sub>CH<sub>2</sub>CH=CHCH<sub>2</sub>CH<sub>2</sub>OH  
■ CAS-No. 928-96-1 ■ EC-No. 213-192-8  
■ Refractive index 1.4395 (20 °C, 589 nm)  
■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C)  
■ Flash point 44 °C (External MSDS) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 100.16 g/mol  
■ Boiling point 156 - 157 °C (1013 hPa)

■ WGK 1  
■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
■ LD50 oral rat 4700 mg/kg ■ LD50 dermal rat > 5000 mg/kg  
■ LGK 3  
■ HS-No. 2905 29 90 ■ Disposal 3  
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(CIS-3-HEXEN-1-OL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-HEXEN-1-OLE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-HEXEN-1-OLE), 3, III

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,848 - 0,850  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20642.0025	Glass bottle	25 ml	inquire



## 818674 trans-2-Hexen-1-ol for synthesis

C<sub>6</sub>H<sub>12</sub>OCH<sub>3</sub>(CH<sub>2</sub>)<sub>2</sub>CH=CHCH<sub>2</sub>OH*(E)*-2-Hexen-1-ol

- CAS-No. 928-95-0 ■ EC-No. 213-191-2
- Refractive index 1.4343 (20 °C, 589 nm)
- Vapour pressure 6.3 hPa (20 °C)
- Spec. density 0.84 g/cm<sup>3</sup> (20 °C)
- Flash point 54 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 100.16 g/mol

- Boiling point 158 - 160 °C (1013 hPa)
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LD50 oral rat 3500 mg/kg ■ LD50 dermal rabbit 4500 mg/kg
- LGK 3
- HS-No. 2905 29 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TRANS-2-HEXEN-1-OL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(TRANS-2-HEXEN-1-OL), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,  
 N.O.S.(TRANS-2-HEXEN-1-OL), 3, III

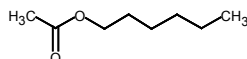
**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.842 - 0.844  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18674.0025	Glass bottle	25 ml	inquire

(E)-2-Hexen-1-ol → trans-2-Hexen-1-ol page 957

## 820555 Hexyl acetate for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>

Acetic acid hexyl ester

- CAS-No. 142-92-7 ■ EC-No. 205-572-7
- Refractive index 1.409 (20 °C, 589 nm) ■ Vapour pressure 5 hPa (20 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Flash point 56 °C ■ Solub. in H<sub>2</sub>O 0.4 g/l (20 °C) ■ M = 144.21 g/mol ■ Melting point - 80 °C ■ Boiling point 171.5 °C (1013 hPa)

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 2, H411, P210, P273
- LD50 oral rat 36100 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- EC-Index-No. 607-462-00-8 ■ LGK 3
- HS-No. 2915 39 00 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(HEXYLACETAT), 3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(HEXYL ACETATE), 3, III
- IATA-DGR UN 3272 ESTERS, N.O.S.(HEXYL

ACETATE), 3, III

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.872 - 0.874  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20555.0100	Glass bottle	100 ml	inquire
8.20555.0500	Glass bottle	500 ml	inquire

n-Hexylacetylene → 1-Octyne page 1244

n-Hexyl alcohol → 1-Hexanol page 304

Hexylaldehyde → Hexanal page 952

## 804326 Hexylamine for synthesis

C<sub>6</sub>H<sub>15</sub>N

1-Aminohexane

- CAS-No. 111-26-2 ■ EC-No. 203-851-8
- Refractive index 1.418 (20 °C, 589 nm) ■ Vapour pressure 10.6 hPa (20 °C) ■ Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 - 9.3 % (V)
- Flash point 27 °C ■ Kin. viscosity 1.07 mm<sup>2</sup>/s (23 °C) ■ Solub. in H<sub>2</sub>O 14 g/l (20 °C)
- M = 101.19 g/mol ■ pH value 11.6 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -19 °C
- Boiling point 130 - 132 °C (1013 hPa)
- Ignition temp. 270 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 240 mg/kg
- LGK 3
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(HEXYLAMIN), 8 (3), I ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE,

FLAMMABLE, N.O.S.(HEXYLAMINE), 8 (3), I,  
 Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2734 AMINES, LIQUID,  
 CORROSIVE, FLAMMABLE, N.O.S.(HEXYLAMINE), 8 (3), I

**Specification**

Assay (GC, area%)..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,764 - 0,765  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04326.0100	Glass bottle	100 ml	inquire
8.04326.0500	Glass bottle	500 ml	inquire

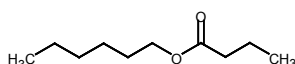
n-Hexylbenzene → 1-Phenylhexane page 1306

2-Hexyl bromide → Bromohexane page 502

Hexyl bromide → 1-Bromohexane page 502

Hexyl butanoate → Hexyl butyrate page 957

## 814992 Hexyl butyrate for synthesis

C<sub>10</sub>H<sub>20</sub>O<sub>2</sub>

Butyric acid hexyl ester, Hexyl butanoate

- CAS-No. 2639-63-6 ■ EC-No. 220-136-6
- Spec. density 0.865 g/cm<sup>3</sup> (20 °C)

- Flash point 83 °C ■ M = 172.27 g/mol
- Melting point -78 °C ■ Boiling point 208 °C
- WGK 2
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10
- HS-No. 2915 60 19 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,862 - 0,867  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14992.0250	Glass bottle	250 ml	inquire

Hexyl chloride → 1-Chlorohexane page 615

n-Hexylhydride → page 318

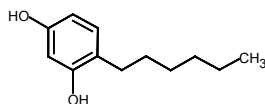
Hexylene glycol → 2-Methyl-2,4-pentanediol page 1167

Hexyl methyl carbinol → 2-Octanol page 307

Hexyl methyl ketone → 2-Octanone page 1242

2-(2-n-Hexyloxyethoxy)ethanol → Diethylene glycol mono-n-hexyl ether page 301

## 820647 4-Hexylresorcinol for synthesis

C<sub>12</sub>H<sub>18</sub>O<sub>2</sub>4-[CH<sub>2</sub>(CH<sub>2</sub>)<sub>5</sub>]C<sub>6</sub>H<sub>3</sub>-1,3-(OH)<sub>2</sub>

1,3-Dihydroxy-4-hexylbenzene

- CAS-No. 136-77-6 ■ EC-No. 205-257-4
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l

- (20 °C) ■ M = 194.27 g/mol ■ pH value 7.7 (0.5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 64 - 67 °C
- Bulk density 340 kg/m<sup>3</sup>
- Boiling point 333 - 335 °C (1013 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338
- LD50 oral rat 550 mg/kg

- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

**Specification**

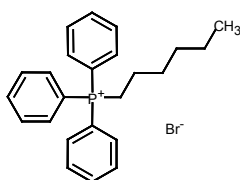
Assay (GC, area%)..... ≥ 97.0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20647.0025	Glass bottle	25 g	inquire
8.20647.0100	Glass bottle	100 g	inquire





## 842007 Hexyltriphenylphosphonium bromide for synthesis

C<sub>24</sub>H<sub>28</sub>BrP

- CAS-No. 4762-26-9
- EC-No. 225-301-6

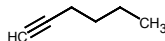
- Solub. in H<sub>2</sub>O 174 g/l (20 °C)
- M = 427.37 g/mol
- Melting point 198 - 203 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2931 90 90
- Disposal 3

## Specification

Assay (argentometric)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 198 °C  
 Melting range (upper value)..... ≤ 203 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42007.0025	Glass bottle	25 g	inquire

## 820643 1-Hexyne for synthesis

C<sub>6</sub>H<sub>10</sub>

- CAS-No. 693-02-7
- EC-No. 211-736-9
- Refractive index 1.3974 (20 °C, 589 nm)
- Vapour pressure 3535 kPa
- Spec. density 0.72 g/cm<sup>3</sup> (20 °C)
- Flash point - 20 °C
- Solub. in H<sub>2</sub>O 0.36 g/l (25 °C) (experimental)
- M = 82.14 g/mol
- Melting point -132 °C
- Boiling point 71 - 72 °C

(1013 hPa) ■ Ignition temp. 263 °C

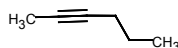
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233
- LGK 3
- Store at +2°C to +8°C.
- HS-No. 2901 29 00
- Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-HEXIN), 3, II
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-HEXYNE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-HEXYNE), 3, II

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.715 - 0.720  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20643.0025	Glass bottle	25 ml	inquire
8.20643.0100	Glass bottle	100 ml	inquire

## 820644 2-Hexyne for synthesis

C<sub>6</sub>H<sub>10</sub>

Methyl propyl acetylene

- CAS-No. 764-35-2
- EC-No. 212-117-6
- Spec. density 0.74 g/cm<sup>3</sup> (20 °C)
- Flash point - 10 °C
- Solub. in H<sub>2</sub>O (20 °C) insoluble
- M = 82.15 g/mol
- Melting point -89 °C
- Boiling point 85 °C (1013 hPa)

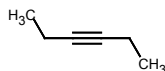
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210
- LGK 3
- Store at +2°C to +8°C.
- HS-No. 2901 29 00
- Disposal 1
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-HEXIN), 3, II
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-HEXYNE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-HEXYNE), 3, II

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.732 - 0.736  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20644.0010	Glass bottle	10 ml	inquire

## 820645 3-Hexyne for synthesis

C<sub>6</sub>H<sub>10</sub>

- CAS-No. 928-49-4
- EC-No. 213-173-4
- Vapour pressure 248 hPa (37.7 °C)
- Spec. density 0.72 g/cm<sup>3</sup> (20 °C)
- Flash point - 14 °C
- Solub. in H<sub>2</sub>O 0.559 g/l (25 °C)
- M = 82.15 g/mol
- Boiling point 81 - 82 °C
- WGK 1

- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P223, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- Store at +2°C to +8°C.
- HS-No. 2901 29 00
- Disposal 1
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-HEXIN), 3, II
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-HEXYNE), 3, II

- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-HEXYNE), 3, II

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.723 - 0.724  
 Identity (IR)..... passes test

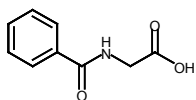
Ord.No.	Packaging	Quantity	Price
8.20645.0010	Glass bottle	10 ml	inquire

H-Gln(Trt)-HMPB NovaPEG resin → page 278  
 H-Gln(Trt)-OH → page 250  
 H-Gln(Trt)-Sulfamylbutyryl NovaSyn® TG resin → page 262  
 H-Glu-OBzl → page 249  
 H-D-Glu(OBzl)-OH → page 249  
 H-Glu(OBzl)-OH → page 249  
 H-Glu(OtBu)-2-CITrt resin → page 272  
 H-Glu(OtBu)-HMPB NovaPEG resin → page 278  
 H-D-Glu(OtBu)-OH → page 249  
 H-Glu(OtBu)-OH → page 249  
 H-Glu(OtBu)-OMe . HCl → page 250  
 H-Glu(OtBu)-OtBu . HCl → page 250  
 H-Glu-OTMSet → page 249  
 H-Gly-2-CITrt resin → page 272  
 H-Gly-HMPB NovaPEG resin → page 278

H-Gly-NHMe . HCl → page 250  
 H-Gly-OBzl . p-tosylate → page 250  
 H-Gly-OMe . HCl → page 250  
 H-Gly-OtBu . AcOH → page 250  
 H-Gly-Sulfamylbutyryl NovaSyn® TG resin → page 262  
 H-His(Trt)-2-CITrt resin → page 272  
 H-His(Trt)-HMPB NovaPEG resin → page 278  
 H-His(Trt)-OH → page 250  
 H-His(Trt)-Trityl NovaPEG resin → page 278  
 H-Hse-OH → page 250  
 H-Hyp-OH → page 250  
 H-Hyp-OMe . HCl → page 251  
 H-Hyp(tBu)-OH → page 251  
 Hibar® 30-4 → page 28  
 Hibar® 100-4,6 → page 28

Hibar® 125-4 → page 28  
 Hibar® 125-4,6 → page 29  
 Hibar® 150-4,6 → page 29  
 Hibar® 250-3 → page 29  
 Hibar® 250-4 → page 29  
 Hibar® 250-4,6 → page 30  
 Hibar® 250-10 → page 30  
 Hibar® pre-packed column → Chromatography, LiChrosorb®, LiChrospher® and Chromatography columns basic outfit/accessories  
 High-performance thin-layer chromatography → page 10  
 High-purity reagents → Suprapur®  
 H-Ile-2-CITrt resin → page 272  
 H-Ile-HMPB NovaPEG resin → page 278  
 H-Ile-OMe . HCl → page 251  
 H-Ile-OtBu . HCl → page 251  
 H-Ile-Sulfamylbutyryl NovaSyn® TG resin → page 262

## 820649 Hippuric acid for synthesis

C<sub>9</sub>H<sub>9</sub>NO<sub>3</sub>

Benzamidoacetic

acid, Benzoylglycine, Benzoylaminoacetic acid

■ CAS-No. 495-69-2 ■ EC-No. 207-806-3

- Solub. in H<sub>2</sub>O 3.26 g/l (20 °C) ■ M = 179.17 g/mol
- pH value 2.5 - 3.5 (10 g/l, H<sub>2</sub>O, 20 °C) (slurry) ■ Melting point 188 - 190 °C
- Bulk density 630 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 4

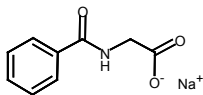
**Specification**

Assay (acidimetric)..... ≥ 98.0 %

Melting range (lower value)..... ≥ 187 °C  
 Melting range (upper value)..... ≤ 192 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20649.0100	Plastic bottle	100 g	inquire
8.20649.0500	Plastic bottle	500 g	inquire

## 820648 Hippuric acid sodium salt for synthesis

C<sub>9</sub>H<sub>8</sub>NNaO<sub>3</sub>C<sub>6</sub>H<sub>5</sub>CONHCH<sub>2</sub>COONa

Sodium hippurate, N-Benzoylglycine sodium salt

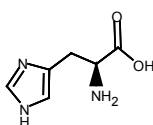
- CAS-No. 532-94-5 ■ EC-No. 208-548-4
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 201.16 g/mol
- Bulk density 600 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>, calc. on anhydrous substance).....

..... ≥ 99.0 %  
 Water (K. F.)..... ≤ 4.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20648.0025	Plastic bottle	25 g	inquire
8.20648.0100	Plastic bottle	100 g	inquire

## 104351 L-Histidine for biochemistry

C<sub>6</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub>

His

■ CAS-No. 71-00-1 ■ EC-No. 200-745-3

■ Solub. in H<sub>2</sub>O 38.2 g/l (20 °C) ■ M = 155.16 g/mol■ pH value 7.7 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 272 - 273 °C (decomposition)

■ Bulk density 430 kg/m<sup>3</sup>

■ WGK 1

■ LD50 oral rat &gt; 5110 mg/kg

■ LGK 10 - 13

■ HS-No. 2933 29 90

Soluble in water and mineral acids

**Specification**

Assay (acidimetric, calculated on dried substance).....

..... ≥ 99.0 %

Identity (IR-spectrum)..... passes test

Appearance white to almost white, fine-crystalline powder or colorless crystals

Appearance of solution (0.5 mol/l, hydrochloric acid 1 mol/l).....

..... clear and colorless

Spec. rotation

(α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance).....

..... +10.5 to +11.5°

Chloride (Cl)..... ≤ 0.02 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %

Heavy metals (as Pb)..... ≤ 0.001 %

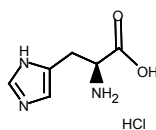
As (Arsenic)..... ≤ 0.0005 %

Ca (Calcium)..... ≤ 0.001 %

Co (Cobalt)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.0005 %  
 Mg (Magnesium)..... ≤ 0.0005 %  
 Na (Sodium)..... ≤ 0.005 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %  
 Zn (Zinc)..... ≤ 0.0005 %  
 Foreign amino acids..... ≤ 0.3 %  
 Other ninhydrine positive substances..... ≤ 0.1 %  
 Loss on drying (105 °C; 3 h)..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.04351.0025	Glass bottle	25 g	inquire
1.04351.0100	Glass bottle	100 g	inquire
1.04351.1000	Glass bottle	1 kg	inquire
1.04351.9010	Plastic drum	10 kg	inquire

## 816005 (S)-(+)-Histidine hydrochloride monohydrate for synthesis

C<sub>6</sub>H<sub>10</sub>ClN<sub>3</sub>O<sub>2</sub> \* H<sub>2</sub>O

His

■ CAS-No. 5934-29-2 ■ EC-No. 211-438-9

■ Solub. in H<sub>2</sub>O 169.9 g/l (20 °C) ■ M = 209.63 g/mol■ pH value 3.5 - 4.5 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 259 °C (decomposition)

■ Bulk density 770 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2933 29 90 ■ Disposal 3

**Specification**

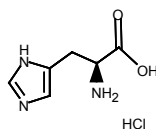
Assay (argentometric)..... ≥ 99.0 % (m)

Spec. rotation [α<sup>20</sup>/D (c=11 in HCl 6 mol/l).....  
 ..... 8.5 - 9.5 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16005.0025	Plastic bottle	25 g	inquire
8.16005.0100	Plastic bottle	100 g	inquire

L-Histidine methyl ester dihydrochloride → L-Methyl histidinate dihydrochloride page 1155

## 104350 L-Histidine monohydrochloride monohydrate for biochemistry

C<sub>6</sub>H<sub>10</sub>ClN<sub>3</sub>O<sub>2</sub> \* H<sub>2</sub>O

His

■ CAS-No. 5934-29-2 ■ EC-No. 211-438-9

■ Solub. in H<sub>2</sub>O 169.9 g/l (20 °C) ■ M = 209.63 g/mol■ pH value 3.5 - 4.5 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 259 °C (decomposition)

■ Bulk density 770 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2933 29 90 ■ Disposal 3

Soluble in water and mineral acids; insoluble in organic solvents.

**Specification**

Assay (alcalimetric, calculated on anhydrous substance).....

..... ≥ 99.0 %

Identity (IR-spectrum)..... passes test

Appearance..... white to almost white crystalline powder or colorless crystals

Appearance of solution (0.5 mol/l, water)..... clear and colorless

Spec. rotation

(α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance).....

..... +8.5 to +10.5°

UV-Absorption (260 nm; 0.5 mol/l; 1 cm; water).....

..... ≤ 0.05

UV-Absorption (280 nm; 0.5 mol/l; 1 cm; water).....

..... ≤ 0.05

Sulfate (SO<sub>4</sub>)..... ≤ 0.01 %

Heavy metals (as Pb)..... ≤ 0.001 %

As (Arsenic)..... ≤ 0.0005 %

Ca (Calcium)..... ≤ 0.001 %  
 Co (Cobalt)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.0005 %  
 Mg (Magnesium)..... ≤ 0.0005 %  
 Na (Sodium)..... ≤ 0.005 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %  
 Zn (Zinc)..... ≤ 0.0005 %  
 Foreign amino acids..... ≤ 0.3 %  
 Other ninhydrine positive substances..... ≤ 0.1 %  
 Water (according to Karl Fischer)..... 8.0 - 9.0 %

Ord.No.	Packaging	Quantity	Price
1.04350.0025	Plastic bottle	25 g	inquire
1.04350.0100	Plastic bottle	100 g	inquire
1.04350.0500	Plastic bottle	500 g	inquire
1.04350.9010	Plastic drum	10 kg	inquire

## Histology Staining

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
201	101647	Alcian blue solution	196	105174	Hematoxylin solution modified acc. to Gill III	190	102419	Oil red O color solution
202	101641	Congo Red staining kit				186	101736	OSTEOMOLL®
203	102924	DAB-buffer tablets	187	111609	Histosec® pastilles	186	101728	OSTEOSOFT®
202	107907	DNA staining kit according to Feulgen	187	115161	Histosec® pastilles (without DMSO)	187	107164	Paraffin pastilles
204	100579	DPX new	188	104699	Immersion oil	202	101646	PAS staining kit
202	115974	Elastica van Gieson staining kit	188	115577	Immersion oil acc. to ISO 8036	1278	100524	Periodic acid
201	100591	ELASTIN color solution acc. to Weigert	203	100425	ISOSLIDE® Alcian blue	201	100199	Picrofuchsin solution acc. to van Gieson
187	107960	Entellan®	203	100380	ISOSLIDE® Iron	202	100251	Reticulin silver plating kit acc. to Gordon & Sweets
188	107961	Entellan® new	203	100408	ISOSLIDE® PAS	201	109033	Schiff's reagent
188	100869	Entellan® new for cover slipper	203	100361	ISOSLIDE® Reticulin	202	100362	Silver plating kit acc. to von Kossa
201	102439	Eosin Y-solution 0.5% alcoholic	202	100485	Masson-Goldner staining kit	193	100497	Tb-color modified
201	109844	Eosin Y-solution 0.5% aqueous	201	109249	Mayer's hemalum solution	193	116450	Tb-color staining kit
189	117081	Eosin Y solution 1%, alcoholic	188	103973	Merckoglas®	193	109093	TB-fluor
194	109204	Giemsa's azur eosin methylene blue solution	202	100820	Methenamine silver plating kit acc. to Gomori	203	102414	Warthin-Starry silver plating kit modified
197	109843	Neo-Clear®	188	109016	Neo-Mount®	203	115973	Weigert's iron hematoxylin kit
198	112084	HEMATOGNOST Fe®	201	100121	Nuclear fast red-aluminum sulfate solution 0.1%			
196	105175	Hematoxylin solution modified acc. to Gill II						

Histosec® → page 187

Histosec® pastilles → page 187

Histosec® pastilles (without DMSO) → page 187

H-Leu-2-CITrt resin → page 272

H-Leu-HMPB NovaPEG resin → page 278

H-Leu-H NovaSyn® TG resin → page 263

H-Leu-OBzl . p-tosylate → page 251

H-D-Leu-OMe . HCL → page 251

H-Leu-OMe . HCl → page 251

H-Leu-OtBu . HCl → page 251

H-Leu-Sulfamylbutyryl NovaSyn® TG resin → page 262

H-Lys(Ac)-OH → page 251

H-Lys(Boc)-2-CITrt resin → page 272

H-Lys(Boc)-HMPB NovaPEG resin → page 278

H-D-Lys(Boc)-OH → page 251

H-Lys(Boc)-OH → page 251

H-Lys(Boc)-OMe . HCl → page 251

H-Lys(Boc)-OtBu . HCl → page 251

H-Lys(Boc)-Sulfamylbutyryl NovaSyn® TG resin → page 262

H-Lys(Fmoc)-OMe . HCl → page 251

H-Lys(Tfa)-OH → page 251

H-Lys(Z)-NH<sub>2</sub> . HCl → page 251

H-Lys(Z)-OBzl . HCl → page 251

H-Lys(Z)-OH → page 251

H-Lys(Z)-OMe . HCl → page 252

H-Lys(Z)-OtBu . HCL → page 252

HMBA → page 279

HMBA-AM resin → page 265

HMBA-NovaGel™ → page 270

HMBA-PEGA resin → page 265

HMDS → page 44

H-Met-2-CITrt resin → page 272

H-Met-HMPB NovaPEG resin → page 278

H-D-Met-OMe . HCl → page 252

H-Met-OMe . HCl → page 252

HMPA → page 279

HMPA-NovaGel™ → page 270

HMPA-PEGA resin → page 264

HMPA SpheriTime™ resin → page 264

HMPB → page 279

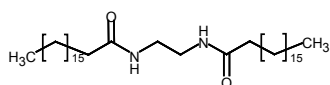
HMPB-MBHA resin → page 265

H-Nle-OH → page 252

H-Nva-OH → page 252

HOBt-6-carboxamidomethyl polystyrene → page 283

## 109014 Hoechst wax C micropowder tableting aid for X-ray fluorescence analysis



C<sub>38</sub>H<sub>76</sub>N<sub>2</sub>O<sub>2</sub>

■ CAS-No. 110-30-5 ■ EC-No. 203-755-6

■ Spec. density 1 g/cm<sup>3</sup> (20 °C)

■ Flash point 270 °C DIN 51758 ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 593.03 g/mol

■ pH value (H<sub>2</sub>O, 20 °C) not applicable

■ Melting point 141 °C ■ Bulk density 210 kg/m<sup>3</sup>

■ WGK 1

■ LD50 oral rat > 20000 mg/kg

■ LGK 10 - 13

■ HS-No. 3404 90 00 ■ Disposal 3

### Specification

Bi (Bismuth)..... ≤ 10 µg/g

Co (Cobalt)..... ≤ 5 µg/g

Cr (Chromium)..... ≤ 5 µg/g

Cu (Copper)..... ≤ 5 µg/g

Fe (Iron)..... ≤ 5 µg/g

Mn (Manganese)..... ≤ 5 µg/g

Ni (Nickel)..... ≤ 5 µg/g

Pb (Lead)..... ≤ 10 µg/g

Sr (Strontium)..... ≤ 5 µg/g

Tl (Thallium)..... ≤ 10 µg/g

Zn (Zinc)..... ≤ 5 µg/g

Ord.No.	Packaging	Quantity	Price
1.09014.1000	Plastic bottle	1 kg	inquire

## 112469 Holmium(III) oxide LAB

Ho<sub>2</sub>O<sub>3</sub>

■ CAS-No. 12055-62-8 ■ EC-No. 235-015-3

■ M = 377.86 g/mol

■ WGK nwg

■ HS-No. 2846 90 00 ■ Disposal 27

### Specification

Identity (elemental analysis)..... conforms

Assay (calculated on calcined substance).....

..... ≥ 99,5 %(m)

Loss on ignition (800 °C)..... ≤ 2,0 %(m)

Ord.No.	Packaging	Quantity	Price
1.12469.0002	Glass bottle	2 g	inquire
1.12469.0005	Glass bottle	5 g	inquire

## 108159 Holmium perchlorate standard solution for the calibration of spectrophotometers

■ Spec. density 1.136 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble

■ WGK 1

■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 5.1 B

■ HS-No. 3822 00 00 ■ Disposal 22

■ ADR-RID UN 1802 Perchlorsäure, 8 (5.1), II

■ IMDG-Code UN 1802 PERCHLORIC ACID, 8 (5.1),

II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1802 PERCHLORIC ACID, 8 (5.1), II

### Specification

λ max. The principal absorption bands (2nm slit, 30 nm/min. scan speed) of this solution are at the following wavelengths:

241.1 ± 0.4 nm

278.0 ± 0.4 nm

287.5 ± 0.4 nm

361.2 ± 0.4 nm

416.6 ± 0.4 nm

451.3 ± 0.4 nm

485.3 ± 0.4 nm

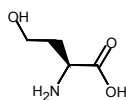
537.0 ± 0.4 nm

640.8 ± 0.4 nm

Ord.No.	Packaging	Quantity	Price
1.08159.0100	Glass bottle	100 ml	inquire

Homidium bromide → page 844	Homomenthol → 3,3,5-Trimethylcyclohexanol page 1603
Homo-p-anisic acid → 4-Methoxyphenylacetic acid page 1123	Homopyrocatechol → 4-Methylpyrocatechol page 1177

### 814359 L(-)-Homoserine for synthesis



- Solub. in H<sub>2</sub>O 1100 g/l (30 °C)
- M = 119.12 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2922 50 00

Melting range (lower value).....≥ 190 °C  
 Melting range (upper value).....≤ 195 °C  
 Spec. rotation [α<sup>20</sup>/D (c=2 in water).....-9,0 - -8,0 °  
 Identity (IR).....conforms

C<sub>4</sub>H<sub>9</sub>NO<sub>3</sub>

- CAS-No. 672-15-1 ■ EC-No. 211-590-6

#### Specification

Assay (HClO<sub>4</sub>).....≥ 98,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.14359.0001	Glass bottle	1 g	inquire

Homoveratric acid → 3,4-Dimethoxyphenylacetic acid page 772

Homoveratrylamine → 2-(3,4-Dimethoxyphenyl)ethylamine page 772

Hood wall duct → page 327

H-D-Orn(Boc)-OH → page 252

H-Orn(Boc)-OH → page 252

Horne's compound → Lead(II) hydroxide acetate page 1075

### 188075 Hose connection for Titripac (Length 80 cm) inclusive adapter Titripur®

- LGK 10 - 13
- HS-No. 3917 39 00

Ord.No.	Packaging	Quantity	Price
1.88075.0001	Fibre carton	1 unit	inquire

HOSu → page 279

Hotel, restaurants, cafeterias → Hygiene monitoring

H-Pen-OH → page 253

H-Phe(4-Cl)-OH → page 253

H-D-Phe(4-Cl)-OH → page 253

H-Phe-2-ClTrt resin → page 272

H-Phe-HMPB NovaPEG resin → page 278

H-Phe-H NovaSyn® TG resin → page 263

H-Phe-NH<sub>2</sub> . HCl → page 253

H-Phe-OBzl . HCl → page 253

H-D-Phe-OMe . HCl → page 253

H-Phe-OMe . HCl → page 253

H-D-Phe-OtBu . HCl → page 253

H-Phe-OtBu . HCl → page 253

H-Phe-Sulfamylbutyryl NovaSyn® TG resin → page 262

H-Phg-OMe . HCl → page 253

H-Phg-OtBu . HCl → page 253

HPLC/prep. LC → page 190

HPLC bottle adapter S40 with 3 tube connections and 1 connection for exhaust air filter, solvents disposal → page 327

HPLC-bottle adapter with 3 tube connections ID 3.2 mm, solvents supply by Merck- bottles → page 327

### HPLC cartridges LiChroCART®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
28	150181	Hibar® 125-4	22	150799	Purospher® RP-18 endcapped (5 µm) LiChroCART® 125-3	17	150791	Superspher® 60 RP-select B LiChroCART® 125-3
21	150155	LiChrospher® 60 RP-select (5 µm) LiChroCART® 250-3	22	150168	Purospher® RP-18 endcapped (5 µm) LiChroCART® 125-4	17	151288	Superspher® 60 RP-select B LiChroCART® 250-3
21	150158	LiChrospher® 60 RP-Select B (5 µm) LiChroCART® 125-3	22	151384	Purospher® RP-18 endcapped (5 µm) LiChroCART® 250-3	17	150792	Superspher® 100 RP-18 LiChroCART® 125-3
21	150840	LiChrospher® Si 60 (10 µm) LiChroCART® 250-4	22	150169	Purospher® RP-18 endcapped (5 µm) LiChroCART® 250-4	17	151299	Superspher® 100 RP-18 LiChroCART® 250-3
22	150798	Purospher® RP-18 endcapped (5 µm) LiChroCART® 125-3	22	150167	Purospher® RP-18 endcapped (5µm) LiChroCART® 4-4	17	116009	Superspher® Si 60 LiChroCART® 250-4

### HPLC columns Hibar® RT

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
21	150316	LiChrospher® Si 100 (5 µm) Hibar® RT 250-4						

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 H-Pro-2-CITrt resin → page 272  
 H-D-Pro-NH<sub>2</sub> → page 253  
 H-Pro-NH<sub>2</sub> → page 253  
 H-Pro-OBzl . HCl → page 253  
 H-Pro-OMe . HCl → page 253  
 H-D-Pro-OMe . HCl → page 253  
 H-D-Pro-OtBu . HCl → page 253  
 H-Pro-OtBu . HCl → page 253  
 H-Pro-Trityl-NovaPEG resin → page 278  
 HPTLC → page 11  
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 HPTLC LiChrospher® Silica gel 60 F<sub>254S</sub> → page 11  
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 HPTLC Silica gel 60 F<sub>254</sub> Premium Purity → page 13  
 HPTLC Silica gel 60 F<sub>254</sub> with concentrating zone 5 x 2.5 cm → page 13  
 HPTLC Silica gel 60 F<sub>254</sub> with concentrating zone 10 x 2.5 cm → page 13  
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 HPTLC Silica gel 60 F<sub>254S</sub> → page 11  
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HPTLC Silica gel 60 NH<sub>2</sub> F<sub>254S</sub> → page 12  
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 H-Ser(tBu)-OMe . HCl → page 254  
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 H-D-Ser(tBu)-OtBu . HCl → page 254  
 H-Thr(Bzl)-OH → page 254

H-Thr-Gly-NovaSyn® TG resin → page 263  
 H-Thr-OBzl . oxalate → page 254  
 H-Thr-OMe . HCl → page 254  
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 H-Tyr(Bzl)-OH → page 255  
 H-Tyr(Bzl)-OMe . HCl → page 255  
 H-Tyr-OtBu → page 255  
 H-Tyr(OtBu)-HMPB NovaPEG resin → page 278  
 H-Tyr(tBu)-2-CITrt resin → page 272  
 H-D-Tyr(tBu)-OH → page 255  
 H-Tyr(tBu)-OH → page 255  
 H-Tyr(tBu)-OMe . HCl → page 255  
 H-Tyr(tBu)-OtBu . HCl → page 255  
 H-Val-2-CITrt resin → page 272  
 H-Val-HMPB NovaPEG resin → page 278  
 H-Val-H NovaSyn TG resin → page 263  
 H-Val-OMe . HCl → page 255  
 H-Val-OtBu . HCl → page 255  
 H-Val-Sulfamylbutyryl NovaSyn® TG resin → page 262

## 115480 Hyamine® 1622-solution for the determination of anionic tensides 0.004 mol/l Titripur®

*N-Benzyl-N,N-dimethyl-N-[4-(1.1.3.3-tetramethylbutyl)-phenoxyethoxyethyl]ammonium chloride*

- Spec. density 1.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9 - 10 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 28

### Specification

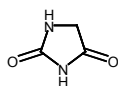
Amount-of-substance concentration .....

.....0.004000 mol/l  
 The molar concentration of this volumetric solution is standardized against sodium dodecyl sulfate (catalog no. 1.12533). The determined titer is 1.000 at 20°C with a measurement uncertainty of ± 0.001. This titer is specific for the method, equipment and conditions of the titration laboratory of the Merck KGaA in Darmstadt. Note: The titer is a correction factor to correct variations of the volumetric solution, the titration

equipment, the temperature and other laboratory conditions. For exact titration results it is recommended to determine a titer with the laboratory specific equipment

Ord.No.	Packaging	Quantity	Price
1.15480.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 804511 Hydantoin for synthesis



C<sub>3</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>  
 2,4-(3H,5H)-Imidazolidione  
 ■ CAS-No. 461-72-3 ■ EC-No. 207-313-3

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 100.08 g/mol ■ Melting point 219 - 222 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 21 00 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 219 °C

Melting range (upper value) ..... ≤ 223 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04511.0100	Plastic bottle	100 g	inquire
8.04511.0500	Plastic bottle	500 g	inquire

HydraLinK 6-Boc-HNA Reagent → page 261  
 HydraLinK 6-Fmoc-HNA Reagent → page 261  
 HydraLinK SFB Reagent → page 262  
 HydraLinK SHNH Reagent → page 262  
 HydraLinK SHTH Reagent → page 262

Hydrargillite → Aluminium hydroxide page 369  
 Hydratropaldehyde → 2-Phenylpropionaldehyde page 1311  
 Hydratropic acid → 2-Phenylpropionic acid page 1312  
 Hydrazine carboxylic acid tert-butyl ester → tert-Butyl carbazate page 543  
 Hydrazine, determination → page 65

Hydrazine hydrate → Hydrazin hydrate page 963  
 Hydrazine monohydrobromide → Hydrazinium monobromide page 963  
 Hydrazine Test → page 65



**804604 Hydrazine hydrate (80% in water) for synthesis****Hydrazine hydrate**

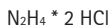
■ Vapour pressure 13 hPa (20 °C)  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Explosive limit >4.7 - 99 % (V) (refers to pure substance)  
 ■ Flash point 73 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ pH value 10.6 - 10.7 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -60 °C  
 ■ Boiling point 117 - 119 °C  
 ■ Ignition temp. 310 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H311;

Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P301 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2825 10 00 ■ Disposal 9  
 ■ ADR-RID UN 2030 Hydrazin, wässrige Lösung, 8 (6.1), II ■ IMDG-Code UN 2030 HYDRAZINE, AQUEOUS SOLUTION, 8 (6.1), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2030 HYDRAZINE, AQUEOUS SOLUTION, 8 (6.1), II

**Specification**  
 Assay (iodometric) ..... 78.0 - 82.0 %  
 Density (d 20 °C / 4 °C) ..... 1.028 - 1.030

Ord.No.	Packaging	Quantity	Price
8.04604.0250	Plastic bottle	250 ml	inquire
8.04604.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.04604.9055	Barrel PE/met	55 kg	inquire

**843816 Hydrazinium dichloride for synthesis**

■ CAS-No. 5341-61-7 ■ EC-No. 226-283-2  
 ■ Spec. density 1.42 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 2700 g/l (20 °C) ■ M = 104.97 g/mol  
 ■ pH value 0.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 198 °C (decomposition)  
 ■ Bulk density 770 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H311; Acute toxicity, Category 3, Dermal, H311;

Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LC50 rat 0.75 mg/l  
 ■ LD50 oral rat 129 mg/kg ■ LD50 dermal rabbit 91 mg/kg  
 ■ EC-Index-No. 007-014-00-6 ■ LGK 6.1B  
 ■ HS-No. 2825 10 00 ■ Disposal 9  
 ■ ADR-RID UN 3288 Giftiger anorganischer fester Stoff, n.a.g.(HYDRAZINIUMDICHLORID), 6.1, III

■ IMDG-Code UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(HYDRAZINIUMDICHLORIDE), 6.1, III  
 ■ IATA-DGR UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(HYDRAZINIUMDICHLORIDE), 6.1, III

**Specification**  
 Assay (argentometric) ..... ≥ 97.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43816.0100	Glass bottle	100 g	inquire
8.43816.1000	Glass bottle	1 kg	inquire

**804608 Hydrazinium hydroxide (about 100% N<sub>2</sub>H<sub>5</sub>OH) for synthesis****Hydrazine hydrate**

■ CAS-No. 7803-57-8 ■ EC-No. 206-114-9  
 ■ Vapour pressure 20 hPa (20 °C)  
 ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive limit >3.4 - 99 % (V) ■ Flash point 33 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 50.06 g/mol  
 ■ pH value 10 - 11 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -51.7 °C ■ Boiling point 120.5 °C (1013 hPa) ■ Ignition temp. 280 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H311; Acute toxicity, Category 3, Dermal, H311;

Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P301 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.75 mg/l  
 ■ LD50 oral rat 60 mg/kg ■ LD50 dermal rabbit 91 mg/kg  
 ■ EC-Index-No. 007-008-00-3 ■ LGK 6.1A  
 ■ HS-No. 2825 10 00  
 ■ ADR-RID UN 2030 Hydrazin, wässrige Lösung, 8 (6.1), II ■ IMDG-Code UN 2030 HYDRAZINE, AQUEOUS SOLUTION, 8 (6.1), II, Segregation

Group: 18 (Alkalis)

■ IATA-DGR UN 2030 HYDRAZINE, AQUEOUS SOLUTION, 8 (6.1), II

**Specification**  
 Assay (acidimetric) ..... ≥ 99.0 % (m)  
 Density (d 20 °C / 4 °C) ..... 1,030 - 1,032  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04608.0250	Plastic bottle	250 ml	inquire
8.04608.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.04608.9055	Barrel PE/met	55 kg	inquire

**804605 Hydrazinium monobromide for synthesis****Hydrazine monobromide**

■ CAS-No. 13775-80-9 ■ EC-No. 237-412-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 112.96 g/mol ■ pH value 4 - 5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 85 °C  
 ■ Boiling point 170 °C decomposes  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H311; Acute toxicity, Category 3, Dermal, H311;

Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P280, P273, P308 + P313, P304 + P340, P302 + P352, P309 + P310  
 ■ EC-Index-No. 007-014-00-6 ■ LGK 6.1C  
 ■ HS-No. 2825 10 00 ■ Disposal 9  
 ■ ADR-RID UN 3288 Giftiger anorganischer fester Stoff, n.a.g.(HYDRAZINIUMMONOBROMID), 6.1, III  
 ■ IMDG-Code UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(HYDRAZINIUMMONOBROMIDE), 6.1, III

■ IATA-DGR UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(HYDRAZINIUMMONOBROMIDE), 6.1, III

**Specification**  
 Assay (iodometric) ..... ≥ 98.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04605.0250	Plastic bottle	250 g	inquire
8.04605.1000	Plastic bottle	1 kg	inquire

**104603 Hydrazinium sulfate GR for analysis ACS, Reag. Ph Eur****Hydrazonium sulfate**

■ CAS-No. 10034-93-2 ■ EC-No. 233-110-4  
 ■ Spec. density 1.37 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 30 g/l (20 °C) ■ M = 130.11 g/mol  
 ■ pH value 1.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 254 °C (decomposition)  
 ■ Bulk density 450 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation,

H311; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LD50 oral rat 601 mg/kg  
 ■ EC-Index-No. 007-014-00-6 ■ LGK 6.1 D  
 ■ HS-No. 2825 10 00 ■ Disposal 9  
 ■ ADR-RID UN 3288 Giftiger anorganischer fester Stoff, n.a.g.(HYDRAZINIUMSULFAT), 6.1, III  
 ■ IMDG-Code UN 3288 TOXIC SOLID, INORGANIC,

N.O.S.(HYDRAZINIUM SULFATE), 6.1, III  
 ■ IATA-DGR UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(HYDRAZINIUM SULFATE), 6.1, III

Reducing agent in mineral analysis, reagent for the separation of polonium and tellurium for the preparation of azides and hydrazine hydrate.

Ord.No.	Packaging	Quantity	Price
1.04603.0100	Plastic bottle	100 g	inquire
1.04603.0500	Plastic bottle	500 g	inquire

Hydrazinobenzene → page 1306

Hydrazo compounds → Amines and ammonium compounds

Hydrazonium sulfate → Hydrazinium sulfate page 963

Hydrides → Organoelement compounds

1,3-Hydrindenedione → 1,3-Indanedione page 1000

α-Hydrindone → 1-Indanone page 1000

meso-Hydrobenzoin → meso-1,2-Diphenyl-1,2-ethanediol page 816

# Hydrob

## Hydrobromic acid 47%



### Hydrogen bromide solution

- Vapour pressure 10.6 hPa (20 °C)
- Spec. density 1.49 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid ■ Melting point -11 °C
- Boiling point 126 °C (1013 hPa)
- WGK 1

- GHS: Danger, Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2811 19 10 ■ Disposal 12
- ADR-RID UN 1788 Bromwasserstoffsäure, 8, II

- IMDG-Code UN 1788 HYDROBROMIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1788 HYDROBROMIC ACID, 8, II

### 100304 Hydrobromic acid 47% extra pure

#### Specification

Assay (acidimetric).....	≥ 47 %(m)	Heavy metals (as Pb).....	≤ 0,001 %(m)
Chloride (Cl).....	≤ 0,05 %(m)	Fe (Iron).....	≤ 0,0005 %(m)
Phosphate, Phosphite (as PO <sub>4</sub> ).....	≤ 0,002 %(m)	Non volatile matter.....	≤ 0,01 %(m)
Sulfate and sulphite (as SO <sub>4</sub> ).....	≤ 0,005 %(m)		

Ord.No.	Packaging	Quantity	Price
1.00304.0500	Glass bottle	500 ml	inquire
1.00304.2500	Glass bottle	2.5 l	inquire
1.00304.9020		20 l	inquire

### 100307 Hydrobromic acid 47% for analysis EMSURE® ACS,ISO

#### Specification

Assay (acidimetric).....	47.0 - 49.0 %	Co (Cobalt).....	≤ 0.02 ppm	Sr (Strontium).....	≤ 0.02 ppm
Chloride (Cl).....	≤ 200 ppm	Cr (Chromium).....	≤ 0.1 ppm	Ti (Titanium).....	≤ 0.1 ppm
Iodide (I).....	≤ 20 ppm	Cu (Copper).....	≤ 0.02 ppm	Tl (Thallium).....	≤ 0.05 ppm
Phosphate, Phosphite (as PO <sub>4</sub> ).....	≤ 2 ppm	Fe (Iron).....	≤ 0.1 ppm	V (Vanadium).....	≤ 0.05 ppm
Heavy metals (as Pb).....	≤ 5 ppm	Ge (Germanium).....	≤ 0.05 ppm	Zn (Zinc).....	≤ 0.1 ppm
Sulfate and sulphite (as SO <sub>4</sub> ).....	≤ 30 ppm	K (Potassium).....	≤ 0.1 ppm	Zr (Zirconium).....	≤ 0.1 ppm
Al (Aluminium).....	≤ 0.1 ppm	Li (Lithium).....	≤ 0.02 ppm	Residue on ignition (as sulphate).....	≤ 20 ppm
As (Arsenic).....	≤ 0.1 ppm	Mg (Magnesium).....	≤ 0.1 ppm	Conforms to ACS, ISO	
Ba (Barium).....	≤ 0.1 ppm	Mn (Manganese).....	≤ 0.05 ppm		
Be (Beryllium).....	≤ 0.02 ppm	Mo (Molybdenum).....	≤ 0.05 ppm		
Bi (Bismuth).....	≤ 0.1 ppm	Ni (Nickel).....	≤ 0.02 ppm		
Ca (Calcium).....	≤ 0.5 ppm	Pb (Lead).....	≤ 0.02 ppm		
Cd (Cadmium).....	≤ 0.05 ppm	Se (Selenium).....	≤ 0.01 ppm		

Ord.No.	Packaging	Quantity	Price
1.00307.0500	Glass bottle	500 ml	inquire
1.00307.1000	Glass bottle	1 l	inquire

### 100306 Hydrobromic acid 47% Suprapur®

#### Specification

Assay (acidimetric).....	≥ 47 %	Cr (Chromium).....	≤ 0.5 ppb	Pd (Palladium).....	≤ 1 ppb
Chloride (Cl).....	≤ 50000 ppb	Cu (Copper).....	≤ 0.5 ppb	Sb (Antimony).....	≤ 0.5 ppb
Iodide (I).....	≤ 10000 ppb	Fe (Iron).....	≤ 5 ppb	Sn (Tin).....	≤ 0.5 ppb
Phosphate, Phosphite (as PO <sub>4</sub> ).....	≤ 50 ppb	Ga (Gallium).....	≤ 0.5 ppb	Sr (Strontium).....	≤ 0.5 ppb
Sulfate and sulphite (as SO <sub>4</sub> ).....	≤ 500 ppb	Ge (Germanium).....	≤ 0.5 ppb	Ti (Titanium).....	≤ 0.5 ppb
Ag (Silver).....	≤ 1 ppb	Hg (Mercury).....	≤ 5 ppb	Tl (Thallium).....	≤ 0.5 ppb
Al (Aluminium).....	≤ 10 ppb	In (Indium).....	≤ 0.5 ppb	U (Uranium).....	≤ 0.5 ppb
As (Arsenic).....	≤ 0.5 ppb	K (Potassium).....	≤ 5 ppb	V (Vanadium).....	≤ 0.5 ppb
Au (Gold).....	≤ 0.5 ppb	Li (Lithium).....	≤ 0.5 ppb	Zn (Zinc).....	≤ 5 ppb
Ba (Barium).....	≤ 0.5 ppb	Mg (Magnesium).....	≤ 1 ppb	Zr (Zirconium).....	≤ 0.5 ppb
Be (Beryllium).....	≤ 0.5 ppb	Mn (Manganese).....	≤ 0.5 ppb	Residue on ignition (as sulphate).....	≤ 2000 ppb
Bi (Bismuth).....	≤ 0.5 ppb	Mo (Molybdenum).....	≤ 0.5 ppb		
Ca (Calcium).....	≤ 10 ppb	Na (Sodium).....	≤ 20 ppb		
Cd (Cadmium).....	≤ 0.5 ppb	Ni (Nickel).....	≤ 0.5 ppb		
Co (Cobalt).....	≤ 0.5 ppb	Pb (Lead).....	≤ 0.5 ppb		

Ord.No.	Packaging	Quantity	Price
1.00306.0250	Glass bottle	250 ml	inquire
1.00306.1000	Glass bottle	1 l	inquire

## Hydrocarbons

### Alkanes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
685	803405	n-Decane	305	821627	Isooctane	313	814563	Petroleum benzine boiling range 140-180°C
300	820383	n-Decane	306	820818	2-Methylpentane	1328	814657	Pinane
826	822046	Docosane	1232	822110	n-Nonadecane	1465	814605	Squalane
827	845097	N-Dodecane	306	806838	n-Nonane	1527	821089	n-Tetracosane
827	820543	n-Dodecane	1238	841354	Octacosane	1528	814767	n-Tetradecane
834	820547	n-Eicosane	1238	820920	n-Octadecane	1582	841364	n-Tricosane
935	820616	n-Heptadecane	306	806910	n-Octane	1582	814631	n-Tridecane
936	822332	n-Heptane	1264	820953	n-Pentadecane	1623	818629	n-Undecane
946	820633	n-Hexadecane	307	820957	n-Pentane			

## Alkenes and alkynes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
364	821668	Allylbenzene	948	841769	1,5-Hexadiene	1244	820930	4-Octyne
366	814906	3-Allyloxy-2-hydroxypropane sulfonate sodium salt	958	820643	1-Hexyne	1273	820963	1-Pentyne
			958	820644	2-Hexyne	1273	822120	2-Pentyne
566	820254	(+)-Camphene	958	820645	3-Hexyne	1297	807044	Phenylacetylene
625	815109	3-(4-Chloro-2-nitrophenyl) methyl acrylate	1077	818407	(R)-(+)-Limonene	1329	841132	(1S)-(-)- $\beta$ -Pinene
			1078	818408	(S)-(-)-Limonene	1465	821068	Squalene
683	814880	1,9-Decadiene	1138	821258	2-Methyl-1,3-butadiene	1501	821072	cis-Stilbene
687	841830	1-Decene	1139	814874	2-Methyl-2-butene	1501	814152	trans-Stilbene
785	841855	2,3-Dimethyl-1-butene	1180	806086	$\alpha$ -Methylstyrene	1503	807679	Styrene
785	841695	2,3-Dimethyl-2-butene	1180	822098	Methylstyrene	1528	808601	1-Tetradecene
785	841279	3,3-Dimethyl-1-butene	1195	814593	Myrcene	1583	841449	1-Tridecene
813	820525	Diphenylacetylene	1238	822112	1-Octadecene	1605	814734	2,4,4-Trimethylpentene
826	803598	Divinylbenzene	1239	818797	1,7-Octadiene	1611	818690	Triphenylethylene
828	822048	1-Dodecene	1243	820928	1-Octene	1629	824593	9-Vinylanthracene
939	820622	1-Heptene	1244	814146	1-Octyne			
946	822064	1-Hexadecene						

## Cycloalkanes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
354	820013	Adamantane	684	820382	cis-Decahydronaphthalene	1077	814546	DL-Limonene
458	843959	Bicyclohexyl	300	803101	Decahydronaphthalene	306	806147	Methylcyclohexane
677	818769	Cyclopentane	684	821745	trans-Decahydronaphthalene	1145	820789	Methylcyclopentane

## Cycloalkenes

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
458	843959	Bicyclohexyl	1001	820701	Indene	1267	818534	1,2,3,4,5-Pentamethylcyclopentadiene
673	802824	Cyclohexene	1146	841781	1-Methyl-1-cyclopentene			
676	818768	1,3-Cyclooctadiene	1235	820918	2,5-Norbornadiene	1286	814893	$\alpha$ -Phellandrene
735	803038	Dicyclopentadiene	1235	818796	Norbornene	1328	818632	(1R)-(+)- $\alpha$ -Pinene
						1328	818405	(1S)-(-)- $\alpha$ -Pinene

## Aromatic hydrocarbons

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
330	814312	Acenaphthene	303	801372	Ethylbenzene	1300	820990	1-Phenyldodecane
420	820109	Anthracene	885	820044	2-Ethyltoluene	1306	841840	1-Phenylhexane
429	820119	Azulene	885	820046	4-Ethyltoluene	1310	821006	1-Phenyltoluene
460	803090	Biphenyl	893	820572	Fluorene	1374	807521	Propylbenzene
474	841875	1,4-Bis(2-methylstyryl)-benzene	1043	820712	Isobutylbenzene	1383	821051	Pyrene
			1049	820717	Isopentylbenzene	1521	821077	o-Terphenyl
541	820239	Butylbenzene	1056	841571	4-Isopropylphenol	309	809733	1,2,3,4-Tetrahydronaphthalene
541	821717	sec-Butylbenzene	1132	821249	9-Methylanthracene	1539	808624	1,2,4,5-Tetramethylbenzene
541	820240	tert-Butylbenzene	1162	820809	1-Methylnaphthalene	1597	841587	1,3,5-Triisopropylbenzene
555	814286	4-tert-Butyltoluene	1162	806074	2-Methylnaphthalene	1601	814544	4,6,8-Trimethylazulene
556	814287	5-tert-Butyl-m-xylene	1179	841352	4-Methylstyrene	1602	814505	1,2,4-Trimethylbenzene
300	802681	Cumene	1196	820846	Naphthalene	1611	821195	Triphenylmethane
701	841610	Dibenzyl	1260	841687	[2.2]-Paracyclophane	1618	841391	Tritylum tetrafluoroborate
706	842861	4,4'-Di-tert-butyl-1,1'-biphenyl	1273	820965	n-Pentylbenzene	309	822337	m-Xylene
740	841003	1,4-Diethylbenzene	1278	820969	Perylene	309	808697	o-Xylene
814	820529	9,10-Diphenylanthracene	1287	822122	Phenanthrene	309	808691	p-Xylene
818	803513	Diphenylmethane						

# Hydroc

## 100316 Hydrochloric acid 25% for analysis EMSURE®



### Hydrogen chloride solution

- Vapour pressure 12 hPa (20 °C)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- Melting point -70 °C ■ Boiling point 107 °C (1013 hPa)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2806 10 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

### Specification

Assay (alkalimetric).....	≥ 25.0 %
Colour.....	≤ 10 Hazen
Bromide (Br).....	≤ 50 ppm
Free chlorine (Cl).....	≤ 0.5 ppm

Sulphate (SO <sub>4</sub> ).....	≤ 1 ppm
Sulfite (SO <sub>3</sub> ).....	≤ 1 ppm
Al (Aluminium).....	≤ 0.050 ppm
As (Arsenic).....	≤ 0.01 ppm
Ba (Barium).....	≤ 0.020 ppm
Be (Beryllium).....	≤ 0.020 ppm
Bi (Bismuth).....	≤ 0.100 ppm
Ca (Calcium).....	≤ 0.500 ppm
Cd (Cadmium).....	≤ 0.010 ppm
Co (Cobalt).....	≤ 0.010 ppm
Cr (Chromium).....	≤ 0.020 ppm
Cu (Copper).....	≤ 0.020 ppm
Fe (Iron).....	≤ 0.200 ppm
Ge (Germanium).....	≤ 0.050 ppm
K (Potassium).....	≤ 0.100 ppm
Li (Lithium).....	≤ 0.010 ppm
Mg (Magnesium).....	≤ 0.100 ppm
Mn (Manganese).....	≤ 0.010 ppm
Mo (Molybdenum).....	≤ 0.020 ppm
NH <sub>4</sub> (Ammonium).....	≤ 1 ppm
Na (Sodium).....	≤ 0.500 ppm
Ni (Nickel).....	≤ 0.020 ppm
Pb (Lead).....	≤ 0.020 ppm

Sr (Strontium).....	≤ 0.010 ppm
Ti (Titanium).....	≤ 0.100 ppm
Tl (Thallium).....	≤ 0.050 ppm
V (Vanadium).....	≤ 0.010 ppm
Zn (Zinc).....	≤ 0.050 ppm
Zr (Zirconium).....	≤ 0.100 ppm
Residue on ignition (as SO <sub>4</sub> ).....	≤ 5 ppm

Minimum shelf life: see product label

Ord.No.	Packaging	Quantity	Price
1.00316.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00316.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00316.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00316.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00316.9025	Plastic container	25 l	inquire

## Hydrochloric acid 30%

### Hydrogen chloride solution

- Vapour pressure 21.8 hPa (20 °C)
- Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- Melting point -50 °C ■ Boiling point 90 °C (1013 hPa)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1,

- H290; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2806 10 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8,

- II, Segregation Group: 1 (Acids)
  - IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II
- Acid purified by sub-boiling distillation for sample preparation in trace analysis. Each package includes a certificate of analysis.

## 100318 Hydrochloric acid 30% Suprapur®

### Specification

Assay (acidimetric).....	≥ 30.0 %
Colour.....	≤ 10 Hazen
Bromide (Br).....	≤ 10 ppm
Free chlorine (Cl).....	≤ 300 ppb
Phosphate (PO <sub>4</sub> ).....	≤ 10 ppb
Sulphate (SO <sub>4</sub> ).....	≤ 300 ppb
Sulfite (SO <sub>3</sub> ).....	≤ 500 ppb
Ag (Silver).....	≤ 1.0 ppb
Al (Aluminium).....	≤ 1.0 ppb
As (Arsenic).....	≤ 1.0 ppb
Au (Gold).....	≤ 1.0 ppb
Ba (Barium).....	≤ 1.0 ppb
Be (Beryllium).....	≤ 1.0 ppb
Bi (Bismuth).....	≤ 1.0 ppb
Ca (Calcium).....	≤ 5.0 ppb
Cd (Cadmium).....	≤ 0.5 ppb
Co (Cobalt).....	≤ 1.0 ppb
Cr (Chromium).....	≤ 1.0 ppb

Cu (Copper).....	≤ 1.0 ppb
Fe (Iron).....	≤ 5.0 ppb
Ga (Gallium).....	≤ 0.5 ppb
Ge (Germanium).....	≤ 10.0 ppb
Hg (Mercury).....	≤ 2.0 ppb
In (Indium).....	≤ 0.5 ppb
K (Potassium).....	≤ 10.0 ppb
Li (Lithium).....	≤ 0.5 ppb
Mg (Magnesium).....	≤ 2.0 ppb
Mn (Manganese).....	≤ 0.5 ppb
Mo (Molybdenum).....	≤ 0.5 ppb
NH <sub>4</sub> (Ammonium).....	≤ 500 ppb
Na (Sodium).....	≤ 10.0 ppb
Ni (Nickel).....	≤ 1.0 ppb
Pb (Lead).....	≤ 0.5 ppb
Pt (Platinum).....	≤ 0.5 ppb
Sb (Antimony).....	≤ 0.5 ppb
Sn (Tin).....	≤ 1.0 ppb

Sr (Strontium).....	≤ 0.5 ppb
Ti (Titanium).....	≤ 1.0 ppb
Tl (Thallium).....	≤ 0.5 ppb
V (Vanadium).....	≤ 1.0 ppb
Zn (Zinc).....	≤ 1.0 ppb
Zr (Zirconium).....	≤ 0.5 ppb
Residue on ignition (as sulphate).....	≤ 2 ppm

Actual analysis values are subject to unavoidable systematic variations in this concentration range. The actual values are subject to unavoidable systematic variations in this concentration range.

Ord.No.	Packaging	Quantity	Price
1.00318.0250	Plastic bottle	250 ml	inquire
	Plastic bottle	6 x 250 ml	inquire
1.00318.0500	Plastic bottle	500 ml	inquire
1.00318.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

## 101514 Hydrochloric acid 30% Ultrapur

### Specification

Assay (acidimetric).....	≥ 30.0 %
Ag (Silver).....	≤ 100 ppt
Al (Aluminium).....	≤ 100 ppt
As (Arsenic).....	≤ 100 ppt
Au (Gold).....	≤ 100 ppt
B (Boron).....	≤ 100 ppt
Ba (Barium).....	≤ 50 ppt
Be (Beryllium).....	≤ 50 ppt
Bi (Bismuth).....	≤ 50 ppt
Ca (Calcium).....	≤ 500 ppt
Cd (Cadmium).....	≤ 50 ppt
Ce (Cerium).....	≤ 200 ppt
Co (Cobalt).....	≤ 100 ppt
Cr (Chromium).....	≤ 50 ppt
Cu (Copper).....	≤ 100 ppt
Dy (Dysprosium).....	≤ 200 ppt
Er (Erbium).....	≤ 200 ppt
Eu (Europium).....	≤ 200 ppt
Fe (Iron).....	≤ 500 ppt
Ga (Gallium).....	≤ 500 ppt
Gd (Gadolinium).....	≤ 20 ppt
Hf (Hafnium).....	≤ 100 ppt
Hg (Mercury).....	≤ 50 ppt

Ho (Holmium).....	≤ 200 ppt
In (Indium).....	≤ 50 ppt
K (Potassium).....	≤ 500 ppt
La (Lanthanum).....	≤ 20 ppt
Li (Lithium).....	≤ 50 ppt
Lu (Lutetium).....	≤ 200 ppt
Mg (Magnesium).....	≤ 100 ppt
Mn (Manganese).....	≤ 50 ppt
Mo (Molybdenum).....	≤ 50 ppt
Na (Sodium).....	≤ 200 ppt
Nb (Niobium).....	≤ 20 ppt
Nd (Neodymium).....	≤ 20 ppt
Ni (Nickel).....	≤ 200 ppt
Pb (Lead).....	≤ 50 ppt
Pd (Palladium).....	≤ 100 ppt
Pr (Praseodym).....	≤ 200 ppt
Pt (Platinum).....	≤ 50 ppt
Rb (Rubidium).....	≤ 20 ppt
Re (Rhenium).....	≤ 100 ppt
Ru (Ruthenium).....	≤ 200 ppt
Sb (Antimony).....	≤ 100 ppt
Sc (Scandium).....	≤ 20 ppt
Se (Selenium).....	≤ 200 ppt

Si (Silicon).....	≤ 1000 ppt
Sm (Samarium).....	≤ 200 ppt
Sn (Tin).....	≤ 200 ppt
Sr (Strontium).....	≤ 50.0 ppt
Ta (Tantalum).....	≤ 100.0 ppt
Tb (Terbium).....	≤ 20.00 ppt
Te (Tellur).....	≤ 100 ppt
Th (Thorium).....	≤ 1.00 ppt
Ti (Titanium).....	≤ 50 ppt
Tl (Thallium).....	≤ 50.0 ppt
Tm (Thulium).....	≤ 20.00 ppt
U (Uranium).....	≤ 1.00 ppt
V (Vanadium).....	≤ 50 ppt
W (Wolfram).....	≤ 100 ppt
Y (Yttrium).....	≤ 10.0 ppt
Yb (Ytterbium).....	≤ 20.0 ppt
Zn (Zinc).....	≤ 200 ppt
Zr (Zirconium).....	≤ 20.0 ppt

Ord.No.	Packaging	Quantity	Price
1.01514.0250	Plastic bottle	250 ml	inquire
1.01514.0500	Fibre case	500 ml	inquire
1.01514.1000	Plastic bottle	1 l	inquire

## Hydrochloric acid 32%



## Hydrogen chloride solution

- Vapour pressure 21.3 hPa (20 °C)
- Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- Melting point -40 °C ■ Boiling point 83 - 90 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1,

- H290; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II

- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

## 100313 Hydrochloric acid 32% extra pure

## Specification

Assay (alkalimetric).....	≥ 32 %
Identity.....	passes test
Bromide, iodide (Br,I).....	passes test
Free chlorine (Cl).....	≤ 0.0001 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.0005 %
Sulfite (SO <sub>3</sub> ).....	≤ 0.001 %
Heavy metals (as Pb).....	≤ 0.0001 %

As (Arsenic).....	≤ 0.0001 %
Fe (Iron).....	≤ 0.0002 %
Residual solvents (ICH Q3C).....	excluded by production process
Evaporation residue.....	≤ 0,01%
Expiry date : see product label	

Ord.No.	Packaging	Quantity	Price
1.00313.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00313.9025	Plastic container	25 l	inquire
1.00313.9180	Plastic barrel	180 l	inquire

## 100319 Hydrochloric acid 32% for analysis EMSURE®

## Specification

Assay (alkalimetric).....	≥ 32.0 %
Colour.....	≤ 10 Hazen
Bromide (Br).....	≤ 50 ppm
Free chlorine (Cl).....	≤ 0.5 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 0.5 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 1 ppm
Sulfite (SO <sub>3</sub> ).....	≤ 1 ppm
Ag (Silver).....	≤ 0.05 ppm
Al (Aluminium).....	≤ 0.05 ppm
As (Arsenic).....	≤ 0.01 ppm
Au (Gold).....	≤ 0.05 ppm
Ba (Barium).....	≤ 0.02 ppm
Be (Beryllium).....	≤ 0.02 ppm
Bi (Bismuth).....	≤ 0.02 ppm
Ca (Calcium).....	≤ 0.2 ppm
Cd (Cadmium).....	≤ 0.01 ppm
Co (Cobalt).....	≤ 0.01 ppm
Cr (Chromium).....	≤ 0.02 ppm

Cu (Copper).....	≤ 0.02 ppm
Fe (Iron).....	≤ 0,1ppm
Ga (Gallium).....	≤ 0.05 ppm
Ge (Germanium).....	≤ 0.02 ppm
Hg (Mercury).....	≤ 0.01 ppm
In (Indium).....	≤ 0.05 ppm
K (Potassium).....	≤ 0,1ppm
Li (Lithium).....	≤ 0.01 ppm
Mg (Magnesium).....	≤ 0.05 ppm
Mn (Manganese).....	≤ 0.01 ppm
Mo (Molybdenum).....	≤ 0.01 ppm
NH <sub>4</sub> (Ammonium).....	≤ 1 ppm
Na (Sodium).....	≤ 0.2 ppm
Ni (Nickel).....	≤ 0.02 ppm
Pb (Lead).....	≤ 0.01 ppm
Pt (Platinum).....	≤ 0.10 ppm
Sr (Strontium).....	≤ 0.01 ppm
Ti (Titanium).....	≤ 0.02 ppm

Tl (Thallium).....	≤ 0.02 ppm
V (Vanadium).....	≤ 0.01 ppm
Zn (Zinc).....	≤ 0.05 ppm
Zr (Zirconium).....	≤ 0.02 ppm
Residue on ignition (as SO <sub>4</sub> ).....	≤ 5 ppm
Date of expiry: see product label	

Ord.No.	Packaging	Quantity	Price
1.00319.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00319.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00319.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00319.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00319.9025	Plastic container	25 l	inquire

Hydrochloric acid aluminium salt anhydrous → page 369

## Hydrochloric acid fuming 37%



## Hydrogen chloride solution

- Vapour pressure 190 hPa (20 °C)
- Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- Melting point -28 °C ■ Boiling point 45 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1,

- H290; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II

- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

## 101834 Hydrochloric acid fuming 37% for analysis EMPARTA® ACS

## Specification

Assay (acidimetric).....	36.5 - 38.0 %
Identity.....	passes test
Appearance.....	passes test
Colour.....	≤ 10 Hazen
Bromide (Br).....	≤ 50 ppm
Free chlorine (Cl).....	≤ 0.1 ppm
Heavy metals (as Pb).....	≤ 1 ppm

Sulphate (SO <sub>4</sub> ).....	≤ 1 ppm
Sulfite (SO <sub>3</sub> ).....	≤ 1 ppm
As (Arsenic).....	≤ 0.01 ppm
Fe (Iron).....	≤ 0.2 ppm
NH <sub>4</sub> (Ammonium).....	≤ 3 ppm
Extractable organic substances.....	≤ 5 ppm
Residue on ignition (as SO <sub>4</sub> ).....	≤ 5 ppm

Expiry date: see product label

Ord.No.	Packaging	Quantity	Price
1.01834.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

## 113386 Hydrochloric acid fuming 37% for analysis max. 0.001 ppm Hg EMSURE®

## Specification

Assay (alkalimetric).....	≥ 37.0 %
Colour.....	≤ 10 Hazen
Bromide (Br).....	≤ 50 ppm
Free chlorine (Cl).....	≤ 0.5 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 0.5 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 1 ppm
Sulfite (SO <sub>3</sub> ).....	≤ 1 ppm
Al (Aluminium).....	≤ 0.05 ppm
As (Arsenic).....	≤ 0.01 ppm
Ba (Barium).....	≤ 0.02 ppm
Be (Beryllium).....	≤ 0.02 ppm
Bi (Bismuth).....	≤ 0.1 ppm
Ca (Calcium).....	≤ 0.5 ppm
Cd (Cadmium).....	≤ 0.01 ppm

Co (Cobalt).....	≤ 0.01 ppm
Cr (Chromium).....	≤ 0.02 ppm
Cu (Copper).....	≤ 0.02 ppm
Fe (Iron).....	≤ 0.2 ppm
Ge (Germanium).....	≤ 0.05 ppm
Hg (Mercury).....	≤ 0.001 ppm
K (Potassium).....	≤ 0.1 ppm
Li (Lithium).....	≤ 0.01 ppm
Mg (Magnesium).....	≤ 0.1 ppm
Mn (Manganese).....	≤ 0.01 ppm
Mo (Molybdenum).....	≤ 0.02 ppm
NH <sub>4</sub> (Ammonium).....	≤ 1 ppm
Na (Sodium).....	≤ 0.5 ppm
Ni (Nickel).....	≤ 0.02 ppm

Pb (Lead).....	≤ 0.02 ppm
Sb (Antimony).....	≤ 0.002 ppm
Sr (Strontium).....	≤ 0.01 ppm
Ti (Titanium).....	≤ 0.1 ppm
Tl (Thallium).....	≤ 0.05 ppm
V (Vanadium).....	≤ 0.01 ppm
Zn (Zinc).....	≤ 0.05 ppm
Zr (Zirconium).....	≤ 0.1 ppm
Residue on ignition (as SO <sub>4</sub> ).....	≤ 5 ppm

Ord.No.	Packaging	Quantity	Price
1.13386.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire



## 100317 Hydrochloric acid fuming 37% for analysis EMSURE® ACS,ISO,Reag. Ph Eur

## Specification

Assay (acidimetric).....	37.0 - 38.0 %
Identity.....	passes test
Colour.....	≤ 10 Hazen
Appearance.....	passes test
Appearance of solution.....	passes test
Bromide (Br).....	≤ 50 ppm
Free chlorine (Cl).....	≤ 0.4 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 0.5 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 0.5 ppm
Sulfite (SO <sub>3</sub> ).....	≤ 0.5 ppm
Heavy metals (as Pb).....	≤ 1 ppm
Ag (Silver).....	≤ 0.020 ppm
Al (Aluminium).....	≤ 0.050 ppm
As (Arsenic).....	≤ 0.010 ppm
Au (Gold).....	≤ 0.050 ppm
B (Boron).....	≤ 0.100 ppm
Ba (Barium).....	≤ 0.010 ppm
Be (Beryllium).....	≤ 0.010 ppm
Bi (Bismuth).....	≤ 0.050 ppm
Ca (Calcium).....	≤ 0.300 ppm

Cd (Cadmium).....	≤ 0.010 ppm
Co (Cobalt).....	≤ 0.010 ppm
Cr (Chromium).....	≤ 0.010 ppm
Cu (Copper).....	≤ 0.010 ppm
Fe (Iron).....	≤ 0.100 ppm
Ga (Gallium).....	≤ 0.050 ppm
Ge (Germanium).....	≤ 0.020 ppm
Hg (Mercury).....	≤ 0.010 ppm
K (Potassium).....	≤ 0.100 ppm
Li (Lithium).....	≤ 0.010 ppm
Mg (Magnesium).....	≤ 0.050 ppm
Mn (Manganese).....	≤ 0.010 ppm
Mo (Molybdenum).....	≤ 0.010 ppm
NH <sub>4</sub> (Ammonium).....	≤ 1 ppm
Na (Sodium).....	≤ 0.300 ppm
Ni (Nickel).....	≤ 0.020 ppm
Pb (Lead).....	≤ 0.010 ppm
Pt (Platinum).....	≤ 0.100 ppm
Sn (Tin).....	≤ 0.050 ppm
Sr (Strontium).....	≤ 0.010 ppm

Ti (Titanium).....	≤ 0.020 ppm
Tl (Thallium).....	≤ 0.020 ppm
V (Vanadium).....	≤ 0.010 ppm
Zn (Zinc).....	≤ 0.050 ppm
Zr (Zirconium).....	≤ 0.020 ppm
Extractable organic substances.....	≤ 5 ppm
Residue on ignition (as SO <sub>4</sub> ).....	≤ 3 ppm
Non volatile matter.....	≤ 10 ppm
Expiry date : see product label	

Ord.No.	Packaging	Quantity	Price
1.00317.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00317.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00317.2501	Plastic bottle	2.5 l	inquire
1.00317.2510	Safebreak btl.	2.5 l	inquire
1.00317.9026	Plastic container	25 l	inquire

Hydrochloric acid in ethanol → page 192

## Hydrochloric acid volumetric solutions

## 109060 Hydrochloric acid c(HCl) = 0.1 mol/l (0.1 N) Titripur®

## Hydrogen chloride solution

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.2 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 28
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III

## Specification

Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP).

Amount-of-substance concentration . 0.1000 mol/l  
The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA

in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09060.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09060.4000	Titripac PE/Alu	4 l	inquire
1.09060.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire
1.09060.9010	Titripac PE/Alu	10 l	inquire
1.09060.9025	Plastic container	25 l	inquire

## 113136 Hydrochloric acid c(HCl) = 0.357 mol/l (1/2.8 N) Titripur®

## Hydrogen chloride solution

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.2 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 28
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III

## Specification

Amount-of-substance concentration ....0.357 mol/l  
The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is

traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.13136.9010	Titripac PE/Alu	10 l	inquire

## 109058 Hydrochloric acid c(HCl) = 0.5 mol/l (0.5 N) Titripur®

## Hydrogen chloride solution

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 28
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III

## Specification

Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP).  
Amount-of-substance concentration . 0.5000 mol/l  
The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard

Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09058.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09058.4000	Titripac PE/Alu	4 l	inquire
1.09058.9025	Plastic container	25 l	inquire

### 109057 Hydrochloric acid c(HCl) = 1 mol/l (1 N) Titripur®

#### Hydrogen chloride solution

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 10 - 13
- HS-No. 2806 10 00 ■ Disposal 28
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III

#### Specification

Volumetric solution in accordance to the chapter

reagents of the Pharmacopoeia (Ph Eur, USP). Amount-of-substance concentration .... 1.000 mol/l The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA

in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09057.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09057.2500	Plastic bottle	2.5 l	inquire
1.09057.4000	Titripac PE/Alu	4 l	inquire
1.09057.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire
1.09057.9010	Titripac PE/Alu	10 l	inquire
1.09057.9025	Plastic container	25 l	inquire

### 109063 Hydrochloric acid c(HCl) = 2 mol/l (2 N) Titripur®

#### Hydrogen chloride solution

- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

#### Specification

Amount-of-substance concentration .... 2.000 mol/l The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard

Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09063.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09063.9026	Plastic container	25 l	inquire

### 113134 Hydrochloric acid c(HCl) = 3.571 mol/l (1/0.28 N) Titripur®

#### Hydrogen chloride solution

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II

- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

#### Specification

Amount-of-substance concentration .... 3.571 mol/l The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for

95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.13134.9010	Titripac PE/Alu	10 l	inquire

### 109974 Hydrochloric acid for 1000 ml, c(HCl) = 0.01 mol/l (0.01 N) Titrisol®

#### Hydrogen chloride solution

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O) (undiluted)
- WGK nwg
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 28
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III

#### Specification

Concentration after dilution to 1 liter: c(H<sub>2</sub>SO<sub>4</sub>) = 0.01 mol/l Amount-of-substance concentration . 0.0100 mol/l The concentration of this solution was determined with sodium hydroxide standard solution (Merck article number 1.09137) standardized by hydrochloric acid against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for

95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09974.0001	Plastic ampoule	1 amp	inquire

### 109973 Hydrochloric acid for 1000 ml, c(HCl) = 0.1 mol/l (0.1 N) Titrisol®

#### Hydrogen chloride solution

- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III

#### Specification

Concentration after dilution to 1 liter: c(HCl) = 0.1 mol/l Amount-of-substance concentration . 0.1000 mol/l The concentration of this solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute

of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09973.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	6 x 1 amp	inquire

**109971 Hydrochloric acid for 1000 ml, c(HCl) = 0.5 mol/l (0.5 N) Titrisol®****Hydrogen chloride solution**

- Spec. density 1.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8,

- II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II
- Specification**
- Concentration after dilution to 1 liter: c(HCl) = 0.5 mol/l
- Amount-of-substance concentration . 0.5000 mol/l
- The concentration of this solution was determined with volumetric standard Tris(hydroxymethyl) aminomethane (Merck article number 1.02408).
- The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability).

The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl) aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09971.0001	Plastic ampoule	1 amp	inquire

**109970 Hydrochloric acid for 1000 ml, c(HCl) = 1 mol/l (1 N) Titrisol®****Hydrogen chloride solution**

- Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 28
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8,

- II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II
- Specification**
- Concentration after dilution to 1 liter: c(HCl) = 1 mol/l
- Amount-of-substance concentration .... 1.000 mol/l
- The concentration of this solution was determined with volumetric standard Tris(hydroxymethyl) aminomethane (Merck article number 1.02408).
- The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability).

The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl) aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09970.0001	Plastic ampoule	1 amp	inquire

**109911 Hydrochloric acid 1.000 l for the preparation of dilute volumetric solutions or for direct use c(HCl) = 5 mol/l (5 N) Combi-Titrisol®****Hydrogen chloride solution**

- Spec. density 1.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ

- toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.09911.0001	Plastic bottle	1 l	inquire

**100326 Hydrochloric acid in 2-propanol acc. to DIN 51558 part 1 c(HCl) = 0.1 mol/l (0,1 N) Titripur®****Hydrogen chloride solution**

- Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 13.4 % (V) (2-Propanol)
- Flash point 12 °C (2-Propanol) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 0.5 (H<sub>2</sub>O, 20 °C)
- Ignition temp. 425 °C (2-Propanol)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336, P210, P305 + P351 + P338
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(SALZSAEURE UND ENTH. ISOPROPANOL), 3 (8), II ■ IMDG-Code UN 2924

- FLAMMABLE LIQUID, CORROSIVE, N.O.S.(HYDROCHLORIC ACID AND CONT. ISOPROPANOL), 3 (8), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(HYDROCHLORIC ACID AND CONT. ISOPROPANOL), 3 (8), II
- Specification**
- Amount-of-substance concentration . 0.1000 mol/l
- The concentration of this volumetric solution was determined with sodium hydroxide standard solution (Merck article number 1.09141) standardized by hydrochloric acid against volumetric standard Tris(hydroxymethyl) aminomethane (Merck article number 1.02408).

The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl) aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.00326.1000	Glass bottle	1 l	inquire

Hydrocinnamaldehyde → 3-Phenylpropionaldehyde page 1311

Hydrocinnamic acid → 3-Phenylpropionic acid page 1312

Hydrocinnamonitrile → 3-Phenylpropionitrile page 1312

Hydrocinnamoyl chloride → 3-Phenylpropionyl chloride page 1312

Hydrocinnamyl alcohol → 3-Phenyl-1-propanol page 1311

**Hydrofluoric acid 38-40%**



*Hydrofluoric acid solution, Fluoric acid*  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -44 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 2, Inhalation,

H330; Acute toxicity, Category 1, Dermal, H310; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2811 11 00 ■ Disposal 23  
 ■ ADR-RID UN 1790 Fluorwasserstoffsäure, 8 (6.1)

, II ■ IMDG-Code UN 1790 HYDROFLUORIC ACID NOT MORE THAN 60%, 8 (6.1), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1790 HYDROFLUORIC ACID, 8 (6.1), II

**100337 Hydrofluoric acid 38-40% extra pure**

<b>Specification</b>	Sulfite (SO <sub>3</sub> ).....	≤ 0.002 %
Assay (acidimetric).....	Heavy metals (as Pb).....	≤ 0.0005 %
Fe (Iron).....	Residue on ignition (as sulphate).....	≤ 0.002 %
Chloride (Cl).....		
Hexafluorosilicate (SiF <sub>6</sub> ).....		
Sulphate (SO <sub>4</sub> ).....		

Ord.No.	Packaging	Quantity	Price
1.00337.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00337.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00337.9025	Plastic container	25 l	inquire

**100329 Hydrofluoric acid 38-40%**

<b>Specification</b>	Assay (acidimetric).....	38 - 40 %
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Ord.No.	Packaging	Quantity	Price
1.00329.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00329.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

**Hydrofluoric acid 40%**



*Hydrofluoric acid solution, Fluoric acid*  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid ■ Melting point -44 °C  
 ■ Boiling point 112 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 2, Inhalation,

H330; Acute toxicity, Category 1, Dermal, H310; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 6.1B  
 ■ HS-No. 2811 11 00 ■ Disposal 23  
 ■ ADR-RID UN 1790 Fluorwasserstoffsäure, 8 (6.1), II ■ IMDG-Code UN 1790 HYDROFLUORIC ACID

NOT MORE THAN 60%, 8 (6.1), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1790 HYDROFLUORIC ACID, 8 (6.1), II  
 Each package includes a certificate of analysis.

**100338 Hydrofluoric acid 40% for analysis EMSURE® ISO,Reag. Ph Eur**

<b>Specification</b>	Cr (Chromium).....	≤ 0.01 ppm
Assay (acidimetric).....	Cu (Copper).....	≤ 0.02 ppm
Chloride (Cl).....	Fe (Iron).....	≤ 0.1 ppm
Colour.....	Ge (Germanium).....	≤ 0.02 ppm
Hexafluorosilicate (SiF <sub>6</sub> ).....	K (Potassium).....	≤ 0.1 ppm
Phosphate (PO <sub>4</sub> ).....	Li (Lithium).....	≤ 0.01 ppm
Sulfate and sulphite (as SO <sub>4</sub> ).....	Mg (Magnesium).....	≤ 0.1 ppm
Arsenic and Antimony (as As).....	Mn (Manganese).....	≤ 0.03 ppm
Ag (Silver).....	Mo (Molybdenum).....	≤ 0.02 ppm
Al (Aluminium).....	Na (Sodium).....	≤ 0.2 ppm
Ba (Barium).....	Ni (Nickel).....	≤ 0.02 ppm
Be (Beryllium).....	Pb (Lead).....	≤ 0.02 ppm
Bi (Bismuth).....	Sr (Strontium).....	≤ 0.02 ppm
Ca (Calcium).....	Ti (Titanium).....	≤ 0.02 ppm
Cd (Cadmium).....	Tl (Thallium).....	≤ 0.02 ppm
Co (Cobalt).....		

V (Vanadium).....	≤ 0.02 ppm
Zn (Zinc).....	≤ 0.05 ppm
Zr (Zirconium).....	≤ 0.02 ppm
Heavy metals (as Pb).....	≤ 0.5 ppm
Residue on ignition (as sulphate).....	≤ 5 ppm

Ord.No.	Packaging	Quantity	Price
1.00338.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
1.00338.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00338.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

**100335 Hydrofluoric acid 40% Suprapur®**

<b>Specification</b>	Cu (Copper).....	≤ 1 ppb
Assay (acidimetric).....	Fe (Iron).....	≤ 5 ppb
Colour.....	Ga (Gallium).....	≤ 0.2 ppb
Chloride (Cl).....	Ge (Germanium).....	≤ 1 ppb
Hexafluorosilicate (SiF <sub>6</sub> ).....	Hg (Mercury).....	≤ 20 ppb
Phosphate (PO <sub>4</sub> ).....	In (Indium).....	≤ 0.2 ppb
Sulphate (SO <sub>4</sub> ).....	K (Potassium).....	≤ 10 ppb
Sulfite (SO <sub>3</sub> ).....	Li (Lithium).....	≤ 0.2 ppb
Ag (Silver).....	Mg (Magnesium).....	≤ 2 ppb
Al (Aluminium).....	Mn (Manganese).....	≤ 2 ppb
As (Arsenic).....	Mo (Molybdenum).....	≤ 0.2 ppb
Au (Gold).....	Na (Sodium).....	≤ 2 ppb
Ba (Barium).....	Ni (Nickel).....	≤ 0.5 ppb
Be (Beryllium).....	Pb (Lead).....	≤ 0.5 ppb
Bi (Bismuth).....	Pd (Palladium).....	≤ 0.2 ppb
Ca (Calcium).....	Pt (Platinum).....	≤ 0.2 ppb
Cd (Cadmium).....	Sb (Antimony).....	≤ 0.2 ppb
Co (Cobalt).....	Sn (Tin).....	≤ 0.5 ppb
Cr (Chromium).....		

Sr (Strontium).....	≤ 0.2 ppb
Ti (Titanium).....	≤ 5 ppb
Tl (Thallium).....	≤ 0.2 ppb
U (Uranium).....	≤ 0.1 ppb
V (Vanadium).....	≤ 0.2 ppb
Zn (Zinc).....	≤ 2 ppb
Zr (Zirconium).....	≤ 0.2 ppb
Residue on ignition (as sulphate).....	≤ 2000 ppb
Actual Analysis Values are subject to unavoidable systematic variations in this concentration range	

Ord.No.	Packaging	Quantity	Price
1.00335.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
1.00335.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire



# Hydrof

## Hydrofluoric acid 48%



Hydrofluoric acid solution, Fluoric acid

■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -35 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310;

Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 6.1B  
 ■ HS-No. 2811 11 00 ■ Disposal 23  
 ■ ADR-RID UN 1790 Fluorwasserstoffsäure, 8 (6.1), I ■ IMDG-Code UN 1790 HYDROFLUORIC ACID NOT MORE THAN 60%, 8 (6.1), II, Segregation

Group: 1 (Acids)

■ IATA-DGR UN 1790 HYDROFLUORIC ACID, 8 (6.1), II

Acid purified by sub-boiling distillation for sample preparation in trace analysis. Each package includes a certificate of analysis.

## 100334 Hydrofluoric acid 48% for analysis EMSURE® ACS,ISO,Reag. Ph Eur

### Specification

Assay (acidimetric).....	48.0 - 51.0 %
Colour.....	≤ 10 Hazen
Chloride (Cl).....	≤ 1 ppm
Hexafluorosilicate (SiF <sub>6</sub> ).....	≤ 50 ppm
Nitrate (NO <sub>3</sub> ).....	≤ 5 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 0.5 ppm
Sulfate and sulphite (as SO <sub>4</sub> ).....	≤ 5 ppm
Heavy metals (as Pb).....	≤ 0.5 ppm
Ag (Silver).....	≤ 0.020 ppm
Al (Aluminium).....	≤ 0.050 ppm
As (Arsenic).....	≤ 0.030 ppm
Au (Gold).....	≤ 0.100 ppm
B (Boron).....	≤ 0.050 ppm
Ba (Barium).....	≤ 0.010 ppm
Be (Beryllium).....	≤ 0.020 ppm
Bi (Bismuth).....	≤ 0.020 ppm
Ca (Calcium).....	≤ 0.200 ppm

Cd (Cadmium).....	≤ 0.010 ppm
Co (Cobalt).....	≤ 0.020 ppm
Cr (Chromium).....	≤ 0.010 ppm
Cu (Copper).....	≤ 0.020 ppm
Fe (Iron).....	≤ 0.100 ppm
Ga (Gallium).....	≤ 0.020 ppm
Ge (Germanium).....	≤ 0.020 ppm
In (Indium).....	≤ 0.020 ppm
K (Potassium).....	≤ 0.100 ppm
Li (Lithium).....	≤ 0.010 ppm
Mg (Magnesium).....	≤ 0.100 ppm
Mn (Manganese).....	≤ 0.030 ppm
Mo (Molybdenum).....	≤ 0.020 ppm
Na (Sodium).....	≤ 0.200 ppm
Ni (Nickel).....	≤ 0.020 ppm
Pb (Lead).....	≤ 0.020 ppm
Pt (Platinum).....	≤ 0.200 ppm

Sn (Tin).....	≤ 0.100 ppm
Sr (Strontium).....	≤ 0.020 ppm
Ti (Titanium).....	≤ 0.020 ppm
Tl (Thallium).....	≤ 0.020 ppm
V (Vanadium).....	≤ 0.020 ppm
Zn (Zinc).....	≤ 0.050 ppm
Zr (Zirconium).....	≤ 0.020 ppm
Residue on ignition (as sulphates).....	≤ 5 ppm

Ord.No.	Packaging	Quantity	Price
1.00334.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
1.00334.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00334.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00334.5000	Plastic container	5 l	inquire

## 101513 Hydrofluoric acid 48% Ultrapur

### Specification

Assay (acidimetric).....	≥ 48 %
Ag (Silver).....	≤ 20 ppt
Al (Aluminium).....	≤ 50 ppt
As (Arsenic).....	≤ 20 ppt
Au (Gold).....	≤ 20 ppt
B (Boron).....	≤ 100 ppt
Ba (Barium).....	≤ 20 ppt
Be (Beryllium).....	≤ 20.0 ppt
Bi (Bismuth).....	≤ 20.0 ppt
Ca (Calcium).....	≤ 200 ppt
Cd (Cadmium).....	≤ 20.0 ppt
Ce (Cerium).....	≤ 20.0 ppt
Co (Cobalt).....	≤ 20.0 ppt
Cr (Chromium).....	≤ 50 ppt
Cu (Copper).....	≤ 20 ppt
Dy (Dysprosium).....	≤ 20.0 ppt
Er (Erbium).....	≤ 20.0 ppt
Eu (Europium).....	≤ 20.0 ppt
Fe (Iron).....	≤ 100 ppt
Ga (Gallium).....	≤ 20.0 ppt
Gd (Gadolinium).....	≤ 20 ppt
Ge (Germanium).....	≤ 20 ppt

Hf (Hafnium).....	≤ 10.00 ppt
Ho (Holmium).....	≤ 20.00 ppt
In (Indium).....	≤ 20.0 ppt
K (Potassium).....	≤ 100 ppt
La (Lanthanum).....	≤ 20.0 ppt
Li (Lithium).....	≤ 20.0 ppt
Lu (Lutetium).....	≤ 20.00 ppt
Mg (Magnesium).....	≤ 50 ppt
Mn (Manganese).....	≤ 20 ppt
Mo (Molybdenum).....	≤ 20.0 ppt
Na (Sodium).....	≤ 100 ppt
Nb (Niobium).....	≤ 20.0 ppt
Nd (Neodymium).....	≤ 20.0 ppt
Ni (Nickel).....	≤ 50 ppt
Pb (Lead).....	≤ 20.0 ppt
Pd (Palladium).....	≤ 20.0 ppt
Pr (Praseodym).....	≤ 20.0 ppt
Pt (Platinum).....	≤ 20 ppt
Rb (Rubidium).....	≤ 20.0 ppt
Re (Rhenium).....	≤ 10.00 ppt
Ru (Ruthenium).....	≤ 20.0 ppt
Sb (Antimony).....	≤ 20.0 ppt

Sc (Scandium).....	≤ 20 ppt
Sm (Samarium).....	≤ 20.00 ppt
Sn (Tin).....	≤ 20 ppt
Sr (Strontium).....	≤ 20.0 ppt
Ta (Tantalum).....	≤ 50.00 ppt
Tb (Terbium).....	≤ 20.00 ppt
Te (Tellur).....	≤ 50 ppt
Th (Thorium).....	≤ 1.00 ppt
Ti (Titanium).....	≤ 20 ppt
Tl (Thallium).....	≤ 20.00 ppt
Tm (Thulium).....	≤ 20.00 ppt
U (Uranium).....	≤ 1.00 ppt
V (Vanadium).....	≤ 20 ppt
W (Wolfram).....	≤ 100 ppt
Y (Yttrium).....	≤ 10.0 ppt
Yb (Ytterbium).....	≤ 20.0 ppt
Zn (Zinc).....	≤ 100 ppt
Zr (Zirconium).....	≤ 20.0 ppt

Ord.No.	Packaging	Quantity	Price
1.01513.1000	Plastic bottle	1 l	inquire

Hydrofluoric acid solution → page 971

## 818856 Hydrogen bromide (32% solution in acetic acid) for synthesis



■ Vapour pressure 360 hPa (20 °C)  
 ■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ Boiling point < 200 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 3  
 ■ HS-No. 3824 90 97 ■ Disposal 12  
 ■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(BROMWASSERSTOFFSAEURE UND ENTH. ESSIGSAEURE), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(HYDROBROMIC ACID AND CONT. ACETIC ACID), 8 (3), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(HYDROBROMIC ACID AND

CONT. ACETIC ACID), 8 (3), II

### Specification

Assay (argentometric).....30,0 - 34,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18856.0250	Glass bottle	250 ml	inquire
8.18856.1000	Glass bottle	1 l	inquire

Hydrogen chloride solution → page 169

## 818068 Hydrogen fluoride (65% solution in pyridin) for synthesis



■ CAS-No. 62778-11-4  
 ■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 7 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 2, Dermal, H310; Skin corrosion, Category 1A, H314, P280, P302 +

P352, P301 + P330 + P331, P305 + P351 + P338, P304 + P340, P309, P310  
 ■ LGK 6.1B ■ Store at +2°C to +8°C.  
 ■ HS-No. 3824 90 97 ■ Disposal 23  
 ■ ADR-RID UN 1790 Fluorwasserstoffsäure, 8 (6.1), I ■ IMDG-Code UN 1790 HYDROFLUORIC ACID MORE THAN 60%, 8 (6.1), I, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1790 HYDROFLUORIC ACID, 8 (6.1), I

### Specification

Assay (acidimetric).....63,0 - 67,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18068.0100	Plastic bottle	100 ml	inquire

Hydrogen fluoride triethylamine → Triethylamine trishydrofluoride page 1585



## Hydrogen peroxide 30%



## Perhydrol

- Vapour pressure 18 hPa (20 °C)
- Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2 - 4 (H<sub>2</sub>O, 20 °C)
- Melting point -26 °C ■ Boiling point 107 °C (1013 hPa)
- WGK 1

- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LGK 5.1B
- HS-No. 2847 00 00 ■ Disposal 22
- ADR-RID UN 2014 Wasserstoffperoxid, wässrige Lösung, 5.1 (8), II ■ IMDG-Code UN

2014 HYDROGEN PEROXIDE, AQUEOUS SOLUTION, 5.1 (8), II, Segregation Group: 16 (Peroxides)  
 ■ IATA-DGR UN 2014 HYDROGEN PEROXIDE, AQUEOUS SOLUTION, 5.1 (8), II

## 822287 Hydrogen peroxide 30% (stabilized) for synthesis

## Specification

Assay (manganometric)..... 29.0 - 31.0 %  
 Density (d 20/4)..... 1.11 - 1.12 g/cm<sup>3</sup>

Ord.No.	Packaging	Quantity	Price
8.22287.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.22287.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

## 107209 Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

## Specification

Assay (manganometric)..... 30.0 - 32.0 %  
 Colour..... ≤ 10 Hazen  
 Free acid (as H<sub>2</sub>SO<sub>4</sub>)..... ≤ 30 ppm  
 Total acid..... ≤ 0.0006 meq/g  
 Chloride (Cl)..... ≤ 0.5 ppm  
 Nitrate (NO<sub>3</sub>)..... ≤ 2 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 1 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 1 ppm  
 Heavy metals (as Pb)..... ≤ 1 ppm  
 Total nitrogen (N)..... ≤ 4 ppm  
 Ammonium (NH<sub>4</sub>)..... ≤ 5 ppm  
 Al (Aluminium)..... ≤ 0.5 ppm  
 As (Arsenic)..... ≤ 0.01 ppm  
 Ba (Barium)..... ≤ 0.05 ppm  
 Be (Beryllium)..... ≤ 0.01 ppm  
 Bi (Bismuth)..... ≤ 0.1 ppm

Ca (Calcium)..... ≤ 0.2 ppm  
 Cd (Cadmium)..... ≤ 0.01 ppm  
 Co (Cobalt)..... ≤ 0.01 ppm  
 Cr (Chromium)..... ≤ 0.02 ppm  
 Cu (Copper)..... ≤ 0.01 ppm  
 Fe (Iron)..... ≤ 0.05 ppm  
 Ge (Germanium)..... ≤ 0.05 ppm  
 K (Potassium)..... ≤ 0.1 ppm  
 Li (Lithium)..... ≤ 0.01 ppm  
 Mg (Magnesium)..... ≤ 0.05 ppm  
 Mn (Manganese)..... ≤ 0.01 ppm  
 Mo (Molybdenum)..... ≤ 0.02 ppm  
 Na (Sodium)..... ≤ 0.1 ppm  
 Ni (Nickel)..... ≤ 0.02 ppm  
 Pb (Lead)..... ≤ 0.01 ppm  
 Sr (Strontium)..... ≤ 0.01 ppm

Ti (Titanium)..... ≤ 0.1 ppm  
 Tl (Thallium)..... ≤ 0.05 ppm  
 V (Vanadium)..... ≤ 0.01 ppm  
 Zn (Zinc)..... ≤ 0.02 ppm  
 Zr (Zirconium)..... ≤ 0.1 ppm  
 Non volatile matter..... ≤ 20 ppm  
 ISO-reagent, ACS Expiry date: see product label

Ord.No.	Packaging	Quantity	Price
1.07209.0250	Plastic bottle	250 ml	inquire
	Plastic bottle	6 x 250 ml	inquire
1.07209.0500	Plastic bottle	500 ml	inquire
1.07209.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.07209.2500	Plastic bottle	2.5 l	inquire

## 107210 Hydrogen peroxide 30% (Perhydrol®) (stabilized for higher storage temp.) for analysis EMSURE® ACS,ISO

## Specification

Assay (manganometric)..... 30.0 - 32.0 %  
 Colour..... ≤ 10 Hazen  
 Free acid (as sulphuric acid)..... ≤ 30 ppm  
 Total acid..... ≤ 0.0006 meq/g  
 Chloride (Cl)..... ≤ 0.5 ppm  
 Nitrate (NO<sub>3</sub>)..... ≤ 2 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 5 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 2 ppm  
 Heavy metals (as Pb)..... ≤ 1 ppm

Total nitrogen (N)..... ≤ 4 ppm  
 Ammonium (NH<sub>4</sub>)..... ≤ 5 ppm  
 Cd (Cadmium)..... ≤ 0.02 ppm  
 Co (Cobalt)..... ≤ 0.02 ppm  
 Cu (Copper)..... ≤ 0.02 ppm  
 Fe (Iron)..... ≤ 0.1 ppm  
 Ni (Nickel)..... ≤ 0.02 ppm  
 Pb (Lead)..... ≤ 0.02 ppm  
 Zn (Zinc)..... ≤ 0.02 ppm

Non volatile matter..... ≤ 20 ppm  
 ISO-Reagent, ACS

Ord.No.	Packaging	Quantity	Price
1.07210.0250	Plastic bottle	250 ml	inquire
	Plastic bottle	6 x 250 ml	inquire
1.07210.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.07210.2500	Plastic bottle	2.5 l	inquire

## 107298 Hydrogen peroxide 30% Suprapur®

## Specification

Assay (manganometric)..... ≥ 30.0 %  
 Free acid (as H<sub>2</sub>SO<sub>4</sub>)..... ≤ 30 ppm  
 Total nitrogen (N)..... ≤ 3 ppm  
 Chloride (Cl)..... ≤ 300 ppb  
 Nitrate (NO<sub>3</sub>)..... ≤ 500 ppb  
 Phosphate (PO<sub>4</sub>)..... ≤ 100 ppb  
 Sulphate (SO<sub>4</sub>)..... ≤ 100 ppb  
 Ag (Silver)..... ≤ 0.5 ppb  
 Al (Aluminium)..... ≤ 1.0 ppb  
 As (Arsenic)..... ≤ 1.0 ppb  
 Au (Gold)..... ≤ 0.5 ppb  
 B (Boron)..... ≤ 0.5 ppb  
 Ba (Barium)..... ≤ 0.5 ppb  
 Be (Beryllium)..... ≤ 0.5 ppb  
 Bi (Bismuth)..... ≤ 0.5 ppb  
 Ca (Calcium)..... ≤ 5 ppb  
 Cd (Cadmium)..... ≤ 0.5 ppb

Co (Cobalt)..... ≤ 0.5 ppb  
 Cr (Chromium)..... ≤ 0.5 ppb  
 Cu (Copper)..... ≤ 0.5 ppb  
 Fe (Iron)..... ≤ 1.0 ppb  
 Ga (Gallium)..... ≤ 0.5 ppb  
 Ge (Germanium)..... ≤ 0.5 ppb  
 Hg (Mercury)..... ≤ 1 ppb  
 In (Indium)..... ≤ 0.5 ppb  
 K (Potassium)..... ≤ 1.0 ppb  
 Li (Lithium)..... ≤ 0.5 ppb  
 Mg (Magnesium)..... ≤ 1.0 ppb  
 Mn (Manganese)..... ≤ 0.5 ppb  
 Mo (Molybdenum)..... ≤ 0.5 ppb  
 Na (Sodium)..... ≤ 1.0 ppb  
 Ni (Nickel)..... ≤ 0.5 ppb  
 Pb (Lead)..... ≤ 0.5 ppb  
 Pd (Palladium)..... ≤ 0.5 ppb

Pt (Platinum)..... ≤ 0.5 ppb  
 Sb (Antimony)..... ≤ 0.5 ppb  
 Sn (Tin)..... ≤ 0.5 ppb  
 Sr (Strontium)..... ≤ 0.5 ppb  
 Ti (Titanium)..... ≤ 1 ppb  
 Tl (Thallium)..... ≤ 0.5 ppb  
 V (Vanadium)..... ≤ 0.5 ppb  
 Zn (Zinc)..... ≤ 1.0 ppb  
 Zr (Zirconium)..... ≤ 0.5 ppb  
 The actual values are subject to unavoidable systematic variations in this concentration range.

Ord.No.	Packaging	Quantity	Price
1.07298.0250	Plastic bottle	250 ml	inquire
1.07298.0500	Plastic bottle	500 ml	inquire
1.07298.1000	Plastic bottle	1 l	inquire

## 108556 Hydrogen peroxide 35% technical grade



## Perhydrol

- Vapour pressure 20 hPa (20 °C)
- Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2 - 4 (H<sub>2</sub>O, 20 °C)
- Melting point -24 °C ■ Boiling point 110 °C (1013 hPa)
- WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Specific target

organ toxicity - single exposure, Category 3, H335, P280, P302 + P352, P305 + P351 + P338, P313  
 ■ LD50 oral rat 1193 - 1270 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2847 00 00 ■ Disposal 22  
 ■ ADR-RID UN 2014 Wasserstoffperoxid, wässrige Lösung, 5.1 (8), II ■ IMDG-Code UN 2014 HYDROGEN PEROXIDE, AQUEOUS SOLUTION, 5.1 (8), II, Segregation Group: 16 (Peroxides)

■ IATA-DGR UN 2014 HYDROGEN PEROXIDE, AQUEOUS SOLUTION, 5.1 (8), II

## Specification

Assay (manganometric)..... ≥ 35.0 %  
 Free acid (as sulphuric acid)..... ≤ 0.2%  
 Chloride (Cl)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.08556.9025	Plastic container	25 l	inquire

# Hydrog

## 106097 Hydrogen peroxide solution 31% Ultrapur



■ Vapour pressure 18 hPa (20 °C)  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2 - 4 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -25.5 °C ■ Boiling point 108 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318,

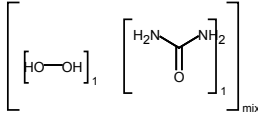
P280, P305 + P351 + P338, P313  
 ■ LGK 5.1B  
 ■ HS-No. 2847 00 00 ■ Disposal 10  
 ■ ADR-RID UN 2014 Wasserstoffperoxid, wässrige Lösung, 5.1 (8), II ■ IMDG-Code UN 2014 HYDROGEN PEROXIDE, AQUEOUS SOLUTION, 5.1 (8), II, Segregation Group: 16 (Peroxides)  
 ■ IATA-DGR UN 2014 HYDROGEN PEROXIDE,

AQUEOUS SOLUTION, 5.1 (8), II  
 For oxidative digestion in trace analysis. Each package includes a certificate of analysis.

Ord.No.	Packaging	Quantity	Price
1.06097.1001	Plastic bottle	1 kg	inquire

Hydrogen Peroxide Test → page 66

## 818356 Hydrogen peroxide urea for synthesis



CH<sub>6</sub>N<sub>2</sub>O<sub>3</sub>  
 CH<sub>4</sub>N<sub>2</sub>O \* H<sub>2</sub>O<sub>2</sub>  
 Carbamide peroxide tablets, Hydrogen peroxide urea tablets  
 ■ CAS-No. 124-43-6 ■ EC-No. 204-701-4  
 ■ Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 94.07 g/mol

■ pH value 6.3 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point 75 - 85 °C (decomposition)  
 ■ WGK 2  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Oxidising solid, Category 3, H272, P280, P302 + P352, P305 + P351 + P338, P313  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2847 00 00 ■ Disposal 22  
 ■ ADR-RID UN 1511 Harnstoffwasserstoffperoxid,

5.1 (8), III ■ IMDG-Code UN 1511 UREA HYDROGEN PEROXIDE, 5.1 (8), III  
 ■ IATA-DGR UN 1511 UREA HYDROGEN PEROXIDE, 5.1 (8), III

**Specification**  
 Assay (iodometric) ..... 33,0 - 37,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18356.0100	Plastic bottle	100 g	inquire
8.18356.0500	Plastic bottle	500 g	inquire

Hydrogen peroxide urea tablets → Perhydrit®  
 tablets 1 g page 1277

Hydrogen sulfide → Sulfide

Hydrogen sulfide, determination → page 84

## Hydroiodic acid 57%



Hydrogen iodide solution  
 ■ Spec. density 1.70 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (13 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -50 °C (External MSDS)  
 ■ Boiling point 127 °C (1013 hPa)  
 ■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2811 19 80 ■ Disposal 12  
 ■ ADR-RID UN 1787 Iodwasserstoffsäure, 8, II

■ IMDG-Code UN 1787 HYDRIODIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1787 HYDRIODIC ACID, 8, II

## 100341 Hydroiodic acid 57% extra pure

**Specification**  
 Assay (acidimetric) ..... ≥ 57 %  
 Chloride and Bromide (as Cl) ..... ≤ 0.03 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %

Fe (Iron) ..... ≤ 0.0005 %  
 Non volatile matter ..... ≤ 0.06 %

Ord.No.	Packaging	Quantity	Price
1.00341.0250	Glass bottle	250 ml	inquire
1.00341.9022	Carboy	22 l	inquire

## 100344 Hydroiodic acid 57% for analysis EMSURE®

**Specification**  
 Assay (acidimetric) ..... ≥ 57 %  
 Chloride and Bromide (as Cl) ..... ≤ 100 ppm  
 Phosphorous compounds (as PO<sub>4</sub>) ..... ≤ 10 ppm  
 Sulphate (SO<sub>4</sub>) ..... ≤ 20 ppm  
 Al (Aluminium) ..... ≤ 1 ppm  
 As (Arsenic) ..... ≤ 1 ppm  
 Ba (Barium) ..... ≤ 0.1 ppm  
 Be (Beryllium) ..... ≤ 0.1 ppm  
 Bi (Bismuth) ..... ≤ 0.1 ppm  
 Ca (Calcium) ..... ≤ 1 ppm  
 Cd (Cadmium) ..... ≤ 0.1 ppm  
 Co (Cobalt) ..... ≤ 0.1 ppm  
 Cr (Chromium) ..... ≤ 0.1 ppm

Cu (Copper) ..... ≤ 0.1 ppm  
 Fe (Iron) ..... ≤ 2 ppm  
 Ge (Germanium) ..... ≤ 0.1 ppm  
 K (Potassium) ..... ≤ 1 ppm  
 Li (Lithium) ..... ≤ 0.1 ppm  
 Mg (Magnesium) ..... ≤ 5 ppm  
 Mn (Manganese) ..... ≤ 0.1 ppm  
 Mo (Molybdenum) ..... ≤ 0.1 ppm  
 Na (Sodium) ..... ≤ 1 ppm  
 Ni (Nickel) ..... ≤ 0.1 ppm  
 Pb (Lead) ..... ≤ 0.1 ppm  
 Sr (Strontium) ..... ≤ 0.1 ppm  
 Ti (Titanium) ..... ≤ 0.1 ppm

Tl (Thallium) ..... ≤ 0.1 ppm  
 V (Vanadium) ..... ≤ 0.1 ppm  
 Zn (Zinc) ..... ≤ 0.5 ppm  
 Zr (Zirconium) ..... ≤ 0.1 ppm  
 Alkoxygroups ..... passes test  
 Residue on ignition (as sulphate) ..... ≤ 50 ppm

Ord.No.	Packaging	Quantity	Price
1.00344.0050	Glass bottle	50 ml	inquire
1.00344.0250	Glass bottle	250 ml	inquire
1.00344.1000	Glass bottle	1 l	inquire

## 100345 Hydroiodic acid 67% for analysis EMSURE®



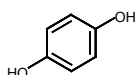
Hydrogen iodide solution  
 ■ Spec. density 1.97 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid ■ Boiling point 127 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2811 19 80 ■ Disposal 12  
 ■ ADR-RID UN 1787 Iodwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1787 HYDRIODIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1787 HYDRIODIC ACID, 8, II  
**Specification**  
 Assay (acidimetric) ..... ≥ 67 %  
 Chloride and Bromide (as Cl) ..... ≤ 200 ppm

Phosphorous compounds (as PO<sub>4</sub>) ..... ≤ 10 ppm  
 Sulphate (SO<sub>4</sub>) ..... ≤ 20 ppm  
 Al (Aluminium) ..... ≤ 1 ppm  
 As (Arsenic) ..... ≤ 1 ppm  
 Ba (Barium) ..... ≤ 0.1 ppm  
 Be (Beryllium) ..... ≤ 0.1 ppm  
 Bi (Bismuth) ..... ≤ 0.1 ppm  
 Ca (Calcium) ..... ≤ 1 ppm  
 Cd (Cadmium) ..... ≤ 0.1 ppm  
 Co (Cobalt) ..... ≤ 0.1 ppm  
 Cr (Chromium) ..... ≤ 0.1 ppm  
 Cu (Copper) ..... ≤ 0.1 ppm  
 Fe (Iron) ..... ≤ 2 ppm  
 Ge (Germanium) ..... ≤ 0.1 ppm  
 K (Potassium) ..... ≤ 1 ppm  
 Li (Lithium) ..... ≤ 0.1 ppm  
 Mg (Magnesium) ..... ≤ 5 ppm  
 Mn (Manganese) ..... ≤ 0.1 ppm

Mo (Molybdenum) ..... ≤ 0.1 ppm  
 Na (Sodium) ..... ≤ 1 ppm  
 Ni (Nickel) ..... ≤ 0.1 ppm  
 Pb (Lead) ..... ≤ 0.1 ppm  
 Sr (Strontium) ..... ≤ 0.1 ppm  
 Ti (Titanium) ..... ≤ 0.1 ppm  
 Tl (Thallium) ..... ≤ 0.1 ppm  
 V (Vanadium) ..... ≤ 0.1 ppm  
 Zn (Zinc) ..... ≤ 0.5 ppm  
 Zr (Zirconium) ..... ≤ 0.1 ppm  
 Alkoxygroups ..... passes test  
 Residue on ignition (as sulphate) ..... ≤ 50 ppm

Ord.No.	Packaging	Quantity	Price
1.00345.0250	Glass bottle	250 ml	inquire

## 822333 Hydroquinone for synthesis



C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>  
 C<sub>6</sub>H<sub>4</sub>(OH)<sub>2</sub>  
 1,4-Dihydroxybenzene, Quinol  
 ■ CAS-No. 123-31-9 ■ EC-No. 204-617-8  
 ■ Vapour pressure < 0.1 hPa (25 °C)  
 ■ Spec. density 1.358 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 165 °C ■ Solub. in H<sub>2</sub>O 70 g/l (25 °C)  
 ■ M = 110.11 g/mol  
 ■ Melting point 172 °C (decomposition)  
 ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 287 °C (1013 hPa) ■ Ignition temp. 515 °C  
 ■ WGK 3

■ GHS: Danger, Carcinogenicity, Category 2, H351; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P273, P280, P308 + P313, P305 + P351 + P338, P302 + P352  
 ■ LD50 oral rat 302 mg/kg ■ LD50 dermal rat > 900 mg/kg  
 ■ EC-Index-No. 604-005-00-4 ■ LGK 10 - 13  
 ■ HS-No. 2907 22 00 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(HYDROCHINON), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(HYDROQUINONE), 9, III, Marine Pollutant: P

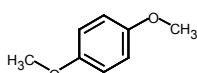
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(HYDROQUINONE), 9, III

## Specification

Purity (GC)..... ≥ 99.5 %  
 Identity (IR-spectrum)..... passes test  
 Melting range (lower value)..... ≥ 170 °C  
 Melting range (upper value)..... ≤ 174 °C

Ord.No.	Packaging	Quantity	Price
8.22333.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
8.22333.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.22333.2501	Plastic bottle	2.5 kg	inquire

## 804613 Hydroquinone dimethyl ether for synthesis



C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>  
 C<sub>6</sub>H<sub>4</sub>-1,4-(OCH<sub>3</sub>)<sub>2</sub>  
 1,4-Dimethoxybenzene  
 ■ CAS-No. 150-78-7 ■ EC-No. 205-771-9  
 ■ Vapour pressure < 0.1 hPa (20 °C) ■ Explosive limit 1.2 - 5.6 % (V) ■ Flash point 94 °C ■ Solub. in

H<sub>2</sub>O 0.80 g/l (20 °C) ■ M = 138.17 g/mol  
 ■ pH value 7 (H<sub>2</sub>O, 20 °C) (saturated solution)  
 ■ Melting point >53 - 56 °C  
 ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 213 °C (1013 hPa) ■ Ignition temp. 438 °C  
 ■ WGK 1  
 ■ LD50 oral rat 3600 mg/kg ■ LD50 dermal rat > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 30 90 ■ Disposal 3

## Specification

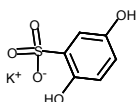
Assay (GC, area%)..... ≥ 99.0 Area %  
 Melting range (lower value)..... ≥ 53 °C  
 Melting range (upper value)..... ≤ 56 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04613.0005	Glass bottle	5 g	inquire
8.04613.0250	Glass bottle	250 g	inquire

Hydroquinone monomethyl ether → 4-Methoxyphenol page 1123

Hydroquinone monophenyl ether → 4-Phenoxyphenol page 1295

## 814729 Hydroquinone monosulfonic acid potassium salt for synthesis



C<sub>6</sub>H<sub>5</sub>KO<sub>3</sub>S  
 C<sub>6</sub>H<sub>4</sub>O<sub>3</sub>S<sup>-</sup>K<sup>+</sup>  
 2,5-Dihydroxybenzenesulfonic acid potassium salt  
 ■ CAS-No. 21799-87-1 ■ EC-No. 244-584-7  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 228.27 g/mol  
 ■ Melting point 250 - 251 °C  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2908 99 00 ■ Disposal 3

## Specification

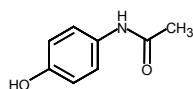
Assay (HPLC, area%)..... ≥ 96.0 % (a/a)  
 Water (K. F.)..... ≤ 1.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14729.0050	Plastic bottle	50 g	inquire
8.14729.0250	Plastic bottle	250 g	inquire

## Hydroxide / Caustics

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
369	101091	Aluminium hydroxide	169	109919	Potassium hydroxide solution	170	109138	Sodium hydroxide solution
406	105432	Ammonia solution 25%	169	109918	Potassium hydroxide solution	170	109137	Sodium hydroxide solution
164	105428	Ammonia solution 25 %	169	109107	Potassium hydroxide solution	170	109136	Sodium hydroxide solution
407	105423	Ammonia solution 28-30%	1355	105545	Potassium hydroxide solution 47%	170	111584	Sodium hydroxide solution
407	105426	Ammonia solution 32%				170	109961	Sodium hydroxide solution
432	101735	Barium hydroxide octahydrate	169	109115	Potassium hydroxide solution in ethanol	170	109959	Sodium hydroxide solution
432	101737	Barium hydroxide octahydrate				170	109958	Sodium hydroxide solution
563	102047	Calcium hydroxide	169	109114	Potassium hydroxide solution in ethanol	170	109957	Sodium hydroxide solution
563	102111	Calcium hydroxide				171	109956	Sodium hydroxide solution
1082	105691	Lithium hydroxide	170	111587	Potassium hydroxide solution in methanol	171	199062	Sodium hydroxide solution
1354	105033	Potassium hydroxide				171	199060	Sodium hydroxide solution 1 mol/l
1354	105021	Potassium hydroxide	170	109351	Potassium hydroxide solution in methanol	1440	105588	Sodium hydroxide solution min. 10% (1.11)
1354	105012	Potassium hydroxide	170	111787	Potassium hydroxide solution in methanol	1440	105593	Sodium hydroxide solution 21%
165	105002	Potassium hydroxide hydrate				1441	105591	Sodium hydroxide solution min. 27% (1.30)
1355	814353	Potassium hydroxide (powder)	1439	106467	Sodium hydroxide	164	105589	Sodium hydroxide solution 30%
169	109112	Potassium hydroxide solution	1439	106498	Sodium hydroxide	1441	105587	Sodium hydroxide solution about 32%
169	111586	Potassium hydroxide solution	1439	106495	Sodium hydroxide	1441	105590	Sodium hydroxide solution about 32%
169	109108	Potassium hydroxide solution	1439	106469	Sodium hydroxide	1441	111360	Sodium hydroxide solution min. 45%
169	109921	Potassium hydroxide solution	1439	106462	Sodium hydroxide	1442	158793	Sodium hydroxide solution 50%
			166	106466	Sodium hydroxide monohydrate			
			170	109142	Sodium hydroxide solution			
			170	109141	Sodium hydroxide solution			
			170	109140	Sodium hydroxide solution			
			170	109139	Sodium hydroxide solution			
			170	105595	Sodium hydroxide solution			

## 822325 4'-Hydroxyacetanilide for synthesis



$C_8H_9NO_2$   
 $CH_3CONHC_6H_4(OH)$   
 ■ CAS-No. 103-90-2 ■ EC-No. 203-157-5  
 ■ Spec. density 1.293 g/cm<sup>3</sup> (21 °C) ■ Explosive limit 15 % (V) ■ Solub. in H<sub>2</sub>O 14 g/l (20 °C)  
 ■ M = 151.16 g/mol ■ pH value 5.5 - 6.5 (H<sub>2</sub>O),

20 °C) (saturated solution)  
 ■ Melting point 169 - 171 °C  
 ■ Bulk density 170 - 850 kg/m<sup>3</sup>  
 ■ Boiling point >500 °C ■ Ignition temp. 540 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P260, P273  
 ■ LD50 oral rat 1944 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 29 98

## Specification

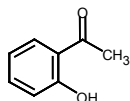
Assay (HPLC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 168 °C  
 Melting range (upper value) ..... ≤ 172 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22325.0250	Plastic bottle	250 g	inquire
8.22325.1000	Plastic bottle	1 kg	inquire
8.22325.9025	Fibre carton	25 kg	inquire

3-Hydroxyacetanilide → 3-Acetamidophenol page 332

Hydroxyacetic acid → page 929

## 804310 2'-Hydroxyacetophenone for synthesis



$C_8H_8O_2$   
 $2-(OH)C_6H_4COCH_3$   
 2-Acetylphenol  
 ■ CAS-No. 118-93-4 ■ EC-No. 204-288-0  
 ■ Refractive index 1.5584 (20 °C, 589 nm)

■ Vapour pressure 0.27 hPa (20 °C)  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.98 - 11.8 % (V) ■ Flash point 106 °C  
 ■ Solub. in H<sub>2</sub>O 0.2 g/l (20 °C) ■ M = 136.15 g/mol  
 ■ Melting point 4 - 6 °C  
 ■ Boiling point 212 - 214 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat 2127 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10

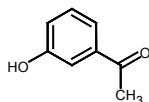
■ HS-No. 2914 50 00 ■ Disposal 1

## Specification

Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C / 4 °C) ..... 1,130 - 1,133  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04310.0250	Glass bottle	250 ml	inquire

## 842792 3'-Hydroxyacetophenone for synthesis



$C_8H_8O_2$   
 ■ CAS-No. 121-71-1 ■ EC-No. 204-494-0  
 ■ Vapour pressure 1 Pa (25 °C)  
 ■ Spec. density 1.1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 22 g/l

(25 °C) ■ M = 136.15 g/mol  
 ■ Melting point 94 - 97 °C ■ Boiling point 296 °C (1013 hPa)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 50 00 ■ Disposal 3

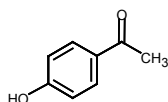
Melting range (upper value) ..... ≤ 97 °C  
 Identity (IR) ..... passes test

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 94 °C

Ord.No.	Packaging	Quantity	Price
8.42792.0025	Glass bottle	25 g	inquire
8.42792.0100	Glass bottle	100 g	inquire

## 804311 4'-Hydroxyacetophenone for synthesis



$C_8H_8O_2$   
 $4-(OH)C_6H_4COCH_3$   
 4-Acetylphenol

■ CAS-No. 99-93-4 ■ EC-No. 202-802-8  
 ■ Flash point 166 °C ■ Solub. in H<sub>2</sub>O 9.9 g/l (22 °C) ■ M = 136.15 g/mol  
 ■ Melting point 105 - 108 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 50 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04311.0100	Plastic bottle	100 g	inquire
8.04311.0250	Plastic bottle	250 g	inquire

1-Hydroxyadamantane → 1-Adamantanol page 354

2-Hydroxyaniline → 2-Aminophenol page 398

3-Hydroxyaniline → 3-Aminophenol page 398

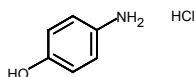
2-Hydroxyadamantane → 2-Adamantanol page 354

4-Hydroxyaniline → 4-Aminophenol page 398

3-Hydroxy-L-alanine → L-Serine page 1416

4-Hydroxyaniline hydrochloride → 4-Hydroxyanilinium chloride page 976

## 820092 4-Hydroxyanilinium chloride for synthesis



$C_6H_8ClNO$   
 $C_6H_7NO \cdot HCl$   
 4-Aminophenol hydrochloride, 4-Hydroxyaniline hydrochloride  
 ■ CAS-No. 51-78-5 ■ EC-No. 200-122-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 145.59 g/mol ■ Melting point 306 °C (decomposition)  
 ■ WGK 3

■ GHS: Danger, Carcinogenicity, Category 2, H351; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 6.1A

■ HS-No. 2922 29 00 ■ Disposal 9  
 ■ ADR-RID UN 1548 Anilinhydrochlorid, 6.1, III  
 ■ IMDG-Code UN 1548 ANILINE HYDROCHLORIDE, 6.1, III  
 ■ IATA-DGR UN 1548 ANILINE HYDROCHLORIDE, 6.1, III

## Specification

Assay (argentometric) ..... ≥ 99,0 %  
 Identity (IR) ..... passes test

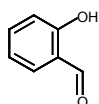
Ord.No.	Packaging	Quantity	Price
8.20092.0100	Glass bottle	100 g	inquire

2-Hydroxyanisaldehyde → 2-Hydroxy-4-methoxybenzaldehyde page 986

2-Hydroxyanisole → 2-Methoxyphenol page 1122

3-Hydroxyanisole, 97% → 3-Methoxyphenol page 1122

## 800640 2-Hydroxybenzaldehyde for synthesis



$C_7H_6O_2$   
 $HOC_6H_4CHO$   
*Salicylaldehyde*  
 ■ CAS-No. 90-02-8 ■ EC-No. 201-961-0  
 ■ Vapour pressure 0.77 hPa (25 °C)  
 ■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 79 °C ■ Solub. in H<sub>2</sub>O 14 g/l (20 °C)

■ M = 122.12 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) not applicable ■ Melting point -7 °C  
 ■ Boiling point 197 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
 ■ LD50 oral rat 520 mg/kg ■ LD50 dermal rabbit 3000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 49 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

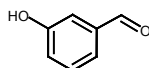
■ IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%) ..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 1.165 - 1.167  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00640.0005	Glass bottle	5 ml	inquire
8.00640.0250	Glass bottle	250 ml	inquire
8.00640.1000	Glass bottle	1 l	inquire
8.00640.9025	Plastic container	25 l	inquire

## 804535 3-Hydroxybenzaldehyde for synthesis



$C_7H_6O_2$   
 $3-(OH)C_6H_4CHO$   
 ■ CAS-No. 100-83-4 ■ EC-No. 202-892-9  
 ■ Solub. in H<sub>2</sub>O 7.2 g/l (25 °C) ■ M = 122.12 g/mol  
 ■ pH value 3 - 4 (H<sub>2</sub>O, 20 °C) (saturated solution)

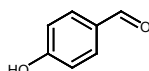
■ Melting point 99 - 102 °C  
 ■ Bulk density 350 kg/m<sup>3</sup> ■ Boiling point 191 °C (67 hPa) ■ Ignition temp. >400 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 49 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 100 °C  
 Melting range (upper value) ..... ≤ 104 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.04535.0100	Plastic bottle	100 g	inquire
8.04535.0250	Plastic bottle	250 g	inquire

## 804536 4-Hydroxybenzaldehyde for synthesis



$C_7H_6O_2$   
 $4-(OH)C_6H_4CHO$   
 ■ CAS-No. 123-08-0 ■ EC-No. 204-599-1  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 174 °C ■ Solub. in H<sub>2</sub>O 13.8 g/l (30.5 °C) ■ M = 122.12 g/mol

■ Melting point 116 °C  
 ■ Boiling point (1013 hPa) (sublimed)  
 ■ Ignition temp. 450 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 2250 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 49 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98 %  
 Melting range  
 - (lower value) ..... ≥ 114 °C  
 - (upper value) ..... ≤ 118 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.04536.0100	Plastic bottle	100 g	inquire
8.04536.0250	Plastic bottle	250 g	inquire

N-Hydroxybenzamide → Benzohydroxamic acid page 440

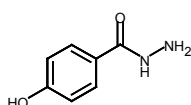
2-Hydroxybenzanilide → Salicylanilide page 1409

1-Hydroxybenzene-2,4-diammonium dichloride → 4-Hydroxy-1,3-phenylenediammonium dichloride page 992

5-Hydroxy-1,3-benzenedicarboxylic acid → 5-Hydroxyisophthalic acid page 984

4-Hydroxybenzenesulfonic acid → Phenolsulfonic acid page 1294

## 841410 4-Hydroxybenzhydrazide for synthesis



$C_7H_8N_2O_2$   
 ■ CAS-No. 5351-23-5 ■ EC-No. 226-326-5  
 ■ Solub. in H<sub>2</sub>O 26.5 g/l (25 °C) ■ M = 152.15 g/mol

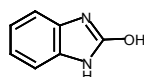
mol ■ Melting point 266 - 269 °C (decomposition)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2928 00 90 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 97.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41410.0025	Plastic bottle	25 g	inquire

## 841365 2-Hydroxybenzimidazole for synthesis



$C_7H_6N_2O$   
*2(1H)-Benzimidazolone*

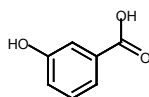
■ CAS-No. 615-16-7 ■ EC-No. 210-412-4  
 ■ M = 134.14 g/mol ■ Melting point 320 - 322 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41365.0010	Plastic bottle	10 g	inquire

## 804537 3-Hydroxybenzoic acid for synthesis



$C_7H_6O_3$   
 $3-(OH)C_6H_4COOH$   
 ■ CAS-No. 99-06-9 ■ EC-No. 202-726-5  
 ■ Flash point 220 °C ■ M = 138.12 g/mol

■ pH value 3 (H<sub>2</sub>O) Aqueous solution  
 ■ Melting point 199 - 202 °C  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 29 00 ■ Disposal 4

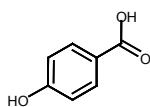
## Specification

Assay (HPLC, area%) ..... ≥ 98.0 Area %  
 Melting range (lower value) ..... ≥ 199 °C  
 Melting range (upper value) ..... ≤ 202 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04537.0005	Glass bottle	5 g	inquire
8.04537.0250	Plastic bottle	250 g	inquire



## 821814 4-Hydroxybenzoic acid for synthesis



C<sub>7</sub>H<sub>6</sub>O<sub>3</sub>  
 4-(OH)C<sub>6</sub>H<sub>4</sub>COOH  
 ■ CAS-No. 99-96-7 ■ EC-No. 202-804-9  
 ■ Solub. in H<sub>2</sub>O 5 g/l (25 °C) ■ M = 138.12 g/mol  
 ■ pH value 3.3 (1 g/l, H<sub>2</sub>O, 20 °C)

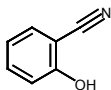
- Melting point 213 - 216 °C
- Bulk density 600 kg/m<sup>3</sup> ■ Ignition temp. >250 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 4

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 214 °C  
 Melting range (upper value) ..... ≤ 217 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21814.0005	Glass bottle	5 g	inquire
8.21814.0250	Plastic bottle	250 g	inquire
8.21814.1000	Plastic bottle	1 kg	inquire

## 820659 2-Hydroxybenzonitrile for synthesis



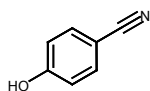
C<sub>7</sub>H<sub>5</sub>NO  
 2-(OH)C<sub>6</sub>H<sub>4</sub>CN  
 2-Cyanophenol, Salicylic acid nitrile  
 ■ CAS-No. 611-20-1 ■ EC-No. 210-259-3  
 ■ Vapour pressure 0.0089 hPa  
 (25 °C) (experimental) ■ Solub. in

- H<sub>2</sub>O (20 °C) slightly soluble ■ M = 119.12 g/mol
- Melting point 92 - 95 °C
- Boiling point 148 - 150 °C (19 hPa)
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20659.0025	Glass bottle	25 g	inquire

## 814579 4-Hydroxybenzonitrile for synthesis



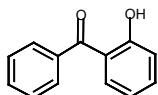
C<sub>7</sub>H<sub>5</sub>NO  
 ■ CAS-No. 767-00-0 ■ EC-No. 212-175-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 119.12 g/mol ■ Melting point 109 - 112 °C

- Boiling point 149 °C (1013 hPa)
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2926 90 95

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 109 °C  
 Melting range (upper value) ..... ≤ 112 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14579.0100	Glass bottle	100 g	inquire
8.14579.0500	Glass bottle	500 g	inquire

## 820660 2-Hydroxybenzophenone for synthesis



C<sub>13</sub>H<sub>10</sub>O<sub>2</sub>  
 o-Benzoylphenol  
 ■ CAS-No. 117-99-7 ■ EC-No. 204-226-2

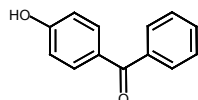
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.22 g/mol
- Melting point 35 - 39 °C
- Boiling point 171 - 173 °C (16 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)

Melting range (lower value)..... ≥ 35 °C  
 Melting range (upper value) ..... ≤ 39 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20660.0010	Glass bottle	10 g	inquire

## 820661 4-Hydroxybenzophenone for synthesis



C<sub>13</sub>H<sub>10</sub>O<sub>2</sub>  
 4-(OH)C<sub>6</sub>H<sub>4</sub>COC<sub>6</sub>H<sub>5</sub>  
 p-Benzoylphenol

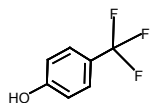
- CAS-No. 1137-42-4 ■ EC-No. 214-507-1
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.22 g/mol
- Melting point 131 - 133 °C
- Boiling point 260 - 262 °C (32 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 131 °C  
 Melting range (upper value) ..... ≤ 133 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20661.0025	Plastic bottle	25 g	inquire
8.20661.0100	Plastic bottle	100 g	inquire

4-Hydroxy-2H-1-benzopyran-2-one → 4-Hydroxycoumarin page 980

## 841244 4-Hydroxybenzotrifluoride for synthesis



C<sub>7</sub>H<sub>5</sub>F<sub>3</sub>O  
 α,α-Trifluoro-p-cresol, 4-Trifluoromethylphenol  
 ■ CAS-No. 402-45-9 ■ EC-No. 206-945-7  
 ■ Flash point 83 °C ■ M = 162.11 g/mol  
 ■ Melting point 46 - 48 °C

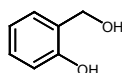
- Boiling point 73 - 75 °C (11 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13 ■ Store below +15 °C.
- HS-No. 2908 19 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)

Melting range (lower value)..... ≥ 46 °C  
 Melting range (upper value) ..... ≤ 48 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41244.0001	Plastic bottle	1 g	inquire
8.41244.0005	Plastic bottle	5 g	inquire

## 820662 2-Hydroxybenzyl alcohol for synthesis



C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>  
2-(OH)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH  
*Saligenine, Salicyl alcohol*  
■ CAS-No. 90-01-7 ■ EC-No. 201-960-5

- Solub. in H<sub>2</sub>O 63 g/l (20 °C) ■ M = 124.14 g/mol
- Melting point 83 - 86 °C
- WGK 1
- HS-No. 2907 29 00 ■ Disposal 3

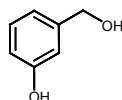
**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
Melting range (lower value) ..... ≥ 83 °C  
Melting range (upper value) ..... ≤ 86 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20662.0050	Plastic bottle	50 g	inquire
8.20662.0250	Plastic bottle	250 g	inquire

## 841463 3-Hydroxybenzyl alcohol for synthesis



C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>  
■ CAS-No. 620-24-6 ■ EC-No. 210-633-6

- M = 124.14 g/mol ■ Melting point 70 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

**Specification**

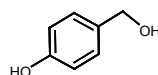
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Melting range (lower value) ..... ≥ 67 °C

Melting range (upper value) ..... ≤ 71 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41463.0010	Glass bottle	10 g	inquire

## 820663 4-Hydroxybenzyl alcohol for synthesis



C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>  
■ CAS-No. 623-05-2 ■ EC-No. 210-768-0  
■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 124.14 g/mol  
■ Melting point 115 - 118 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

**Specification**

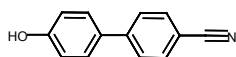
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Melting range (lower value) ..... ≥ 114 °C  
Melting range (upper value) ..... ≤ 121 °C  
Water (K. F.) ..... ≤ 2.0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20663.0025	Glass bottle	25 g	inquire
8.20663.0100	Glass bottle	100 g	inquire

4-Hydroxybenzyl cyanide → 4-Hydroxyphenylacetonitrile page 991

## 814961 4'-Hydroxybiphenyl-4-carbonitrile for synthesis



C<sub>13</sub>H<sub>9</sub>N  
■ CAS-No. 19812-93-2 ■ EC-No. 427-840-4  
■ Spec. density (20 °C) no data available ■ Solub. in H<sub>2</sub>O (20 °C) no data available ■ M = 195.22 g/mol

- mol ■ pH value (H<sub>2</sub>O, 20 °C) not applicable
- Melting point 193 - 199 °C
- WGK 2
- GHS: Warning, Skin sensitisation, Category 1, H317, P262, P280, P302 + P352
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3

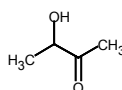
**Specification**

Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)  
Melting range (lower value) ..... ≥ 195 °C  
Melting range (upper value) ..... ≤ 199 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14961.0010	Glass bottle	10 g	inquire

4-Hydroxy-1-butanefulfonic acid δ-sultone → 1,4-Butanesultone page 534

## 820664 3-Hydroxy-2-butanone for synthesis



C<sub>8</sub>H<sub>16</sub>O<sub>4</sub>  
(CH<sub>3</sub>CH(OH)COCH<sub>3</sub>)<sub>2</sub>  
*Acetyl methyl carbinol, Acetoin*  
■ CAS-No. 51555-24-9  
■ Refractive index 1.42 (20 °C, 589 nm)  
■ Spec. density 1.012 g/cm<sup>3</sup> ■ Flash point 45 °C  
■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 176.22 g/mol

- mol ■ Melting point 20 °C Above 20 °C conversion of dimer to monomer (15 °C)
- Boiling point 147 - 148 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P262
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 3 ■ Store below +15 °C.
- HS-No. 2914 40 90 ■ Disposal 3
- ADR-RID UN 2621 Acetylmethylcarbinol, 3, III
- IMDG-Code UN 2621 ACETYL METHYL

CARBINOL, 3, III

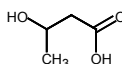
■ IATA-DGR UN 2621 ACETYL METHYL CARBINOL, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20664.0100	Plastic bottle	100 g	inquire
8.20664.0250	Plastic bottle	250 g	inquire

## 820666 3-Hydroxybutyric acid for synthesis



C<sub>4</sub>H<sub>8</sub>O<sub>3</sub>  
CH<sub>3</sub>CH(OH)CH<sub>2</sub>COOH  
■ CAS-No. 300-85-6 ■ EC-No. 206-099-9  
■ Refractive index 1.4415 (20 °C, 589 nm)

- Spec. density 1.16 g/cm<sup>3</sup> (20 °C)
- Flash point 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 104.11 g/mol
- Boiling point 118 - 120 °C (3 hPa)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8A
- HS-No. 2918 19 98 ■ Disposal 4

**Specification**

Assay (titration of lactone) ..... ≥ 97.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20666.0005	Glass bottle	5 ml	inquire

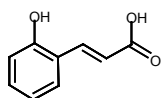
4-Hydroxybutyric acid lactone → page 300

3-Hydroxybutyric ethylether → DL-Ethyl-3-hydroxybutyrate page 871

6-Hydroxycaproic acid lactone → ε-Caprolactone page 569

Hydroxycarboxylic acids → Carboxylic acids

## 800233 2-Hydroxycinnamic acid for synthesis



$C_9H_8O_3$   
 2-(OH) $C_6H_4CH=CHCOOH$   
*o*-Cumaric acid, *o*-Cumaric acid  
 ■ CAS-No. 614-60-8 ■ EC-No. 210-386-4

- Solub. in  $H_2O$  (20 °C) slightly soluble
- $M = 164.16$  g/mol
- Melting point 210 °C (decomposition)
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

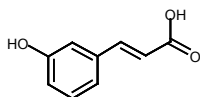
■ HS-No. 2918 29 00 ■ Disposal 4

## Specification

Assay (acidimetric).....  $\geq 98,0$  %(m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00233.0010	Glass bottle	10 g	inquire

## 800234 3-Hydroxycinnamic acid for synthesis



$C_9H_8O_3$   
 3-(OH) $C_6H_4CH=CHCOOH$   
*m*-Cumaric acid, *m*-Cumaric acid  
 ■ CAS-No. 14755-02-3  
 ■ Solub. in  $H_2O$  (20 °C) slightly soluble

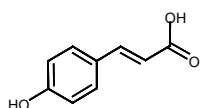
- $M = 164.16$  g/mol
- Melting point 192 - 195 °C (decomposition)
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 4

## Specification

Assay (acidimetric).....  $\geq 98,0$  %(m)  
 Melting range (lower value).....  $\geq 192$  °C  
 Melting range (upper value).....  $\leq 195$  °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00234.0010	Glass bottle	10 g	inquire

## 800237 4-Hydroxycinnamic acid for synthesis



$C_9H_8O_3$   
 4-(OH) $C_6H_4CH=CHCOOH$   
*p*-Cumaric acid, *p*-Cumaric acid  
 ■ CAS-No. 7400-08-0 ■ EC-No. 231-000-0

- Solub. in  $H_2O$  (20 °C) slightly soluble
- $M = 164.16$  g/mol ■ Melting point 215 - 220 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 4

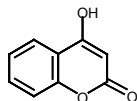
## Specification

Assay (acidimetric).....  $\geq 98,0$  %(m)  
 Melting range (lower value).....  $\geq 211$  °C  
 Melting range (upper value).....  $\leq 216$  °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00237.0010	Plastic bottle	10 g	inquire
8.00237.0050	Plastic bottle	50 g	inquire

Hydroxycinnamyl acetate → 3-Phenylpropyl acetate page 1312

## 804330 4-Hydroxycoumarin for synthesis



$C_9H_6O_3$   
 4-Hydroxy-2H-1-benzopyran-2-one  
 ■ CAS-No. 1076-38-6 ■ EC-No. 214-060-2

- Solub. in  $H_2O$  (20 °C) slightly soluble
- $M = 162.15$  g/mol ■ Melting point 211 - 214 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

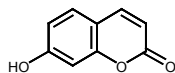
## Specification

Assay (HPLC, area%).....  $\geq 98,0$  Area %  
 Melting range (lower value).....  $\geq 211$  °C

Melting range (upper value).....  $\leq 214$  °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04330.0025	Plastic bottle	25 g	inquire
8.04330.0100	Plastic bottle	100 g	inquire

## 820668 7-Hydroxycoumarin for synthesis



$C_9H_6O_3$   
 Umbelliferon  
 ■ CAS-No. 93-35-6 ■ EC-No. 202-240-3  
 ■ Solub. in  $H_2O$  (20 °C) slightly soluble

- $M = 162.15$  g/mol
- Melting point 226 - 229 °C (decomposition)
- WGK 1
- LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

## Specification

Assay (HPLC, area%).....  $\geq 98,0$  % (a/a)  
 Melting range (lower value).....  $\geq 228$  °C

Melting range (upper value).....  $\leq 232$  °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20668.0050	Plastic bottle	50 g	inquire

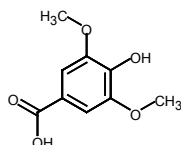
2-Hydroxycumene → 2-Isopropylphenol page 1056

2-Hydroxy-2,4,6-cycloheptatrien-1-one → page 1619

Hydroxycyclohexane → page 300

trans-4-Hydroxycyclohexylamine hydrochloride →  
 trans-4-Aminocyclohexanol hydrochloride page 384

## 822161 4-Hydroxy-3,5-dimethoxybenzoic acid for synthesis



$C_9H_{10}O_5$   
 3,5-( $CH_3O$ )<sub>2</sub>-4-(OH) $C_6H_2COOH$

*3,5-Dimethoxy-4-hydroxybenzoic acid, Syringic acid*

- CAS-No. 530-57-4 ■ EC-No. 208-486-8
- Solub. in  $H_2O$  (20 °C) insoluble ■  $M = 198.18$  g/mol
- Melting point 204 - 207 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 4

## Specification

Assay (acidimetric).....  $\geq 96,0$  %  
 Melting range (lower value).....  $\geq 205$  °C  
 Melting range (upper value).....  $\leq 209$  °C  
 Identity (IR)..... passes test

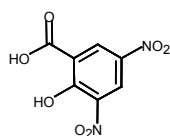
Ord.No.	Packaging	Quantity	Price
8.22161.0010	Plastic bottle	10 g	inquire

Hydroxydimethylarsine oxide sodium salt →  
 Dimethylarsinic acid sodium salt trihydrate page 782

(S)-4-Hydroxy dinaphtho[2,1-d:1',2'-f][1,3,2]  
 dioxaphosphin-4-oxide → (S)-(+)-1,1'-  
 Binaphthalene-2,2'-diyl-phosphate page 458

(R)-4-Hydroxy dinaphtho[2,1-d:1',2'-f][1,3,2]  
 dioxaphosphin-4-oxide → (R)-(-)-1,1'-  
 Binaphthalene-2,2'-diyl-phosphate page 458

## 800141 2-Hydroxy-3,5-dinitrobenzoic acid for synthesis

C<sub>7</sub>H<sub>5</sub>N<sub>2</sub>O<sub>7</sub>2-(OH)-3,5-(NO<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>2</sub>COOH

3,5-Dinitro-2-hydroxybenzoic acid, 3,5-Dinitrosalicylic acid

■ CAS-No. 609-99-4 ■ EC-No. 210-204-3

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 228.12 g/mol ■ pH value 1.3 - 1.8 (10 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 170 - 174 °C
- Bulk density 400 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 860 mg/kg
- LGK 8A
- HS-No. 2918 29 00 ■ Disposal 4
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2-HYDROXY-3,5-DINITROBENZOEÄURE), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-HYDROXY-3,5-DINITROBENZOIC ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-HYDROXY-3,5-DINITROBENZOIC ACID), 8, III

**Specification**

Assay (acidimetric)..... ≥ 98,0 %(m)  
 Melting range (lower value)..... ≥ 170 °C  
 Melting range (upper value)..... ≤ 174 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00141.0100	Glass bottle	100 g	inquire
8.00141.0500	Glass bottle	500 g	inquire

2-Hydroxydiphenyl → Biphenyl-2-ol page 461

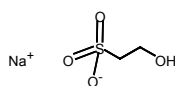
4-Hydroxydiphenyl → Biphenyl-4-ol page 461

4-Hydroxydiphenyl ether → 4-Phenoxyphenol page 1295

Hydroxydiphenyl methane → Benzhydrol page 439

2-(2-Hydroxy-3,6-disulfo-1-naphthylazo)-benzene-arsonic acid sodium salt → Thorin page 1555

## 820708 2-Hydroxyethanesulfonic acid sodium salt for synthesis

C<sub>2</sub>H<sub>5</sub>NaO<sub>4</sub>SHOCH<sub>2</sub>CH<sub>2</sub>SO<sub>3</sub>Na

Isethionic acid sodium salt, Sodium isethionate

- CAS-No. 1562-00-1 ■ EC-No. 216-343-6
- Solub. in H<sub>2</sub>O 650 g/l (20 °C) ■ M = 148.11 g/mol ■ pH value 7.0 - 11.0 (20 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 192 - 194 °C
- Bulk density 800 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat > 2500 mg/kg
- HS-No. 2905 59 98 ■ Disposal 3

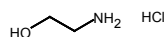
**Specification**

Assay (acidimetric after ion exchange).....  
 ..... ≥ 98,0 %(m)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20708.0100	Plastic bottle	100 g	inquire
8.20708.1000	Plastic bottle	1 kg	inquire

Hydroxyethers → Ethers

## 820063 2-Hydroxyethylammonium chloride for synthesis

C<sub>2</sub>H<sub>8</sub>ClNOHOCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> \* HCl

Ethanolamine hydrochloride, 2-Aminoethanol hydrochloride, Ethanolammonium chloride

■ CAS-No. 2002-24-6 ■ EC-No. 217-900-6

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 97.54 g/mol

- Melting point 80 - 84 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2922 11 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (argentometric)..... ≥ 99,0 %

Melting range (lower value)..... ≥ 80 °C  
 Melting range (upper value)..... ≤ 84 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20063.0100	Plastic bottle	100 g	inquire
8.20063.0500	Plastic bottle	500 g	inquire

2-Hydroxyethylammonium dihydrogen phosphate → 2-Aminoethyl dihydrogen phosphate page 387

## 822068 Hydroxyethylcellulose for synthesis

- CAS-No. 9004-62-0
- pH value (10 g/l, H<sub>2</sub>O, 20 °C) neutral
- Bulk density 350 kg/m<sup>3</sup> ■ Ignition temp. >360 °C
- WGK 1
- LGK 10 - 13

■ HS-No. 3912 39 85

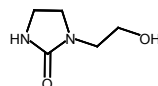
**Specification**

Assay (Cellulose ether)..... ≥ 92,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.22068.0100	Plastic bottle	100 g	inquire
8.22068.0500	Plastic bottle	500 g	inquire

Hydroxyethylethylene urea → 1-(2-Hydroxyethyl)-2-imidazolidinone page 981

## 840150 1-(2-Hydroxyethyl)-2-imidazolidinone for synthesis

C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>

Hydroxyethylethylene urea

■ CAS-No. 3699-54-5 ■ EC-No. 223-032-9

■ Vapour pressure &lt; 10 hPa (20 °C)

- Spec. density 1.203 g/cm<sup>3</sup> (70 °C)
- Flash point 212 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 130.15 g/mol
- pH value 9 - 11 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 54 °C ■ Boiling point >280 °C
- Ignition temp. 375 °C
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13

■ HS-No. 2933 29 90 ■ Disposal 3

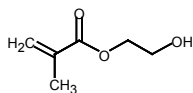
**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40150.0050	Glass bottle	50 g	inquire

Hydroxyethyl mercaptan → 2-Mercaptoethanol page 1101

## 800588 2-Hydroxyethyl methacrylate (stabilised with hydroquinone monomethyl ether) for synthesis



C<sub>6</sub>H<sub>10</sub>O<sub>3</sub>  
 CH<sub>2</sub>=C(CH<sub>3</sub>)COOCH<sub>2</sub>CH<sub>2</sub>OH  
 2-Hydroxyethyl 2-methylpropenoate, HEMA, Methacrylic acid 2-hydroxyethyl ester  
 ■ CAS-No. 868-77-9 ■ EC-No. 212-782-2  
 ■ Refractive index 1.4515 (20 °C, 589 nm)

■ Vapour pressure 1.3 hPa (20 °C)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 101 °C ■ Solub. in H<sub>2</sub>O (20 °C) miscible ■ M = 130.14 g/mol  
 ■ pH value 4.0 (500 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -60 °C ■ Boiling point 250 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P280, P305 + P351 + P338, P302 + P352

■ LD50 oral rat 5050 mg/kg ■ LD50 dermal rabbit > 3000 mg/kg  
 ■ EC-Index-No. 607-124-00-X ■ LGK 10 - 13  
 ■ HS-No. 2916 14 00 ■ Disposal 3

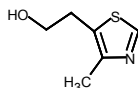
**Specification**

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,069 - 1,072  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00588.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire

2-Hydroxyethyl methyl sulfide → 2-(Methylthio)-ethanol page 1181

## 814928 5-(2-Hydroxyethyl)-4-methylthiazole for synthesis



C<sub>6</sub>H<sub>9</sub>NOS  
 2-(4-Methylthiazol-5-yl)ethanol, Sulfurol  
 ■ CAS-No. 137-00-8 ■ EC-No. 205-272-6  
 ■ Spec. density 1.199 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 112 °C ■ M = 143.21 g/mol

■ Boiling point 135 °C (9 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 10 00 ■ Disposal 3

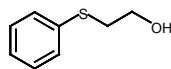
Density (d 20 °C/ 4 °C)..... 1,197 - 1,201  
 Identity (IR)..... passes test

**Specification**

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.14928.0025	Glass bottle	25 ml	inquire
8.14928.0100	Glass bottle	100 ml	inquire

## 841506 (2-Hydroxyethyl) phenyl sulfide for synthesis



C<sub>8</sub>H<sub>10</sub>OS  
 2-(Phenylthio)ethanol  
 ■ CAS-No. 699-12-7 ■ EC-No. 211-828-9  
 ■ Spec. density 1.147 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ M = 154.23 g/mol

■ Boiling point 115 - 116 °C (2.67 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code Non Dangerous Good  
 ■ IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(2-HYDROXYETHYL)-PHENYLSULFIDE, 9, III

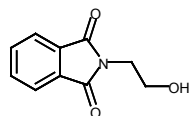
**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.143 - 1.147  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41506.0010	Glass bottle	10 ml	inquire

Hydroxyethyl photolinker → page 279

## 841185 N-(2-Hydroxyethyl)-phthalimide for synthesis

C<sub>10</sub>H<sub>9</sub>NO<sub>3</sub>

2-Phthalimidoethanol  
 ■ CAS-No. 3891-07-4 ■ EC-No. 223-434-4  
 ■ M = 191.19 g/mol ■ Melting point 127 - 130 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2925 19 95 ■ Disposal 3

**Specification**

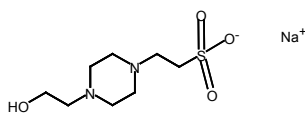
Assay (HPLC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≤ 127 °C  
 Melting range (upper value)..... ≤ 130 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41185.0100	Plastic bottle	100 g	inquire

N-(2-Hydroxyethyl)piperazine → 2-(1-Piperazinyl)ethanol page 1330

## 115231 2-[4-(2-Hydroxyethyl)-1-piperazinyl]-ethanesulfonic acid sodium salt buffer

substance HEPES-Na



C<sub>8</sub>H<sub>17</sub>N<sub>2</sub>NaO<sub>4</sub>S  
 ■ CAS-No. 75277-39-3 ■ EC-No. 278-169-7  
 ■ Solub. in H<sub>2</sub>O 500 g/l ■ M = 260.29 g/mol  
 ■ pH value 10.8 (260 g/l, H<sub>2</sub>O)

■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 59 95 ■ Disposal 3  
 Properties: pK<sub>a</sub> = 7.55 (0.1 mol/l, 20 °C); ΔT<sub>c</sub> = -0.014. Zwitterionic buffer.

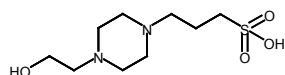
**Specification**

Assay (perchloric acid titration, calculated on dried substance)..... ≥ 99%  
 Identity (IR-spectrum)..... passes test  
 UV-Absorption (250 nm, 20 g/l, 1 cm, water).....

..... ≤ 0.06  
 Chloride (Cl)..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Loss on drying (105 °C)..... ≤ 6.0%  
 Biological buffer, pK<sub>a</sub> at 20 °C..... 7.55

Ord.No.	Packaging	Quantity	Price
1.15231.0025	Plastic bottle	25 g	inquire
1.15231.0250	Plastic bottle	250 g	inquire

## 115230 3-[4-(2-Hydroxyethyl)-1-piperazinyl]-propanesulfonic acid buffer substance HEPPS



C<sub>9</sub>H<sub>20</sub>N<sub>2</sub>O<sub>4</sub>S  
 HEPPS  
 ■ CAS-No. 16052-06-5 ■ EC-No. 240-198-8  
 ■ M = 252.33 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13

■ HS-No. 2933 59 95 ■ Disposal 3  
 Properties: pK<sub>a</sub> (20 °C) = 8.00.

**Specification**

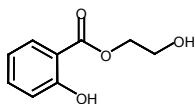
Assay (acidimetric)..... ≥ 99 %  
 Identity (Raman-spectrum)..... passes test  
 UV-Absorption (250 nm, 20 g/l, 1 cm, water).....  
 ..... ≤ 0.05  
 Chloride (Cl)..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %

Na (Sodium)..... ≤ 0.005 %  
 Loss on drying (105 °C)..... ≤ 0.5 %  
 Biological buffer, pK<sub>a</sub> at 20 °C..... 8.0

Ord.No.	Packaging	Quantity	Price
1.15230.0025	Plastic bottle	25 g	inquire
1.15230.0250	Plastic bottle	250 g	inquire
1.15230.9010	Plastic drum	10 kg	inquire



## 840134 (2-Hydroxyethyl)-salicylate for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>4</sub>

Salicylic acid (2-hydroxyethyl) ester

- CAS-No. 87-28-5 ■ EC-No. 201-737-2
- Vapour pressure 0.0001 hPa (20 °C)
- Spec. density 1.25 g/cm<sup>3</sup>

- Flash point 171 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 13.1 g/l (20 °C) ■ M = 182.17 g/mol
- pH value 4.0 (13.1 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 30 °C ■ Boiling point 150 - 155 °C (5 hPa) ■ Ignition temp. 441 °C DIN 51794
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1380 mg/kg
- LGK 10 - 13

- HS-No. 2918 23 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.40134.0100	Glass bottle	100 ml	inquire
8.40134.0500	Glass bottle	500 ml	inquire

2-Hydroxyethyltrimethyl silane → 2-(Trimethylsilyl)-ethanol page 1607

2-(2-Hydroxyethoxy)naphthalene → 2-(2-Naphthoxy)-ethanol page 1201

N-(2-Hydroxyethyl)aniline → 2-Anilinoethanol page 418

N-(2-Hydroxyethyl)ethylenediamine → 2-(2-Aminoethylamino)ethanol page 387

3-(1-Hydroxyethylidene)-6-methyl-2H-pyran-2,4(3H)-dione sodium salt → page 687

2-(2-Hydroxyethyl) 1-methylpiperidine → N-Methylpiperidine-2-ethanol page 1172

N-(2-Hydroxyethyl)morpholine → 2-Morpholinoethanol page 1193

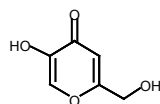
N-(2-Hydroxyethyl)piperazine → 2-(1-Piperazinyloxy)ethanol page 1330

2-(2-Hydroxyethyl)pyridine → 2-(2-Pyridyl)ethanol page 1390

2-(2-Hydroxyethyl)thiophene → Thiophene-2-ethanol page 1553

5-Hydroxyhydrinden → 5-Indanole page 1000

## 818461 5-Hydroxy-2-hydroxymethyl-4H-pyran-4-one for synthesis

C<sub>6</sub>H<sub>6</sub>O<sub>4</sub>

Kojic acid

- CAS-No. 501-30-4 ■ EC-No. 207-922-4
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 142.11 g/mol ■ Melting point 150 - 154 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

## Specification

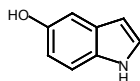
Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 150 °C  
 Melting range (upper value) ..... ≤ 154 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18461.0010	Glass bottle	10 g	inquire

(Hydroxyimino) cyclohexane → Cyclohexanone oxime page 673

5-Hydroxyindan → 5-Indanole page 1000

## 841110 5-Hydroxyindole for synthesis

C<sub>8</sub>H<sub>7</sub>NO

5-Indolol

- CAS-No. 1953-54-4 ■ EC-No. 217-782-6
- M = 133.15 g/mol ■ Melting point 107 - 108 °C
- WGK 3
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2933 99 80 ■ Disposal 3

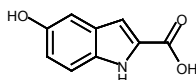
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 105 °C  
 Melting range (upper value) ..... ≤ 108 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41110.0001	Glass bottle	1 g	inquire

## 841335 5-Hydroxyindole-2-carboxylic acid for synthesis

C<sub>9</sub>H<sub>7</sub>NO<sub>3</sub>

- CAS-No. 21598-06-1 ■ EC-No. 244-468-6

- M = 177.16 g/mol
- Melting point 245 °C (decomposition)
- WGK 3
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

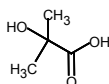
Assay (acidimetric, calc. on anhydrous substance) ..

..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 240 °C  
 Melting range (upper value) ..... ≤ 245 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41335.0001	Plastic bottle	1 g	inquire

2-Hydroxy-5-iodo-benzoic acid → 5-Iodosalicylic acid page 1013

## 841764 2-Hydroxyisobutyric acid for synthesis

C<sub>4</sub>H<sub>8</sub>O<sub>3</sub>

- CAS-No. 594-61-6 ■ EC-No. 209-848-8
- Solub. in H<sub>2</sub>O 1900 g/l (22 °C) ■ M = 104.1 g/mol ■ Melting point 78 - 80 °C

- Boiling point 84 °C (2 hPa)
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 19 98 ■ Disposal 3

## Specification

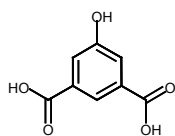
Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 78 °C  
 Melting range (upper value) ..... ≤ 80 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41764.0025	Glass bottle	25 g	inquire

D(-)-β-Hydroxyisobutyric acid methyl ester → (R)-(-)-Methyl 3-hydroxy-2-methylpropionate page 1156

L(+)-β-Hydroxyisobutyric acid methyl ester → (S)-(+)-Methyl 3-hydroxy-2-methylpropionate page 1156

## 840013 5-Hydroxyisophthalic acid for synthesis



C<sub>8</sub>H<sub>6</sub>O<sub>5</sub>  
5-Hydroxy-1,3-benzenedicarboxylic acid  
■ CAS-No. 618-83-7 ■ EC-No. 210-565-7

- Solub. in H<sub>2</sub>O 0.6 g/l (15 °C) ■ M = 182.13 g/mol
- pH value < 7 (H<sub>2</sub>O, 20 °C)
- Melting point 298 - 301 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Water (K. F.) ..... ≤ 2,0 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40013.0050	Glass bottle	50 g	inquire
8.40013.0500	Plastic bottle	500 g	inquire

## Hydroxylamine

- Vapour pressure 14 hPa (20 °C)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- Kin. viscosity 1.435 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 10.6 (H<sub>2</sub>O, 20 °C)
- Boiling point 58 °C (29 hPa)
- Ignition temp. 215 °C
- WGK 3
- GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Skin

irritation, Category 2, H315; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 2, H351; Specific target organ toxicity - single exposure, Category 3, H335; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400, P273, P280, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313

- LGK 8A
- HS-No. 2825 10 00 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(HYDROXYLAMINLOESUNG), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(HYDROXYLAMINE), 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(HYDROXYLAMINE), 8, III



## 814441 Hydroxylamine (50% solution in water) for synthesis

## Specification

Assay (manganometric) ..... 47,0 - 53,0 % (m)  
Density (d 20 °C/ 4 °C) ..... 1,120 - 1,123

Ord.No.	Packaging	Quantity	Price
8.14441.0100	Glass bottle	100 ml	inquire
8.14441.0500	Glass bottle	500 ml	inquire

## 845068 Hydroxylamine ( 50% solution in water) for pharma synthesis, non-GMP

## Specification

Colour (visual) ..... colourless  
Appearance of substance (visual) ..... clear  
Assay (manganometric) ..... 48,0 - 52,0 % (m)

Density (d 20 °C/ 4 °C) ..... 1,120 - 1,123

Ord.No.	Packaging	Quantity	Price
8.45068.0100	Glass bottle	100 ml	inquire
8.45068.0500	Glass bottle	500 ml	inquire

Hydroxylamine hydrochloride → page 985

Hydroxylamine-O-methylether → page 1155

Hydroxylamine NovaTag™ resin → page 263

Hydroxylamine PEG NovaTag™ resin → page 263

Hydroxyl amines → Amines and ammonium compounds

Hydroxylamine sulfate → page 985

## 820673 Hydroxylamine-O-sulfonic acid for synthesis



- H<sub>3</sub>NO<sub>4</sub>S
- H<sub>2</sub>NOSO<sub>3</sub>H
- CAS-No. 2950-43-8 ■ EC-No. 220-971-6
- Spec. density 2.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 675 g/l (20 °C) (slow decomposition)
- M = 113.09 g/mol ■ pH value 0.8 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 1000 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation,

Category 1, H317; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8A
- HS-No. 2811 19 80 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(HYDROXYLAMIN-O-SULFONSAEURE), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(HYDROXYLAMINE-O-SULFONIC ACID), 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(HYDROXYLAMINE-O-SULFONIC ACID), 8, II
- Specification**  
Assay (acidimetric) ..... ≥ 98,0 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20673.0050	Glass bottle	50 g	inquire
8.20673.0500	Glass bottle	500 g	inquire

Hydroxylamine Wang resin → page 269

## Hydroxylammonium chloride



- H<sub>4</sub>ClNO
- NH<sub>2</sub>OH \* HCl
- Hydroxylamine hydrochloride
- CAS-No. 5470-11-1 ■ EC-No. 226-798-2
- Spec. density 1.67 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 830 g/l (20 °C) ■ M = 69.49 g/mol
- pH value 2.5 - 3.5 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 159 °C ■ Bulk density 900 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312;

Carcinogenicity, Category 2, H351; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Specific target organ toxicity - repeated exposure, Category 2, Oral, H373; Acute aquatic toxicity, Category 1, H400; Corrosive to metals, Category 1, H290, P273, P281, P302 + P352, P305 + P351 + P338, P308 + P313

- LD50 oral rat 141 mg/kg
- EC-Index-No. 612-123-00-2 ■ LGK 4.1A
- HS-No. 2825 10 00 ■ Disposal 10

- ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(HYDROXYLAMMONIUMCHLORID), 8 (6.1), III
  - IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(HYDROXYLAMMONIUM CHLORIDE), 8 (6.1), III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(HYDROXYLAMMONIUM CHLORIDE), 8 (6.1), III
- Strong reducing agent, reagent for the preparation of oximes, for the separation of selenium and tellurium, reagent for iron in wine and fruit juices.

## 822334 Hydroxylammonium chloride for synthesis

## Specification

Assay (argentometric) ..... ≥ 98,0 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22334.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
8.22334.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

**104619 Hydroxylammonium chloride** for analysis ( $\leq 0.000001\%$  Hg) ACS,ISO**Specification**

Assay (manganometric).....	$\geq 99.0\%$
Clarity of the solution in Ethanol.....	passes test
pH-value (5 %; water).....	2.5 - 3.5
Titrate free acid.....	$\leq 0.25$ meq/g
Sulphate (SO <sub>4</sub> ).....	$\leq 0.002\%$
Heavy metals (as Pb).....	$\leq 0.0005\%$

Cu (Copper).....	$\leq 0.001\%$
Fe (Iron).....	$\leq 0.0005\%$
Hg (Mercury).....	$\leq 0.000001\%$
NH <sub>4</sub> (Ammonium).....	passes test
Pb (Lead).....	$\leq 0.0005\%$
Total sulfur (as sulphate).....	$\leq 0.005\%$

Residue on ignition (as sulphate).....  $\leq 0.01\%$   
Corresponds to ACS,ISO

Ord.No.	Packaging	Quantity	Price
1.04619.0250	Glass bottle	250 g	inquire

**104616 Hydroxylammonium chloride GR** for analysis ACS,ISO,Reag. Ph Eur**Specification**

Assay (manganometric).....	$\geq 99.0\%$
Clarity of the solution in Ethanol.....	passes test
pH-value (5 %; water).....	2.5 - 3.5
Titrate free acid.....	$\leq 0.25$ meq/g
Sulphate (SO <sub>4</sub> ).....	$\leq 0.002\%$
Heavy metals (as Pb).....	$\leq 0.0005\%$

Cu (Copper).....	$\leq 0.001\%$
Fe (Iron).....	$\leq 0.0005\%$
NH <sub>4</sub> (Ammonium).....	passes test
Pb (Lead).....	$\leq 0.0005\%$
Total sulfur (as sulphate).....	$\leq 0.005\%$
Residue on ignition (as sulphate).....	$\leq 0.01\%$

Corresponds to ACS, ISO, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04616.0250	Plastic bottle	250 g	inquire
1.04616.1000	Plastic bottle	1 kg	inquire

**Hydroxylammonium sulfate**H<sub>8</sub>N<sub>2</sub>O<sub>6</sub>S(HONH<sub>2</sub>)<sub>2</sub>SO<sub>4</sub>*Hydroxylamine sulfate*

- CAS-No. 10039-54-0 ■ EC-No. 233-118-8
- Spec. density 1.88 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 587 g/l (20 °C) ■ M = 164.14 g/mol
- pH value 3.6 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 170 °C (decomposition)
- Bulk density 1100 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Corrosive to metals, Category 1,

H290; Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P281, P273, P308 + P313, P302 + P352, P305 + P351 + P338  
■ LD50 oral rat 842 mg/kg ■ LD50 dermal rabbit 1500 - 2000 mg/kg

- EC-Index-No. 612-123-00-2 ■ LGK 4.1A
  - HS-No. 2825 10 00 ■ Disposal 10
  - ADR-RID UN 2865 Hydroxylaminsulfat, 8, III
  - IMDG-Code UN 2865 HYDROXYLAMINE SULPHATE, 8, III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 2865 HYDROXYLAMINE SULPHATE, 8, III
- Reducing agent, reagent for the preparation of oximes.

**814803 Hydroxylammonium sulfate** for synthesis**Specification**

Assay (manganometric).....	$\geq 99.0\%$
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.14803.0250	Plastic bottle	250 g	inquire
8.14803.1000	Plastic bottle	1 kg	inquire

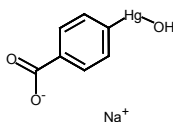
**104617 Hydroxylammonium sulfate GR** for analysis**Specification**

Assay (manganometric).....	$\geq 99\%$
Chloride (Cl).....	$\leq 0.001\%$
As (Arsenic).....	$\leq 0.00005\%$
Cu (Copper).....	$\leq 0.0005\%$

Fe (Iron).....	$\leq 0.0005\%$
Hg (Mercury).....	$\leq 0.000001\%$
Pb (Lead).....	$\leq 0.0005\%$
Sulfated ash (residue on ignition).....	$\leq 0.1\%$

Ord.No.	Packaging	Quantity	Price
1.04617.0500	Plastic bottle	500 g	inquire

Hydroxylated pyridines → Heterocycles

4-Hydroxy-2-mercaptopyrimidine → 2-Thiouracil  
page 1554**820308 4-(Hydroxymercuri)benzoic acid sodium salt** for synthesisC<sub>7</sub>H<sub>5</sub>HgNaO<sub>3</sub>4-(HOHg)C<sub>6</sub>H<sub>4</sub>COONa*PCMB*

- CAS-No. 138-85-2 ■ EC-No. 205-340-5
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 360.7 g/mol
- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Oral,

H300; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
■ EC-Index-No. 080-004-00-7 ■ LGK 6.1A  
■ HS-No. 2852 10 00 ■ Disposal 9  
■ ADR-RID UN 2025 Quecksilberverbindung, fest, n.a.g.(4-HYDROXYMERCURIBENZOESAEURE NATRIUMSALZ), 6.1, III ■ IMDG-Code UN 2025 MERCURY COMPOUND, SOLID, N.O.S.(4-(HYDROXYMERCURI)BENZOIC ACIDSODIUM SALT),

6.1, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)

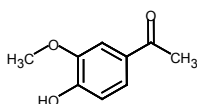
- IATA-DGR UN 2025 MERCURY COMPOUND, SOLID, N.O.S.(4-(HYDROXYMERCURI)BENZOIC ACIDSODIUM SALT), 6.1, III

**Specification**

Assay (ex Hg).....	$\geq 97.0\%$
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.20308.0005	Glass bottle	5 g	inquire

Hydroxymethanesulfinic acid sodium salt → Sodium formaldehydesulfoxylate hydrate page 1435

**840118 4-Hydroxy-3-methoxy-acetophenone** for synthesisC<sub>9</sub>H<sub>10</sub>O<sub>3</sub>1-(4-Hydroxy-3-methoxyphenyl)-  
ethanone, Acetovanillone

- CAS-No. 498-02-2 ■ EC-No. 207-854-5
- Flash point 113 °C ■ M = 166.17 g/mol
- Melting point 112 °C
- WGK 2
- Store below +15°C.
- HS-No. 2914 50 00 ■ Disposal 3

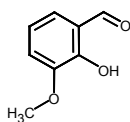
**Specification**

Assay (HPLC, area%).....	$\geq 97.0\%$ (a/a)
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Melting range (lower value).....  $\geq 113\text{ °C}$   
Melting range (upper value).....  $\leq 116\text{ °C}$   
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40118.0025	Glass bottle	25 g	inquire

## 841853 2-Hydroxy-3-methoxybenzaldehyde for synthesis



C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>  
o-Vanillin

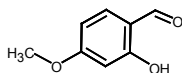
- CAS-No. 148-53-8 ■ EC-No. 205-715-3
- Flash point >112 °C ■ M = 152.15 g/mol
- Melting point 40 - 42 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 41 °C  
Melting range (upper value)..... ≤ 45 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41853.0100	Plastic bottle	100 g	inquire

## 841611 2-Hydroxy-4-methoxybenzaldehyde for synthesis



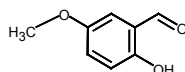
C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>  
4-Methoxysalicylaldehyde, 2-Hydroxyanisaldehyde  
■ CAS-No. 673-22-3 ■ EC-No. 211-604-0  
■ M = 152.15 g/mol ■ Melting point 42 - 43 °C

- WGK 1
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Melting range (lower value)..... ≥ 40 °C  
Melting range (upper value)..... ≤ 43 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41611.0005	Glass bottle	5 g	inquire
8.41611.0025	Glass bottle	25 g	inquire

## 841493 2-Hydroxy-5-methoxybenzaldehyde for synthesis



C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>  
5-Methoxysalicylaldehyde  
■ CAS-No. 672-13-9 ■ EC-No. 211-589-0  
■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C)

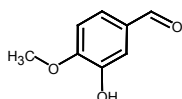
- Flash point >110 °C ■ M = 152.15 g/mol
- Melting point 4 °C ■ Boiling point 100 - 102 °C (2.67 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.220 - 1.224  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41493.0005	Glass bottle	5 ml	inquire
8.41493.0025	Glass bottle	25 ml	inquire

## 841767 3-Hydroxy-4-methoxybenzaldehyde for synthesis



C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>  
■ CAS-No. 621-59-0 ■ EC-No. 210-694-9  
■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O (25 °C) slightly soluble ■ M = 152.15 g/mol

- Melting point 113 - 116 °C
- Boiling point 179 °C (20 hPa)
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 99,0 Area %  
Melting range (lower value)..... ≥ 113 °C

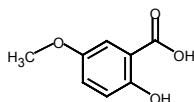
Melting range (upper value)..... ≤ 116 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41767.0010	Glass bottle	10 g	inquire
8.41767.0025	Plastic bottle	25 g	inquire
8.41767.0100	Plastic bottle	100 g	inquire

1-Hydroxy-2-methoxybenzene → 2-Methoxyphenol page 1122

1-Hydroxy-3-methoxybenzene → 3-Methoxyphenol page 1122

## 818381 2-Hydroxy-5-methoxybenzoic acid for synthesis



C<sub>8</sub>H<sub>8</sub>O<sub>4</sub>  
5-Methoxysalicylic acid

- CAS-No. 2612-02-4 ■ EC-No. 220-037-8
- Solub. in H<sub>2</sub>O 1.7 g/l (10 °C) ■ M = 168.15 g/mol
- Melting point 141 - 144 °C
- WGK 3
- HS-No. 2918 99 90 ■ Disposal 4

**Specification**  
Assay (acidimetric)..... ≥ 99,0 %

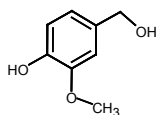
Melting range (lower value)..... ≥ 141 °C  
Melting range (upper value)..... ≤ 144 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18381.0025	Plastic bottle	25 g	inquire

4-Hydroxy-3-methoxybenzoic acid → Vanillic acid page 1628

2-Hydroxy-4-methoxybenzophenone → page 1437

## 841197 4-Hydroxy-3-methoxybenzyl alcohol for synthesis



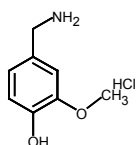
C<sub>8</sub>H<sub>10</sub>O<sub>3</sub>

- Vanillyl alcohol*
- CAS-No. 498-00-0 ■ EC-No. 207-852-4
  - M = 154.16 g/mol ■ Melting point 113 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2909 50 00 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 112 °C  
Melting range (upper value)..... ≤ 115 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41197.0050	Plastic bottle	50 g	inquire

## 841494 4-Hydroxy-3-methoxybenzylamine hydrochloride for synthesis



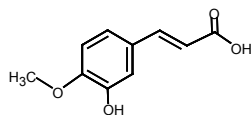
C<sub>8</sub>H<sub>12</sub>ClNO<sub>2</sub>  
Vanillylamine hydrochloride

- CAS-No. 7149-10-2 ■ EC-No. 230-468-3
- M = 189.64 g/mol
- Melting point 219 - 220 °C (decomposition)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 29 00 ■ Disposal 3

**Specification**  
Assay (argentometric)..... ≥ 98,0 %  
Melting range (lower value)..... ≥ 216 °C  
Melting range (upper value)..... ≤ 220 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41494.0001	Glass bottle	1 g	inquire

## 814574 3-Hydroxy-4-methoxycinnamic acid for synthesis

C<sub>10</sub>H<sub>10</sub>O<sub>4</sub>

3-(3-Hydroxy-4-methoxyphenyl)-propenoic acid

- CAS-No. 537-73-5 ■ EC-No. 208-676-0
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 194.19 g/mol ■ Melting point 228 - 231 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 4

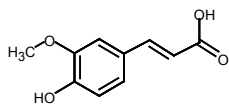
**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 228 °C  
 Melting range (upper value) ..... ≤ 231 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14574.0001	Glass bottle	1 g	inquire

## 822070 4-Hydroxy-3-methoxycinnamic acid for synthesis

C<sub>10</sub>H<sub>10</sub>O<sub>4</sub>4-(OH)-3-(OCH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>CH=CHCOOH  
Ferulic acid

- CAS-No. 537-98-4 ■ EC-No. 208-679-7
- M = 194.19 g/mol ■ Melting point 169 - 172 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 4

**Specification**

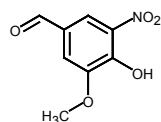
Assay (acidimetric) ..... ≥ 98,0 %

Melting range (lower value) ..... ≥ 169 °C

Melting range (upper value) ..... ≤ 172 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22070.0025	Glass bottle	25 g	inquire
8.22070.0100	Glass bottle	100 g	inquire

## 814335 4-Hydroxy-3-methoxy-5-nitrobenzaldehyde for synthesis

C<sub>8</sub>H<sub>7</sub>NO<sub>5</sub>

4-Hydroxy-3-methoxy-5-nitrobenzaldehyde

- CAS-No. 6635-20-7 ■ EC-No. 229-633-2
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 197.15 g/mol
- Melting point 175 - 178 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2913 00 00 ■ Disposal 3

**Specification**

Assay (acidimetric) ..... ≥ 98,0 % (m)

Melting range (lower value) ..... ≥ 175 °C

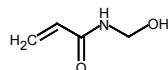
Melting range (upper value) ..... ≤ 178 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14335.0005	Glass bottle	5 g	inquire

4-Hydroxy-3-methoxy-5-nitrobenzaldehyde → page 987

## 820675 N-(Hydroxymethyl)acrylamide (48% aqueous solution) (stabilised with hydroquinone monomethyl ether) for synthesis



- Vapour pressure 31 hPa (25 °C)
- Spec. density 1.08 g/cm<sup>3</sup> (20 °C)
- Flash point >93 °C ■ Solub. in H<sub>2</sub>O 1880 g/l (20 °C) ■ pH value 6.0 - 7.0 (H<sub>2</sub>O, 20 °C)
- Melting point -10 °C ■ Boiling point 100 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Skin

sensitisation, Category 1, H317; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - repeated exposure, Category 2, H373, P201, P280, P302 + P352, P308 + P313

- LGK 6.1A ■ Store below +15°C.
- HS-No. 2924 19 00 ■ Disposal 9
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.((N-HYDROXYMETHYL)-

ACRYLAMIDE), 9, III

**Specification**

Assay (ex N) ..... 48.0 - 50.0 %

Density (d 20 °C / 4 °C) ..... 1.080 - 1.083

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20675.0100	Glass bottle	100 ml	inquire
8.20675.1000	Glass bottle	1 l	inquire

2-Hydroxy-4-methylaniline → 2-Amino-5-methylphenol page 393

2-(Hydroxymethyl)aniline → 2-Aminobenzyl alcohol page 380

2-Hydroxy-5-methylaniline → 2-Amino-4-methylphenol page 393

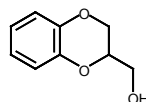
3-(Hydroxymethyl)aniline → 3-Aminobenzyl alcohol page 381

4-Hydroxy-2-methylaniline → 4-Amino-3-methylphenol page 393

2-Hydroxy-5-methylaniline → 2-Methoxy-4-methylphenol page 1121

9-(Hydroxymethyl)-anthracene → Anthracene-9-methanol page 420

## 814890 2-(Hydroxymethyl)-1,4-benzodioxane for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>

1,4-Benzodioxan-2-methanol

- CAS-No. 3663-82-9 ■ EC-No. 222-921-9
- M = 166.18 g/mol ■ Melting point 90 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

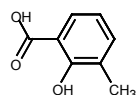
**Specification**

Assay (GC, area%) ..... ≥ 97,0 % (a/a)

Melting range (lower value) ..... ≥ 87 °C  
 Melting range (upper value) ..... ≤ 90 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14890.0005	Glass bottle	5 g	inquire

## 814755 2-Hydroxy-3-methylbenzoic acid for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>

3-Methylsalicylic acid, o-Cresotic acid

- CAS-No. 83-40-9 ■ EC-No. 201-473-8
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 1.5 g/l (20 °C) ■ M = 152.15 g/mol ■ pH value 2.8 (1.5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 163 - 165 °C

- Bulk density 450 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Serious eye damage, Category 1, H318; Skin irritation, Category 2, H315, P280, P302 + P352, P305 + P351 + P338, P313
- LD50 oral rat 445 mg/kg
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

**Specification**

Assay (acidimetric) ..... ≥ 99,0 %

Melting range (lower value) ..... ≥ 165 °C

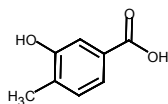
Melting range (upper value) ..... ≤ 168 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14755.0100	Glass bottle	100 g	inquire
8.14755.0500	Glass bottle	500 g	inquire



## 841288 3-Hydroxy-4-methylbenzoic acid for synthesis



$C_8H_8O_3$   
3-Hydroxy-*p*-toluic acid, 3,4-Cresotic acid  
■ CAS-No. 586-30-1 ■ EC-No. 209-571-2

- Solub. in  $H_2O$  43.6 g/l (100 °C) ■ M = 152.15 g/mol ■ Melting point 204 - 208 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 97.0 %  
Melting range (lower value)..... ≥ 205 °C  
Melting range (upper value)..... ≤ 211 °C  
Identity (IR)..... passes test

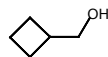
Ord.No.	Packaging	Quantity	Price
8.41288.0001	Plastic bottle	1 g	inquire

4-Hydroxymethylbiphenyl → 4-Biphenylmethanol page 461

1-Hydroxy-3-methyl-2-butene → 3-Methyl-2-buten-1-ol page 1139

1-Hydroxy-3-methyl-3-butene → 3-Methyl-3-buten-1-ol page 1139

## 814185 Hydroxymethylcyclobutane for synthesis



$C_5H_{10}O$   
Cyclobutylmethanol  
■ CAS-No. 4415-82-1 ■ EC-No. 224-575-4  
■ Refractive index 1.4438 (20 °C, 589 nm)  
■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C)  
■ Flash point 40 °C ■ Solub. in  $H_2O$  (20 °C) insoluble ■ M = 86.13 g/mol

- Boiling point 142 - 144 °C (1013 hPa)
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2906 19 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(HYDROXYMETHYL CYCLOBUTAN), 3, III
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(HYDROXYMETHYL CYCLOBUTANE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

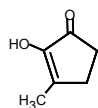
N.O.S.(HYDROXYMETHYL CYCLOBUTANE), 3, III

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,919 - 0,920  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14185.0005	Glass bottle	5 ml	inquire

## 814675 2-Hydroxy-3-methyl-2-cyclopentene-1-one for synthesis



$C_6H_8O_2$   
■ CAS-No. 80-71-7 ■ EC-No. 201-303-2  
■ Spec. density 1 g/cm<sup>3</sup> ■ Flash point 100 °C

- Solub. in  $H_2O$  (20 °C) soluble ■ M = 112.13 g/mol ■ Melting point 104 - 107 °C
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2914 40 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

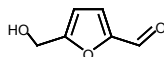
## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 104 °C  
Melting range (upper value)..... ≤ 107 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14675.0010	Glass bottle	10 g	inquire
8.14675.0050	Glass bottle	50 g	inquire

Hydroxymethylcyclopropane → Cyclopropylmethanol page 680

## 820678 5-Hydroxymethyl-2-furancarbaldehyde for synthesis



$C_6H_6O_3$   
5-(Hydroxymethyl)furfural  
■ CAS-No. 67-47-0 ■ EC-No. 200-654-9  
■ Refractive index 1.5627 (20 °C, 589 nm)  
■ Flash point 79 °C ■ Solub. in  $H_2O$  (20 °C) soluble  
■ M = 126.11 g/mol ■ Melting point 27 - 30 °C  
■ Boiling point 154 - 155 °C (16 hPa)

- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 2500 mg/kg
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2932 19 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

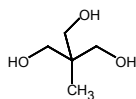
Assay (GC, area%)..... ≥ 97,0 Area %  
Melting range (lower value)..... ≥ 28 °C  
Melting range (upper value)..... ≤ 33 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20678.0001	Glass bottle	1 g	inquire
8.20678.0005	Glass bottle	5 g	inquire
8.20678.8100	Glass bottle	100 mg	inquire

Hydroxymethylfurfural (HMF) Test → page 66

5-(Hydroxymethyl)furfural → 5-Hydroxymethyl-2-furancarbaldehyde page 988

## 822071 2-Hydroxymethyl-2-methyl-1,3-propanediol for synthesis



$C_5H_{12}O_3$   
 $CH_3C(CH_2OH)_2$   
1,1,1-Trimethylolthane, Pentaglycerol, 1,1,1-Tris

(hydroxymethyl)ethane

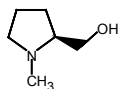
- CAS-No. 77-85-0 ■ EC-No. 201-063-9
- Solub. in  $H_2O$  (20 °C) soluble ■ M = 120.15 g/mol ■ Melting point 190 - 200 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2905 49 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 95,0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22071.0100	Plastic bottle	100 g	inquire
8.22071.1000	Plastic bottle	1 kg	inquire

## 818345 (S)-(-)-2-Hydroxymethyl-1-methylpyrrolidine for synthesis



$C_6H_{13}NO$   
N-Methylprolinol  
■ CAS-No. 34381-71-0 ■ EC-No. 251-981-9

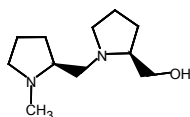
- Refractive index 1.4692 (20 °C, 589 nm)
- Spec. density 0.97 g/cm<sup>3</sup> (20 °C)
- Flash point 63 °C ■ Solub. in  $H_2O$  (20 °C) insoluble ■ M = 115.18 g/mol
- Boiling point 67 - 69 °C (16 hPa)
- WGK 3
- LGK 10
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.970 - 0.972  
Spec. rotation [ $\alpha$ '<sub>D</sub> (undiluted)]..... -40.0 - -38.0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18345.0001	Glass bottle	1 ml	inquire

## 818259 (2S,2'S)-(-)-2-Hydroxymethyl-1-[(1-methylpyrrolidine-2-yl)-methyl]-pyrrolidine for synthesis

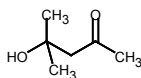


- C<sub>11</sub>H<sub>22</sub>N<sub>2</sub>O
- CAS-No. 66283-23-6
  - Spec. density 1.00 g/cm<sup>3</sup> (20 °C)
  - M = 198.31 g/mol ■ Boiling point 112 °C (6 hPa)
  - WGK 3

- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

Ord.No.	Packaging	Quantity	Price
8.18259.0001	Glass bottle	1 ml	inquire

## 804512 4-Hydroxy-4-methyl-2-pentanone for synthesis



- C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>  
(CH<sub>3</sub>)<sub>2</sub>C(OH)CH<sub>2</sub>COCH<sub>3</sub>  
2-Methyl-2-pentanone-4-one, Diacetone alcohol
- CAS-No. 123-42-2 ■ EC-No. 204-626-7
  - Refractive index 1.4233 (20 °C, 589 nm)
  - Vapour pressure 1.1 hPa (20 °C)
  - Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 6.9 % (V) ■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 116.16 g/mol
  - Melting point -47 °C ■ Boiling point 168 °C

- Ignition temp. 640 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319, P210, P305 + P351 + P338
- LD50 oral rat 2520 mg/kg ■ LD50 dermal rabbit 13630 mg/kg
- EC-Index-No. 603-016-00-1 ■ LGK 3
- HS-No. 2914 40 10 ■ Disposal 1
- ADR-RID UN 1148 Diacetonealkohol, 3, III
- IMDG-Code UN 1148 DIACETONE ALCOHOL, 3, III
- IATA-DGR UN 1148 DIACETONE ALCOHOL, 3, III

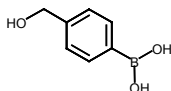
### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,937 - 0,938  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04512.0100	Glass bottle	100 ml	inquire
8.04512.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.04512.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.04512.6025	Barrel stainl. st.	25 l	inquire

3-(4-Hydroxymethylphenoxy)propionic acid → page 279

## 843926 4-Hydroxymethylphenyl boronic acid for synthesis



- C<sub>7</sub>H<sub>9</sub>BO<sub>3</sub>
- CAS-No. 59016-93-2
  - M = 151.96 g/mol ■ pH value 4.5 (10 g/l, H<sub>2</sub>O)
  - Melting point 287 - 289 °C

- Ignition temp. 220 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

### Specification

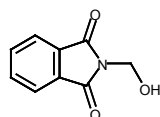
Colour (visual) ..... white to offwhite  
Appearance of substance (visual) ..... powder  
Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 269 °C  
Melting range (upper value) ..... ≤ 275 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43926.0005	Glass bottle	5 g	inquire
8.43926.0025	Plastic bottle	25 g	inquire

2-[Hydroxymethyl]phenyl-β-D-glucoside → page 112

## 814422 N-(Hydroxymethyl)-phthalimide for synthesis



C<sub>9</sub>H<sub>7</sub>NO<sub>3</sub>

4-Hydroxy-1-methylpiperidine → 1-Methyl-4-piperidinol page 1173  
Hydroxymethyl polystyrene (100-200 mesh), 1% DVB → page 270

(R)-(-)-3-Hydroxy-2-methylpropionic acid methyl ester → (R)-(-)-Methyl 3-hydroxy-2-methylpropionate page 1156

(S)-(+)-3-Hydroxy-2-methylpropionic acid methyl ester → (S)-(+)-Methyl 3-hydroxy-2-methylpropionate page 1156

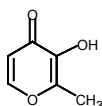
- CAS-No. 118-29-6 ■ EC-No. 204-241-4
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 177.16 g/mol ■ Melting point 149 - 150 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2925 19 95 ■ Disposal 3

### Specification

Assay (acidimetric) ..... ≥ 98,0 % (m)  
Melting range (lower value) ..... ≥ 142 °C  
Melting range (upper value) ..... ≤ 146 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14422.0100	Plastic bottle	100 g	inquire

## 814201 3-Hydroxy-2-methyl-4-pyranone for synthesis



- C<sub>6</sub>H<sub>6</sub>O<sub>3</sub>  
Maltene
- CAS-No. 118-71-8 ■ EC-No. 204-271-8
  - Solub. in H<sub>2</sub>O 12 g/l (25 °C) ■ M = 126.11 g/mol

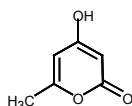
- pH value 5.3 (0.5 g/l, H<sub>2</sub>O)
- Melting point 159 - 161 °C
- Boiling point 170 °C (13 hPa)
- Ignition temp. 740 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
- LD50 oral rat 1410 mg/kg
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

### Specification

Assay (acidimetric) ..... ≥ 99,0 % (m)  
Melting range (lower value) ..... ≥ 159 °C  
Melting range (upper value) ..... ≤ 161 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14201.0025	Plastic bottle	25 g	inquire

## 841682 4-Hydroxy-6-methyl-2H-pyran-2-one for synthesis



- C<sub>6</sub>H<sub>6</sub>O<sub>3</sub>
- CAS-No. 675-10-5 ■ EC-No. 211-619-2

- Solub. in H<sub>2</sub>O 8.6 g/l (20 °C) ■ M = 126.11 g/mol
- Melting point 188 °C (decomposition)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 2932 20 90 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41682.0025	Plastic bottle	25 g	inquire

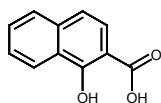
# Hydrox

2-(Hydroxymethyl)pyridine → 2-Pyridylmethanol page 1390  
 3-(Hydroxymethyl)pyridine → 3-Pyridylmethanol page 1390  
 8-Hydroxy-2-methylquinoline → 2-Methyl-8-quinolinol page 1179

1-(4-Hydroxy-3-methoxyphenyl)-ethanone → 4-Hydroxy-3-methoxy-acetophenone page 985  
 3-(3-Hydroxy-4-methoxyphenyl)-propenoic acid → 3-Hydroxy-4-methoxycinnamic acid page 987  
 Hydroxymonoethers → Hydroxyethers

1-Hydroxynaphthalene → page 1199  
 2-Hydroxynaphthalene → 2-Naphthol page 1200

## 841558 1-Hydroxy-naphthalene-2-carboxylic acid for synthesis



$C_{11}H_8O_3$   
*α-Hydroxynaphthoic acid, 1-Hydroxy-2-naphthoic acid*  
 ■ CAS-No. 86-48-6 ■ EC-No. 201-674-0

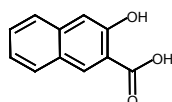
■ M = 188.18 g/mol  
 ■ Melting point 205 °C (decomposition)  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 29 00 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41558.0100	Plastic bottle	100 g	inquire

## 804597 3-Hydroxy-naphthalene-2-carboxylic acid for synthesis



$C_{11}H_8O_3$   
*β-Hydroxynaphthoic acid, 3-Hydroxy-2-naphthoic acid*  
 ■ CAS-No. 92-70-6 ■ EC-No. 202-180-8  
 ■ Flash point 220 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 188.18 g/mol  
 ■ Melting point 217 - 220 °C  
 ■ Bulk density 700 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313  
 ■ LD50 oral rat 832 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 29 00 ■ Disposal 4

### Specification

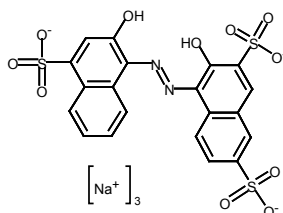
Assay (acidimetric) ..... ≥ 96.0 % (m)  
 Melting range (lower value) ..... ≥ 217 °C  
 Melting range (upper value) ..... ≤ 220 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04597.0250	Glass bottle	250 g	inquire

1-Hydroxy-2-naphthoic acid → 1-Hydroxy-naphthalene-2-carboxylic acid page 990

*α-Hydroxynaphthoic acid* → 1-Hydroxy-naphthalene-2-carboxylic acid page 990

## 104593 Hydroxynaphthol blue metal (pM) indicator



$C_{20}H_{11}N_2Na_3O_{11}S_3$   
*2,2'-Dihydroxy-1,1'-azonaphthalene-3',4,6'-trisulfonic acidtrisodiumsalt*  
 ■ CAS-No. 63451-35-4 ■ EC-No. 264-197-7  
 ■ Solub. in H<sub>2</sub>O 340 g/l (20 °C) ■ M = 620.48 g/mol  
 ■ pH value 6.7 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Bulk density 330 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2927 00 00 ■ Disposal 3

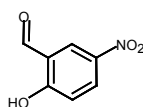
### Specification

Appearance of solution ..... conforms  
 Loss on drying (105 °C) ..... ≤ 5.0 %  
 Suitability as indicator (for metal titration) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.04593.0025	Glass bottle	25 g	inquire

4-Hydroxy-3-nitroanisole → 4-Methoxy-2-nitrophenol page 1122

## 820904 2-Hydroxy-5-nitrobenzaldehyde for synthesis



$C_7H_5NO_4$   
*2-(OH)-5-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>CHO*  
*5-Nitrosalicylaldehyde*  
 ■ CAS-No. 97-51-8 ■ EC-No. 202-587-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

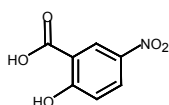
■ M = 167.12 g/mol ■ Melting point 123 - 126 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 799 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2913 00 00 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 123 °C  
 Melting range (upper value) ..... ≤ 126 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20904.0005	Glass bottle	5 g	inquire
8.20904.0025	Glass bottle	25 g	inquire

## 820905 2-Hydroxy-5-nitrobenzoic acid for synthesis



$C_7H_5NO_5$   
*2-(OH)-5-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>COOH*  
*5-Nitrosalicylic acid, 5-Nitro-2-hydroxybenzoic acid*  
 ■ CAS-No. 96-97-9 ■ EC-No. 202-548-8

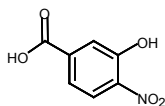
■ Spec. density 1.65 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 1.76 g/l (22 °C) ■ M = 183.12 g/mol  
 ■ Melting point 229 - 234 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 29 00 ■ Disposal 4

### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 229 °C  
 Melting range (upper value) ..... ≤ 234 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20905.0010	Glass bottle	10 g	inquire
8.20905.0100	Glass bottle	100 g	inquire

## 841625 3-Hydroxy-4-nitrobenzoic acid for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>5</sub>

■ CAS-No. 619-14-7 ■ EC-No. 210-580-9

- Solub. in H<sub>2</sub>O 1.08 g/l (25 °C) (calculated)
- M = 183.12 g/mol ■ Melting point 234 - 235 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

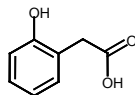
## Specification

Assay (HPLC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 232 °C  
 Melting range (upper value) ..... ≤ 235 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41625.0010	Plastic bottle	10 g	inquire

1-Hydroxy-4-nitrobenzol → page 1226

## 841462 (2-Hydroxyphenyl)-acetic acid for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>

■ CAS-No. 614-75-5 ■ EC-No. 210-393-2  
 ■ M = 152.15 g/mol ■ Melting point 145 - 146 °C

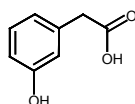
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 143 °C  
 Melting range (upper value) ..... ≤ 146 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41462.0010	Plastic bottle	10 g	inquire

## 814577 (3-Hydroxyphenyl)acetic acid for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>

■ CAS-No. 621-37-4 ■ EC-No. 210-684-4  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 152.15 g/mol ■ pH value 2.5 - 2.7

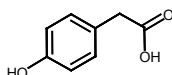
- (20 g/l, H<sub>2</sub>O) ■ Melting point 129 - 133 °C
- WGK 1
  - GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
  - LGK 10 - 13
  - HS-No. 2918 29 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 129 °C  
 Melting range (upper value) ..... ≤ 133 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14577.0005	Glass bottle	5 g	inquire
8.14577.0025	Glass bottle	25 g	inquire

## 820690 (4-Hydroxyphenyl)-acetic acid for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>

4-(OH)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>COOH  
 ■ CAS-No. 156-38-7 ■ EC-No. 205-851-3  
 ■ Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 152.15 g/mol  
 ■ pH value 2.0 - 2.4 (30 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 147 - 150 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 3130 mg/kg
- LGK 10 - 13
- HS-No. 2918 29 00

## Specification

Assay (acidimetric) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 147 °C  
 Melting range (upper value) ..... ≤ 150 °C  
 Identity (IR) ..... passes test

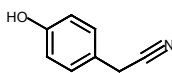
Ord.No.	Packaging	Quantity	Price
8.20690.0025	Plastic bottle	25 g	inquire

D-α-Hydroxyphenylacetic acid → (R)-(-)-Mandelic acid page 1094

DL-α-Hydroxyphenylacetic acid → DL-Mandelic acid page 1093

L-α-Hydroxyphenylacetic acid → (S)-(+)-Mandelic acid page 1094

## 820688 4-Hydroxyphenylacetonitrile for synthesis

C<sub>8</sub>H<sub>7</sub>NO

4-(OH)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CN  
 4-Hydroxybenzyl cyanide  
 ■ CAS-No. 14191-95-8 ■ EC-No. 238-046-0  
 ■ Flash point 178 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) slightly soluble ■ M = 133.15 g/mol
- Melting point 68 - 71 °C
  - Boiling point 329 - 331 °C
  - WGK 2
  - GHS: Warning, Acute toxicity, Category 4, Oral, H302
  - LD50 oral rat 511 mg/kg
  - LGK 10 - 13
  - HS-No. 2926 90 95 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 68 °C  
 Melting range (upper value) ..... ≤ 71 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20688.0001	Glass bottle	1 g	inquire

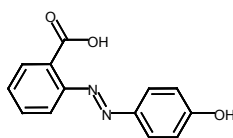
DL-α-Hydroxyphenylacetonitrile → DL-Mandelic acid nitrile page 1094

3-(4-Hydroxyphenyl)-L-alanine → (S)-(-)-Tyrosine page 1622

α-Hydroxy-α-phenylacetophenone → Benzoin page 441

4-Hydroxyphenylalanine → L-Tyrosine page 1622

## 841422 2-(4-Hydroxyphenylazo)-benzoic acid for synthesis

C<sub>13</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>

HABA

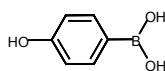
- CAS-No. 1634-82-8 ■ EC-No. 216-655-2
- M = 242.23 g/mol ■ Melting point 202 - 204 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2927 00 00 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 98,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41422.0025	Plastic bottle	25 g	inquire

## 843854 4-Hydroxyphenylboronic acid for synthesis



C<sub>6</sub>H<sub>7</sub>BO<sub>3</sub>  
 ■ CAS-No. 71597-85-8  
 ■ M = 137.93 g/mol

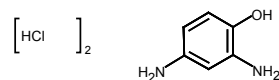
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 97,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43854.0001	Glass bottle	1 g	inquire
8.43854.0005	Glass bottle	5 g	inquire

## 822331 4-Hydroxy-1,3-phenylenediammonium dichloride for synthesis



C<sub>6</sub>H<sub>10</sub>Cl<sub>2</sub>N<sub>2</sub>O  
 4-(OH)C<sub>6</sub>H<sub>3</sub>-1,3-(NH<sub>2</sub>)<sub>2</sub> \* 2 HCl  
*Amidol, 2,4-Diaminophenol dihydrochloride, Phenol-2,4-diammonium dichloride, 1-Hydroxybenzene-2,4-diammonium dichloride*  
 ■ CAS-No. 137-09-7 ■ EC-No. 205-279-4  
 ■ Solub. in H<sub>2</sub>O 275 g/l (15 °C) ■ M = 197.06 g/mol  
 ■ pH value 1 - 2 (50 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 205 °C ■ Bulk density 310 kg/m<sup>3</sup>
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P341, P309 + P310, P342 + P311
- LD50 oral rat 240 mg/kg
- LGK 6.1C
- HS-No. 2922 29 00 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-HYDROXY-1,3-PHENYLENDIAMMONIUMDICHLORID), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

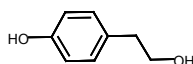
N.O.S.(4-HYDROXY-1,3-PHENYLENDIAMMONIUM DICHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-HYDROXY-1,3-PHENYLENDIAMMONIUM DICHLORIDE), 6.1, III

## Specification

Assay (argentometric)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22331.0100	Glass bottle	100 g	inquire
8.22331.0250	Glass bottle	250 g	inquire

## 841859 2-(4-Hydroxyphenyl)ethanol for synthesis



C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>  
 ■ CAS-No. 501-94-0 ■ EC-No. 207-930-8  
 ■ Solub. in H<sub>2</sub>O 124 g/l (25 °C) ■ M = 138.17 g/mol  
 ■ Melting point 91 - 94 °C  
 ■ WGK 3

- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

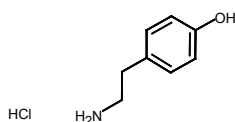
## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Melting range (lower value)..... ≥ 91 °C

Melting range (upper value)..... ≤ 94 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41859.0005	Plastic bottle	5 g	inquire
8.41859.0025	Plastic bottle	25 g	inquire

## 818444 2-(4-Hydroxyphenyl)ethylammonium chloride for synthesis



C<sub>8</sub>H<sub>12</sub>ClNO  
 C<sub>8</sub>H<sub>11</sub>NO \* HCl

4-(2-Aminoethyl)phenol hydrochloride, Tyramine hydrochloride

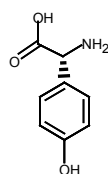
- CAS-No. 60-19-5 ■ EC-No. 200-462-5
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 173.64 g/mol
- Melting point 268 - 269 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 29 00 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18444.0025	Glass bottle	25 g	inquire

## 818612 (R)-(-)-2-(4-Hydroxyphenyl)glycine for synthesis



C<sub>8</sub>H<sub>9</sub>NO<sub>3</sub>

- 4-(HO)C<sub>6</sub>H<sub>4</sub>CH(NH<sub>2</sub>)COOH
- (R)-α-Amino-4-hydroxyphenylacetic acid
- CAS-No. 22818-40-2 ■ EC-No. 245-247-7
- Solub. in H<sub>2</sub>O 5 g/l (20 °C) ■ M = 167.17 g/mol
- Melting point 233 - 238 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 50 00 ■ Disposal 3

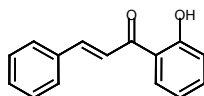
## Specification

Assay (HPLC, area%)..... ≥ 99,0 % (a/a)  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in HCl 1mol/l).....  
 ..... -158.0 - -157.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18612.0050	Plastic bottle	50 g	inquire

Hydroxyphenylmercury → Phenylmercury hydroxide page 1309

## 814776 1-(2-Hydroxyphenyl)-3-phenyl-2-propenone for synthesis



C<sub>15</sub>H<sub>12</sub>O<sub>2</sub>  
 ■ CAS-No. 1214-47-7 ■ EC-No. 214-928-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 224.26 g/mol

- mol ■ Melting point 87 °C ■ Ignition temp. 280 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

## Specification

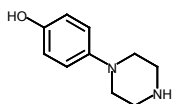
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 87 °C  
 Melting range (upper value)..... ≤ 90 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14776.0025	Plastic bottle	25 g	inquire
8.14776.0100	Plastic bottle	100 g	inquire



## 843929 1-(4-Hydroxyphenyl) piperazine for synthesis

C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>O

- CAS-No. 56621-48-8 ■ EC-No. 260-289-6
- M = 178.23 g/mol ■ Melting point 215 - 222 °C
- WGK 3
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309

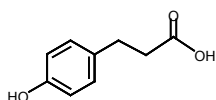
- + P310
- LD50 oral rat > 2000 mg/kg
- LGK 8A
- HS-No. 2933 59 95 ■ Disposal 3
- ADR-RID UN 3263 Ätzender basischer organischer fester Stoff, n.a.g.(P-(1-PIPERAZINYL)PHENOL), 8, III ■ IMDG-Code UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(P-(1-PIPERAZINYL)PHENOL), 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(P-(1-PIPERAZINYL)PHENOL), 8, III

## Specification

Colour (visual).....pale red to brown  
 Appearance of substance (visual).....powder  
 Assay (HClO<sub>4</sub>).....≥ 98.0 %  
 Loss on drying.....≤ 1.0 %  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.43929.0025	Plastic bottle	25 g	inquire
8.43929.0100	Plastic bottle	100 g	inquire

## 814101 3-(4-Hydroxyphenyl)-propionic acid for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>

4-(HO)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CH<sub>2</sub>COOH  
 Phloretic acid

- CAS-No. 501-97-3 ■ EC-No. 207-931-3
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 166.18 g/mol ■ Melting point 126 - 129 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 4

## Specification

Assay (HPLC, area%).....≥ 98,0 Area %

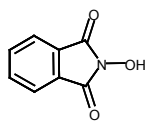
Melting range (lower value).....≥ 126 °C  
 Melting range (upper value).....≤ 129 °C  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14101.0025	Plastic bottle	25 g	inquire

3-Hydroxy-2-phenylpropionic acid → DL-Tropic acid page 1618

3-Hydroxyphthalide → Phthalaldehydic acid page 1324

## 804528 N-Hydroxyphthalimide for synthesis

C<sub>8</sub>H<sub>5</sub>NO<sub>3</sub>

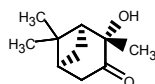
- CAS-No. 524-38-9 ■ EC-No. 208-358-1
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 163.13 g/mol ■ Melting point 230 - 233 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

## Specification

Assay (acidimetric).....≥ 99,0 % (m)  
 Melting range (lower value).....≥ 230 °C  
 Melting range (upper value).....≤ 235 °C  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.04528.0100	Plastic bottle	100 g	inquire

## 818342 (1S,2S,5S)-(-)-2-Hydroxypinan-3-one for synthesis

C<sub>10</sub>H<sub>16</sub>O<sub>2</sub>

- CAS-No. 1845-25-6
- Refractive index 1.4877 (28 °C, 589 nm)

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 168.24 g/mol ■ Melting point 36 - 38 °C
- Boiling point 119 - 120 °C (20 hPa)
- WGK 3
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2914 50 00 ■ Disposal 3

## Specification

Assay (GC, area%).....≥ 99,0 % (a/a)

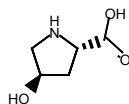
Melting range (lower value).....≥ 36 °C  
 Melting range (upper value).....≤ 38 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=2.5 in chloroform) -41.0 - -38.0 °  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18342.0001	Glass bottle	1 g	inquire

3-Hydroxypiperidine → 3-Piperidinol page 1331

4-Hydroxypiperidine → 4-Piperidinol page 1331

## 104506 L-Hydroxyproline for biochemistry

C<sub>5</sub>H<sub>8</sub>NO<sub>3</sub>

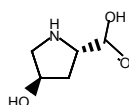
- L(-)-4-Hydroxypyrrolidine-2-carboxylic acid, Hyp
- CAS-No. 51-35-4 ■ EC-No. 200-091-9
  - Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 131.13 g/mol ■ pH value 5.5 - 6.5 (50 g/l, H<sub>2</sub>O, 20 °C)
  - Melting point 274 °C ■ Bulk density 610 kg/m<sup>3</sup>

- WGK nwg
  - LGK 10 - 13
  - HS-No. 2933 99 80 ■ Disposal 3
- Soluble in water and mineral acids; insoluble in organic solvents.
- Specification**  
 Assay (perchloric acid titration).....≥ 99 %  
 Identity (IR-spectrum).....passes test  
 Spec. rotation (α<sub>D</sub><sup>20</sup>; 5 %; hydrochloric acid 1 mol/l).....-46 to -47°

Heavy metals (as Pb).....≤ 0.001 %  
 NH<sub>4</sub> (Ammonium).....≤ 0.01 %  
 Foreign amino acids.....≤ 0.3 %  
 Other ninhydrine positive substances (as Glycine).....≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.04506.0010	Glass bottle	10 g	inquire
1.04506.0100	Glass bottle	100 g	inquire

## 816007 (S)-(-)-trans-4-Hydroxyproline for synthesis

C<sub>5</sub>H<sub>8</sub>NO<sub>3</sub>

- L(-)-4-Hydroxypyrrolidine-2-carboxylic acid, Hyp
- CAS-No. 51-35-4 ■ EC-No. 200-091-9

- Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 131.13 g/mol ■ pH value 5.5 - 6.5 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 274 °C ■ Bulk density 610 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>).....≥ 99,0 % (m)

Spec. rotation [α<sub>D</sub><sup>20</sup> (c=4 in water).....-77,0 - -74,0 °  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.16007.0005	Plastic bottle	5 g	inquire
8.16007.0025	Plastic bottle	25 g	inquire

L-Hydroxyproline → (S)-(-)-trans-4-Hydroxyproline page 993

1-Hydroxypropane → page 3

2-Hydroxypropane → page 298

L-4-Hydroxyproline ethyl ester hydrochloride → (2S,4R)-(-)-Ethyl 4-hydroxy-2-pyrrolidincarboxylate hydrochloride page 871

2-Hydroxypropionic acid amide → L(-)-Lactamide page 1071

1-Hydroxy propane → page 320

(S)-(-)-2-Hydroxypropionic acid ethyl ester → (S)-(-)-Ethyl lactate page 873

# Hydrox

## 818084 3-Hydroxypropionitrile for synthesis



C<sub>3</sub>H<sub>5</sub>NO  
*β*-Cyanoethanol, Ethylene cyanohydrin  
 ■ CAS-No. 109-78-4 ■ EC-No. 203-704-8  
 ■ Refractive index 1.4241 (25 °C, 589 nm)  
 ■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 128 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 71.08 g/mol

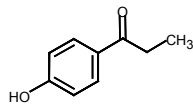
■ pH value 3.0 - 4.5 (H<sub>2</sub>O, 20 °C) (undiluted)  
 ■ Melting point -46 °C ■ Boiling point 228 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat 3200 mg/kg ■ LD50 dermal rabbit 5250 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2926 90 95 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,045 - 1,047  
 Water (K. F.) ..... ≤ 0,50 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18084.0100	Glass bottle	100 ml	inquire
8.18084.0500	Glass bottle	500 ml	inquire

## 820692 4'-Hydroxypropiophenone for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>  
 4-(OH)C<sub>6</sub>H<sub>4</sub>COC<sub>2</sub>H<sub>5</sub>  
 ■ CAS-No. 70-70-2 ■ EC-No. 200-743-2  
 ■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C)

■ Flash point 112 °C ■ Solub. in H<sub>2</sub>O 0.345 g/l (15 °C) ■ M = 150.18 g/mol  
 ■ Melting point 148 - 151 °C  
 ■ Bulk density 300 - 400 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LD50 oral rat 11800 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 50 00 ■ Disposal 3

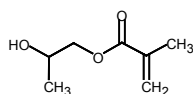
**Specification**  
 Assay (acidimetric) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 148 °C  
 Melting range (upper value) ..... ≤ 151 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20692.0100	Plastic bottle	100 g	inquire

Hydroxypropylamine → page 400

2-Hydroxypropylamine → page 400

## 800610 Hydroxypropyl methacrylate (stabilised)



C<sub>7</sub>H<sub>12</sub>O<sub>3</sub>  
 CH<sub>2</sub>=C(CH<sub>3</sub>)COOCH<sub>2</sub>CH(OH)CH<sub>3</sub>  
*Methacrylic acid 2-hydroxypropyl ester*  
 ■ CAS-No. 27813-02-1 ■ EC-No. 248-666-3  
 ■ Refractive index 1.4458 (20 °C, 589 nm)  
 ■ Vapour pressure 0.1 hPa (20 °C)

■ Spec. density 1.029 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 101 °C ■ Solub. in H<sub>2</sub>O 107 g/l (25 °C) ■ M = 144.17 g/mol ■ pH value 6 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -58 °C  
 ■ Boiling point 240 °C (1013 hPa)  
 ■ Ignition temp. 355 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat > 4000 mg/kg

■ LD50 dermal rabbit > 5000 mg/kg  
 ■ EC-Index-No. 607-125-00-5 ■ LGK 10 - 13  
 ■ HS-No. 2916 14 00 ■ Disposal 3

**Specification**  
 Assay isomers (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.027 - 1.030  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00610.0250	Glass bottle	250 ml	inquire
8.00610.1000	Glass bottle	1 l	inquire

N-(2-Hydroxypropyl)-N,N-dimethylamine → 1-(Dimethylamino)-2-propanol page 778

## 807035 2-Hydroxypyridine for synthesis



C<sub>5</sub>H<sub>5</sub>NO  
*2-Hydroxypyridine, 2-Pyridone*  
 ■ CAS-No. 142-08-5 ■ EC-No. 205-520-3  
 ■ Flash point 210 °C ■ Solub. in H<sub>2</sub>O 450 g/l (20 °C) ■ M = 95.1 g/mol  
 ■ Melting point 104 - 107 °C  
 ■ Bulk density 800 kg/m<sup>3</sup>  
 ■ Boiling point 279 - 281 °C

■ Ignition temp. 675 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
 ■ LD50 oral rat 124 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2933 39 99 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-HYDROXYPYRIDIN), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-HYDROXYPYRIDINE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(2-HYDROXYPYRIDINE), 6.1, III  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 104 °C  
 Melting range (upper value) ..... ≤ 107 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07035.0025	Glass bottle	25 g	inquire

2-Hydroxypyridine → page 994

3-Hydroxypyridine → 3-Pyridinol page 1389

## 819054 1-Hydroxy-2-pyridinethione sodium salt (40% solution in water)

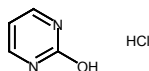
■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) miscible in all proportions  
 ■ pH value 8.5 - 10.5 (H<sub>2</sub>O, 20 °C)  
 ■ Boiling point 100 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P273, P302 + P352,

P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1-HYDROXY-2-PYRIDINTHION NATRIUMSALZ), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-HYDROXY-2-PYRIDINTHIONE SODIUM SALT), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-HYDROXY-2-PYRIDINTHIONE SODIUM SALT), 9, III  
**Specification**  
 Assay (iodometric) ..... 38,0 - 42,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,190 - 1,240

Ord.No.	Packaging	Quantity	Price
8.19054.0250	Glass bottle	250 ml	inquire

## 818698 2-Hydroxypyrimidinium chloride for synthesis



C<sub>4</sub>H<sub>5</sub>ClN<sub>2</sub>O  
 C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O \* HCl  
*2(1H)-Pyrimidinone hydrochloride, 2-Pyrimidinol*

*hydrochloride*  
 ■ CAS-No. 38353-09-2 ■ EC-No. 253-897-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 132.55 g/mol ■ Melting point 200 - 205 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 59 95 ■ Disposal 3

**Specification**  
 Assay (argentometric) ..... ≥ 97,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18698.0025	Glass bottle	25 g	inquire

L(-)-4-Hydroxypyrrolidine-2-carboxylic acid → L-Hydroxyproline page 993

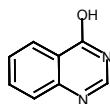
L(-)-4-Hydroxypyrrolidine-2-carboxylic acid → (S)-(-)-trans-4-Hydroxyproline page 993

1-Hydroxy-2,5-pyrrolidinedione → N-Hydroxysuccinimide page 996

4-Hydroxyquinaldic acid → 4-Hydroxyquinoline-2-carboxylic acid page 995

8-Hydroxyquinoline → 2-Methyl-8-quinolinol page 1179

### 814840 4-Hydroxyquinazoline for synthesis



C<sub>8</sub>H<sub>6</sub>N<sub>2</sub>O

■ CAS-No. 491-36-1 ■ EC-No. 207-735-8

■ Flash point >200 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble

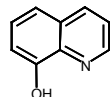
- M = 146.15 g/mol ■ Melting point 214 - 217 °C
- Bulk density 400 - 650 kg/m<sup>3</sup>
- Boiling point >360 °C ■ Ignition temp. >200 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

#### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 216 °C  
 Melting range (upper value) ..... ≤ 219 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14840.0025	Glass bottle	25 g	inquire

### 8-Hydroxyquinoline



C<sub>9</sub>H<sub>7</sub>NO

*Oxine, 8-Quinolinol*

■ CAS-No. 148-24-3 ■ EC-No. 205-711-1

■ Solub. in H<sub>2</sub>O 0.56 g/l (20 °C)

■ M = 145.16 g/mol

■ Melting point 72.5 - 74.0 °C

■ Boiling point 267 °C (1013 hPa)

■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302

■ LD50 oral rat 1200 mg/kg

■ LGK 10 - 13

■ HS-No. 2933 49 90 ■ Disposal 3

### 820261 8-Hydroxyquinoline for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %

Melting range (lower value) ..... ≥ 71 °C

Melting range (upper value) ..... ≤ 74 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20261.0250	Glass bottle	250 g	inquire
8.20261.1000	Glass bottle	1 kg	inquire

### 107098 8-Hydroxyquinoline GR for analysis ACS, Reag. Ph Eur

#### Specification

Assay (perchloric acid titration) ..... ≥ 99%

Identity (IR-spectrum) ..... passes test

Melting range in ethanol ..... ≤ 0.05 %

Melting range ..... 72.5 - 74.0 °C

Chloride (Cl) ..... ≤ 0.001 %

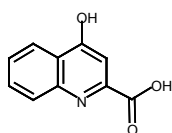
Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %

Sulfated ash ..... ≤ 0.05 %

Suitability as reagent (for Mg-test) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.07098.0050	Glass bottle	50 g	inquire
1.07098.0250	Glass bottle	250 g	inquire

### 814591 4-Hydroxyquinoline-2-carboxylic acid for synthesis



C<sub>10</sub>H<sub>7</sub>NO<sub>3</sub>

*Kynurenic acid, 4-Hydroxyquinaldic acid*

■ CAS-No. 492-27-3 ■ EC-No. 207-751-5

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 0.9 g/l (100 °C) ■ M = 189.17 g/mol

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2933 49 10 ■ Disposal 4

#### Specification

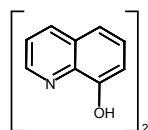
Assay (HPLC, area%) ..... ≥ 98,0 Area %

Water (K. F.) ..... 4,0 - 7,0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14591.0001	Glass bottle	1 g	inquire
8.14591.0005	Glass bottle	5 g	inquire

### 814528 8-Hydroxyquinoline sulfate monohydrate for synthesis



C<sub>18</sub>H<sub>16</sub>N<sub>2</sub>O<sub>6</sub>S · H<sub>2</sub>O

*Quinosol*

■ CAS-No. 207386-91-2 ■ EC-No. 205-137-1

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 406.41 g/mol

■ pH value 3.2 (H<sub>2</sub>O, 20 °C)

■ Melting point 177 °C

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302

■ LD50 oral rat 1200 mg/kg ■ LD50 dermal rat > 4000 mg/kg

■ EC-Index-No. 613-017-00-9 ■ LGK 10 - 13

■ HS-No. 2933 49 90

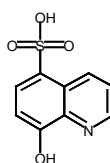
#### Specification

Assay (acidimetric) ..... ≥ 99,0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14528.0100	Glass bottle	100 g	inquire

### 814436 8-Hydroxyquinoline-5-sulfonic acid monohydrate for synthesis



C<sub>9</sub>H<sub>7</sub>NO<sub>4</sub>S · H<sub>2</sub>O

■ CAS-No. 84-88-8 ■ EC-No. 201-570-5

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

■ M = 243.24 g/mol ■ Melting point 322 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2933 49 90 ■ Disposal 4

#### Specification

Assay (acidimetric, calc. on anhydrous substance) ..

..... ≥ 98,0 % (m)

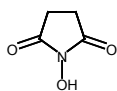
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14436.0100	Plastic bottle	100 g	inquire

DL-Hydroxysuccinic acid → page 1092

(±)-Hydroxysuccinic acid → page 1092

## 804518 N-Hydroxysuccinimide for synthesis



C<sub>4</sub>H<sub>5</sub>NO<sub>3</sub>  
**1-Hydroxy-2,5-pyrrolidinedione**  
 ■ CAS-No. 6066-82-6 ■ EC-No. 228-001-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble

■ M = 115.09 g/mol ■ pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 93 - 100 °C  
 ■ WGK 1  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 2925 19 95 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 95 °C  
 Melting range (upper value) ..... ≤ 100 °C

Identity (IR) ..... passes test

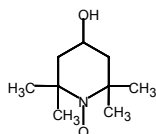
Ord.No.	Packaging	Quantity	Price
8.04518.0025	Glass bottle	25 g	inquire
8.04518.0100	Glass bottle	100 g	inquire
8.04518.0500	Glass bottle	500 g	inquire

2- { [α-(2-Hydroxy-5-sulfofenylazo)benzylidene]-hydrazino }-benzoic acid monosodium salt → Zincon page 1641

4-Hydroxy-TEMPO → 4-Hydroxy-2,2,6,6-tetramethylpiperidine-1-oxyl page 996

4-Hydroxy-2,2,6,6-tetramethylpiperidine → 2,2,6,6-Tetramethyl-4-piperidinol page 1543

## 840130 4-Hydroxy-2,2,6,6-tetramethylpiperidine-1-oxyl (free radical) for synthesis



C<sub>9</sub>H<sub>18</sub>NO<sub>2</sub>  
**4-Hydroxy-TEMPO**  
 ■ CAS-No. 2226-96-2 ■ EC-No. 218-760-9  
 ■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Flash point 146 °C DIN

51758 ■ Solub. in H<sub>2</sub>O 1670 g/l (20 °C)  
 ■ M = 172.25 g/mol ■ pH value 8.2 (20 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 67 - 71 °C  
 ■ Boiling point (1013 hPa) not applicable, (decomposition) ■ Ignition temp. 260 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P262, P280, P305 + P351 + P338, P313  
 ■ LD50 oral rat 1053 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
 Melting range (lower value) ..... ≥ 67 °C  
 Melting range (upper value) ..... ≤ 71 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40130.0025	Glass bottle	25 g	inquire
8.40130.0100	Glass bottle	100 g	inquire

2-Hydroxythiophenol → 2-Mercaptophenol page 1101

3-Hydroxytoluene → m-Cresol page 658

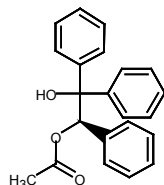
3-Hydroxy-p-toluic acid → 3-Hydroxy-4-methylbenzoic acid page 988

2-Hydroxytoluene → o-Cresol page 658

4-Hydroxytoluene → p-Cresol page 658

2-Hydroxy-p-toluidine → 2-Amino-5-methylphenol page 393

## 814193 (R)-(+)-2-Hydroxy-1,2,2-triphenylethyl acetate for synthesis



C<sub>22</sub>H<sub>20</sub>O<sub>3</sub>

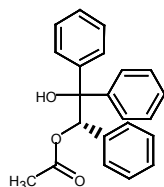
*HYTRA, (R)-(+)-Acetic acid 2-hydroxy-1,2,2-triphenylethyl ester*  
 ■ CAS-No. 95061-47-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 332.4 g/mol ■ Melting point 237 - 240 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 39 00 ■ Disposal 3

Melting range (lower value) ..... ≥ 240 °C  
 Melting range (upper value) ..... ≤ 245 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in pyridine) ..... 213,0 - 216,0 °  
 Identity (IR) ..... conforms

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %

Ord.No.	Packaging	Quantity	Price
8.14193.0001	Glass bottle	1 g	inquire

## 814192 (S)-(-)-2-Hydroxy-1,2,2-triphenylethyl acetate for synthesis



C<sub>22</sub>H<sub>20</sub>O<sub>3</sub>

*HYTRA, (S)-(-)-1,1,2-Triphenyl-1,2-ethanediol-2-acetate, (S)-(-)-Acetic acid 2-hydroxy-1,2,2-triphenylethyl ester*  
 ■ CAS-No. 95061-51-1  
 ■ M = 332.4 g/mol ■ Melting point 237 - 240 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 39 00 ■ Disposal 3

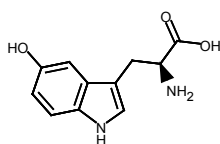
Melting range (lower value) ..... ≥ 237 °C  
 Melting range (upper value) ..... ≤ 240 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in pyridine) ..... -216,0 - -213,0 °  
 Identity (IR) ..... conforms

**Specification**  
 Assay (HPLC, area%) ..... ≥ 99,0 Area %

Ord.No.	Packaging	Quantity	Price
8.14192.0001	Glass bottle	1 g	inquire

Hydroxytriphenylsilane → Triphenylsilanol page 1613

## 824406 (-)-5-Hydroxy-L-tryptophane for synthesis



C<sub>11</sub>H<sub>12</sub>N<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 4350-09-8 ■ EC-No. 224-411-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 220.23 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C)

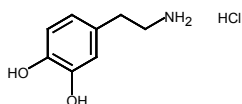
■ Bulk density 200 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
 ■ LD50 oral rat 243 mg/kg  
 ■ LGK 6.1C ■ Store below +15°C.  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(5-HYDROXY-L-TRYPTOPHAN), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(5-HYDROXY-L-TRYPTOPHAN), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(5-HYDROXY-L-TRYPTOPHAN), 6.1, III

**Specification**  
 Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in water) ..... -34,0 - -31,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24406.0001	Glass bottle	1 g	inquire

## 822073 3-Hydroxytyraminium chloride for synthesis

C<sub>8</sub>H<sub>12</sub>ClNO<sub>2</sub>3,4-(OH)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> \* HCl

4-(2-Aminoethyl)pyrocatechol hydrochloride, 2-

(3,4-Dihydroxyphenyl)ethylamine hydrochloride

■ CAS-No. 62-31-7 ■ EC-No. 200-527-8

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 189.64 g/mol ■ Melting point 246 - 249 °C

■ WGK 1

■ LD50 oral rat 2859 mg/kg

■ LGK 10 - 13

■ HS-No. 2922 29 00 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 99,0 %

Melting range (lower value)..... ≥ 246 °C

Melting range (upper value)..... ≤ 249 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22073.0010	Glass bottle	10 g	inquire

α-Hydroxy-o-Xylene → 2-Methylbenzyl alcohol  
page 11352-Hydroxy-1-(1-hydroxy-2-naphthylazo)-  
naphthalene-4-sulfonic acid sodium salt →  
Eriochrome blue-black B (C.I. 14640) page 1722-Hydroxy-1-(2-hydroxy-1-naphthylazo)  
naphthalene-4-sulfonic acid sodium salt →  
Calcon (C.I.15705) page 1722-Hydroxy-1-(1-hydroxy-2-naphthylazo)-6-  
nitronaphthalene-4-sulfonic acid sodium salt  
→ Eriochrome black T (C.I. 14645) page 1722-Hydroxy-1-(2-hydroxy-4-sulfo-1-naphthylazo)  
-naphthalene-3-carboxylic acid →  
Calconcarboxylic acid page 172

Hygiene indicator → Microbiology

## Hygiene Monitoring

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
56	116896	Chlorine Test	75	116976	Peracetic Acid Test	78	109535	pH-indicator strips pH 0 - 14 Universal indicator
64	110036	Formaldehyde Test	75	110011	Peroxide Test	78	109584	pH-indicator strips pH 2.0 - 9.0
64	116989	Formaldehyde Test	75	110081	Peroxide Test	78	109542	pH-indicator strips pH 4.0 - 7.0
75	110084	Peracetic Acid Test	75	110337	Peroxide Test	78	109543	pH-indicator strips pH 6.5 - 10.0
75	110001	Peracetic Acid Test	75	116974	Peroxide Test	91	116970	Reflectometer
75	116975	Peracetic Acid Test	75	116731	Peroxide Test	91	116955	Reflectometer

HY-LiTE® → page 143

Hypophosphorous acid → Hypophosphorous acid  
50% page 997

## 104633 Hypophosphorous acid 50% for analysis EMSURE®

## Hypophosphorous acid

■ Vapour pressure 30 hPa (20 °C)

■ Spec. density 1.21 - 1.26 g/cm<sup>3</sup> (20 °C) ■ Solub.in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)

■ Melting point &lt; -25 °C ■ Boiling point 108 °C

(1013 hPa) (decomposition)

■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310

■ LGK 8 B

■ HS-No. 2811 19 80 ■ Disposal 12

■ ADR-RID UN 3264 Ätzender saurer

anorganischer flüssiger Stoff,

n.a.g.(UNTERPHOSPHORIGE SAEURE), 8, III

■ IMDG-Code UN 3264 CORROSIVE LIQUID,  
ACIDIC, INORGANIC, N.O.S.(HYPOPHOSPHOROUS  
ACID), 8, III, Segregation Group: 1 (Acids)■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,  
INORGANIC, N.O.S.(HYPOPHOSPHOROUS ACID), 8,  
III

## Specification

Assay (alkalimetric)..... ≥ 49.5 %

Phosphorous acid and phosphoric acid (as H<sub>3</sub>PO<sub>3</sub>)...

..... ≤ 2%

Chloride (Cl)..... ≤ 0.015 %

Total sulfur (as SO<sub>4</sub>)..... ≤ 0.02 %

As (Arsenic)..... ≤ 0.0005 %

Ba (Barium)..... ≤ 0.005 %

Ca (Calcium)..... ≤ 0.005 %

Cd (Cadmium)..... ≤ 0.0001 %

Cu (Copper)..... ≤ 0.0005 %

Fe (Iron)..... ≤ 0.005 %

K (Potassium)..... ≤ 0.001 %

Mn (Manganese)..... ≤ 0.0005 %

Na (Sodium)..... ≤ 0.10 %

Ni (Nickel)..... ≤ 0.0005 %

Pb (Lead)..... ≤ 0.0005 %

Zn (Zinc)..... ≤ 0.0001 %

Ord.No.	Packaging	Quantity	Price
1.04633.0100	Glass bottle	100 ml	inquire
1.04633.0500	Glass bottle	500 ml	inquire

1-Hydroxy-4-methoxybenzene → 4-Methoxyphenol  
page 1123HYTRA → (S)-(-)-2-Hydroxy-1,2,2-triphenylethyl  
acetate page 996



### 109032 IC multi-element standard V F<sup>-</sup> = 10 mg/l, Br<sup>-</sup> = 10 mg/l, NO<sub>3</sub><sup>-</sup> = 50 mg/l, PO<sub>4</sub><sup>3-</sup> = 50 mg/l, Cl<sup>-</sup> = 100 mg/l, SO<sub>4</sub><sup>2-</sup> = 200 mg/l in H<sub>2</sub>O Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ pH value 5.6 ■ HS-No. 3822 00 00 ■ Disposal 28 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.

Ord.No.	Packaging	Quantity	Price
1.09032.0100	Plastic bottle	100 ml	inquire

### 109036 IC multi-element standard VI NH<sub>4</sub><sup>+</sup> = 10 mg/l, K = 50 mg/l, Na = 100 mg/l, Ca = 100 mg/l, Mg = 100 mg/l in 0,01 mol/l HNO<sub>3</sub> Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ pH value 2.1 ■ HS-No. 3822 00 00 ■ Disposal 28 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.

Ord.No.	Packaging	Quantity	Price
1.09036.0100	Plastic bottle	100 ml	inquire

ICP-MS → Standards

ICP standards → Standards

Ile → L-Isoleucine page 1047

ICP Multi element standard solution → page 1485

IDMS → Standards

ICP-OES → Standards

IIDQ-polystyrene → page 283

## Imidazole

C<sub>3</sub>H<sub>4</sub>N<sub>2</sub>

Glyoxaline, Iminazole

- CAS-No. 288-32-4 ■ EC-No. 206-019-2
- Vapour pressure 0.003 hPa (20 °C)
- Spec. density 1.030 g/cm<sup>3</sup> ■ Flash point 145 °C
- Solub. in H<sub>2</sub>O 633 g/l (20 °C) ■ M = 68.08 g/mol
- pH value 10.5 (67 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 89 - 90 °C

- Bulk density 500 - 600 kg/m<sup>3</sup>
- Boiling point 256 °C (1013 hPa)
- Ignition temp. 480 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Reproductive toxicity, Category 2, H361d, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 970 mg/kg
- LGK 8A
- HS-No. 2933 29 90 ■ Disposal 3

- ADR-RID UN 3263 Ätzender basischer organischer fester Stoff, n.a.g.(IMIDAZOL), 8, III
- IMDG-Code UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(IMIDAZOLE), 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(IMIDAZOLE), 8, III
- Biological buffer pKa (25°C) = 6.95. For the titration of aspartic acid and glutamic acid. Easily soluble in water, ethanol, ether and chloroform.



### 814223 Imidazole for synthesis

#### Specification

- Assay (GC, area%) ..... ≥ 99.0 % (a/a)
- Melting range (lower value) ..... ≥ 88 °C
- Melting range (upper value) ..... ≤ 91 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14223.0005	Glass bottle	5 g	inquire
8.14223.0250	Plastic bottle	250 g	inquire
8.14223.1000	Plastic bottle	1 kg	inquire

### 104716 Imidazole buffer substance ACS

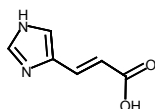
#### Specification

- Assay (perchloric acid titration) ..... ≥ 99%
- Identity (IR-spectrum) ..... conforms
- pH-value (5 %, in water) ..... 9.5 - 11.0
- Melting point ..... 90 - 92 °C
- UV/VIS Spectrum ..... conforms

- Fe (Iron) ..... ≤ 0.001 %
- Sulfated ash ..... ≤ 0.1%
- Water (according to Karl Fischer) ..... ≤ 0.2%
- Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.04716.0050	Plastic bottle	50 g	inquire
1.04716.0250	Plastic bottle	250 g	inquire
1.04716.1000	Plastic bottle	1 kg	inquire

### 820695 Imidazole-4-acrylic acid for synthesis

C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>

#### Urocaninic acid

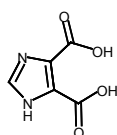
- CAS-No. 104-98-3 ■ EC-No. 203-258-4
- Solub. in H<sub>2</sub>O 1.5 g/l (17 °C) ■ M = 138.13 g/mol
- Melting point 235 - 240 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

#### Specification

- Assay (acidimetric) ..... ≥ 99.0 %
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20695.0001	Glass bottle	1 g	inquire

### 818370 Imidazole-4,5-dicarboxylic acid for synthesis

C<sub>5</sub>H<sub>4</sub>N<sub>2</sub>O<sub>4</sub>

- CAS-No. 570-22-9 ■ EC-No. 209-327-5
- Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 156.1 g/mol
- pH value 3.7 (0.5 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 270 - 275 °C
- Bulk density 650 - 660 kg/m<sup>3</sup>
- Ignition temp. 430 °C
- WGK 3
- HS-No. 2933 29 90 ■ Disposal 3

#### Specification

- Assay (acidimetric) ..... ≥ 98.0 %
- Melting range (lower value) ..... ≥ 270 °C
- Melting range (upper value) ..... ≤ 275 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18370.0010	Plastic bottle	10 g	inquire

2,4-(3H,5H)-Imidazolidione → Hydantoin page 962

Imidazoles → Heterocycles

## 820696 2-Imidazolidinethione for synthesis

C<sub>3</sub>H<sub>6</sub>N<sub>2</sub>S*N,N'*-Ethylenethiourea

- CAS-No. 96-45-7 ■ EC-No. 202-506-9
- Vapour pressure 0.2 hPa (170 °C)
- Spec. density 1.4 g/cm<sup>3</sup> (20 °C)

- Flash point 253 °C ■ Solub. in H<sub>2</sub>O 8 g/l (20 °C)
- M = 102.16 g/mol ■ Melting point 196 - 199 °C
- Bulk density 750 - 900 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Reproductive toxicity, Category 1B, H360D; Acute toxicity, Category 4, Oral, H302, P201, P308 + P313
- LD50 oral rat 710 mg/kg
- EC-Index-No. 613-039-00-9 ■ LGK 6.1A
- HS-No. 2933 29 90 ■ Disposal 9

## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 196 °C  
 Melting range (upper value) ..... ≤ 199 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20696.0250	Plastic bottle	250 g	inquire
8.20696.1000	Plastic bottle	1 kg	inquire

## 845040 2-Imidazolidinone hemihydrate for pharma synthesis, non-GMP

C<sub>3</sub>H<sub>6</sub>N<sub>2</sub>O \* 0.5H<sub>2</sub>O*N,N'*-Ethyleneurea

- CAS-No. 121325-67-5 ■ EC-No. 204-436-4
- Vapour pressure < 24 hPa (20 °C)
- Spec. density 1.3 g/cm<sup>3</sup> (20 °C)
- Flash point 265 °C ■ Solub. in H<sub>2</sub>O 950 g/l

- (20 °C) ■ M = 95.10 g/mol ■ pH value 9 - 11 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 58 °C
- Bulk density 720 kg/m<sup>3</sup> ■ Boiling point 132.6 °C (1013 hPa) (anhydrous substance)
- WGK 1
- GHS: Warning, Reproductive toxicity, Category 2, H361f; Eye irritation, Category 2, H319, P281, P305 + P351 + P338, P308 + P313
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 9

## Specification

Colour (visual) ..... colourless to white  
 Appearance of substance (visual) ..... crystals  
 Assay at N (calc. on anhydrous substance) .....  
 Water (K. F.) ..... ≥ 97.0 % (m)  
 Identity (IR) ..... ≤ 13.0 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45040.0100	Plastic bottle	100 g	inquire
8.45040.0500	Plastic bottle	500 g	inquire

## 804789 2-Imidazolidinone hemihydrate for synthesis

C<sub>3</sub>H<sub>6</sub>N<sub>2</sub>O \* 0.5H<sub>2</sub>O*N,N'*-Ethyleneurea

- CAS-No. 121325-67-5 ■ EC-No. 204-436-4
- Vapour pressure < 24 hPa (20 °C)
- Spec. density 1.3 g/cm<sup>3</sup> (20 °C)
- Flash point 265 °C ■ Solub. in H<sub>2</sub>O 950 g/l

- (20 °C) ■ M = 95.10 g/mol ■ pH value 9 - 11 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 58 °C
- Bulk density 720 kg/m<sup>3</sup> ■ Boiling point 132.6 °C (1013 hPa) (anhydrous substance)
- WGK 1
- GHS: Warning, Reproductive toxicity, Category 2, H361f; Eye irritation, Category 2, H319, P281, P305 + P351 + P338, P308 + P313
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 9

## Specification

Assay (ex N) ..... ≥ 97.0 %  
 Water (K. F.) ..... ≤ 13.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.04789.0100	Plastic bottle	100 g	inquire
8.04789.0500	Plastic bottle	500 g	inquire

Imidazolidinones → Heterocycles

L-3-Imidazol-4-ylalanine → L-Histidine page 959

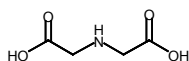
Imides → Organoelement compounds

Iminazole → page 998

Imines → Organoelement compounds

2,2'-Iminobis (ethylamine) → Diethylenetriamine page 744

## 814165 Iminodiacetic acid for synthesis

C<sub>4</sub>H<sub>7</sub>NO<sub>4</sub>HN(CH<sub>2</sub>COOH)<sub>2</sub>

- CAS-No. 142-73-4 ■ EC-No. 205-555-4
- Solub. in H<sub>2</sub>O 42 g/l (20 °C) ■ M = 133.10 g/mol

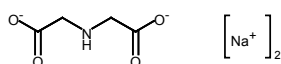
- pH value 2.2 - 2.3 (H<sub>2</sub>O, 20 °C) (saturated solution) ■ Melting point 247 °C (decomposition)
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85

## Specification

Assay (acidimetric) ..... ≥ 96.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14165.0250	Plastic bottle	250 g	inquire

## 841784 Iminodiacetic acid disodium salt hydrate for synthesis

C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> \* H<sub>2</sub>O

- CAS-No. 17593-73-6 ■ EC-No. 213-181-8
- M = 195.08 g/mol ■ Melting point 180 °C

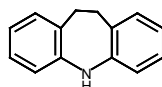
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P260, P305 + P351 + P338
- LD50 oral rat 8070 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (ex Na, calc. on anhydrous substance) .....  
 Identity (IR) ..... ≥ 95.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41784.0100	Plastic bottle	100 g	inquire

## 841660 Iminodibenzyl for synthesis

C<sub>14</sub>H<sub>13</sub>N

10,11-Dihydro-5H-dibenz[b,f]azepine

- CAS-No. 494-19-9 ■ EC-No. 207-787-1
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 195.27 g/mol ■ Melting point 109 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

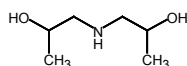
Assay (GC, area%) ..... ≥ 97.0 Area %  
 Melting range (lower value) ..... ≥ 105 °C  
 Melting range (upper value) ..... ≤ 108 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41660.0025	Glass bottle	25 g	inquire

2,2'-Iminodiethanol → page 301

# Iminod

## 803264 1,1-Iminodi-2-propanol for synthesis



C<sub>6</sub>H<sub>15</sub>NO<sub>2</sub>  
 [CH<sub>3</sub>CH(OH)CH<sub>2</sub>]<sub>2</sub>NH  
*Diisopropanolamine, Bis(2-hydroxypropyl)amine*  
 ■ CAS-No. 110-97-4 ■ EC-No. 203-820-9  
 ■ Refractive index 1.4702 (16 °C, 589 nm)  
 ■ Vapour pressure 0.02 hPa (20 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.6 - 8.0 % (V) ■ Flash point 135 °C ■ Solub. in H<sub>2</sub>O 870 g/l (20 °C) ■ M = 133.19 g/mol  
 ■ pH value 11.4 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 38 - 44 °C ■ Boiling point 249 °C (1013 hPa) ■ Ignition temp. 290 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 4765 mg/kg ■ LD50 dermal rabbit 8000 mg/kg  
 ■ EC-Index-No. 603-083-00-7 ■ LGK 10 - 13

■ HS-No. 2922 19 85 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Water (according to Karl Fischer)..... ≤ 1.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.03264.0100	Plastic bottle	100 g	inquire
8.03264.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire/1 kg

## Immersion media

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
298	115500	Acetonitrile	764	106053	Diiodomethane	188	104699	Immersion oil
315	100003	Acetonitrile	43	109669	Dinonyl phthalate	188	115577	Immersion oil acc. to ISO 8036
507	806210	1-Bromonaphthalene	838	800795	1,2-Ethanedithiol	188	106965	Oil of cedar wood
644	802505	trans-Cinnamaldehyde	303	100949	Ethylene glycol			
300	800952	1,2-Dibromoethane	318	109621	Ethylene glycol			

Immersion oil → page 188

Immersion oil acc. to ISO 8036 → page 188

Immersion wetting power acc. DIN 53901 →

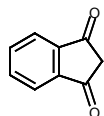
Dihexyl sodium sulfosuccinate page 756

Imsol → Dimethyl adipate/Dimethyl glutarate/

Dimethyl succinate page 775

1-Indanamine → 1-Aminoindane page 391

## 820698 1,3-Indanedione for synthesis



C<sub>9</sub>H<sub>6</sub>O<sub>2</sub>  
*1,3-Hydrindenedione, 1,3-Dioxindane*

■ CAS-No. 606-23-5 ■ EC-No. 210-109-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 146.14 g/mol  
 ■ Melting point 129 - 132 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00 ■ Disposal 3

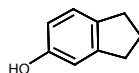
Melting range (lower value)..... ≥ 129 °C  
 Melting range (upper value)..... ≤ 132 °C  
 Identity (IR)..... passes test

### Specification

Assay (oxime titration)..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.20698.0010	Glass bottle	10 g	inquire

## 841078 5-Indanole for synthesis



C<sub>9</sub>H<sub>10</sub>O  
*5-Hydroxyindan, 5-Hydroxyhydrinden*  
 ■ CAS-No. 1470-94-6 ■ EC-No. 216-006-3  
 ■ Flash point 130 °C ■ Solub. in H<sub>2</sub>O 6.3 g/l (25 °C) ■ M = 134.18 g/mol  
 ■ Melting point 50 - 53 °C ■ Boiling point 255 °C  
 ■ Ignition temp. 500 °C

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311, P280, P302 + P352, P309 + P310  
 ■ LD50 oral rat 3250 mg/kg ■ LD50 dermal rabbit 450 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2907 19 90 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(5-INDANOL), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(5-INDANOL), 6.1, III

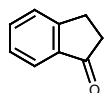
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(5-INDANOL), 6.1, III

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 50 °C  
 Melting range (upper value)..... ≤ 53 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41078.0025	Glass bottle	25 g	inquire

## 820699 1-Indanone for synthesis



C<sub>9</sub>H<sub>8</sub>O  
*α-Hydrindone, 1-Oxoindane*  
 ■ CAS-No. 83-33-0 ■ EC-No. 201-470-1

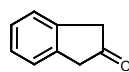
■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O 6.5 g/l (20 °C) ■ M = 132.16 g/mol  
 ■ Melting point 37 - 40 °C  
 ■ Boiling point 243 - 245 °C  
 ■ Ignition temp. 525 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 39 °C  
 Melting range (upper value)..... ≤ 42 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20699.0025	Glass bottle	25 g	inquire

## 841667 2-Indanone for synthesis



C<sub>9</sub>H<sub>8</sub>O  
 ■ CAS-No. 615-13-4 ■ EC-No. 210-410-3  
 ■ Flash point 100 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 132.16 g/mol  
 ■ Melting point 54 - 56 °C  
 ■ WGK 3  
 ■ LGK 10 - 13 ■ Store below +15 °C.  
 ■ HS-No. 2914 39 00 ■ Disposal 3

Identity (IR)..... conforms

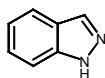
### Specification

Assay (GC, area%)..... ≥ 98.0 Area %

Ord.No.	Packaging	Quantity	Price
8.41667.0010	Glass bottle	10 g	inquire
8.41667.0050	Glass bottle	50 g	inquire

Indantrione hydrate → Ninhydrin page 1208

## 841229 Indazole for synthesis

C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>

Benzopyrazole, Isoindazole

■ CAS-No. 271-44-3 ■ EC-No. 205-978-4

- M = 118.14 g/mol ■ Melting point 147 - 149 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**

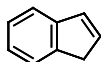
Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 145 °C

Melting range (upper value) ..... ≤ 148 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41229.0001	Plastic bottle	1 g	inquire

Indazoles → Heterocycles

## 820701 Indene for synthesis

C<sub>9</sub>H<sub>8</sub>

- CAS-No. 95-13-6 ■ EC-No. 202-393-6
- Refractive index 1.5762 (20 °C, 589 nm)
- Vapour pressure 1.7 hPa (20 °C)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C)
- Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 116.16 g/mol

- Melting point -2 °C ■ Boiling point 181 - 183 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LC50 rat 14000 mg/m<sup>3</sup>
- LGK 3
- HS-No. 2902 90 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(INDEN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(INDENE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(INDENE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.984 - 0.994  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20701.0250	Glass bottle	250 ml	inquire
8.20701.1000	Glass bottle	1 l	inquire

## 108430 Indicator buffer tablets for the determination of water hardness with Titriplex® solutions

- Solub. in H<sub>2</sub>O (20 °C) soluble
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 3822 00 00 ■ Disposal 3

**Specification**

Weight (min) ..... ≥ 0.20 g  
 Weight (max) ..... ≤ 0.23 g  
 Disintegration time (at 25 °C) ..... ≤ 150 s  
 Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.08430.0500	Plastic can	500 tabs	inquire
1.08430.1000	Plastic can	1000 tabs	inquire

Indicator mixed → Mixed indicator 4.5 page 1188

Indicator papers → page 76

Indicator papers universal → page 76

## Indicators

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
990	104593	Hydroxynaphthol blue	172	103164	Eriochrome cyanine R (C.I. 43820)	172	107534	Pyrogallol red
1089	108712	Magnesium reagent				1556	108176	Thymol blue
190	101167	Amido black 10 B (C.I. 20470)	172	103170	Eriochrome black T (C.I. 14645)	1560	101307	Titan yellow (C.I. 19540)
190	115927	Ponceau S (C.I. 27195)	1002	104724	Indigo carmine (C.I. 73015)	1625	108462	Uranine AP (C.I. 45350)
651	115444	Coomassie® Brilliant blue G 250 (C.I. 42655)	651	101340	Congo red (C.I. 22120)	173	108677	Xylenol orange tetrasodium salt
844	111615	Ethidium bromide	658	105228	m-Cresol purple	1396	102282	Quinaldine red
844	111608	Ethidium bromide	659	105225	Cresol red	627	103024	Chlorophenol red
1343	114275	Ponceau S (C.I. 27195)	662	101408	Crystal violet (C.I. 42555)	1166	101323	Methyl orange solution 0.1%
1637	110590	Xylene cyanol	1166	101322	Methyl orange (C.I. 13025)	1188	106130	Mixed indicator 5
497	103025	Bromocresol purple	1179	106076	Methyl red (C.I. 13020)	1225	106794	3-Nitrophenol
511	103023	Bromophenol red	1179	106078	Methyl red sodium salt (C.I. 13020)	1226	106798	4-Nitrophenol
516	103026	Bromothymol blue	172	106084	Methylthymol blue sodium salt	1290	107238	Phenolphthalein solution 0.375% in methanol
516	101895	Bromothymol blue sodium salt	172	101306	Naphthol green B (C.I. 10020)	1290	107227	Phenolphthalein solution 1% in ethanol
172	102315	Calcein indicator	1200	106246	1-Naphtholphthalein	1290	111748	Phenol red sodium salt
172	104594	Calcon (C.I.15705)	1205	101369	Neutral red (C.I. 50040)	77	109176	pH-indicator solution pH 9.0 - 13.0
172	104595	Calconcarboxylic acid	1245	101487	Oracet blue 2R (C.I. 61110)	77	109177	pH-indicator solution pH 0 - 5
807	103055	Dimethylyellow (C.I. 11020)	1290	107233	Phenolphthalein	77	109175	pH-indicator solution pH 4.0 - 10.0
172	103168	Eriochrome blue-black B (C.I. 14640)	1290	107241	Phenol red	1556	108175	Thymolphthalein
			172	107297	Phthalein purple			

Indicators for complexometric determinations →

Complexometry

Indicators, lists of → Adsorption indicators,

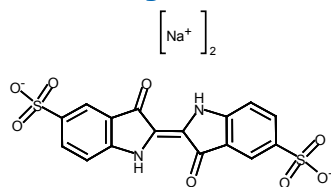
Fluorescence indicators, pH indicators, Redox indicators, complexometry

Indicator solutions universal → page 77

Indicator strips → page 78

# Indigo

## 104724 Indigo carmine (C.I. 73015) for analysis



- Solub. in H<sub>2</sub>O 10 g/l (25 °C) ■ M = 466.36 g/mol
  - pH value 5.3 (10 g/l, H<sub>2</sub>O, 20 °C)
  - Bulk density 700 - 900 kg/m<sup>3</sup>
  - WGK 3
  - LD50 oral rat > 2000 mg/kg
  - LGK 10 - 13
  - HS-No. 3204 12 00 ■ Disposal 3
- Use as pH indicator: 0.25 g in 100 ml ethanol (50%)

**Specification**  
Dye content (spectrophotometrically) ..... ≥ 80 %

Identity (UV/VIS-Spectrum)..... passes test  
Absorption maximum λ<sub>max</sub> (Water).... 608 - 612 nm  
Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.01 g/l; water) ..... 380 - 475  
TLC-Test ..... passes test  
Loss on drying (110 °C) ..... ≤ 10 %

C<sub>16</sub>H<sub>8</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>6</sub>S<sub>2</sub>

■ CAS-No. 860-22-0 ■ EC-No. 212-728-8

Ord.No.	Packaging	Quantity	Price
1.04724.0025	Glass bottle	25 g	inquire

## 112196 Indium granular 99+

- In
- CAS-No. 7440-74-6 ■ EC-No. 231-180-0
  - Spec. density 7.31 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 114.82 g/mol
  - Melting point 156 °C ■ Boiling point 2000 °C
  - WGK nwg

- LGK 10 - 13
- HS-No. 8112 99 70 ■ Disposal 27

**Specification**  
Assay (complexometric) ..... ≥ 99,0 % (m)  
Particle size ..... about 2 - 8 mm

Identity (elemental analysis)..... conforms

Ord.No.	Packaging	Quantity	Price
1.12196.0100	Plastic bottle	100 g	inquire

## Indium, determination

Page	Cat.No.	Designation
995	107098	8-Hydroxyquinoline

Page	Cat.No.	Designation
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Page	Cat.No.	Designation
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## 112201 Indium(III) oxide 99.5+

- In<sub>2</sub>O<sub>3</sub>
- CAS-No. 1312-43-2 ■ EC-No. 215-193-9
  - Spec. density 7.18 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 277.64 g/mol
  - Melting point 2000 °C
  - WGK nwg

- LGK 10 - 13
- HS-No. 2825 90 85 ■ Disposal 27

**Specification**  
Identity ..... passes test  
Assay (by loss on ignition) ..... ≥ 99.5 %

Fe (Iron) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.12201.0005	Glass bottle	5 g	inquire
1.12201.0010	Glass bottle	10 g	inquire

## 843982 Indium(III)-sulfate, anhydrous for synthesis

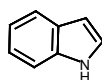
- In<sub>2</sub>O<sub>12</sub>S<sub>3</sub>
- CAS-No. 13464-82-9 ■ EC-No. 236-689-1
  - M = 517.83 g/mol
  - WGK 1

- LGK 10 - 13
- HS-No. 2833 29 80 ■ Disposal 27

Ord.No.	Packaging	Quantity	Price
8.43982.0025	Glass bottle	25 g	inquire
8.43982.0100	Glass bottle	100 g	inquire

Indol-3-aldehyde → Indole-3-carbaldehyde page 1003

## 822281 Indole for synthesis



- C<sub>8</sub>H<sub>7</sub>N
- 2,3-Benzopyrrole
- CAS-No. 120-72-9 ■ EC-No. 204-420-7
  - Vapour pressure 0.016 hPa (25 °C)
  - Spec. density 1.22 g/cm<sup>3</sup> (20 °C)
  - Flash point 110 °C ■ Solub. in H<sub>2</sub>O 3.560 g/l (25 °C) ■ M = 117.15 g/mol ■ pH value 5.9 (1000 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 52 °C
  - Bulk density 230 kg/m<sup>3</sup> ■ Boiling point 254 °C

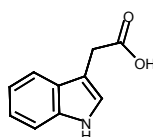
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P273, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1000 mg/kg ■ LD50 dermal rabbit 790 mg/kg
- LGK 6.1 C
- HS-No. 2933 99 20 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(INDOL), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(INDOLE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(INDOLE), 6.1, III

**Specification**  
Assay (GC, area%) ..... ≥ 99,0 Area %  
Melting range (lower value) ..... ≥ 50 °C  
Melting range (upper value) ..... ≤ 52 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22281.0025	Glass bottle	25 g	inquire
8.22281.0100	Glass bottle	100 g	inquire

## 100353 Indole-3-acetic acid LAB



- C<sub>10</sub>H<sub>9</sub>NO<sub>2</sub>
- JAA, Heteroauxine
- CAS-No. 87-51-4 ■ EC-No. 201-748-2

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
  - M = 175.19 g/mol ■ Melting point 167 - 170 °C
  - Bulk density 620 kg/m<sup>3</sup>
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2933 99 80 ■ Disposal 3
- Laboratory experiments in the field of plant physiology, plant metabolism and plant growth regulation.

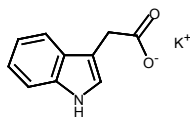
**Specification**  
Assay (acidimetric) ..... ≥ 99 %  
Identity (IR-spectrum) ..... passes test  
Melting point ..... 167 - 170 °C  
Heavy metals (as Pb) ..... ≤ 0.001 %  
Sulfated ash ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.00353.0010	Glass bottle	10 g	inquire
1.00353.0100	Glass bottle	100 g	inquire

3-Indole acetic acid ethyl ester → Ethyl 3-indoleacetate page 872



## 820704 Indole-3-acetic acid potassium salt for synthesis

C<sub>10</sub>H<sub>8</sub>KNO<sub>2</sub>*β*-Indoleacetic acid potassium salt

- CAS-No. 2338-19-4 ■ EC-No. 219-049-6
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 213.28 g/mol
- WGK 2
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

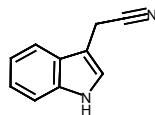
## Specification

Assay (HClO<sub>4</sub>)..... ≥ 95.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20704.0010	Glass bottle	10 g	inquire

β-Indoleacetic acid potassium salt → Indole-3-acetic acid potassium salt page 1003

## 804802 Indole-3-acetonitrile for synthesis

C<sub>10</sub>H<sub>8</sub>N<sub>2</sub>

## 3-Indolylacetonitrile

- CAS-No. 771-51-7 ■ EC-No. 212-232-1
- Flash point 206 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 156.19 g/mol

- Melting point 33 - 36 °C
- Boiling point 156 - 160 °C (0.27 hPa)
- Ignition temp. 540 °C
- WGK 3
- LGK 6.1A
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(INDOL-3-ACETONITRIL), 6.1, II ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(INDOL-3-ACETONITRILE), 6.1, II
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,

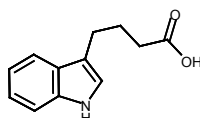
N.O.S.(INDOL-3-ACETONITRILE), 6.1, II

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 33 °C  
 Melting range (upper value)..... ≤ 36 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04802.0010	Glass bottle	10 g	inquire

## 100354 Indole-3-butyric acid LAB

C<sub>12</sub>H<sub>13</sub>NO<sub>2</sub>

## JBAA, IBA

- CAS-No. 133-32-4 ■ EC-No. 205-101-5
- Solub. in H<sub>2</sub>O 0.25 g/l (20 °C) ■ M = 203.24 g/mol
- Melting point 121 - 126 °C
- Bulk density 360 kg/m<sup>3</sup>

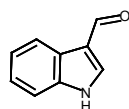
- WGK 3
- LGK 6.1A
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(INDOL-3-BUTTERSÄURE), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(INDOLE-3-BUTYRIC ACID), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(INDOLE-3-BUTYRIC ACID), 6.1, II
- Plant growth factor laboratory experiments in the field of plant physiology plant metabolism and plant growth regulation

## Specification

Assay (acidimetric)..... ≥ 99.0 %  
 Identity (IR-spectrum)..... passes test  
 Melting point ..... 122 - 125 °C

Ord.No.	Packaging	Quantity	Price
1.00354.0005	Glass bottle	5 g	inquire
1.00354.0025	Glass bottle	25 g	inquire
1.00354.0100	Glass bottle	100 g	inquire
1.00354.0500	Glass bottle	500 g	inquire

## 804726 Indole-3-carbaldehyde for synthesis

C<sub>9</sub>H<sub>7</sub>NO

## Indol-3-aldehyde

- CAS-No. 487-89-8 ■ EC-No. 207-665-8

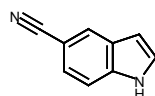
- Flash point 240 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 145.16 g/mol
- Melting point 192 - 195 °C
- Bulk density 200 - 300 kg/m<sup>3</sup>
- Ignition temp. >550 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 98.0 % (m)  
 Melting range (lower value)..... ≥ 193 °C  
 Melting range (upper value)..... ≤ 197 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04726.0025	Plastic bottle	25 g	inquire

## 841058 Indole-5-carbonitrile for synthesis

C<sub>9</sub>H<sub>6</sub>N<sub>2</sub>

- CAS-No. 15861-24-2 ■ EC-No. 239-986-4

- M = 142.16 g/mol ■ Melting point 106 - 108 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80

## Specification

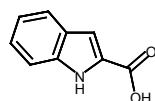
Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 105 °C

Melting range (upper value)..... ≤ 108 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41058.0001	Glass bottle	1 g	inquire

Indole-3-carboxaldehyde → Indole-3-carbaldehyde page 1003

## 820703 Indole-2-carboxylic acid for synthesis

C<sub>9</sub>H<sub>7</sub>NO<sub>2</sub>

- CAS-No. 1477-50-5 ■ EC-No. 216-030-4

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 161.16 g/mol
- Melting point 203 - 206 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

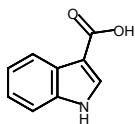
Assay (acidimetric)..... ≥ 98.0 %

Melting range (lower value)..... ≥ 203 °C  
 Melting range (upper value)..... ≤ 206 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20703.0010	Glass bottle	10 g	inquire

# Indole

## 814819 Indole-3-carboxylic acid for synthesis



- CAS-No. 771-50-6 ■ EC-No. 212-231-6
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 161.16 g/mol ■ Melting point 239 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

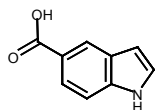
### Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 227 °C  
 Melting range (upper value) ..... ≤ 232 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14819.0001	Glass bottle	1 g	inquire

C<sub>9</sub>H<sub>7</sub>NO<sub>2</sub>

## 814820 Indole-5-carboxylic acid for synthesis



- CAS-No. 1670-81-1 ■ EC-No. 216-799-6
- M = 161.16 g/mol ■ Melting point 211 - 213 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

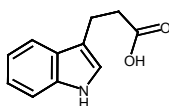
Melting range (lower value) ..... ≥ 210 °C  
 Melting range (upper value) ..... ≤ 213 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14820.0001	Glass bottle	1 g	inquire

C<sub>9</sub>H<sub>7</sub>NO<sub>2</sub>

Indole-3-carboxylic acid methyl ester → Methyl-(3-indolcarboxylate) page 1157

## 820705 Indole-3-propionic acid for synthesis



- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 189.21 g/mol ■ Melting point 129 - 132 °C
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good
- IATA-DGR No Dangerous Good

### Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 131 °C  
 Melting range (upper value) ..... ≤ 134 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20705.0010	Glass bottle	10 g	inquire

C<sub>11</sub>H<sub>11</sub>NO<sub>2</sub>

*β*-Indole-3-propionic acid

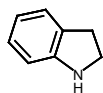
- CAS-No. 830-96-6 ■ EC-No. 212-600-1

*β*-Indole-3-propionic acid → Indole-3-propionic acid page 1004

Indole reagent → page 110

Indoles → Heterocycles

## 804732 Indoline for synthesis



- Refractive index 1.5923 (20 °C, 589 nm)
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)
- Flash point 103 °C ■ Solub. in H<sub>2</sub>O 5 g/l (20 °C)
- M = 119.17 g/mol ■ Boiling point 220 - 221 °C (1013 hPa) ■ Ignition temp. 460 °C
- WGK 3
- LGK 10
- HS-No. 2933 99 80 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,062 - 1,064  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04732.0025	Glass bottle	25 ml	inquire

C<sub>8</sub>H<sub>9</sub>N

2,3-Dihydroindole

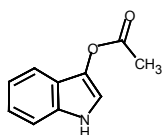
- CAS-No. 496-15-1 ■ EC-No. 207-816-8

2,3-Indolinedione → Isatin page 1040

2-Indolinone → Oxindole page 1256

5-Indolol → 5-Hydroxyindole page 983

## 820706 3-Indolyl acetate for synthesis



*Acetoxyindole, Indoxyl acetate*

- CAS-No. 608-08-2 ■ EC-No. 210-154-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 175.19 g/mol ■ Melting point 127 - 129 °C
- WGK 3
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2933 99 80 ■ Disposal 3

Melting range (lower value) ..... ≥ 127 °C  
 Melting range (upper value) ..... ≤ 129 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20706.0001	Glass bottle	1 g	inquire
8.20706.0005	Glass bottle	5 g	inquire

C<sub>10</sub>H<sub>9</sub>NO<sub>2</sub>

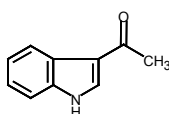
Acetic acid 3-indolyl ester, 3-

3-Indolylacetonitrile → Indole-3-acetonitrile page 1003

3-(3-Indolyl-L-alanine) → (S)-(-)-Tryptophan page 1620

2-(3-Indolyl)ethylamine → Tryptamine page 1619

## 800148 3-Indolyl methyl ketone for synthesis



- CAS-No. 703-80-0 ■ EC-No. 211-875-5
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 159.19 g/mol ■ Melting point 186 - 189 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

Melting range (lower value) ..... ≥ 186 °C  
 Melting range (upper value) ..... ≤ 189 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00148.0010	Glass bottle	10 g	inquire

C<sub>10</sub>H<sub>9</sub>NO

3-Acetylindole

Indonaphthene → Indene page 1001

Infusorial earth → page 9

Inline filters ADS → page 7

Indoxyl acetate → 3-Indolyl acetate page 1004

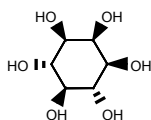
Inhibitors → Polymerization, inhibitors

meso-Inositol → myo-Inositol page 1005

Infrared spectroscopy → Reference substances

Inline Filtercartridge → page 7

## 104507 myo-Inositol for biochemistry

C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>

Hexahydroxycyclohexane, Cyclohexanehexol, meso-Inositol, Myo-Inositol

■ CAS-No. 87-89-8 ■ EC-No. 201-781-2

■ Spec. density 1.752 g/cm<sup>3</sup> (15 °C)

- Solub. in H<sub>2</sub>O 140 g/l (25 °C)
- M = 180.16 g/mol ■ pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 225 - 227 °C
- Bulk density 500 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2906 13 90

**Specification**

Assay (iodometric; calc. on anhydrous substance).....

..... ≥ 99 %

Identity (IR-spectrum) ..... conforms

Melting range (lower value) ..... ≥ 224 °C

Melting range (upper value) ..... ≤ 227 °C

Heavy metals (as Pb) ..... ≤ 0.001 %

Water ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.04507.0050	Glass bottle	50 g	inquire
1.04507.0250	Plastic bottle	250 g	inquire

meso-Inositol → page 111

In Vitro Diagnostics products → chapter In Vitro Diagnostics

## Iodate / Periodate

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
169	109914	Iodide iodate solution	168	102404	Potassium iodate	1446	106597	Sodium metaperiodate
1352	104867	Potassium hydrogen diiodate	170	109917	Potassium iodate solution			
1358	105051	Potassium iodate	1445	106525	Sodium iodate			

Iodic anhydride → di-iodine pentoxide page 1006

## Iodide

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
654	818311	Copper(I) iodide	165	105044	Potassium iodide	1641	108828	Zinc iodide
169	109914	Iodide iodate solution	1359	105043	Potassium iodide	1641	105445	Zinc iodide starch solution
1105	104428	Mercury(II) iodide	166	106519	Sodium iodide			
1104	104420	Mercury(II) iodide red,	1445	106523	Sodium iodide			

109914 Iodide iodate solution for 1000 ml, c(I<sub>2</sub>) = 1/128 mol/l (1/64 N) Titrisol®

- Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**Concentration after dilution to 1 liter: c(I<sub>2</sub>) = 1/128 mol/l

Amount-of-substance concentration ... 1/128 mol/l

The concentration of this solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and

Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09914.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	24 x 1 amp	inquire

Iodide-starch solution → Zinc iodide starch solution page 1641

## Iodine

- CAS-No. 7553-56-2 ■ EC-No. 231-442-4
- Vapour pressure 0.41 hPa (25 °C)
- Spec. density 4.93 g/cm<sup>3</sup> (20 °C)
- Kin. viscosity 0.57 mm<sup>2</sup>/s (116 °C) liquid ■ Solub. in H<sub>2</sub>O 0.3 g/l (20 °C) ■ M = 253.8 g/mol
- pH value 5.4 (H<sub>2</sub>O) (saturated solution)
- Melting point 114 °C ■ Bulk density 2100 kg/m<sup>3</sup>
- Boiling point 185 °C (1013 hPa)

- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute aquatic toxicity, Category 1, H400, P273, P302 + P352, P304 + P340
- LD50 oral rat 14000 mg/kg
- EC-Index-No. 053-001-00-3 ■ LGK 6.1 D
- HS-No. 2801 20 00 ■ Disposal 22

- ADR-RID UN 3495 Iod, 8 (6.1), III ■ IMDG-Code UN 3495 IODINE, 8 (6.1), III, Marine Pollutant: P
  - IATA-DGR UN 3495 IODINE, 8 (6.1), III
- In the iodine titrations, starting substance for iodine compounds.

## 104761 Iodine sublimated for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**

Assay (iodometric) ..... 99.8 - 100.5 %

Identity ..... passes test

Bromide and Chloride (as Cl) ..... ≤ 0.005 %

Non volatile matter (105 °C) ..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.04761.0100	Glass bottle	100 g	inquire
1.04761.0500	Glass bottle	500 g	inquire
	Glass bottle	6 x 500 g	inquire

## 104763 Iodine 99.999 Suprapur®

**Specification**

Purity (metallic) ..... ≥ 99.999 %

Assay (iodometric) ..... ≥ 99.8 %

Chlorine and Bromine (as Cl) ..... ≤ 10 ppm

Ag (Silver) ..... ≤ 0.01 ppm

Al (Aluminium) ..... ≤ 0.05 ppm

Au (Gold) ..... ≤ 0.05 ppm

Ba (Barium) ..... ≤ 0.05 ppm

Be (Beryllium) ..... ≤ 0.005 ppm

Bi (Bismuth) ..... ≤ 0.05 ppm

Ca (Calcium) ..... ≤ 0.1 ppm

Cd (Cadmium) ..... ≤ 0.01 ppm

Co (Cobalt) ..... ≤ 0.01 ppm

Cr (Chromium) ..... ≤ 0.01 ppm

Cu (Copper) ..... ≤ 0.01 ppm

Fe (Iron) ..... ≤ 0.05 ppm

Ga (Gallium) ..... ≤ 0.05 ppm

In (Indium) ..... ≤ 0.01 ppm

K (Potassium) ..... ≤ 0.5 ppm

Li (Lithium) ..... ≤ 0.01 ppm

Mg (Magnesium) ..... ≤ 0.05 ppm

Mn (Manganese) ..... ≤ 0.005 ppm

Mo (Molybdenum) ..... ≤ 0.02 ppm

Na (Sodium) ..... ≤ 0.1 ppm

Ni (Nickel) ..... ≤ 0.01 ppm

Pb (Lead) ..... ≤ 0.05 ppm

Sn (Tin) ..... ≤ 0.05 ppm

Sr (Strontium) ..... ≤ 0.01 ppm

Ti (Titanium) ..... ≤ 0.05 ppm

Tl (Thallium) ..... ≤ 0.05 ppm

V (Vanadium) ..... ≤ 0.005 ppm

Zn (Zinc) ..... ≤ 0.05 ppm

Ord.No.	Packaging	Quantity	Price
1.04763.0050	Glass bottle	50 g	inquire
1.04763.0500	Glass bottle	500 g	inquire

Iodine chloride → Iodine monochloride page 1006

# Iodine

## 104764 Iodine indicator

- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 3

### Specification

Solubility in water ..... passes test  
Suitability as indicator (for visual iodine titration)..  
..... passes test

Ord.No.	Packaging	Quantity	Price
1.04764.0100	Plastic bottle	100 g	inquire

## 820738 Iodine monobromide for synthesis

- Brl  
IBr  
*Bromine iodide*
- CAS-No. 7789-33-5 ■ EC-No. 232-159-9
  - Spec. density 4.41 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) decomposes ■ M = 206.81 g/mol
  - Melting point 37 - 40 °C ■ Boiling point 116 °C (1013 hPa) (decomposition)
  - WGK 1
  - GHS: Danger, Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure,
- Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8 B
  - HS-No. 2812 90 00 ■ Disposal 22
  - ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(IODMONOBROMID), 8, II ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(IODOMONOBROMIDE), 8, II, Segregation Group: 1 (Acids)
  - IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC,

INORGANIC, N.O.S.(IODOMONOBROMIDE), 8, II

### Specification

Assay (iodometric) ..... ≥ 95,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.20738.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire/100 g
8.20738.0250	Glass bottle	250 g	inquire
	Glass bottle	6 x 250 g	inquire/250 g

## 804771 Iodine monochloride for synthesis

- ClI  
ICI  
*Iodine chloride, Chlorine iodide*
- CAS-No. 7790-99-0 ■ EC-No. 232-236-7
  - Spec. density 3.1 g/cm<sup>3</sup> (29 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 162.35 g/mol
  - Melting point 14 - 27 °C ■ Boiling point 97 °C (1013 hPa) (decomposition)
  - WGK 1
  - GHS: Danger, Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure,
- Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
  - HS-No. 2812 10 99 ■ Disposal 22
  - ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g., 8, II ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(IODINE MONOCHLORIDE LIQUID), 8, II, Segregation Group: 1 (Acids)
  - IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, II

### Specification

Assay (iodometric) ..... ≥ 98,0 %

Ord.No.	Packaging	Quantity	Price
8.04771.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire/100 g
8.04771.0250	Glass bottle	250 g	inquire
	Glass bottle	6 x 250 g	inquire/250 g

Iodine(V) oxide → di-Iodine pentoxide page 1006

## 100358 di-Iodine pentoxide for analysis granular 0.5-2.5 mm EMSURE®

- I<sub>2</sub>O<sub>5</sub>  
*Diiodine pentoxide, Iodine(V) oxide*
- CAS-No. 12029-98-0 ■ EC-No. 234-740-2
  - Spec. density 4.98 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 333.81 g/mol
  - pH value 1.1 (100 g/l, H<sub>2</sub>O, 25 °C)
  - Bulk density 2000 kg/m<sup>3</sup>
  - WGK 1
  - GHS: Warning, Oxidising solid, Category 3, H272; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 +

- P351 + P338
- LGK 5.1 B
  - HS-No. 2811 29 90 ■ Disposal 22
  - ADR-RID UN 1479 Entzündend (oxidierend) wirkender fester Stoff, n.a.g.(DI-IODPENTOXID), 5.1, III ■ IMDG-Code UN 1479 OXIDIZING SOLID, N.O.S.(DI-IODINE PENTOXIDE), 5.1, III
  - IATA-DGR UN 1479 OXIDIZING SOLID, N.O.S.(DI-IODINE PENTOXIDE), 5.1, III
- Strong oxidizing agent e.g. for oxidising CO to CO<sub>2</sub> in elemental analysis.

### Specification

Assay (iodometric, I<sub>2</sub>O<sub>5</sub>) ..... ≥ 97 %  
Heavy metals (as Pb) ..... ≤ 0.001 %  
Fe (Iron) ..... ≤ 0.001 %  
Loss on drying (200 °C) ..... ≤ 1 %  
Residue on ignition (as sulphates) ..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.00358.0100	Glass bottle	100 g	inquire

Iodine-potassium iodide solution → page 192

## 109099 Iodine solution c(I<sub>2</sub>) = 0.05 mol/l (0.1 N) Titripur®

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

### Specification

Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP).  
Amount-of-substance concentration 0.05000 mol/l  
The concentration of this volumetric solution was

determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404).  
The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability).  
The certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of

volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09099.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire/1 l

## 109098 Iodine solution c(I<sub>2</sub>) = 0.5 mol/l (1 N) Titripur®

- Spec. density 1.22 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.8 (H<sub>2</sub>O, 20 °C)
- WGK 2
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 22

### Specification

Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur).  
Amount-of-substance concentration . 0.5000 mol/l

The concentration of this volumetric solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404).  
The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability).  
The certified value is traceable to primary

standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09098.1000	Glass bottle	1 l	inquire

**109910 Iodine solution** for 1000 ml, c(I<sub>2</sub>) = 0.05 mol/l (0.1 N) Titrisol®

- Spec. density 1.38 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.7 (H<sub>2</sub>O, 20 °C)
- WGK 2
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**

Concentration after dilution to 1 liter: c(I<sub>2</sub>) = 0.05 mol/l  
Amount-of-substance concentration 0.05000 mol/l

The concentration of this solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 136f

(NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09910.0001	Glass ampoule	1 amp	inquire

Iodine solution acc. to Hanus → Hanus solution page 168

Iodine solution acc. to Wijs → Wijs solution page 171

Iodine Test → page 66

**804772 Iodine trichloride** for synthesis

- Cl<sub>3</sub>I
- ICl<sub>3</sub>
- CAS-No. 865-44-1 ■ EC-No. 212-739-8
- Vapour pressure 1.3 hPa (64 °C)
- Spec. density 3.12 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 233.26 g/mol
- Melting point >60 °C (decomposition)
- WGK 1
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion,

Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310

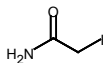
- LGK 8A ■ Store below +15°C.
- HS-No. 2812 10 99 ■ Disposal 22
- ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(IODTRICHLORID), 8, II ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(IODINE TRICHLORIDE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(IODINE TRICHLORIDE), 8, II

**Specification**

Assay (iodometric) ..... ≥ 97.0 %

Ord.No.	Packaging	Quantity	Price
8.04772.0025	Glass bottle	25 g	inquire
8.04772.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire/100 g

**804744 2-Iodoacetamide** for synthesis

- C<sub>2</sub>H<sub>4</sub>IINO
- ICH<sub>2</sub>CONH<sub>2</sub>
- CAS-No. 144-48-9 ■ EC-No. 205-630-1
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 184.96 g/mol
- pH value (H<sub>2</sub>O) no data available
- Melting point 91 - 94 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Specific target organ toxicity - single exposure, Category 3, H335, P280, P302 + P352, P304 + P340, P305 + P351 + P338

- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2924 19 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

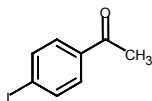
**Specification**

Purity (HPLC, area%) ..... ≥ 99% (a/a)  
Assay (ex N) ..... ≥ 98%

Identity (IR-spectrum) ..... passes test  
Colour (2.5 % water) ..... ≤ 50 APHA  
Melting point ..... > 91°C  
Fe (Iron) ..... ≤ 20 ppm  
Water (according to Karl Fischer) ..... ≤ 3%

Ord.No.	Packaging	Quantity	Price
8.04744.0025	Glass bottle	25 g	inquire
8.04744.0100	Glass bottle	100 g	inquire

Iodoacetic acid ethyl ester → Ethyl iodoacetate page 872

**814897 4'-Iodoacetophenone** for synthesis

- C<sub>8</sub>H<sub>7</sub>IO
- CAS-No. 13329-40-3 ■ EC-No. 236-372-8
- M = 246.04 g/mol ■ Melting point 81 - 83 °C
- WGK 3

GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

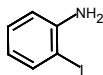
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
Melting range (lower value) ..... ≥ 81 °C

Melting range (upper value) ..... ≤ 84 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14897.0010	Glass bottle	10 g	inquire
8.14897.0025	Glass bottle	25 g	inquire

**821822 2-Iodoaniline** for synthesis

- C<sub>6</sub>H<sub>6</sub>IN
- 2-(I)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>
- 1-Amino-2-iodobenzene
- CAS-No. 615-43-0 ■ EC-No. 210-426-0
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble

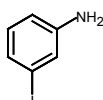
M = 219.02 g/mol ■ Melting point 54 - 57 °C

- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2921 42 00 ■ Disposal 9

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Melting range (lower value) ..... ≥ 54 °C  
Melting range (upper value) ..... ≤ 57 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21822.0010	Glass bottle	10 g	inquire

**820726 3-Iodoaniline** for synthesis

- C<sub>6</sub>H<sub>6</sub>IN
- IC<sub>3</sub>H<sub>4</sub>NH<sub>2</sub>
- 1-Amino-3-iodobenzene
- CAS-No. 626-01-7 ■ EC-No. 210-922-7
- Refractive index 1.682 (20 °C, 589 nm)

Spec. density 1.90 g/cm<sup>3</sup> (20 °C)

- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 219.03 g/mol
- Melting point 24 - 26 °C
- Boiling point 145 - 146 °C (20 hPa)
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13  
■ HS-No. 2921 42 00 ■ Disposal 9

**Specification**

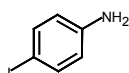
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.900 - 1.903  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20726.0005	Glass bottle	5 ml	inquire



# Iodoan

## 820727 4-Iodoaniline for synthesis



C<sub>6</sub>H<sub>6</sub>I  
4-(I)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>  
1-Amino-4-iodobenzene  
■ CAS-No. 540-37-4 ■ EC-No. 208-743-4  
■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

■ M = 219.03 g/mol ■ Melting point 61 - 64 °C  
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LD50 oral rat 523 mg/kg  
■ LGK 10 - 13

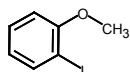
■ HS-No. 2921 42 00 ■ Disposal 9

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Melting range (lower value) ..... ≥ 62 °C  
Melting range (upper value) ..... ≤ 65 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20727.0050	Glass bottle	50 g	inquire

## 841350 2-Iodoanisole for synthesis



C<sub>7</sub>H<sub>7</sub>IO  
1-Iodo-2-methoxy-benzene, 2-Iodophenol methyl ether

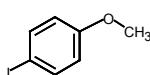
■ CAS-No. 529-28-2 ■ EC-No. 208-456-4  
■ Spec. density 1.8 g/cm<sup>3</sup> (20 °C)  
■ Flash point >110 °C ■ M = 234.03 g/mol  
■ Boiling point 240 - 242 °C  
■ WGK 3  
■ LGK 10  
■ HS-No. 2909 30 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.797 - 1.802  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41350.0010	Glass bottle	10 ml	inquire

## 819077 4-Iodoanisole for synthesis



C<sub>7</sub>H<sub>7</sub>IO  
IC<sub>6</sub>H<sub>4</sub>OCH<sub>3</sub>  
■ CAS-No. 696-62-8 ■ EC-No. 211-798-7  
■ Spec. density 1 g/cm<sup>3</sup> ■ Flash point >112 °C

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
■ M = 234.04 g/mol ■ Melting point 47 - 50 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2909 30 90 ■ Disposal 2

### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
Melting range (lower value) ..... ≥ 47 °C

Melting range (upper value) ..... ≤ 50 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.19077.0025	Glass bottle	25 g	inquire
8.19077.0100	Glass bottle	100 g	inquire

## 820730 Iodobenzene for synthesis



C<sub>6</sub>H<sub>5</sub>I  
■ CAS-No. 591-50-4 ■ EC-No. 209-719-6  
■ Refractive index 1.6198 (20 °C, 589 nm)  
■ Vapour pressure 1.41 hPa (25 °C) (experimental)  
■ Spec. density 1.83 g/cm<sup>3</sup> (20 °C)  
■ Flash point 77 °C ■ Solub. in H<sub>2</sub>O 0.34 g/l

(30 °C) (experimental) ■ M = 204.01 g/mol  
■ Melting point -30 °C  
■ Boiling point 187 - 189 °C  
■ WGK 3  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
■ LC50 rat 16.32 mg/l  
■ LD50 oral rat 1749 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2903 99 90 ■ Disposal 3

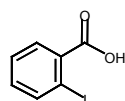
### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.820 - 1.831  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20730.0100	Glass bottle	100 ml	inquire
8.20730.0250	Glass bottle	250 ml	inquire

3-Iodobenzene methanol → 3-Iodobenzyl alcohol page 1009

## 820729 2-Iodobenzoic acid for synthesis



C<sub>7</sub>H<sub>5</sub>IO<sub>2</sub>  
2-(I)C<sub>6</sub>H<sub>4</sub>COOH  
■ CAS-No. 88-67-5 ■ EC-No. 201-850-7

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
■ M = 248.02 g/mol ■ Melting point 160 - 164 °C  
■ Bulk density 920 kg/m<sup>3</sup>  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2916 39 90 ■ Disposal 4

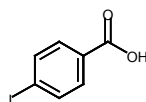
### Specification

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)

Melting range (lower value) ..... ≥ 160 °C  
Melting range (upper value) ..... ≤ 164 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20729.0100	Plastic bottle	100 g	inquire

## 818513 4-Iodobenzoic acid for synthesis



C<sub>7</sub>H<sub>5</sub>IO<sub>2</sub>  
4-(I)C<sub>6</sub>H<sub>4</sub>COOH  
■ CAS-No. 619-58-9 ■ EC-No. 210-603-2

■ Solub. in H<sub>2</sub>O 0.04 g/l (25 °C) ■ M = 248.02 g/mol  
■ Melting point 269 - 272 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2916 39 90 ■ Disposal 4

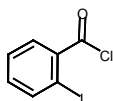
### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
Melting range (lower value) ..... ≥ 269 °C

Melting range (upper value) ..... ≤ 272 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18513.0005	Glass bottle	5 g	inquire
8.18513.0025	Plastic bottle	25 g	inquire

## 820731 2-Iodobenzoyl chloride for synthesis



$C_7H_5ClIO$   
2-(I)C<sub>6</sub>H<sub>4</sub>COCl  
■ CAS-No. 609-67-6 ■ EC-No. 210-196-1  
■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 266.46 g/mol  
■ Melting point 27 - 30 °C  
■ Boiling point 105 - 106 °C (1 hPa)

■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8A  
■ HS-No. 2916 39 90 ■ Disposal 11  
■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2-IODBENZOYLCHLORID), 8, II  
■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-IODO-BENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

ORGANIC, N.O.S.(2-IODO-BENZOYL CHLORIDE), 8, II

**Specification**

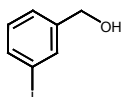
Assay (morpholine method) ..... ≥ 95,0 % (m)  
Melting range (lower value) ..... ≥ 25 °C  
Melting range (upper value) ..... ≤ 30 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20731.0050	Glass bottle	50 g	inquire

(2-Iodobenzoyl)glycine → o-Iodohippuric acid page 1011

(2-Iodobenzoyl)glycine sodium salt → o-Iodohippuric acid sodium salt dihydrate page 1011

## 841458 3-Iodobenzyl alcohol for synthesis



$C_7H_7IO$   
3-Iodobenzene methanol

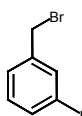
■ CAS-No. 57455-06-8 ■ EC-No. 260-744-9  
■ Spec. density 1.84 g/cm<sup>3</sup> (20 °C)  
■ Flash point >110 °C ■ M = 234.03 g/mol  
■ Boiling point 254 - 255 °C  
■ WGK 3  
■ LGK 10  
■ HS-No. 2906 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.832 - 1.838  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41458.0001	Glass bottle	1 ml	inquire

## 841382 3-Iodobenzyl bromide for synthesis



$C_7H_6BrI$   
1-Bromomethyl-3-iodobenzene  
■ CAS-No. 49617-83-6  
■ Flash point >110 °C ■ M = 296.93 g/mol  
■ Melting point 48 - 51 °C ■ Boiling point 106 °C

(1.33 hPa)  
■ WGK 3  
■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8A  
■ HS-No. 2903 99 90 ■ Disposal 3  
■ ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(3-IODBENZYLBRUMID), 8 (6.1), II ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(3-IODOBENZYL BROMIDE), 8 (6.1), II

■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(3-IODOBENZYL BROMIDE), 8 (6.1), II

**Specification**

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
Melting range (lower value) ..... ≥ 48 °C  
Melting range (upper value) ..... ≤ 51 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41382.0001	Glass bottle	1 g	inquire

## 804786 1-Iodobutane for synthesis



$C_4H_9I$   
CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>I  
Butyl iodide  
■ CAS-No. 542-69-8 ■ EC-No. 208-824-4  
■ Refractive index 1.4979 (20 °C, 589 nm)  
■ Vapour pressure 18.5 hPa (25 °C)  
■ Spec. density 1.62 g/cm<sup>3</sup> (20 °C)  
■ Flash point 33 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (20 °C)  
■ M = 184.02 g/mol ■ Melting point -103 °C

■ Boiling point 130 °C (1013 hPa)  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331, P210, P304 + P340, P309 + P310  
■ LC50 rat 6.1 mg/l  
■ LGK 3  
■ HS-No. 2903 39 90 ■ Disposal 3  
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-IODBUTAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-IODOBUTANE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-IODOBUTANE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,613 - 1,617  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04786.0100	Glass bottle	100 ml	inquire
8.04786.0250	Glass bottle	250 ml	inquire

## 804787 2-Iodobutane (stabilised with sodium carbonate) for synthesis



$C_4H_9I$   
CH<sub>3</sub>CH<sub>2</sub>CH(I)CH<sub>3</sub>  
sec-Butyl iodide  
■ CAS-No. 513-48-4 ■ EC-No. 208-163-1  
■ Refractive index 1.4991 (20 °C, 589 nm)  
■ Spec. density 1.59 g/cm<sup>3</sup> (20 °C)

■ Flash point 21 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 184.02 g/mol  
■ Melting point -104 °C  
■ Boiling point 119 - 120 °C (1013 hPa)  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P260  
■ LGK 3  
■ HS-No. 2903 39 90 ■ Disposal 2  
■ ADR-RID UN 2390 2-Iodobutan, 3, II ■ IMDG-Code UN 2390 2-IODOBUTANE, 3, II, Segregation

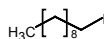
Group: 10 (Liquid halogenated hydrocarbons)  
■ IATA-DGR UN 2390 2-IODOBUTANE, 3, II

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (20/4 °C) ..... 1,593 - 1,596  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04787.0050	Glass bottle	50 ml	inquire

## 841120 1-Iododecane for synthesis



$C_{10}H_{21}I$   
Decyl iodide  
■ CAS-No. 2050-77-3 ■ EC-No. 218-104-1  
■ Vapour pressure 0.01 hPa (20 °C)  
■ Spec. density 1.257 g/cm<sup>3</sup> (20 °C)  
■ Flash point 113 °C ■ M = 268.18 g/mol

■ Melting point -16 °C ■ Boiling point 264 °C (1013 hPa)  
■ WGK 3  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2903 39 90 ■ Disposal 3

**Specification**

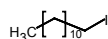
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.251 - 1.257  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41120.0025	Glass bottle	25 ml	inquire



# Iododo

## 820732 1-Iodododecane for synthesis



C<sub>12</sub>H<sub>25</sub>I  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>11</sub>I  
*Dodecyl iodide, Lauryl iodide*  
 ■ CAS-No. 4292-19-7 ■ EC-No. 224-293-1  
 ■ Refractive index 1.4844 (20 °C, 589 nm)  
 ■ Vapour pressure 0.019 hPa (25 °C)  
 ■ Spec. density 1.20 g/cm<sup>3</sup> (20 °C)

■ Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 296.23 g/mol  
 ■ Melting point -3 °C ■ Boiling point 159 - 160 °C (20 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 39 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.195 - 1.200  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20732.0025	Glass bottle	25 ml	inquire

## 800896 Iodoethane (stabilised with silver) for synthesis



C<sub>2</sub>H<sub>5</sub>I  
*Ethyl iodide*  
 ■ CAS-No. 75-03-6 ■ EC-No. 200-833-1  
 ■ Refractive index 1.513 (20 °C, 589 nm) ■ Vapour pressure 133 hPa (18 °C) ■ Spec. density 1.93 g/cm<sup>3</sup> (20 °C) ■ Flash point 53 °C ■ Solub. in H<sub>2</sub>O 4 g/l (20 °C) (slow decomposition)  
 ■ M = 155.97 g/mol ■ Melting point -108 °C  
 ■ Boiling point 69 - 73 °C (1013 hPa)  
 ■ WGK 2

■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LC50 rat 65 g/m<sup>3</sup>  
 ■ LGK 3  
 ■ HS-No. 2903 39 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(IODETHAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHYLIODID), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHYLIODID), 3, III

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,910 - 1,940  
 Ethanol (GC, area%) ..... ≤ 1,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00896.0100	Glass bottle	100 ml	inquire
8.00896.0500	Glass bottle	500 ml	inquire

## 2-Iodoethanol



C<sub>2</sub>H<sub>5</sub>IO  
 ■ CAS-No. 624-76-0 ■ EC-No. 210-861-6  
 ■ Spec. density 2.202 g/cm<sup>3</sup> (20 °C)

■ Flash point 65 °C ■ M = 171.97 g/mol  
 ■ Boiling point 172 - 175 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300, P309 + P310  
 ■ LD50 oral rat 50 mg/kg  
 ■ LGK 6.1A ■ Store below +15°C.

■ HS-No. 2905 59 98 ■ Disposal 9  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-IODETHANOL), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-IODOETHANOL), 6.1, II  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-IODOETHANOL), 6.1, II

## 841353 2-Iodoethanol (stabilised) for synthesis

**Specification** Identity (IR) ..... passes test  
 Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 2.198 - 2.204

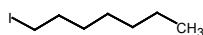
Ord.No.	Packaging	Quantity	Price
8.41353.0005	Glass bottle	5 ml	inquire

## 845146 2-Iodoethanol (stabilised) for pharma synthesis, non-GMP

**Specification** Identity (IR) ..... passes test  
 Colour (visual) ..... colourless to brownish  
 Appearance of substance (visual) ..... liquid  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Acetone (GC) ..... lot specific result  
 Cu (Copper) (ICP MS) ..... lot specific result

Ord.No.	Packaging	Quantity	Price
8.45146.0005	Glass bottle	5 ml	inquire
8.45146.0100	Glass bottle	100 ml	inquire

## 818789 1-Iodoheptane for synthesis



C<sub>7</sub>H<sub>15</sub>I  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>6</sub>I  
*Heptyl iodide*  
 ■ CAS-No. 4282-40-0 ■ EC-No. 224-285-8  
 ■ Refractive index 1.4897 (20 °C, 589 nm)

■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 76 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 226.1 g/mol  
 ■ Melting point -48 °C  
 ■ Boiling point 203 - 205 °C  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2903 39 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (20/4 °C) ..... 1,370 - 1,380  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18789.0100	Glass bottle	100 ml	inquire

## 820735 1-Iodohexadecane for synthesis



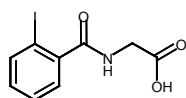
C<sub>16</sub>H<sub>33</sub>I  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>15</sub>I  
*Cetyl iodide, Hexadecyl iodide*  
 ■ CAS-No. 544-77-4 ■ EC-No. 208-879-4  
 ■ Refractive index 1.4806 (20 °C, 589 nm)  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 72.0 - 72.5 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 352.34 g/mol

mol ■ Melting point 20 - 23 °C  
 ■ Boiling point 212 °C (20 hPa)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 39 90 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code Non Dangerous Good  
 ■ IATA-DGR Non Dangerous Good  
**Specification**  
 Assay (GC, area%)..... ≥ 95.0 % (a/a)

Melting range (lower value)..... ≥ 20 °C  
 Melting range (upper value) ..... ≤ 23 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20735.0025	Glass bottle	25 ml	inquire
8.20735.0100	Glass bottle	100 ml	inquire

## 820736 o-Iodohippuric acid for synthesis



$C_9H_8INO_3$   
2-(I)C<sub>6</sub>H<sub>4</sub>NHCH<sub>2</sub>COOH  
(2-Iodobenzoyl)glycine

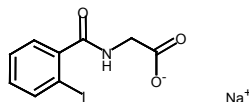
- CAS-No. 147-58-0 ■ EC-No. 205-693-5
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 305.07 g/mol
- Melting point 171 - 174 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

**Specification**  
Assay (acidimetric)..... ≥ 98%

Identity (IR-spectrum)..... passes test  
Melting range..... 172 - 176 °C  
o- Iodobenzoic acid (HPLC, contra external standard)..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
8.20736.0010	Glass bottle	10 g	inquire
8.20736.0025	Glass bottle	25 g	inquire

## 820737 o-Iodohippuric acid sodium salt dihydrate for synthesis



$C_9H_7INNaO_3 \cdot 2H_2O$   
2-(I)C<sub>6</sub>H<sub>4</sub>CONHCH<sub>2</sub>COONa · 2H<sub>2</sub>O  
(2-Iodobenzoyl)glycine sodium salt

- CAS-No. 5990-94-3 ■ EC-No. 205-097-5
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 327.06 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

**Specification**  
Assay (Perchloric acid titration, calc. on anhydrous

substance)..... ≥ 98%  
Identity (IR)..... passes test  
o-Iodobenzoic acid sodium salt (HPLC, area%)..... ≤ 0.1 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.20737.0010	Glass bottle	10 g	inquire

2-Iodo-1-hydroxybenzene → 2-Iodophenol page 1012

## Iodomethane



$CH_3I$   
Methyl iodide  
■ CAS-No. 74-88-4 ■ EC-No. 200-819-5  
■ Refractive index 1.5304 (20 °C, 589 nm)  
■ Vapour pressure 540 hPa (25 °C)  
■ Spec. density 2.28 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 8.5 - 66 % (V) ■ Solub. in H<sub>2</sub>O 14 g/l (20 °C)  
■ M = 141.94 g/mol ■ Melting point -66 °C

- Boiling point 42 °C (1013 hPa)
- Ignition temp. 352 °C
- WGK 3
- GHS: Danger, Carcinogenicity, Category 2, H351; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P281, P302 + P352, P304 + P340, P309 + P310

- LC50 rat 1300 mg/m<sup>3</sup>
- LD50 oral rat 76 mg/kg
- EC-Index-No. 602-005-00-9 ■ LGK 6.1B
- HS-No. 2903 39 90 ■ Disposal 9
- ADR-RID UN 2644 Methyl iodide, 6.1, I ■ IMDG-Code UN 2644 METHYL IODIDE, 6.1, I, Segregation Group: 10 (Liquid halogenated hydrocarbons)
- IATA-DGR UN 2644 METHYL IODIDE, 6.1, I

## 806064 Iodomethane (stabilised with silver) for synthesis

**Specification**  
Assay (GC, area%)..... ≥ 99 %  
Density (d 20 °C/ 4 °C)..... 2.271 - 2.277  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.06064.0050	Glass bottle	50 ml	inquire
	Glass bottle	6 x 50 ml	inquire
8.06064.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.06064.1000	Glass bottle	1 l	inquire

## 845045 Iodomethane (stabilised with silver) for pharma synthesis, non-GMP

**Specification**  
Colour (visual)..... colourless to yellow  
Appearance of substance (visual)..... clear  
Assay (GC, area%)..... ≥ 99,0 Area %  
Dimethylsulfate (GC, area%)..... lot specific result

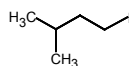
Density (d 20 °C/ 4 °C)..... 2,271 - 2,277  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45045.0050	Glass bottle	50 ml	inquire
8.45045.1000	Glass bottle	1 l	inquire

1-Iodo-2-methoxy-benzene → 2-Iodoanisole page 1008

1-Iodo-2-methylbenzene → 2-Iodotoluene page 1014

## 821825 1-Iodo-3-methylbutane (stabilised with silver) for synthesis



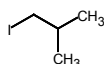
$C_5H_{11}I$   
(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>CH<sub>2</sub>I  
Isoamyl iodide, Isopentyl iodide  
■ CAS-No. 541-28-6 ■ EC-No. 208-773-8  
■ Refractive index 1.4939 (20 °C, 589 nm)  
■ Spec. density 1.50 g/cm<sup>3</sup> (20 °C)  
■ Flash point 40 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 198.04 g/mol

- mol ■ Boiling point 146 - 148 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 2, H411; Acute toxicity, Category 4, Oral, H302, P210, P262
- LD50 oral rat 1424 mg/kg
- LGK 3 ■ Store below +15 °C.
- HS-No. 2903 39 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-iodo-3-methylbutan), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-iodo-3-methylbutane), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-iodo-3-methylbutane), 3, III  
**Specification**  
Assay (GC, area%)..... ≥ 96,0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21825.0025	Glass bottle	25 ml	inquire
8.21825.0100	Glass bottle	100 ml	inquire

## 841381 1-Iodo-2-methylpropane for synthesis

C<sub>4</sub>H<sub>9</sub>I

Isobutyl iodide

- CAS-No. 513-38-2 ■ EC-No. 208-160-5
- Vapour pressure 20.9 hPa (25 °C)
- Spec. density 1.60 g/cm<sup>3</sup> (20 °C)
- Flash point 12 °C ■ M = 184.02 g/mol
- Melting point -93 °C

- Boiling point 120 - 121 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331, P210, P304 + P340, P309 + P310
- LC50 rat 6.7 mg/l
- LGK 3
- HS-No. 2903 39 90 ■ Disposal 3
- ADR-RID UN 2391 Iodmethylpropane, 3, II
- IMDG-Code UN 2391 IODOMETHYLPROPANES, 3, II, Segregation Group: 10 (Liquid halogenated

hydrocarbons)

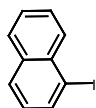
- IATA-DGR UN 2391 IODOMETHYLPROPANES, 3, II

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.595 - 1.600  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41381.0025	Glass bottle	25 ml	inquire

## 841534 1-Iodonaphthalene for synthesis

C<sub>10</sub>H<sub>7</sub>I

1-Naphthyl iodide

- CAS-No. 90-14-2 ■ EC-No. 201-968-9

- Spec. density 1.738 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O 0.007 g/l (25 °C) ■ M = 254.07 g/mol
- Boiling point 302 - 305 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

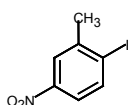
- HS-No. 2903 99 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.736 - 1.739  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41534.0005	Glass bottle	5 ml	inquire

## 841402 2-Iodo-5-nitrotoluene for synthesis

C<sub>7</sub>H<sub>6</sub>INO<sub>2</sub>

- CAS-No. 5326-38-5 ■ EC-No. 226-204-1

- M = 263.03 g/mol ■ Melting point 102 - 103 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2904 90 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 102 °C  
 Melting range (upper value) ..... ≤ 105 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41402.0005	Plastic bottle	5 g	inquire

## 820739 1-Iodo-octane for synthesis

C<sub>8</sub>H<sub>17</sub>I

Octyl iodide

- CAS-No. 629-27-6 ■ EC-No. 211-084-5
- Refractive index 1.4878 (20 °C, 589 nm)
- Spec. density 1.32 g/cm<sup>3</sup> (20 °C)
- Flash point 87 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 240.13 g/mol

- Melting point -46 °C
- Boiling point 225 - 226 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 39 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.320 - 1.335  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20739.0050	Glass bottle	50 ml	inquire

## 820740 1-Iodopentane for synthesis

C<sub>5</sub>H<sub>11</sub>ICH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>I

Pentyl iodide, Amyl iodide

- CAS-No. 628-17-1 ■ EC-No. 211-030-0
- Refractive index 1.495 (20 °C, 589 nm) ■ Vapour pressure 23 hPa (50 °C) ■ Spec. density 1.51 g/cm<sup>3</sup> (20 °C) ■ Flash point 43 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.05 g/mol
- Melting point -86 °C

- Boiling point 154 - 155 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P260
- LGK 3
- HS-No. 2903 39 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-IODPENTAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-IODOPENTANE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(1-IODOPENTANE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.510 - 1.520  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20740.0025	Glass bottle	25 ml	inquire
8.20740.0100	Glass bottle	100 ml	inquire

## 820741 2-Iodophenol for synthesis

C<sub>6</sub>H<sub>5</sub>IO2-(I)C<sub>6</sub>H<sub>4</sub>OH

2-Iodo-1-hydroxybenzene

- CAS-No. 533-58-4 ■ EC-No. 208-569-9
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 220.01 g/mol ■ Melting point 39 - 42 °C
- Boiling point 186 - 187 °C (213 hPa)

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-IODPHENOL), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-IODOPHENOL), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(2-IODOPHENOL), 6.1, III

## Specification

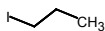
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 39 °C  
 Melting range (upper value) ..... ≤ 42 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20741.0001	Glass bottle	1 g	inquire

2-Iodophenol methyl ether → 2-Iodoanisole page 1008



## 804788 1-Iodopropane (stabilised with sodium carbonate) for synthesis



C<sub>3</sub>H<sub>7</sub>I  
CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>I  
*Propyl iodide*  
■ CAS-No. 107-08-4 ■ EC-No. 203-460-2  
■ Refractive index 1.5055 (20 °C, 589 nm)  
■ Vapour pressure 57 hPa (25 °C)  
■ Spec. density 1.75 g/cm<sup>3</sup> (20 °C)  
■ Flash point 44 °C ■ Solub. in H<sub>2</sub>O 1.1 g/l (20 °C)  
■ M = 169.99 g/mol ■ Melting point -98 °C

■ Boiling point 103 °C (1013 mbar)  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331, P210, P309 + P310, P304 + P340  
■ LC50 rat 9.13 mg/l  
■ LGK 3  
■ HS-No. 2903 39 90 ■ Disposal 3  
■ ADR-RID UN 2392 Iodopropane, 3, III ■ IMDG-Code UN 2392 IODOPROPANES, 3, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)

■ IATA-DGR UN 2392 IODOPROPANES, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,740 - 1,750  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04788.0100	Glass bottle	100 ml	inquire
8.04788.0250	Glass bottle	250 ml	inquire

## 843955 2-Iodopropane for synthesis



C<sub>3</sub>H<sub>7</sub>I  
■ CAS-No. 75-30-9 ■ EC-No. 200-859-3  
■ Spec. density 1.703 g/cm<sup>3</sup> (25 °C)  
■ Flash point 42 °C ■ Solub. in H<sub>2</sub>O 1.4 g/l (20 °C)  
■ M = 169.99 g/mol ■ Melting point -90 °C  
■ WGK 1

■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P302 + P352, P305 + P351 + P338  
■ LGK 3  
■ HS-No. 2903 39 90 ■ Disposal 3  
■ ADR-RID UN 2392 Iodopropane, 3, III ■ IMDG-Code UN 2392 IODOPROPANES, 3, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)

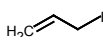
■ IATA-DGR UN 2392 IODOPROPANES, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.688 - 1.692  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43955.0250	Glass bottle	250 ml	inquire
8.43955.1000	Glass bottle	1 l	inquire

## 841469 3-Iodo-1-propene for synthesis



C<sub>3</sub>H<sub>5</sub>I  
■ CAS-No. 556-56-9 ■ EC-No. 209-130-4  
■ Spec. density 1.832 g/cm<sup>3</sup> (20 °C)  
■ Flash point 18 °C ■ M = 167.97 g/mol  
■ Boiling point 101 - 103 °C (1013 hPa)  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2,

H225; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 10 mg/kg  
■ EC-Index-No. 602-054-00-6 ■ LGK 3 ■ Store below +15°C.  
■ HS-No. 2903 39 90 ■ Disposal 3  
■ ADR-RID UN 1723 Allyliodid, 3 (8), II ■ IMDG-Code UN 1723 ALLYL IODIDE, 3 (8), II, Segregation Group: 1 (Acids), 10 (Liquid halogenated

hydrocarbons)

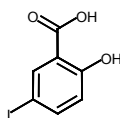
■ IATA-DGR UN 1723 ALLYL IODIDE, 3 (8), II

**Specification**

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.834 - 1.840  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41469.0010	Glass bottle	10 ml	inquire

## 841340 5-Iodosalicylic acid for synthesis



C<sub>7</sub>H<sub>5</sub>IO<sub>3</sub>  
*2-Hydroxy-5-iodo-benzoic acid*  
■ CAS-No. 119-30-2 ■ EC-No. 204-313-5

■ M = 264.02 g/mol ■ Melting point 195 - 200 °C  
■ WGK 3  
■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2918 29 00 ■ Disposal 3

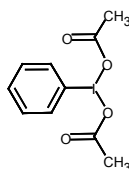
**Specification**

Assay (acidimetric) ..... ≥ 96,0 %  
Melting range (lower value) ..... ≥ 196 °C  
Melting range (upper value) ..... ≤ 200 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41340.0025	Plastic bottle	25 g	inquire

Iodosobenzene bis(trifluoroacetate) → Bis(trifluoroacetoxy)iodobenzene page 476

## 804781 Iodosobenzene diacetate for synthesis



C<sub>10</sub>H<sub>11</sub>IO<sub>4</sub>

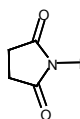
C<sub>6</sub>H<sub>5</sub>I(OCOCH<sub>3</sub>)<sub>2</sub>  
*Diacetoxyiodosobenzene, Phenyliodine diacetate*  
■ CAS-No. 3240-34-4 ■ EC-No. 221-808-1  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 322.09 g/mol ■ Melting point 161 - 164 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (iodometric) ..... ≥ 99,0 % (m)  
Melting range (lower value) ..... ≥ 161 °C  
Melting range (upper value) ..... ≤ 164 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04781.0010	Glass bottle	10 g	inquire
8.04781.0100	Glass bottle	100 g	inquire

## 820743 N-Iodosuccinimide for synthesis



C<sub>4</sub>H<sub>4</sub>INO<sub>2</sub>  
*NIS*

■ CAS-No. 516-12-1 ■ EC-No. 208-221-6  
■ Spec. density 2.25 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (decomposition)  
■ M = 224.99 g/mol  
■ Melting point 201 - 202 °C (decomposition)  
■ WGK 1  
■ LGK 10 - 13  
■ HS-No. 2929 90 00 ■ Disposal 22

**Specification**

Assay (iodometric) ..... ≥ 97,0 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20743.0010	Glass bottle	10 g	inquire
8.20743.0050	Glass bottle	50 g	inquire

# Iodoth

## 841186 2-Iodothiophene for synthesis



C<sub>4</sub>H<sub>3</sub>IS  
2-Thienyl iodide  
■ CAS-No. 3437-95-4 ■ EC-No. 222-342-1

- Spec. density 2.064 g/cm<sup>3</sup> (20 °C)
- Flash point 71 °C ■ M = 210.03 g/mol
- Boiling point 68 - 69 °C (18.7 hPa)
- WGK 3
- LGK 10
- HS-No. 2934 99 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 2.058 - 2.066  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41186.0010	Glass bottle	10 ml	inquire

## 841415 2-Iodotoluene for synthesis



C<sub>7</sub>H<sub>7</sub>I  
1-Iodo-2-methylbenzene  
■ CAS-No. 615-37-2 ■ EC-No. 210-422-9  
■ Spec. density 1.71 g/cm<sup>3</sup> (20 °C)

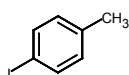
- Flash point 90 °C ■ M = 218.04 g/mol
- Boiling point 210 - 212 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.720 - 1.726  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41415.0010	Glass bottle	10 ml	inquire

## 841394 4-Iodotoluene for synthesis



C<sub>7</sub>H<sub>7</sub>I  
1-Iodo-4-methylbenzene  
■ CAS-No. 624-31-7 ■ EC-No. 210-841-7  
■ Spec. density 1.68 g/cm<sup>3</sup> (20 °C)  
■ Flash point 90 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 218.04 g/mol

- Melting point 33 - 35 °C ■ Boiling point 213 °C (1013 hPa)
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Melting range (lower value)..... ≥ 32 °C  
Melting range (upper value) ..... ≤ 34 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41394.0025	Glass bottle	25 g	inquire

## 841429 2-Iodo-1,1,1-trifluoroethane for synthesis



C<sub>2</sub>H<sub>2</sub>F<sub>3</sub>I  
2,2,2-Trifluoroethyl iodide  
■ CAS-No. 353-83-3 ■ EC-No. 206-541-0  
■ Vapour pressure 273 hPa (20 °C)  
■ Spec. density 2.142 g/cm<sup>3</sup> (20 °C)  
■ M = 209.93 g/mol ■ Boiling point 54.7 °C

- (1013 hPa)
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2903 79 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 2.153 - 2.159  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41429.0005	Glass bottle	5 ml	inquire

## 814079 Iodotrimethylsilane (stabilised) for synthesis



C<sub>3</sub>H<sub>9</sub>SiI  
(CH<sub>3</sub>)<sub>3</sub>SiI  
Trimethyliodosilane, Trimethylsilyl iodide  
■ CAS-No. 16029-98-4 ■ EC-No. 240-171-0  
■ Refractive index 1.467 (20 °C, 589 nm)  
■ Spec. density 1.47 g/cm<sup>3</sup> (20 °C) ■ Flash point - 31 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)

- M = 200.1 g/mol ■ Boiling point 107 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2931 90 90 ■ Disposal 24
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(IODTRIMETHYLSILAN), 3 (8), I
- IMDG-Code UN 2924 FLAMMABLE LIQUID,

CORROSIVE, N.O.S.(IODTRIMETHYLSILANE), 3 (8), I  
■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(IODTRIMETHYLSILANE), 3 (8), I

### Specification

Assay (argentometric)..... ≥ 95.0 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14079.0010	Glass bottle	10 ml	inquire

Ion chromatography standards → Standards

## Ion exchanger

### Strongly acidic cation exchanger

#### 104765 Ion exchanger I (strongly acidic cation exchanger, H<sup>+</sup>-form) GR for analysis Reag. Ph Eur

- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Bulk density 850 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

### Specification

Appearance.... yellow brown, transparent spherules  
Exchange capacity  
- ..... ≥ 1.7 mmol/ml  
- (calculated on dried substance)..... mmol/g  
Water (according to Karl Fischer)..... 50 - 60 %

Ord.No.	Packaging	Quantity	Price
1.04765.0500	Plastic bottle	500 g	inquire
1.04765.5000	Plastic bottle	5 kg	inquire

**115131 Ion exchanger Amberlite® IR-120 (strongly acidic cation exchanger), H<sup>+</sup> form**

- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Bulk density 850 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

**Specification**

Description.....Yellow-brown moist spherules  
 Total capacity (wet).....≥ 1.8 mmol/ml  
 Particle size (0,3-1,1 mm).....≥ 90 %

Ord.No.	Packaging	Quantity	Price
1.15131.0500	Plastic bottle	500 ml	inquire
1.15131.5000	Plastic bottle	5 l	inquire

**115966 Ion exchanger Amberlite® IR-120 (strongly acidic cation exchanger, Na<sup>+</sup> form)**

- Spec. density 1.28 g/cm<sup>3</sup> ■ pH value 8 - 10 (H<sub>2</sub>O)
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

**Specification**

Description.....light yellow to brown spherules  
 Total capacity.....≥ 1.9 mol/l  
 Particle size (0.3 - 1.18 mm).....≥ 90 %

Ord.No.	Packaging	Quantity	Price
1.15966.0500	Plastic bottle	500 ml	inquire

**115635 Ion exchanger Amberlyst® 15 (strongly acidic cation exchanger), H<sup>+</sup> form**

- Spec. density 0.6 g/cm<sup>3</sup> ■ pH value (H<sub>2</sub>O) not applicable ■ Bulk density 690 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

**Specification**

Description.....beige to grey-brown spherules  
 Total capacity.....≥ 1.7 mol/l  
 Particle size (0.355 - 1.18 mm).....≥ 90 %

Ord.No.	Packaging	Quantity	Price
1.15635.0500	Plastic bottle	500 ml	inquire

**105238 Ion exchanger Dowex® 50 WX 4 (strongly acidic cation exchanger), H<sup>+</sup> form**

- CAS-No. 69011-20-7
- Spec. density 1.040 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble
- Water absorption 640 - 720 g/kg
- Ignition temp. >500 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319,

P305 + P351 + P338

- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

Particle size (0.18-0.5 mm).....≥ 70.0 %

**Specification**

Description.....moist beige spherules  
 Total capacity (wet).....≥ 1.1 mol/l

Ord.No.	Packaging	Quantity	Price
1.05238.0250	Plastic bottle	250 ml	inquire

**105221 Ion exchanger Dowex® 50W-X8 (strongly acidic cation exchanger, H<sup>+</sup> form)**

- CAS-No. 69011-20-7
- Spec. density 1.040 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble
- Water absorption 640 - 720 g/kg
- Ignition temp. >500 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319,

P305 + P351 + P338

- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

Total capacity.....≥ 1.7 mol/l

**Specification**

Description.....light yellow to brown spherules  
 Particle size (0,09-0,25 mm).....≥ 70.0 %

Ord.No.	Packaging	Quantity	Price
1.05221.0250	Plastic bottle	250 ml	inquire

**105241 Ion exchanger Dowex® HCR-W2 (strongly acidic cation exchanger, H<sup>+</sup> form)**

- CAS-No. 69011-20-7
- Spec. density 1.040 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble
- Water absorption 640 - 720 g/kg
- Ignition temp. >500 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319,

P305 + P351 + P338

- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

Particle size (0,4-1,18 mm).....≥ 95 %

**Specification**

Description.....light yellow to brown spherules  
 Total capacity (wet).....≥ 1.8 mol/l

Ord.No.	Packaging	Quantity	Price
1.05241.0500	Plastic bottle	500 g	inquire

**Weakly acidic cation exchanger****104835 Ion exchanger IV (weakly acidic cation exchanger) H<sup>+</sup>-form, GR for analysis***Cation exchangers*

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 5 - 7 (H<sub>2</sub>O) (aqueous suspension)
- Bulk density 650 - 700 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13

- HS-No. 3914 00 00 ■ Disposal 3

**Specification**

Appearance.....cream-coloured, opaque spherules  
 Exchange capacity.....≥ 2.5 mmol/ml

Ord.No.	Packaging	Quantity	Price
1.04835.0500	Plastic bottle	500 g	inquire
1.04835.5000	Plastic bottle	5 kg	inquire

**Strongly basic anion exchanger****104767 Ion exchanger III (strongly basic anion exchanger, OH<sup>-</sup> form) GR for analysis***Anion exchangers*

- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Bulk density 650 - 700 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13

- HS-No. 3914 00 00 ■ Disposal 3

**Specification**

Appearance.....pale brown to brown, spherules  
 Exchange capacity.....≥ 0.9 mmol/ml

Ord.No.	Packaging	Quantity	Price
1.04767.0500	Plastic bottle	500 g	inquire
1.04767.5000	Plastic bottle	5 kg	inquire

**105245 Ion exchanger Amberjet® 4200 (strongly basic anion exchanger), Cl<sup>-</sup> form**

- Spec. density 1.07 g/cm<sup>3</sup> ■ pH value 7 - 9 (H<sub>2</sub>O) (slurry) ■ Bulk density 1050 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

**Specification**

Description.....moist light yellow spherules  
 Total capacity.....≥ 1.3 mol/l  
 Particle size (0.425-0.850 mm).....≥ 90 %

Ord.No.	Packaging	Quantity	Price
1.05245.0500	Plastic bottle	500 ml	inquire

## 112463 Ion exchanger Amberlite® IRA-402 (strongly basic anion exchanger), Cl<sup>-</sup> form

- CAS-No. 52439-77-7
- Spec. density 1.063 - 1.093 mg/l
- Bulk density 670 g/l
- WGK nwg
- LGK 10 - 13

- HS-No. 3914 00 00 ■ Disposal 3

Particle size (0.3 - 1.18 mm) ..... ≥ 90 %

### Specification

Description.....yellowish moist spherules  
Total capacity.....≥ 1.0 mol/l

Ord.No.	Packaging	Quantity	Price
1.12463.0500	Plastic bottle	500 ml	inquire

## 115262 Ion exchanger Amberlite® IRA-410 (strongly basic anion exchanger type II) Cl<sup>-</sup> form

- Spec. density 0.7 g/cm<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

Description.....damp brownish-yellow spherules  
Total capacity.....≥ 1.3 mol/l  
Particle size (0,3-1,1 mm) .....≥ 90%

### Specification

Ord.No.	Packaging	Quantity	Price
1.15262.0500	Plastic bottle	500 ml	inquire

## 105242 Ion exchanger Dowex® 1-X8 (strongly basic anion exchanger), Cl<sup>-</sup> form

- CAS-No. 60177-39-1
- Spec. density 1.040 g/cm<sup>3</sup> (20 °C)
- pH value (H<sub>2</sub>O) not applicable
- WGK nwg
- LGK 10 - 13

- HS-No. 3914 00 00 ■ Disposal 3

Particle size (0,09-0,25 mm) ..... ≥ 70 %

### Specification

Description.....pale yellow moist spherules  
Total capacity (wet).....≥ 1.2 mol/l

Ord.No.	Packaging	Quantity	Price
1.05242.0250	Plastic bottle	250 ml	inquire

## Weakly basic anion exchanger

### 104768 Ion exchanger II (weakly basic anion exchanger), OH<sup>-</sup> form GR for analysis

- CAS-No. 63182-01-4
- Spec. density 0.690 g/cm<sup>3</sup> (20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

Description.....white, opak pearls  
Total capacity (wet).....≥ 0.6 mol/l  
Water (according to Karl Fischer).....56 - 62 %  
Particle size (0,4-1,6 mm) ..... ≥ 90 %

### Specification

Ord.No.	Packaging	Quantity	Price
1.04768.0500	Plastic bottle	500 ml	inquire
1.04768.5000	Plastic bottle	5 l	inquire

### 115959 Ion exchanger Amberlite® IRA-67 (weakly basic anion exchanger), OH<sup>-</sup> form

- Spec. density 1.06 g/cm<sup>3</sup> ■ Bulk density 700 kg/m<sup>3</sup>
- Ignition temp. 427 °C
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

### Specification

Description.....moist white spherules  
Total capacity.....≥ 1.5 mol/l  
Particle size (0.3 - 1.18 mm) ..... ≥ 90 %

Ord.No.	Packaging	Quantity	Price
1.15959.0500	Plastic bottle	500 g	inquire

## Mixed bed exchanger

### 104836 Ion exchanger V (mixed bed exchanger) GR for analysis

- Mixed bed exchanger*
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
  - Bulk density 650 - 700 kg/m<sup>3</sup>
  - WGK nwg
  - LGK 10 - 13
  - HS-No. 3914 00 00 ■ Disposal 3

### Specification

Appearance.....light brown spherules  
Exchange capacity  
- (Anionen).....≥ 0.4 mmol/ml  
- (cations).....≥ 0.5 mmol/ml

Ord.No.	Packaging	Quantity	Price
1.04836.0500	Plastic bottle	500 g	inquire
1.04836.5000	Plastic bottle	5 kg	inquire

### 115965 Ion exchanger Amberlite® IRN-150 (mixed-bed ion exchanger, strongly acid H<sup>+</sup> form and strongly basic OH<sup>-</sup> form)

- Spec. density 0.690 g/cm<sup>3</sup> (20 °C)
- pH value (H<sub>2</sub>O) not applicable
- Bulk density 690 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

### Specification

Description.....light yellow to brown spherules  
Anion exchanger capacity .....≥ 0.6 mol/l  
Kation exchanger capacity.....≥ 0.7 mol/l  
Particle size (0.3 - 1.18 mm) ..... ≥ 95 %

Ord.No.	Packaging	Quantity	Price
1.15965.0500	Plastic bottle	500 ml	inquire

### 115127 Ion exchanger Amberlite® MB-3 mixed bed ion exchanger with colour indicator, strongly acidic H<sup>+</sup> form and strongly basic OH<sup>-</sup> form

- CAS-No. 67166-70-5
- Spec. density 0.69 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- Bulk density 700 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3914 00 00 ■ Disposal 3

Colour changes from green to brown

### Specification

Description.....blue and cream-coloured spherules  
Anion exchanger capacity .....≥ 0.6 mol/l  
Kation exchanger capacity.....≥ 0.5 mol/l  
Particle size (0.3 - 1.18 mm) ..... ≥ 80 %

Ord.No.	Packaging	Quantity	Price
1.15127.0500	Plastic bottle	500 ml	inquire
1.15127.5000	Plastic bottle	5 l	inquire

## 115165 Ion exchanger Amberlite® MB-6113 mixed-bed ion exchanger with colour indicator, strongly acidic H<sup>+</sup> form and strongly basic OH<sup>-</sup> form

- Spec. density 1.04 - 1.2 g/cm<sup>3</sup> ■ pH value 3 - 5 Colour changes from bluegreen to light brown
  - (H<sub>2</sub>O) ■ Ignition temp. 500 °C
  - WGK nwg
  - LGK 10 - 13
  - HS-No. 3914 00 00 ■ Disposal 3
- Specification**  
Description.....blue and cream-coloured spherules

Ord.No.	Packaging	Quantity	Price
1.15165.0500	Plastic bottle	500 g	inquire

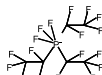
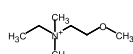
Ion exchanger for LC (Fractogel® TSK/EMD) → page 45

## Ionic Liquids

### Ionic Liquids - Cations

#### Ammoniums (Ionic Liquids)

## 491235 Ethyldimethyl-(2-methoxyethyl)ammonium tris(pentafluoroethyl)trifluorophosphate high purity



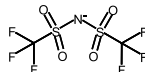
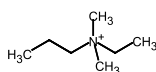
C<sub>13</sub>H<sub>18</sub>F<sub>18</sub>NOP

- CAS-No. 1195983-49-3
- M = 577.23 g/mol

- WGK 3
  - LGK 10 - 13
  - HS-No. 2923 90 00 ■ Disposal 3
- Specification**  
Purity (electrophoresis) ..... ≥ 99.0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 100 ppm  
Water (K. F.) ..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91235.0025	Glass bottle	25 g	inquire
4.91235.0100	Glass bottle	100 g	inquire
4.91235.0500	Glass bottle	500 g	inquire

## 490222 Ethyl-dimethyl-propylammonium bis(trifluoromethylsulfonyl)imide for synthesis



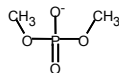
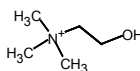
C<sub>9</sub>H<sub>18</sub>F<sub>6</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>

- CAS-No. 258273-77-7
- Spec. density 1.41 g/cm<sup>3</sup> ■ M = 396.37 g/mol
- pH value (H<sub>2</sub>O) no data available

- Melting point -11 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2935 00 90
- Specification**  
Purity (electrophoresis) ..... ≥ 98.0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0.1 %  
Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90222.0025	Glass bottle	25 g	inquire
4.90222.0100	Glass bottle	100 g	inquire
4.90222.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490289 (2-Hydroxyethyl)trimethylammonium dimethylphosphate for synthesis



C<sub>7</sub>H<sub>20</sub>NO<sub>5</sub>P

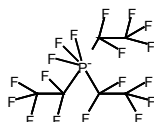
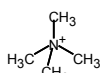
- CAS-No. 118978-98-6
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 229.21 g/mol
- Melting point 40 - 41 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

- P309 + P310
- LGK 8A
- HS-No. 2923 10 00 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.((2-HYDROXYETHYL)AMMONIUM DIMETHYLPHOSPHAT), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.((2-HYDROXYETHYL)AMMONIUM DIMETHYLPHOSPHATE), 8, II
- IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.((2-HYDROXYETHYL)AMMONIUM DIMETHYLPHOSPHATE), 8, II

- Specification**  
Identity (NMR) ..... passes test  
Assay (cations) ..... ≥ 98.0 %  
Halides (IC) ..... ≤ 0.1 %  
Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90289.0025	Glass bottle	25 g	inquire
4.90289.0100	Glass bottle	100 g	inquire
4.90289.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490025 Tetramethylammonium tris(pentafluoroethyl)trifluorophosphate for synthesis



C<sub>10</sub>H<sub>12</sub>F<sub>18</sub>NP

- (CH<sub>3</sub>)<sub>4</sub>N((C<sub>2</sub>F<sub>5</sub>)<sub>3</sub>PF<sub>3</sub>)
- CAS-No. 394692-83-2

- M = 519.15 g/mol ■ pH value 6 (0.01 g/ml, H<sub>2</sub>O, 25 °C) ■ Melting point 115 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2931 90 90

- Specification**  
Purity (electrophoresis) ..... ≥ 98.0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0.1 %

- Water (K. F.) ..... ≤ 0.1 %

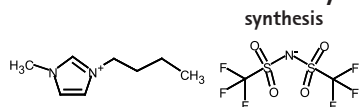
Ord.No.	Packaging	Quantity	Price
4.90025.0025	Glass bottle	25 g	inquire
4.90025.0100	Glass bottle	100 g	inquire
4.90025.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire



## Ionic Liquids - Cations

## Imidazoles (Ionic Liquids)

## 490092 1-Butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide for



- pH value 7 (H<sub>2</sub>O, 20 °C) Aqueous solution
- Melting point 2 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2935 00 90

Water (K. F.)..... ≤ 1.0 %

## Specification

- Purity (HPLC)..... ≥ 98.0 %
- Identity (NMR)..... passes test
- Halides..... ≤ 0.1 %

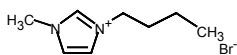
4.90092.0025	Glass bottle	25 g	inquire
4.90092.0100	Glass bottle	100 g	inquire
4.90092.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

C<sub>10</sub>H<sub>15</sub>F<sub>6</sub>N<sub>3</sub>O<sub>4</sub>S<sub>2</sub>C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> C<sub>2</sub>F<sub>6</sub>NO<sub>4</sub>S<sub>2</sub>

■ CAS-No. 174899-83-3

■ Spec. density 1.44 g/cm<sup>3</sup> ■ M = 419.37 g/mol

## 490087 1-Butyl-3-methylimidazolium bromide for synthesis



- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

## Specification

- Purity (HPLC)..... ≥ 98.0 %
- Identity (NMR)..... passes test
- Water (K. F.)..... ≤ 1.0 %

4.90087.0025	Glass bottle	25 g	inquire
4.90087.0100	Glass bottle	100 g	inquire
4.90087.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

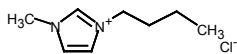
C<sub>8</sub>H<sub>15</sub>BrN<sub>2</sub>

■ CAS-No. 85100-77-2

■ M = 219.13 g/mol ■ pH value (H<sub>2</sub>O) no data available

■ Melting point 76 °C

## 490079 1-Butyl-3-methylimidazolium chloride for synthesis



P305 + P351 + P338, P309 + P310

- LD50 oral rat > 50 - 300 mg/kg
- LD50 dermal rat > 2000 mg/kg
- LGK 6.1C
- HS-No. 2933 29 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1-BUTYL-3-METHYL-IMIDAZOLIUMCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-BUTYL-3-METHYL-IMIDAZOLIUM CHLORIDE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-BUTYL-3-METHYL-IMIDAZOLIUM CHLORIDE), 6.1, III

## Specification

- Purity (HPLC)..... ≥ 99.0 %
- Identity (NMR)..... passes test
- Methylimidazole (HPLC, area%)..... ≤ 0.2 %
- Water (according to Karl Fischer)..... ≤ 1.0 %

4.90079.0025	Glass bottle	25 g	inquire
4.90079.0100	Glass bottle	100 g	inquire
4.90079.0501	Glass bottle	500 g	inquire

C<sub>8</sub>H<sub>15</sub>ClN<sub>2</sub>

■ CAS-No. 79917-90-1

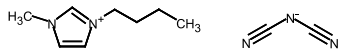
■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 174.68 g/mol ■ pH value 7.6 (H<sub>2</sub>O, 20 °C)

■ Melting point 60 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352,

## 490015 1-Butyl-3-methylimidazolium dicyanamide for synthesis



- 50 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

## Specification

- Purity (HPLC)..... ≥ 98.0 %
- Identity (NMR)..... passes test
- Halides (IC)..... ≤ 0.01 %

Water (K. F.)..... ≤ 0.1 %

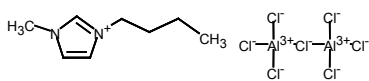
4.90015.0025	Glass bottle	25 g	inquire
4.90015.0100	Glass bottle	100 g	inquire
4.90015.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

C<sub>10</sub>H<sub>15</sub>N<sub>5</sub>C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> C<sub>2</sub>N<sub>3</sub>

■ CAS-No. 448245-52-1

■ Spec. density 1.06 g/cm<sup>3</sup> ■ M = 205.26 g/mol■ pH value 8 (H<sub>2</sub>O, 20 °C) ■ Melting point <

## 490326 1-Butyl-3-methylimidazolium heptachlorodialuminate for synthesis



P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8 A
- HS-No. 2933 29 90 ■ Disposal 3
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(1-BUTYL-3-METHYLIMIDAZOLIUM CHLORIDE-ALUMINIUMCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1-BUTYL-3-METHYLIMIDAZOLIUM CHLORIDE-ALUMINIUM CHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1-BUTYL-3-

METHYLIMIDAZOLIUM CHLORIDE-ALUMINIUM CHLORIDE), 8, II

## Specification

- Identity (NMR)..... conforms
- Chloride (argentometric)..... 53 - 60 %
- Acidity (mg KOH / g)..... 680 - 780 mg/g

4.90326.0025	Glass bottle	25 g	inquire
4.90326.0100	Glass bottle	100 g	inquire
4.90326.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

C<sub>8</sub>H<sub>15</sub>Al<sub>2</sub>Cl<sub>7</sub>N<sub>2</sub>

■ CAS-No. 184695-80-5

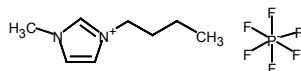
■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C)

■ M = 441.35 g/mol ■ Melting point &lt; -50 °C

■ WGK 2

■ GHS: Danger, Skin corrosion, Category 1B, H314; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273, P301 +

## 490050 1-Butyl-3-methylimidazolium hexafluorophosphate for synthesis



- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 29 90

Water (K. F.)..... ≤ 1,0 %

## Specification

- Purity (HPLC)..... ≥ 98.0 %
- Identity (NMR)..... passes test
- Halides (IC)..... ≤ 0,1 %

4.90050.0025	Glass bottle	25 g	inquire
4.90050.0100	Glass bottle	100 g	inquire
4.90050.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

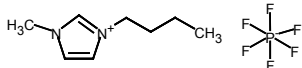
C<sub>8</sub>H<sub>15</sub>F<sub>6</sub>N<sub>2</sub>PC<sub>8</sub>H<sub>15</sub>N<sub>2</sub> F<sub>6</sub>P

■ CAS-No. 174501-64-5

■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C)■ M = 284.18 g/mol ■ pH value 5 (H<sub>2</sub>O, 20 °C)

■ Melting point 12 °C

## 491050 1-Butyl-3-methylimidazolium hexafluorophosphate high purity

C<sub>8</sub>H<sub>15</sub>F<sub>6</sub>N<sub>2</sub>PC<sub>8</sub>H<sub>15</sub>N<sub>2</sub>F<sub>6</sub>P

■ CAS-No. 174501-64-5

■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C)■ M = 284.18 g/mol ■ pH value 5 (H<sub>2</sub>O, 20 °C)

■ Melting point 12 °C

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2933 29 90

**Specification**

Purity (HPLC) ..... ≥ 99.0 %

Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 100 ppm

Water (K. F.) ..... ≤ 100 ppm

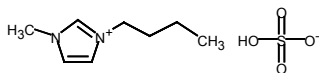
4.91050.0025 Glass bottle 25 g inquire

4.91050.0100 Glass bottle 100 g inquire

4.91050.0500 Glass bottle 500 g inquire

Glass bottle 2 x 500 g inquire

## 490230 1-Butyl-3-methylimidazolium hydrogensulfate for synthesis

C<sub>8</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>S

■ CAS-No. 262297-13-2

■ Flash point 284 °C ■ M = 236.29 g/mol

■ pH value 2 (H<sub>2</sub>O, 20 °C) ■ Melting point 38 °C

■ Ignition temp. 440 °C

■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310

■ LGK 8B

■ HS-No. 2933 29 90

■ ADR-RID UN 3265 Ätzender saurer organischer

flüssiger Stoff, n.a.g.(1-BUTYL-3-

METHYLIMIDAZOLIUM HYDROGENSULFAT), 8, III

■ IMDG-Code UN 3265 CORROSIVE LIQUID,

ACIDIC, ORGANIC, N.O.S.(1-BUTYL-3-

METHYLIMIDAZOLIUM HYDROGENSULFATE), 8, III,

Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC,

ORGANIC, N.O.S.(1-BUTYL-3-

METHYLIMIDAZOLIUM HYDROGENSULFATE), 8, III

**Specification**

Purity (HPLC) ..... ≥ 98.0 %

Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 0.1 %

Water (K. F.) ..... ≤ 1.0 %

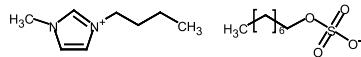
4.90230.0025 Glass bottle 25 g inquire

4.90230.0100 Glass bottle 100 g inquire

4.90230.0500 Glass bottle 500 g inquire

Glass bottle 2 x 500 g inquire

## 490177 1-Butyl-3-methylimidazolium octylsulfate for synthesis

C<sub>16</sub>H<sub>32</sub>N<sub>2</sub>O<sub>4</sub>S

■ CAS-No. 445473-58-5

■ Spec. density 1.07 g/cm<sup>3</sup> ■ M = 348.5 g/mol■ pH value 2 - 3 (H<sub>2</sub>O, 20 °C)

■ Melting point 32 °C

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2933 29 90

**Specification**

Purity (HPLC) ..... ≥ 98.0 %

Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 0.1 %

Water (K. F.) ..... ≤ 1.0 %

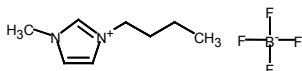
4.90177.0025 Glass bottle 25 g inquire

4.90177.0100 Glass bottle 100 g inquire

4.90177.0500 Glass bottle 500 g inquire

Glass bottle 2 x 500 g inquire

## 490049 1-Butyl-3-methylimidazolium tetrafluoroborate for synthesis

C<sub>8</sub>H<sub>15</sub>BF<sub>4</sub>N<sub>2</sub>

■ CAS-No. 174501-65-6

■ Spec. density 1.20 g/cm<sup>3</sup> ■ M = 226.02 g/mol■ pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -71 °C

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2933 29 90

**Specification**

Purity (HPLC) ..... ≥ 98.0 %

Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 0.1 %

Water (K. F.) ..... ≤ 1.0 %

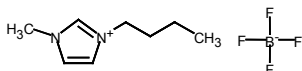
4.90049.0025 Glass bottle 25 g inquire

4.90049.0100 Glass bottle 100 g inquire

4.90049.0500 Glass bottle 500 g inquire

Glass bottle 2 x 500 g inquire

## 491049 1-Butyl-3-methylimidazolium tetrafluoroborate high purity

C<sub>8</sub>H<sub>15</sub>BF<sub>4</sub>N<sub>2</sub>

■ CAS-No. 174501-65-6

■ Spec. density 1.20 g/cm<sup>3</sup> ■ M = 226.02 g/mol■ pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -71 °C

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2933 29 90

**Specification**

Purity (HPLC, area%) ..... ≥ 99.0 %

Identity (NMR) ..... passes test

Halides ..... ≤ 100 ppm

Water (K. F.) ..... ≤ 100 ppm

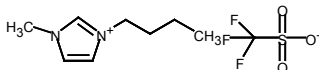
4.91049.0025 Glass bottle 25 g inquire

4.91049.0100 Glass bottle 100 g inquire

4.91049.0500 Glass bottle 500 g inquire

Glass bottle 2 x 500 g inquire

## 490024 1-Butyl-3-methylimidazolium trifluoromethanesulfonate for synthesis

C<sub>9</sub>H<sub>15</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>SC<sub>8</sub>H<sub>15</sub>N<sub>2</sub>CF<sub>3</sub>O<sub>3</sub>S

■ CAS-No. 174899-66-2

■ Spec. density 1.30 g/cm<sup>3</sup> ■ M = 288.29 g/mol■ pH value 7 - 8 (200 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 17 °C

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2933 29 90

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**

Purity (HPLC) ..... ≥ 98.0 %

Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 0.1 %

Water (K. F.) ..... ≤ 1.0 %

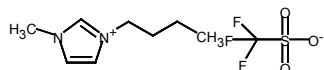
4.90024.0025 Glass bottle 25 g inquire

4.90024.0100 Glass bottle 100 g inquire

4.90024.0500 Glass bottle 500 g inquire

Glass bottle 2 x 500 g inquire

## 491024 1-Butyl-3-methylimidazolium trifluoromethanesulfonate high purity



C<sub>9</sub>H<sub>15</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>S  
 C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> CF<sub>3</sub>O<sub>3</sub>S  
 ■ CAS-No. 174899-66-2  
 ■ Spec. density 1.30 g/cm<sup>3</sup> ■ M = 288.29 g/mol  
 ■ pH value 7 - 8 (200 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 17 °C  
 ■ WGK 3

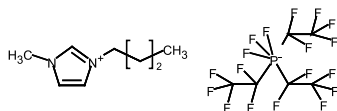
■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
 Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**  
 Purity (HPLC) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

4.91024.0025	Glass bottle	25 g	inquire
4.91024.0100	Glass bottle	100 g	inquire
4.91024.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 491232 1-Butyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate high purity



C<sub>14</sub>H<sub>15</sub>F<sub>18</sub>N<sub>2</sub>P  
 ■ CAS-No. 917762-91-5  
 ■ Spec. density 1.63 g/cm<sup>3</sup> (20 °C)

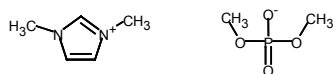
■ M = 584.23 g/mol ■ pH value 5 (H<sub>2</sub>O,  
 20 °C) Aqueous solution  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90 ■ Disposal 3

**Specification**  
 Purity (HPLC) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm

Water (K. F.) ..... ≤ 100 ppm

4.91232.0025	Glass bottle	25 g	inquire
4.91232.0100	Glass bottle	100 g	inquire
4.91232.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490293 1,3-Dimethylimidazolium dimethylphosphate for synthesis



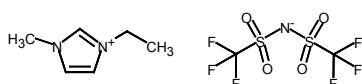
C<sub>7</sub>H<sub>15</sub>N<sub>2</sub>O<sub>4</sub>P  
 ■ CAS-No. 654058-04-5  
 ■ Spec. density 1.27 g/cm<sup>3</sup> (20 °C)  
 ■ M = 222.18 g/mol ■ pH value 2.4 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,  
 P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310  
 ■ LGK 8 A  
 ■ HS-No. 2933 29 90 ■ Disposal 3  
 ■ ADR-RID UN 1760 Ätzender flüssiger Stoff,  
 n.a.g.(1,3-DIMETHYLIMIDAZOLIUM  
 DIMETHYLPHOSPHAT), 8, II ■ IMDG-Code UN 1760  
 CORROSIVE LIQUID, N.O.S.(1,3-  
 DIMETHYLIMIDAZOLIUM DIMETHYLPHOSPHATE),  
 8, II  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID,  
 N.O.S.(1,3-DIMETHYLIMIDAZOLIUM  
 DIMETHYLPHOSPHATE), 8, II

**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

4.90293.0025	Glass bottle	25 g	inquire
4.90293.0100	Glass bottle	100 g	inquire
4.90293.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490189 1-Ethyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide for synthesis



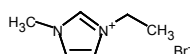
C<sub>8</sub>H<sub>11</sub>F<sub>6</sub>N<sub>3</sub>O<sub>4</sub>S<sub>2</sub>  
 ■ CAS-No. 174899-82-2  
 ■ Spec. density 1.52 g/cm<sup>3</sup> (20 °C)  
 ■ M = 391.31 g/mol ■ pH value (H<sub>2</sub>O) no data  
 available ■ Melting point -15 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral,  
 H301, P309 + P310

■ LD50 oral rat > 50 - 300 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2935 00 90  
 ■ ADR-RID UN 2811 Giftiger organischer fester  
 Stoff, n.a.g.(1-ETHYL-3-METHYLIMIDAZOLIUM  
 BIS(TRIFLUORMETHYLSULFONYL)IMID), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,  
 N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM  
 BIS(TRIFLUOROMETHANESULFONYL)IMIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,  
 N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM  
 BIS(TRIFLUOROMETHANESULFONYL)IMIDE), 6.1, III

**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

4.90189.0025	Glass bottle	25 g	inquire
4.90189.0100	Glass bottle	100 g	inquire
4.90189.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490038 1-Ethyl-3-methylimidazolium bromide for synthesis



C<sub>6</sub>H<sub>11</sub>BrN<sub>2</sub>  
 ■ CAS-No. 65039-08-9  
 ■ M = 191.07 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point 65 °C  
 ■ WGK 3

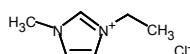
■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90 ■ Disposal 3

**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test

Water (K. F.) ..... ≤ 1.0 %

4.90038.0025	Glass bottle	25 g	inquire
4.90038.0100	Glass bottle	100 g	inquire
4.90038.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490054 1-Ethyl-3-methylimidazolium chloride for synthesis



C<sub>6</sub>H<sub>11</sub>ClN<sub>2</sub>  
 ■ CAS-No. 65039-09-0  
 ■ M = 146.62 g/mol ■ Melting point 77 - 79 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity -

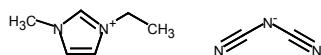
single exposure, Category 3, H335; Skin irritation,  
 Category 2, H315; Eye irritation, Category 2, H319,  
 P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90 ■ Disposal 3

**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test

Water (K. F.) ..... ≤ 1.0 %

4.90054.0025	Glass bottle	25 g	inquire
4.90054.0100	Glass bottle	100 g	inquire
4.90054.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490163 1-Ethyl-3-methylimidazolium dicyanamide for synthesis

C<sub>8</sub>H<sub>11</sub>N<sub>5</sub>

- CAS-No. 370865-89-7
- M = 177.21 g/mol ■ pH value (H<sub>2</sub>O) no data available
- Melting point < -50 °C

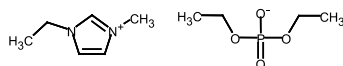
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

**Specification**

Purity (HPLC).....	≥ 98 %
Identity (NMR).....	passes test
Halides (IC).....	≤ 0.3 %
Water (K. F.).....	≤ 1.0 %

4.90163.0025	Glass bottle	25 g	inquire
4.90163.0100	Glass bottle	100 g	inquire
4.90163.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490294 1-Ethyl-3-methylimidazolium diethylphosphate for synthesis

C<sub>10</sub>H<sub>21</sub>N<sub>2</sub>O<sub>4</sub>P

- CAS-No. 848641-69-0
- Spec. density 1.15 g/cm<sup>3</sup> ■ M = 264.26 g/mol
- pH value 5 - 7 (200 g/l, H<sub>2</sub>O, 20 °C)
- WGK 3

- LGK 10 - 13
  - HS-No. 2933 29 90 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good  
 ■ IATA-DGR No Dangerous Good

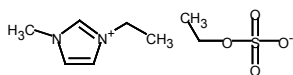
**Specification**

Purity (HPLC).....	≥ 98.0 %
Identity (NMR).....	passes test
Halides (IC).....	≤ 0.1 %

Water (K. F.)..... ≤ 1.0 %

4.90294.0025	Glass bottle	25 g	inquire
4.90294.0100	Glass bottle	100 g	inquire
4.90294.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490229 1-Ethyl-3-methylimidazolium ethylsulfate for synthesis

C<sub>8</sub>H<sub>16</sub>N<sub>2</sub>O<sub>4</sub>S

- CAS-No. 342573-75-5
- Vapour pressure 7.1 Pa (20 °C)
- Spec. density 1.239 g/cm<sup>3</sup> (20 °C)
- Flash point 154.5 °C ■ Kin. viscosity 98.7 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O ≥ 1000 g/l (20 °C)

- M = 236.29 g/mol ■ pH value 8.3 (1000 g/l, H<sub>2</sub>O, 20 °C) ■ Ignition temp. 410 °C
- WGK 1
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2933 29 90

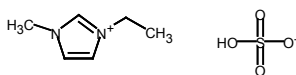
**Specification**

Purity (HPLC).....	≥ 99.0 %
Identity (NMR).....	passes test

Diethylsulfate (HPLC)..... ≤ 0.1 %  
 Halides (IC)..... ≤ 0.01 %  
 Water (K. F.)..... ≤ 1.0 %

4.90229.0025	Glass bottle	25 g	inquire
4.90229.0100	Glass bottle	100 g	inquire
4.90229.0500	Glass bottle	500 g	inquire

## 490223 1-Ethyl-3-methylimidazolium hydrogensulfate for synthesis

C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>S

- CAS-No. 412009-61-1
- Spec. density 1.38 g/cm<sup>3</sup> ■ M = 208.24 g/mol
- pH value (H<sub>2</sub>O) no data available

- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

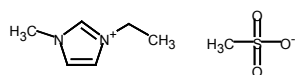
**Specification**

Purity (HPLC).....	≥ 98.0 %
Identity (NMR).....	passes test
Diethylsulfate.....	≤ 0.1 %
Halides (IC).....	≤ 0.1 %

Water (K. F.)..... ≤ 1.0 %

4.90223.0025	Glass bottle	25 g	inquire
4.90223.0100	Glass bottle	100 g	inquire
4.90223.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490286 1-Ethyl-3-methylimidazolium methanesulfonate for synthesis

C<sub>7</sub>H<sub>14</sub>N<sub>2</sub>O<sub>3</sub>S

- CAS-No. 145022-45-3
- Spec. density 1.23 g/cm<sup>3</sup> ■ M = 206.27 g/mol
- Melting point 35 °C

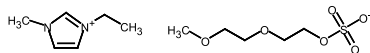
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

**Specification**

Purity (HPLC).....	≥ 98.0 %
Identity (NMR).....	passes test
Halides (IC).....	≤ 0.1 %
Water (K. F.).....	≤ 1.0 %

4.90286.0025	Glass bottle	25 g	inquire
4.90286.0100	Glass bottle	100 g	inquire
4.90286.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490290 1-Ethyl-3-methylimidazolium 2-(2-methoxyethoxy)ethylsulfate for synthesis

C<sub>11</sub>H<sub>22</sub>N<sub>2</sub>O<sub>6</sub>S

- CAS-No. 790663-77-3
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C)
- M = 310.37 g/mol

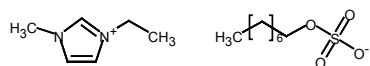
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

**Specification**

Purity (HPLC).....	≥ 98.0 %
Identity (NMR).....	passes test
Halides (IC).....	≤ 0.1 %
Water (K. F.).....	≤ 1.0 %

4.90290.0025	Glass bottle	25 g	inquire
4.90290.0100	Glass bottle	100 g	inquire
4.90290.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490205 1-Ethyl-3-methylimidazolium octylsulfate for synthesis

C<sub>14</sub>H<sub>28</sub>N<sub>2</sub>O<sub>4</sub>S

- Spec. density 1.095 g/cm<sup>3</sup> (20 °C)
- M = 320.45 g/mol ■ pH value 2.9 (H<sub>2</sub>O)
- Melting point -9 °C
- WGK 3

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 29 90

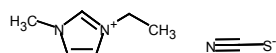
**Specification**

Purity (HPLC).....	≥ 98.0 %
Identity (NMR).....	passes test
Halides (IC).....	≤ 0.1 %

Water (K. F.)..... ≤ 1.0 %

4.90205.0025	Glass bottle	25 g	inquire
4.90205.0100	Glass bottle	100 g	inquire
4.90205.0500	Glass bottle	500 g	inquire



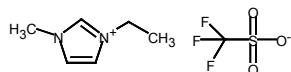
**490201 1-Ethyl-3-methylimidazolium thiocyanate for synthesis**

C<sub>7</sub>H<sub>11</sub>N<sub>3</sub>S  
 ■ CAS-No. 331717-63-6  
 ■ Spec. density 1.11 g/cm<sup>3</sup> ■ M = 169.25 g/mol  
 ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point < -50 °C

■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90

**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

4.90201.0025	Glass bottle	25 g	inquire
4.90201.0100	Glass bottle	100 g	inquire
4.90201.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490061 1-Ethyl-3-methylimidazolium trifluoromethanesulfonate for synthesis**

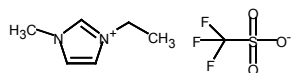
C<sub>7</sub>H<sub>11</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>S  
 C<sub>6</sub>H<sub>11</sub>N<sub>2</sub> CF<sub>3</sub>O<sub>3</sub>S  
 ■ CAS-No. 145022-44-2  
 ■ Spec. density 1.386 g/cm<sup>3</sup> (20 °C)  
 ■ M = 260.24 g/mol ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point -12 °C

■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90

**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %

Water (K. F.) ..... ≤ 1.0 %

4.90061.0025	Glass bottle	25 g	inquire
4.90061.0100	Glass bottle	100 g	inquire
4.90061.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**491061 1-Ethyl-3-methylimidazolium trifluoromethanesulfonate high purity**

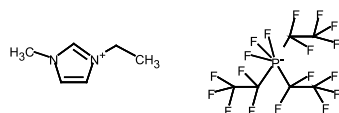
C<sub>7</sub>H<sub>11</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>S  
 C<sub>6</sub>H<sub>11</sub>N<sub>2</sub> CF<sub>3</sub>O<sub>3</sub>S  
 ■ CAS-No. 145022-44-2  
 ■ Spec. density 1.386 g/cm<sup>3</sup> (20 °C)  
 ■ M = 260.24 g/mol ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point -12 °C

■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90

**Specification**  
 Purity (HPLC) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm

Water (K. F.) ..... ≤ 200 ppm

4.91061.0025	Glass bottle	25 g	inquire
4.91061.0100	Glass bottle	100 g	inquire
4.91061.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

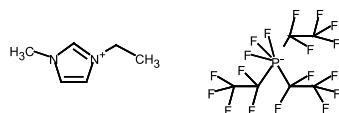
**490001 1-Ethyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate for synthesis**

C<sub>12</sub>H<sub>11</sub>F<sub>18</sub>N<sub>2</sub>P  
 ■ CAS-No. 377739-43-0  
 ■ Spec. density 1.71 g/cm<sup>3</sup> (20 °C)  
 ■ M = 556.17 g/mol ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point -1 °C  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,  
 P301 + P330 + P331, P305 + P351 + P338, P309

+ P310  
 ■ LGK 8 A  
 ■ HS-No. 2933 29 90  
 ■ ADR-RID UN 1760 Ätzender flüssiger Stoff,  
 n.a.g.(1-ETHYL-3-METHYLIMIDAZOLIUM  
 TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHAT), 8,  
 II ■ IMDG-Code UN 1760 CORROSIVE LIQUID,  
 N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM  
 TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHATE),  
 8, II  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID,  
 N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM  
 TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHATE),  
 8, II

**Specification**  
 Purity (HPLC, area%) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

4.90001.0025	Glass bottle	25 g	inquire
4.90001.0100	Glass bottle	100 g	inquire
4.90001.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**491001 1-Ethyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate high purity**

C<sub>12</sub>H<sub>11</sub>F<sub>18</sub>N<sub>2</sub>P  
 ■ CAS-No. 377739-43-0  
 ■ Spec. density 1.71 g/cm<sup>3</sup> (20 °C)  
 ■ M = 556.17 g/mol ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point -1 °C  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,  
 P301 + P330 + P331, P305 + P351 + P338, P309

+ P310  
 ■ LGK 8 A  
 ■ HS-No. 2933 29 90  
 ■ ADR-RID UN 1760 Ätzender flüssiger Stoff,  
 n.a.g.(1-ETHYL-3-METHYLIMIDAZOLIUM  
 TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHAT), 8,  
 II ■ IMDG-Code UN 1760 CORROSIVE LIQUID,  
 N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM  
 TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHATE),  
 8, II  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID,  
 N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM  
 TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHATE),  
 8, II

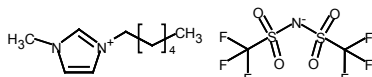
**Specification**  
 Identity (NMR) ..... passes test  
 Purity (HPLC, area%) ..... ≥ 99.0 %  
 Halides ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

4.91001.0025	Glass bottle	25 g	inquire
4.91001.0100	Glass bottle	100 g	inquire
4.91001.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire



## 490031 1-Hexyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide for

synthesis

C<sub>12</sub>H<sub>19</sub>F<sub>6</sub>N<sub>3</sub>O<sub>4</sub>S<sub>2</sub>C<sub>10</sub>H<sub>19</sub>N<sub>2</sub> C<sub>2</sub>F<sub>6</sub>N<sub>4</sub>S<sub>2</sub>

■ CAS-No. 382150-50-7

■ Spec. density 1.37 g/cm<sup>3</sup> ■ M = 447.42 g/mol■ pH value 6 (H<sub>2</sub>O, 20 °C) ■ Melting point -9 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2935 00 90

**Specification**

Purity (HPLC) ..... ≥ 99.0 %

Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 0.01 %

Water (K. F.) ..... ≤ 0.1 %

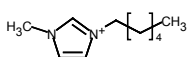
4.90031.0025 Glass bottle 25 g inquire

4.90031.0100 Glass bottle 100 g inquire

4.90031.0500 Glass bottle 500 g inquire

Glass bottle 2 x 500 g inquire

## 490116 1-Hexyl-3-methylimidazolium tetracyanoborate for synthesis

C<sub>14</sub>H<sub>19</sub>BN<sub>6</sub>

■ CAS-No. 1240857-50-4

■ Spec. density 0.99 g/cm<sup>3</sup> ■ M = 282.16 g/mol■ pH value 6 (H<sub>2</sub>O, 20 °C) Aqueous solution

■ Melting point &lt; -50 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Oral,

H300, P309 + P310

■ LGK 6.1A

■ HS-No. 2933 29 90

■ ADR-RID UN 2810 Giftiger organischer flüssiger

Stoff, n.a.g.(1-HEXYL-3-METHYLIMIDAZOLIUM

TETRACYANOBORAT), 6.1, II ■ IMDG-Code UN

2810 TOXIC LIQUID, ORGANIC, N.O.S.(1-HEXYL-3-

METHYLIMIDAZOLIUM TETRACYANOBORATE),

6.1, II

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(1-HEXYL-3-METHYLIMIDAZOLIUM

TETRACYANOBORATE), 6.1, II

**Specification**

Purity (HPLC) ..... ≥ 98.0 %

Identity (NMR-spectrum) ..... passes test

Halides (IC) ..... ≤ 0.1 %

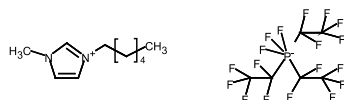
Water (K. F.) ..... ≤ 1.0 %

4.90116.0025 Glass bottle 25 g inquire

4.90116.0100 Glass bottle 100 g inquire

4.90116.0500 Glass bottle 500 g inquire

## 491078 1-Hexyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate high purity

C<sub>16</sub>H<sub>19</sub>F<sub>18</sub>N<sub>2</sub>P

■ CAS-No. 713512-19-7

■ Spec. density 1.56 g/cm<sup>3</sup> (20 °C)■ Kin. viscosity 74.30 mm<sup>2</sup>/s (20 °C)■ M = 612.29 g/mol ■ pH value 6 (H<sub>2</sub>O, 20 °C)

■ Melting point -14 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2933 29 90

**Specification**

Purity (HPLC) ..... ≥ 99.0 %

Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 100 ppm

Water (K. F.) ..... ≤ 100 ppm

4.91078.0025 Glass bottle 25 g inquire

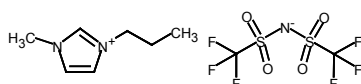
4.91078.0100 Glass bottle 100 g inquire

4.91078.0500 Glass bottle 500 g inquire

Glass bottle 2 x 500 g inquire

## 490228 3-Methyl-1-propylimidazolium bis(trifluoromethylsulfonyl)imide for

synthesis

C<sub>9</sub>H<sub>13</sub>F<sub>6</sub>N<sub>3</sub>O<sub>4</sub>S<sub>2</sub>

■ CAS-No. 216299-72-8

■ Spec. density 1.45 g/cm<sup>3</sup> (20 °C)

■ Flash point &gt;100 °C ■ M = 405.34 g/mol

■ pH value 5 - 6 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point &lt; -20 °C

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Oral,

H301; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 3, H412, P273, P280, P305 + P351 + P338, P309 + P310

■ LGK 6.1C

■ HS-No. 2935 00 90 ■ Disposal 9

■ ADR-RID UN 2810 Giftiger organischer flüssiger

Stoff, n.a.g.(1-PROPYL-3-METHYL-IMIDAZOLIUM

BIS(TRIFLUORMETHYLSULFONYL)IMID), 6.1, III

■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(1-PROPYL-3-METHYL-IMIDAZOLIUM

BIS(TRIFLUORMETHYLSULFONYL)IMIDE), 6.1, III

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(1-PROPYL-3-METHYL-IMIDAZOLIUM

BIS(TRIFLUORMETHYLSULFONYL)IMIDE), 6.1, III

**Specification**

Purity (HPLC) ..... ≥ 98.0 %

Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 0.1 %

Water (according to Karl Fischer) ..... ≤ 1.0 %

4.90228.0025 Glass bottle 25 ml inquire

4.90228.0100 Glass bottle 100 ml inquire

4.90228.0500 Glass bottle 500 ml inquire

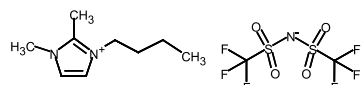
Glass bottle 2 x 500 ml inquire

## Ionic Liquids - Cations

## Imidazoles (Ionic Liquids)

## 490288 1-Butyl-2,3-dimethylimidazolium bis(trifluoromethylsulfonyl)imide

for synthesis

C<sub>11</sub>H<sub>17</sub>F<sub>6</sub>N<sub>3</sub>O<sub>4</sub>S<sub>2</sub>

■ CAS-No. 350493-08-2

■ Spec. density 1.437 g/cm<sup>3</sup> (20 °C) ■ Solub. inH<sub>2</sub>O (20 °C) insoluble ■ M = 433.39 g/mol■ pH value (H<sub>2</sub>O) not applicable

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral,

H301; Serious eye damage, Category 1, H318,

P280, P305 + P351 + P338, P309 + P310

■ LD50 oral rat &gt; 50 - 300 mg/kg

■ LGK 6.1C

■ HS-No. 2935 00 90 ■ Disposal 9

**Specification**

Purity (HPLC, area%) ..... ≥ 98.0 %

Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 0.1 %

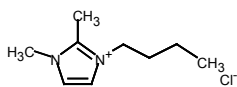
Water (K. F.) ..... ≤ 1.0 %

4.90288.0025 Glass bottle 25 g inquire

4.90288.0100 Glass bottle 100 g inquire

4.90288.0500 Glass bottle 500 g inquire

Glass bottle 2 x 500 g inquire

**490021 1-Butyl-2,3-dimethylimidazolium chloride for synthesis**

- Melting point 99 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

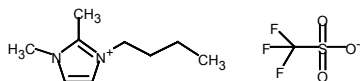
**Specification**

Purity (HPLC).....	≥ 98.0 %
Identity (NMR).....	passes test
Water (K. F.).....	≤ 1.0 %

4.90021.0025	Glass bottle	25 g	inquire
4.90021.0100	Glass bottle	100 g	inquire
4.90021.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

C<sub>9</sub>H<sub>17</sub>ClN<sub>2</sub>

- CAS-No. 98892-75-2
- M = 188.7 g/mol ■ pH value 6 (H<sub>2</sub>O, 20 °C)

**490115 1-Butyl-2,3-dimethylimidazolium trifluoromethanesulfonate for synthesis**

- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

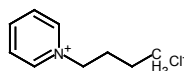
**Specification**

Purity (HPLC).....	≥ 98.0 %
Identity (NMR).....	passes test
Halides (IC).....	≤ 1.0 %
Water (K. F.).....	≤ 1.0 %

4.90115.0025	Glass bottle	25 g	inquire
4.90115.0100	Glass bottle	100 g	inquire
4.90115.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

C<sub>10</sub>H<sub>17</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>S

- M = 302.32 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point 41 °C

**Ionic Liquids - Cations****Pyridines (Ionic Liquids)****490042 N-Butylpyridinium chloride for synthesis**

- WGK 3
- LGK 10 - 13
- HS-No. 2933 39 99

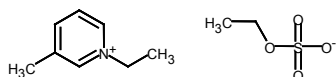
**Specification**

Purity (HPLC).....	≥ 98.0 %
Identity (NMR).....	passes test
Water (K. F.).....	≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90042.0025	Glass bottle	25 g	inquire
4.90042.0100	Glass bottle	100 g	inquire
4.90042.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

C<sub>9</sub>H<sub>14</sub>ClN

- CAS-No. 1124-64-7
- M = 171.67 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C)
- Melting point 127 °C

**490298 1-Ethyl-3-methylpyridinium ethylsulfate for synthesis**

- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(1-ETHYL-3-METHYLPYRIDINIUM ETHYLSULFAT), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(1-ETHYL-3-METHYLPYRIDINIUM ETHYLSULFATE), 8, II
- IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(1-ETHYL-3-METHYLPYRIDINIUM ETHYLSULFATE), 8, II

**Specification**

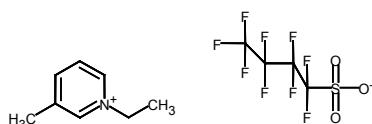
Purity (HPLC).....	≥ 98.0 %
Identity (NMR).....	passes test

Halides (IC).....	≤ 0.1 %
Diethylsulfate.....	≤ 0.1 %
Water (K. F.).....	≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90298.0025	Glass bottle	25 g	inquire
4.90298.0100	Glass bottle	100 g	inquire
4.90298.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

C<sub>10</sub>H<sub>17</sub>NO<sub>4</sub>S

- CAS-No. 872672-50-9
- Spec. density 1.22 g/cm<sup>3</sup> ■ M = 247.31 g/mol
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B

**490295 1-Ethyl-3-methylpyridinium perfluorobutanesulfonate for synthesis**

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Purity (HPLC).....	≥ 98.0 %
--------------------	----------

Identity (NMR).....	passes test
Halides (IC).....	≤ 0.1 %
Water (K. F.).....	≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90295.0025	Glass bottle	25 g	inquire
4.90295.0100	Glass bottle	100 g	inquire
4.90295.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

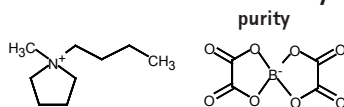
C<sub>12</sub>H<sub>21</sub>F<sub>9</sub>NO<sub>3</sub>S

- CAS-No. 1015420-87-7
- Spec. density 1.52 g/cm<sup>3</sup> (20 °C)
- M = 421.28 g/mol ■ Melting point -6 °C

## Ionic Liquids - Cations

## Pyrrolidines (Ionic Liquids)

## 491211 1-Butyl-1-methylpyrrolidinium bis[oxalato(2-)-O,O']borate high

C<sub>13</sub>H<sub>20</sub>BNO<sub>8</sub>

■ CAS-No. 625835-91-8

■ Spec. density 1.26 g/cm<sup>3</sup> no data available■ M = 329.12 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point 55 °C

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352

■ LGK 10 - 13

■ HS-No. 2933 99 80

**Specification**

Purity (electrophoresis) ..... ≥ 99.0 %

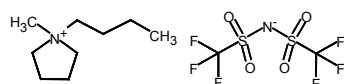
Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 100 ppm  
Water (K. F.) ..... ≤ 200 ppm

Ord.No.	Packaging	Quantity	Price
4.91211.0025	Glass bottle	25 g	inquire
4.91211.0100	Glass bottle	100 g	inquire
4.91211.0500	Glass bottle	500 g	inquire

## 490046 1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide for

synthesis

C<sub>11</sub>H<sub>20</sub>F<sub>6</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>C<sub>9</sub>H<sub>20</sub>N C<sub>2</sub>F<sub>6</sub>NO<sub>4</sub>S<sub>2</sub>

■ CAS-No. 223437-11-4

■ Spec. density 1.40 g/cm<sup>3</sup> ■ M = 422.41 g/mol■ pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -6 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2935 00 90

**Specification**

Purity (electrophoresis) ..... ≥ 98.0 %

Identity (NMR) ..... passes test

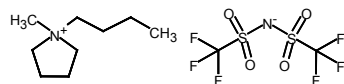
Halides (IC) ..... ≤ 0.1 %

Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90046.0025	Glass bottle	25 g	inquire
4.90046.0100	Glass bottle	100 g	inquire
4.90046.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 491046 1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide

high purity

C<sub>11</sub>H<sub>20</sub>F<sub>6</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>C<sub>9</sub>H<sub>20</sub>N C<sub>2</sub>F<sub>6</sub>NO<sub>4</sub>S<sub>2</sub>

■ CAS-No. 223437-11-4

■ Spec. density 1.40 g/cm<sup>3</sup> ■ M = 422.41 g/mol■ pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -6 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2935 00 90

**Specification**

Purity (electrophoresis) ..... ≥ 99.0 %

Identity (NMR) ..... passes test

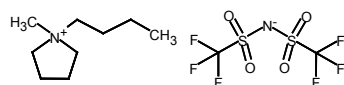
Halides (IC) ..... ≤ 100 ppm

Water (K. F.) ..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91046.0025	Glass bottle	25 g	inquire
4.91046.0100	Glass bottle	100 g	inquire
4.91046.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 492046 1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide

ultra pure

C<sub>11</sub>H<sub>20</sub>F<sub>6</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>C<sub>9</sub>H<sub>20</sub>N C<sub>2</sub>F<sub>6</sub>NO<sub>4</sub>S<sub>2</sub>

■ CAS-No. 223437-11-4

■ Spec. density 1.40 g/cm<sup>3</sup> ■ M = 422.41 g/mol■ pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -6 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2935 00 90

**Specification**

Purity (electrophoresis) ..... ≥ 99.0 %

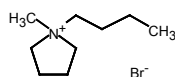
Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 10 ppm

Water (K. F.) ..... ≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
4.92046.0025	Glass bottle	25 g	inquire
4.92046.0100	Glass bottle	100 g	inquire
4.92046.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490195 1-Butyl-1-methylpyrrolidinium bromide for synthesis

C<sub>9</sub>H<sub>20</sub>BrN

■ CAS-No. 93457-69-3

■ M = 222.17 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point 215 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2933 99 80

**Specification**

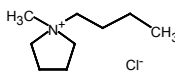
Purity (electrophoresis) ..... ≥ 98.0 %

Identity (NMR) ..... passes test

Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90195.0025	Glass bottle	25 g	inquire
4.90195.0100	Glass bottle	100 g	inquire
4.90195.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490028 1-Butyl-1-methylpyrrolidinium chloride for synthesis

C<sub>9</sub>H<sub>20</sub>ClNC<sub>9</sub>H<sub>20</sub>N Cl

■ CAS-No. 479500-35-1

■ M = 177.72 g/mol ■ pH value 8 (H<sub>2</sub>O, 25 °C)

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2933 99 80 ■ Disposal 3

**Specification**

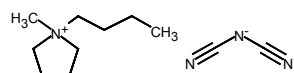
Purity (electrophoresis) ..... ≥ 98.0 %

Identity (NMR) ..... passes test

Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90028.0025	Glass bottle	25 g	inquire
4.90028.0100	Glass bottle	100 g	inquire
4.90028.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490044 1-Butyl-1-methylpyrrolidinium dicyanamide for synthesis**



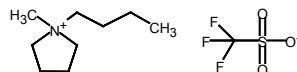
C<sub>11</sub>H<sub>20</sub>N<sub>4</sub>  
 C<sub>9</sub>H<sub>20</sub>N C<sub>2</sub>N<sub>3</sub>  
 ■ CAS-No. 370865-80-8  
 ■ Spec. density 1.02 g/cm<sup>3</sup> ■ Flash point >100 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 208.30 g/mol

mol ■ pH value 8 - 9 (H<sub>2</sub>O, 20 °C) Aqueous solution ■ Melting point < -50 °C  
 ■ Boiling point >171 °C (decomposition)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2933 99 80  
**Specification**  
 Purity (electrophoresis) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 0.01 %  
 Water (K. F.) ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
4.90044.0025	Glass bottle	25 g	inquire
4.90044.0100	Glass bottle	100 g	inquire
4.90044.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490029 1-Butyl-1-methylpyrrolidinium trifluoromethanesulfonate for synthesis**

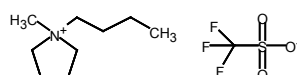


C<sub>10</sub>H<sub>20</sub>F<sub>3</sub>NO<sub>3</sub>S  
 C<sub>9</sub>H<sub>20</sub>N CF<sub>3</sub>O<sub>3</sub>S  
 ■ CAS-No. 367522-96-1  
 ■ Spec. density 1.25 g/cm<sup>3</sup> (20 °C)  
 ■ M = 291.34 g/mol ■ pH value 6 (H<sub>2</sub>O, 25 °C)

■ Melting point 3 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80  
**Specification**  
 Purity (electrophoresis) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90029.0025	Glass bottle	25 g	inquire
4.90029.0100	Glass bottle	100 g	inquire
4.90029.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**491029 1-Butyl-1-methylpyrrolidinium trifluoromethanesulfonate high purity**

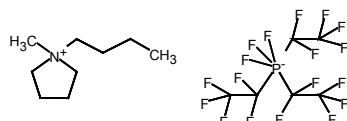


C<sub>10</sub>H<sub>20</sub>F<sub>3</sub>NO<sub>3</sub>S  
 C<sub>9</sub>H<sub>20</sub>N CF<sub>3</sub>O<sub>3</sub>S  
 ■ CAS-No. 367522-96-1  
 ■ Spec. density 1.25 g/cm<sup>3</sup> (20 °C)  
 ■ M = 291.34 g/mol ■ pH value 6 (H<sub>2</sub>O, 25 °C)

■ Melting point 3 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80  
**Specification**  
 Purity (electrophoresis) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91029.0025	Glass bottle	25 g	inquire
4.91029.0100	Glass bottle	100 g	inquire
4.91029.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**491084 1-Butyl-1-methylpyrrolidinium tris(pentafluoroethyl)trifluorophosphate high purity**



C<sub>15</sub>H<sub>20</sub>F<sub>18</sub>NP  
 C<sub>9</sub>H<sub>20</sub>N C<sub>6</sub>F<sub>18</sub>P  
 ■ Spec. density 1.59 g/cm<sup>3</sup> ■ M = 587.27 g/mol

■ pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point 4 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80  
**Specification**  
 Purity (electrophoresis) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91084.0025	Glass bottle	25 g	inquire
4.91084.0100	Glass bottle	100 g	inquire
4.91084.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490267 1-(2-Methoxyethyl)-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide for synthesis**



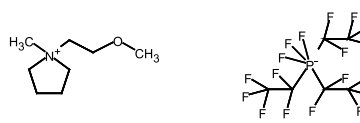
C<sub>10</sub>H<sub>18</sub>F<sub>6</sub>N<sub>2</sub>O<sub>5</sub>S<sub>2</sub>  
 ■ CAS-No. 757240-24-7  
 ■ Spec. density 1.46 g/cm<sup>3</sup> (20 °C)

■ M = 424.38 g/mol ■ pH value 5 (H<sub>2</sub>O)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2935 00 90 ■ Disposal 3  
**Specification**  
 Purity (face-percent) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 0,1 %  
 Water (K. F.) ..... ≤ 1,0 %

Ord.No.	Packaging	Quantity	Price
4.90267.0025	Glass bottle	25 g	inquire
4.90267.0100	Glass bottle	100 g	inquire

**491233 1-(2-Methoxyethyl)-1-methylpyrrolidinium tris(pentafluoroethyl)trifluorophosphate high purity**



C<sub>14</sub>H<sub>18</sub>F<sub>18</sub>NOP

■ CAS-No. 1195983-48-2  
 ■ M = 589.24 g/mol ■ pH value 5 (H<sub>2</sub>O)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
**Specification**  
 Purity (electrophoresis) ..... ≥ 99.0 %

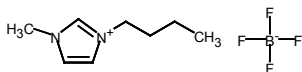
Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
4.91233.0025	Glass bottle	25 g	inquire
4.91233.0100	Glass bottle	100 g	inquire

Ionic Liquids - Anions

Borates (Ionic Liquids)

490049 1-Butyl-3-methylimidazolium tetrafluoroborate for synthesis



C<sub>8</sub>H<sub>15</sub>BF<sub>4</sub>N<sub>2</sub>  
 ■ CAS-No. 174501-65-6  
 ■ Spec. density 1.20 g/cm<sup>3</sup> ■ M = 226.02 g/mol  
 ■ pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -71 °C  
 ■ WGK 3

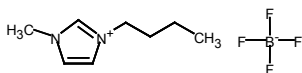
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90

Water (K. F.)..... ≤ 1.0 %

**Specification**  
 Purity (HPLC)..... ≥ 98.0 %  
 Identity (NMR)..... passes test  
 Halides (IC)..... ≤ 0.1 %

4.90049.0025	Glass bottle	25 g	inquire
4.90049.0100	Glass bottle	100 g	inquire
4.90049.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

491049 1-Butyl-3-methylimidazolium tetrafluoroborate high purity



C<sub>8</sub>H<sub>15</sub>BF<sub>4</sub>N<sub>2</sub>  
 ■ CAS-No. 174501-65-6  
 ■ Spec. density 1.20 g/cm<sup>3</sup> ■ M = 226.02 g/mol  
 ■ pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -71 °C  
 ■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90

Water (K. F.)..... ≤ 100 ppm

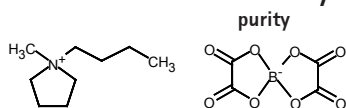
**Specification**  
 Purity (HPLC, area%)..... ≥ 99.0 %  
 Identity (NMR)..... passes test  
 Halides..... ≤ 100 ppm

4.91049.0025	Glass bottle	25 g	inquire
4.91049.0100	Glass bottle	100 g	inquire
4.91049.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

Ionic Liquids - Anions

Borates (Ionic Liquids)

491211 1-Butyl-1-methylpyrrolidinium bis[oxalato(2-)- O,O']borate high



C<sub>13</sub>H<sub>20</sub>BNO<sub>8</sub>  
 ■ CAS-No. 625835-91-8  
 ■ Spec. density 1.26 g/cm<sup>3</sup> no data available  
 ■ M = 329.12 g/mol ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point 55 °C

■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80

Halides (IC)..... ≤ 100 ppm  
 Water (K. F.)..... ≤ 200 ppm

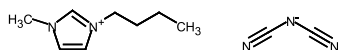
**Specification**  
 Purity (electrophoresis)..... ≥ 99.0 %  
 Identity (NMR)..... passes test

4.91211.0025	Glass bottle	25 g	inquire
4.91211.0100	Glass bottle	100 g	inquire
4.91211.0500	Glass bottle	500 g	inquire

Ionic Liquids - Anions

Dicyanamids (Ionic Liquids)

490015 1-Butyl-3-methylimidazolium dicyanamide for synthesis



C<sub>10</sub>H<sub>15</sub>N<sub>5</sub>  
 C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> C<sub>2</sub>N<sub>3</sub>  
 ■ CAS-No. 448245-52-1  
 ■ Spec. density 1.06 g/cm<sup>3</sup> ■ M = 205.26 g/mol  
 ■ pH value 8 (H<sub>2</sub>O, 20 °C) ■ Melting point < -

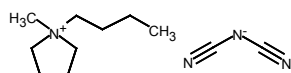
50 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90

Water (K. F.)..... ≤ 0.1 %

**Specification**  
 Purity (HPLC)..... ≥ 98.0 %  
 Identity (NMR)..... passes test  
 Halides (IC)..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
4.90015.0025	Glass bottle	25 g	inquire
4.90015.0100	Glass bottle	100 g	inquire
4.90015.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

490044 1-Butyl-1-methylpyrrolidinium dicyanamide for synthesis



C<sub>11</sub>H<sub>20</sub>N<sub>4</sub>  
 C<sub>9</sub>H<sub>20</sub>N C<sub>2</sub>N<sub>3</sub>  
 ■ CAS-No. 370865-80-8  
 ■ Spec. density 1.02 g/cm<sup>3</sup> ■ Flash point >100 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 208.30 g/

mol ■ pH value 8 - 9 (H<sub>2</sub>O, 20 °C) Aqueous solution ■ Melting point < -50 °C  
 ■ Boiling point >171 °C (decomposition)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2933 99 80

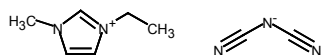
Halides (IC)..... ≤ 0.01 %  
 Water (K. F.)..... ≤ 0.1 %

**Specification**  
 Purity (electrophoresis)..... ≥ 98.0 %  
 Identity (NMR)..... passes test

Ord.No.	Packaging	Quantity	Price
4.90044.0025	Glass bottle	25 g	inquire
4.90044.0100	Glass bottle	100 g	inquire
4.90044.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire



## 490163 1-Ethyl-3-methylimidazolium dicyanamide for synthesis



C<sub>8</sub>H<sub>11</sub>N<sub>5</sub>

- CAS-No. 370865-89-7
- M = 177.21 g/mol ■ pH value (H<sub>2</sub>O) no data available
- Melting point < -50 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

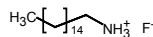
**Specification**  
 Purity (HPLC) ..... ≥ 98 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.3 %  
 Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90163.0025	Glass bottle	25 g	inquire
4.90163.0100	Glass bottle	100 g	inquire
4.90163.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## Ionic Liquids - Anions

### Halides (Ionic Liquids)

## 490220 Cetylaminhydrofluoride for synthesis



C<sub>16</sub>H<sub>36</sub>FN

- CAS-No. 3151-59-5 ■ EC-No. 221-588-7
- Solub. in H<sub>2</sub>O 0.4 g/l (25 °C) ■ M = 261.46 g/mol
- pH value 6.5 (10 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 122 - 125 °C
- Bulk density 230 kg/m<sup>3</sup>

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LGK 10 - 13
- HS-No. 2921 19 99

**Specification**  
 Identity (IR-spectrum) ..... passes test  
 Assay (HClO<sub>4</sub>) ..... 98,0 - 102,0 % (m)  
 Melting range (lower value) ..... ≥ 122,0 °C

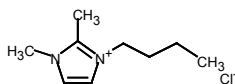
Melting range (upper value) ..... ≤ 125,0 °C  
 Fluoride (F) ..... 7,1 - 7,4 %  
 Methanol ..... ≤ 0,30 %  
 Water (K. F.) ..... ≤ 0,50 %

4.90220.1000	Plastic bottle	1 kg	inquire
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## Ionic Liquids - Anions

### Halides (Ionic Liquids)

## 490021 1-Butyl-2,3-dimethylimidazolium chloride for synthesis



C<sub>9</sub>H<sub>17</sub>ClN<sub>2</sub>

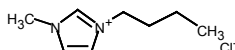
- CAS-No. 98892-75-2
- M = 188.7 g/mol ■ pH value 6 (H<sub>2</sub>O, 20 °C)

- Melting point 99 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

**Specification**  
 Purity (HPLC) ..... ≥ 98,0 %  
 Identity (NMR) ..... passes test  
 Water (K. F.) ..... ≤ 1,0 %

4.90021.0025	Glass bottle	25 g	inquire
4.90021.0100	Glass bottle	100 g	inquire
4.90021.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490079 1-Butyl-3-methylimidazolium chloride for synthesis



C<sub>8</sub>H<sub>15</sub>ClN<sub>2</sub>

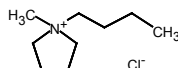
- CAS-No. 79917-90-1
- Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 174.68 g/mol ■ pH value 7.6 (H<sub>2</sub>O, 20 °C)
- Melting point 60 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352,

P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat > 50 - 300 mg/kg  
 ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2933 29 90 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1-BUTYL-3-METHYL-IMIDAZOLIUMCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-BUTYL-3-METHYL-IMIDAZOLIUM CHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-BUTYL-3-METHYL-IMIDAZOLIUM CHLORIDE), 6.1, III

**Specification**  
 Purity (HPLC) ..... ≥ 99,0 %  
 Identity (NMR) ..... passes test  
 Methylimidazole (HPLC, area%) ..... ≤ 0,2 %  
 Water (according to Karl Fischer) ..... ≤ 1,0 %

4.90079.0025	Glass bottle	25 g	inquire
4.90079.0100	Glass bottle	100 g	inquire
4.90079.0501	Glass bottle	500 g	inquire

## 490028 1-Butyl-1-methylpyrrolidinium chloride for synthesis



C<sub>9</sub>H<sub>20</sub>ClN

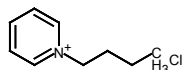
- CAS-No. 479500-35-1
- M = 177.72 g/mol ■ pH value 8 (H<sub>2</sub>O, 25 °C)

- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**  
 Purity (electrophoresis) ..... ≥ 98,0 %  
 Identity (NMR) ..... passes test  
 Water (K. F.) ..... ≤ 1,0 %

4.90028.0025	Glass bottle	25 g	inquire
4.90028.0100	Glass bottle	100 g	inquire
4.90028.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490042 N-Butylpyridinium chloride for synthesis



C<sub>9</sub>H<sub>14</sub>ClN

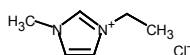
- CAS-No. 1124-64-7
- M = 171.67 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C)
- Melting point 127 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2933 39 99

**Specification**  
 Purity (HPLC) ..... ≥ 98,0 %  
 Identity (NMR) ..... passes test  
 Water (K. F.) ..... ≤ 1,0 %

4.90042.0025	Glass bottle	25 g	inquire
4.90042.0100	Glass bottle	100 g	inquire
4.90042.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490054 1-Ethyl-3-methylimidazolium chloride for synthesis** 



C<sub>6</sub>H<sub>11</sub>ClN<sub>2</sub>  
 ■ CAS-No. 65039-09-0  
 ■ M = 146.62 g/mol ■ Melting point 77 - 79 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity -

single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90 ■ Disposal 3  
**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test

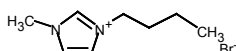
Water (K. F.) ..... ≤ 1.0 %

4.90054.0025	Glass bottle	25 g	inquire
4.90054.0100	Glass bottle	100 g	inquire
4.90054.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**Ionic Liquids - Anions**

**Halides (Ionic Liquids)**

**490087 1-Butyl-3-methylimidazolium bromide for synthesis**

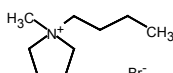


C<sub>8</sub>H<sub>15</sub>BrN<sub>2</sub>  
 ■ CAS-No. 85100-77-2  
 ■ M = 219.13 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point 76 °C

■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90  
**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Water (K. F.) ..... ≤ 1.0 %

4.90087.0025	Glass bottle	25 g	inquire
4.90087.0100	Glass bottle	100 g	inquire
4.90087.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490195 1-Butyl-1-methylpyrrolidinium bromide for synthesis**

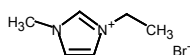


C<sub>9</sub>H<sub>20</sub>BrN  
 ■ CAS-No. 93457-69-3  
 ■ M = 222.17 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point 215 °C

■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80  
**Specification**  
 Purity (electrophoresis) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Water (K. F.) ..... ≤ 1.0 %

4.90195.0025	Glass bottle	25 g	inquire
4.90195.0100	Glass bottle	100 g	inquire
4.90195.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490038 1-Ethyl-3-methylimidazolium bromide for synthesis** 



C<sub>6</sub>H<sub>11</sub>BrN<sub>2</sub>  
 ■ CAS-No. 65039-08-9  
 ■ M = 191.07 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point 65 °C  
 ■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90 ■ Disposal 3  
**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test

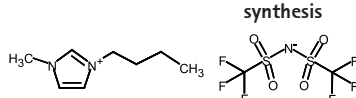
Water (K. F.) ..... ≤ 1.0 %

4.90038.0025	Glass bottle	25 g	inquire
4.90038.0100	Glass bottle	100 g	inquire
4.90038.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**Ionic Liquids - Anions**

**Imides (Ionic Liquids)**

**490092 1-Butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide for synthesis**



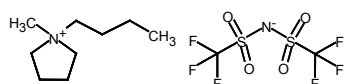
C<sub>10</sub>H<sub>15</sub>F<sub>6</sub>N<sub>3</sub>O<sub>4</sub>S<sub>2</sub>  
 C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> C<sub>2</sub>F<sub>6</sub>NO<sub>4</sub>S<sub>2</sub>  
 ■ CAS-No. 174899-83-3  
 ■ Spec. density 1.44 g/cm<sup>3</sup> ■ M = 419.37 g/mol

■ pH value 7 (H<sub>2</sub>O, 20 °C) Aqueous solution  
 ■ Melting point 2 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2935 00 90  
**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides ..... ≤ 0.1 %

Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90092.0025	Glass bottle	25 g	inquire
4.90092.0100	Glass bottle	100 g	inquire
4.90092.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490046 1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide for synthesis**



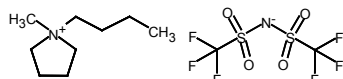
C<sub>11</sub>H<sub>20</sub>F<sub>6</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>  
 C<sub>9</sub>H<sub>20</sub>N C<sub>2</sub>F<sub>6</sub>NO<sub>4</sub>S<sub>2</sub>  
 ■ CAS-No. 223437-11-4  
 ■ Spec. density 1.40 g/cm<sup>3</sup> ■ M = 422.41 g/mol

■ pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -6 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2935 00 90  
**Specification**  
 Purity (electrophoresis) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90046.0025	Glass bottle	25 g	inquire
4.90046.0100	Glass bottle	100 g	inquire
4.90046.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

### 491046 1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide

high purity



- pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -6 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2935 00 90

**Specification**

Purity (electrophoresis) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

C<sub>11</sub>H<sub>20</sub>F<sub>6</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>

C<sub>9</sub>H<sub>20</sub>N C<sub>2</sub>F<sub>6</sub>NO<sub>4</sub>S<sub>2</sub>

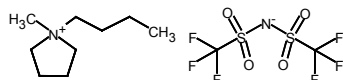
■ CAS-No. 223437-11-4

■ Spec. density 1.40 g/cm<sup>3</sup> ■ M = 422.41 g/mol

Ord.No.	Packaging	Quantity	Price
4.91046.0025	Glass bottle	25 g	inquire
4.91046.0100	Glass bottle	100 g	inquire
4.91046.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

### 492046 1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide

ultra pure



- pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point -6 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2935 00 90

**Specification**

Purity (electrophoresis) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 10 ppm  
 Water (K. F.) ..... ≤ 10 ppm

C<sub>11</sub>H<sub>20</sub>F<sub>6</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>

C<sub>9</sub>H<sub>20</sub>N C<sub>2</sub>F<sub>6</sub>NO<sub>4</sub>S<sub>2</sub>

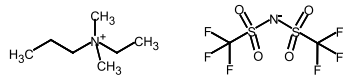
■ CAS-No. 223437-11-4

■ Spec. density 1.40 g/cm<sup>3</sup> ■ M = 422.41 g/mol

Ord.No.	Packaging	Quantity	Price
4.92046.0025	Glass bottle	25 g	inquire
4.92046.0100	Glass bottle	100 g	inquire
4.92046.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

### 490222 Ethyl-dimethyl-propylammonium bis(trifluoromethylsulfonyl)imide

for synthesis



- Melting point -11 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2935 00 90

**Specification**

Purity (electrophoresis) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

C<sub>9</sub>H<sub>18</sub>F<sub>6</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>

■ CAS-No. 258273-77-7

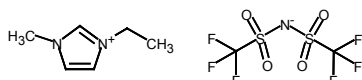
■ Spec. density 1.41 g/cm<sup>3</sup> ■ M = 396.37 g/mol

■ pH value (H<sub>2</sub>O) no data available

Ord.No.	Packaging	Quantity	Price
4.90222.0025	Glass bottle	25 g	inquire
4.90222.0100	Glass bottle	100 g	inquire
4.90222.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

### 490189 1-Ethyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide for synthesis

synthesis



- LD50 oral rat > 50 - 300 mg/kg
- LGK 6.1C
- HS-No. 2935 00 90
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1-ETHYL-3-METHYLIMIDAZOLIUM BIS(TRIFLUORMETHYLSULFONYL)IMID), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM BIS(TRIFLUOROMETHANESULFONYL)IMIDE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM BIS(TRIFLUOROMETHANESULFONYL)IMIDE), 6.1, III

**Specification**

Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

C<sub>8</sub>H<sub>11</sub>F<sub>6</sub>N<sub>3</sub>O<sub>4</sub>S<sub>2</sub>

■ CAS-No. 174899-82-2

■ Spec. density 1.52 g/cm<sup>3</sup> (20 °C)

■ M = 391.31 g/mol ■ pH value (H<sub>2</sub>O) no data available

■ Melting point -15 °C

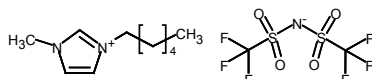
■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310

Ord.No.	Packaging	Quantity	Price
4.90189.0025	Glass bottle	25 g	inquire
4.90189.0100	Glass bottle	100 g	inquire
4.90189.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

### 490031 1-Hexyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide for synthesis

synthesis



- pH value 6 (H<sub>2</sub>O, 20 °C) ■ Melting point -9 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2935 00 90

**Specification**

Purity (HPLC) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.01 %  
 Water (K. F.) ..... ≤ 0.1 %

C<sub>12</sub>H<sub>19</sub>F<sub>6</sub>N<sub>3</sub>O<sub>4</sub>S<sub>2</sub>

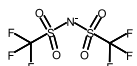
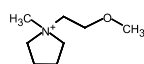
C<sub>10</sub>H<sub>19</sub>N<sub>2</sub> C<sub>2</sub>F<sub>6</sub>NO<sub>4</sub>S<sub>2</sub>

■ CAS-No. 382150-50-7

■ Spec. density 1.37 g/cm<sup>3</sup> ■ M = 447.42 g/mol

Ord.No.	Packaging	Quantity	Price
4.90031.0025	Glass bottle	25 g	inquire
4.90031.0100	Glass bottle	100 g	inquire
4.90031.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

### 490267 1-(2-Methoxyethyl)-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide for synthesis



- M = 424.38 g/mol ■ pH value 5 (H<sub>2</sub>O)
- WGK 3
- LGK 10 - 13
- HS-No. 2935 00 90 ■ Disposal 3

Halides (IC) ..... ≤ 0,1 %  
 Water (K. F.) ..... ≤ 1,0 %

**Specification**

Purity (face-percent) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test

C<sub>10</sub>H<sub>18</sub>F<sub>6</sub>N<sub>2</sub>O<sub>5</sub>S<sub>2</sub>

■ CAS-No. 757240-24-7

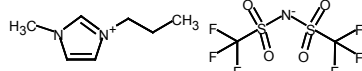
■ Spec. density 1.46 g/cm<sup>3</sup> (20 °C)

Ord.No.	Packaging	Quantity	Price
4.90267.0025	Glass bottle	25 g	inquire
4.90267.0100	Glass bottle	100 g	inquire

## 490228 3-Methyl-1-propylimidazolium bis(trifluoromethylsulfonyl)imide for



synthesis

C<sub>9</sub>H<sub>13</sub>F<sub>6</sub>N<sub>3</sub>O<sub>4</sub>S<sub>2</sub>

- CAS-No. 216299-72-8
- Spec. density 1.45 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ M = 405.34 g/mol
- pH value 5 - 6 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point < -20 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral,

H301; Serious eye damage, Category 1, H318;  
Chronic aquatic toxicity, Category 3, H412, P273,  
P280, P305 + P351 + P338, P309 + P310

- LGK 6.1C
- HS-No. 2935 00 90 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1-PROPYL-3-METHYL-IMIDAZOLIUM BIS(TRIFLUORMETHYLSULFONYL)IMID), 6.1, III
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1-PROPYL-3-METHYL-IMIDAZOLIUM BIS(TRIFLUORMETHYLSULFONYL)IMIDE), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1-PROPYL-3-METHYL-IMIDAZOLIUM

BIS(TRIFLUORMETHYLSULFONYL)IMIDE], 6.1, III

**Specification**

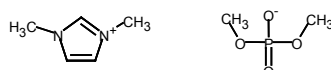
Purity (HPLC) ..... ≥ 98.0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0.1 %  
Water (according to Karl Fischer) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90228.0025	Glass bottle	25 ml	inquire
4.90228.0100	Glass bottle	100 ml	inquire
4.90228.0500	Glass bottle	500 ml	inquire
	Glass bottle	2 x 500 ml	inquire

## Ionic Liquids - Anions

## Phosphates (Ionic Liquids)

## 490293 1,3-Dimethylimidazolium dimethylphosphate for synthesis

C<sub>7</sub>H<sub>13</sub>N<sub>2</sub>O<sub>4</sub>P

- CAS-No. 654058-04-5
- Spec. density 1.27 g/cm<sup>3</sup> (20 °C)
- M = 222.18 g/mol ■ pH value 2.4 (H<sub>2</sub>O, 20 °C)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310

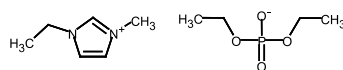
- LGK 8 A
- HS-No. 2933 29 90 ■ Disposal 3
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(1,3-DIMETHYLIMIDAZOLIUM DIMETHYLPHOSPHAT), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(1,3-DIMETHYLIMIDAZOLIUM DIMETHYLPHOSPHATE), 8, II
- IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(1,3-DIMETHYLIMIDAZOLIUM DIMETHYLPHOSPHATE), 8, II

**Specification**

Purity (HPLC) ..... ≥ 98.0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0.1 %  
Water (K. F.) ..... ≤ 1.0 %

4.90293.0025	Glass bottle	25 g	inquire
4.90293.0100	Glass bottle	100 g	inquire
4.90293.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490294 1-Ethyl-3-methylimidazolium diethylphosphate for synthesis

C<sub>10</sub>H<sub>21</sub>N<sub>2</sub>O<sub>4</sub>P

- CAS-No. 848641-69-0
- Spec. density 1.15 g/cm<sup>3</sup> ■ M = 264.26 g/mol
- pH value 5 - 7 (200 g/l, H<sub>2</sub>O, 20 °C)
- WGK 3

■ LGK 10 - 13

- HS-No. 2933 29 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

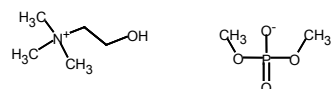
**Specification**

Purity (HPLC) ..... ≥ 98.0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0.1 %

Water (K. F.) ..... ≤ 1.0 %

4.90294.0025	Glass bottle	25 g	inquire
4.90294.0100	Glass bottle	100 g	inquire
4.90294.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## 490289 (2-Hydroxyethyl)trimethylammonium dimethylphosphate for synthesis

C<sub>7</sub>H<sub>20</sub>NO<sub>5</sub>P

- CAS-No. 118978-98-6
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 229.21 g/mol ■ Melting point 40 - 41 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310

- LGK 8A
- HS-No. 2923 10 00 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.((2-HYDROXYETHYL)AMMONIUM DIMETHYLPHOSPHAT), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.((2-HYDROXYETHYL)AMMONIUM DIMETHYLPHOSPHATE), 8, II
- IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.((2-HYDROXYETHYL)AMMONIUM DIMETHYLPHOSPHATE), 8, II

**Specification**

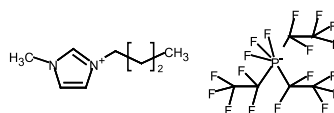
Identity (NMR) ..... passes test  
Assay (cations) ..... ≥ 98.0 %  
Halides (IC) ..... ≤ 0.1 %  
Water (K. F.) ..... ≤ 1.0 %

4.90289.0025	Glass bottle	25 g	inquire
4.90289.0100	Glass bottle	100 g	inquire
4.90289.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

## Ionic Liquids - Anions

## Phosphates (Ionic Liquids)

## 491232 1-Butyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate high purity

C<sub>14</sub>H<sub>15</sub>F<sub>18</sub>N<sub>2</sub>P

- CAS-No. 917762-91-5
- Spec. density 1.63 g/cm<sup>3</sup> (20 °C)

■ M = 584.23 g/mol ■ pH value 5 (H<sub>2</sub>O, 20 °C) Aqueous solution

- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

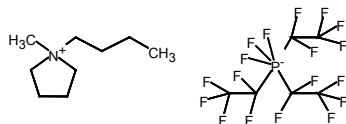
**Specification**

Purity (HPLC) ..... ≥ 99.0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 100 ppm

Water (K. F.) ..... ≤ 100 ppm

4.91232.0025	Glass bottle	25 g	inquire
4.91232.0100	Glass bottle	100 g	inquire
4.91232.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

### 491084 1-Butyl-1-methylpyrrolidinium tris(pentafluoroethyl)trifluorophosphate high purity



- pH value 5 (H<sub>2</sub>O, 20 °C) ■ Melting point 4 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80

#### Specification

Purity (electrophoresis) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

4.91084.0025	Glass bottle	25 g	inquire
4.91084.0100	Glass bottle	100 g	inquire
4.91084.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

C<sub>15</sub>H<sub>20</sub>F<sub>18</sub>NPC<sub>9</sub>H<sub>20</sub>N C<sub>6</sub>F<sub>18</sub>P■ Spec. density 1.59 g/cm<sup>3</sup> ■ M = 587.27 g/mol

### 491235 Ethyldimethyl-(2-methoxyethyl)ammonium tris(pentafluoroethyl)trifluorophosphate high purity



- WGK 3
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

#### Specification

Purity (electrophoresis) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

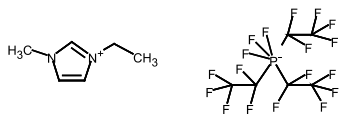
4.91235.0025	Glass bottle	25 g	inquire
4.91235.0100	Glass bottle	100 g	inquire
4.91235.0500	Glass bottle	500 g	inquire

C<sub>13</sub>H<sub>18</sub>F<sub>18</sub>NOP

■ CAS-No. 1195983-49-3

■ M = 577.23 g/mol

### 490001 1-Ethyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate for synthesis



- + P310
- LGK 8 A
- HS-No. 2933 29 90
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(1-ETHYL-3-METHYLIMIDAZOLIUM TRIS(PENTAFLUORETHYL)TRIFLUOROPHOSPHAT), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHATE), 8, II
- IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHATE), 8, II

#### Specification

Purity (HPLC, area%) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

4.90001.0025	Glass bottle	25 g	inquire
4.90001.0100	Glass bottle	100 g	inquire
4.90001.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

C<sub>12</sub>H<sub>11</sub>F<sub>18</sub>N<sub>2</sub>P

■ CAS-No. 377739-43-0

■ Spec. density 1.71 g/cm<sup>3</sup> (20 °C)■ M = 556.17 g/mol ■ pH value (H<sub>2</sub>O) no data available

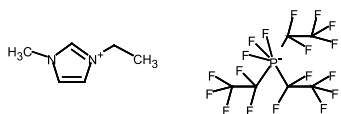
■ Melting point -1 °C

■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314,

P301 + P330 + P331, P305 + P351 + P338, P309

### 491001 1-Ethyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate high purity



- + P310
- LGK 8 A
- HS-No. 2933 29 90
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(1-ETHYL-3-METHYLIMIDAZOLIUM TRIS(PENTAFLUORETHYL)TRIFLUOROPHOSPHAT), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHATE), 8, II
- IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(1-ETHYL-3-METHYLIMIDAZOLIUM TRIS(PENTAFLUOROETHYL)TRIFLUOROPHOSPHATE), 8, II

#### Specification

Identity (NMR) ..... passes test  
 Purity (HPLC, area%) ..... ≥ 99.0 %  
 Halides ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

4.91001.0025	Glass bottle	25 g	inquire
4.91001.0100	Glass bottle	100 g	inquire
4.91001.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

C<sub>12</sub>H<sub>11</sub>F<sub>18</sub>N<sub>2</sub>P

■ CAS-No. 377739-43-0

■ Spec. density 1.71 g/cm<sup>3</sup> (20 °C)■ M = 556.17 g/mol ■ pH value (H<sub>2</sub>O) no data available

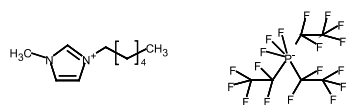
■ Melting point -1 °C

■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314,

P301 + P330 + P331, P305 + P351 + P338, P309

### 491078 1-Hexyl-3-methylimidazolium tris(pentafluoroethyl)trifluorophosphate high purity



- Kin. viscosity 74.30 mm<sup>2</sup>/s (20 °C)
- M = 612.29 g/mol ■ pH value 6 (H<sub>2</sub>O, 20 °C)
- Melting point -14 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

#### Specification

Purity (HPLC) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

4.91078.0025	Glass bottle	25 g	inquire
4.91078.0100	Glass bottle	100 g	inquire
4.91078.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

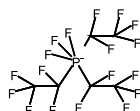
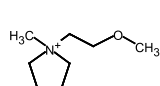
C<sub>16</sub>H<sub>19</sub>F<sub>18</sub>N<sub>2</sub>P

■ CAS-No. 713512-19-7

■ Spec. density 1.56 g/cm<sup>3</sup> (20 °C)



**491233 1-(2-Methoxyethyl)-1-methylpyrrolidinium tris(pentafluoroethyl)trifluorophosphate high purity**



C<sub>14</sub>H<sub>18</sub>F<sub>18</sub>NOP

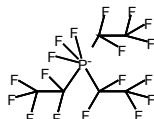
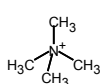
- CAS-No. 1195983-48-2
- M = 589.24 g/mol ■ pH value 5 (H<sub>2</sub>O)
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 100 ppm  
Water (K. F.) ..... ≤ 100 ppm

**Specification**  
Purity (electrophoresis) ..... ≥ 99.0 %

4.91233.0025	Glass bottle	25 g	inquire
4.91233.0100	Glass bottle	100 g	inquire

**490025 Tetramethylammonium tris(pentafluoroethyl)trifluorophosphate for synthesis**



C<sub>10</sub>H<sub>12</sub>F<sub>18</sub>NP  
(CH<sub>3</sub>)<sub>4</sub>N((C<sub>2</sub>F<sub>5</sub>)<sub>3</sub>PF<sub>3</sub>)

■ CAS-No. 394692-83-2

- M = 519.15 g/mol ■ pH value 6 (0.01 g/ml, H<sub>2</sub>O, 25 °C) ■ Melting point 115 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2931 90 90

Water (K. F.) ..... ≤ 0.1 %

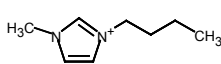
**Specification**  
Purity (electrophoresis) ..... ≥ 98.0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0.1 %

4.90025.0025	Glass bottle	25 g	inquire
4.90025.0100	Glass bottle	100 g	inquire
4.90025.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**Ionic Liquids - Anions**

**Phosphates (Ionic Liquids)**

**490050 1-Butyl-3-methylimidazolium hexafluorophosphate for synthesis**



C<sub>8</sub>H<sub>15</sub>F<sub>6</sub>N<sub>2</sub>P  
C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> F<sub>6</sub>P

- CAS-No. 174501-64-5
- Spec. density 1.38 g/cm<sup>3</sup> (20 °C)
- M = 284.18 g/mol ■ pH value 5 (H<sub>2</sub>O, 20 °C)
- Melting point 12 °C

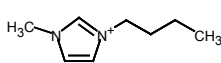
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P338, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 29 90

Water (K. F.) ..... ≤ 1,0 %

**Specification**  
Purity (HPLC) ..... ≥ 98,0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0,1 %

4.90050.0025	Glass bottle	25 g	inquire
4.90050.0100	Glass bottle	100 g	inquire
4.90050.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**491050 1-Butyl-3-methylimidazolium hexafluorophosphate high purity**



C<sub>8</sub>H<sub>15</sub>F<sub>6</sub>N<sub>2</sub>P  
C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> F<sub>6</sub>P

- CAS-No. 174501-64-5
- Spec. density 1.38 g/cm<sup>3</sup> (20 °C)
- M = 284.18 g/mol ■ pH value 5 (H<sub>2</sub>O, 20 °C)
- Melting point 12 °C

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 29 90

Water (K. F.) ..... ≤ 100 ppm

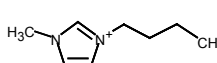
**Specification**  
Purity (HPLC) ..... ≥ 99,0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 100 ppm

4.91050.0025	Glass bottle	25 g	inquire
4.91050.0100	Glass bottle	100 g	inquire
4.91050.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**Ionic Liquids - Anions**

**Sulfates (Ionic Liquids)**

**490230 1-Butyl-3-methylimidazolium hydrogensulfate for synthesis**



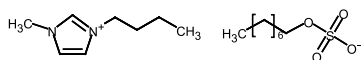
C<sub>8</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>S

- CAS-No. 262297-13-2
- Flash point 284 °C ■ M = 236.29 g/mol
- pH value 2 (H<sub>2</sub>O, 20 °C) ■ Melting point 38 °C
- Ignition temp. 440 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8B
- HS-No. 2933 29 90
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(1-BUTYL-3-METHYLIMIDAZOLIUM HYDROGENSULFAT), 8, III
- IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1-BUTYL-3-METHYLIMIDAZOLIUM HYDROGENSULFATE), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(1-BUTYL-3-METHYLIMIDAZOLIUM HYDROGENSULFATE), 8, III

**Specification**  
Purity (HPLC) ..... ≥ 98.0 %  
Identity (NMR) ..... passes test  
Halides (IC) ..... ≤ 0.1 %  
Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90230.0025	Glass bottle	25 g	inquire
4.90230.0100	Glass bottle	100 g	inquire
4.90230.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490177 1-Butyl-3-methylimidazolium octylsulfate** for synthesis C<sub>16</sub>H<sub>32</sub>N<sub>2</sub>O<sub>4</sub>S

- CAS-No. 445473-58-5
- Spec. density 1.07 g/cm<sup>3</sup> ■ M = 348.5 g/mol
- pH value 2 - 3 (H<sub>2</sub>O, 20 °C)
- Melting point 32 °C

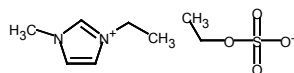
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 29 90

**Specification**

- Purity (HPLC) ..... ≥ 98.0 %
- Identity (NMR) ..... passes test

- Halides (IC) ..... ≤ 0.1 %
- Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90177.0025	Glass bottle	25 g	inquire
4.90177.0100	Glass bottle	100 g	inquire
4.90177.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490229 1-Ethyl-3-methylimidazolium ethylsulfate** for synthesisC<sub>8</sub>H<sub>16</sub>N<sub>2</sub>O<sub>4</sub>S

- CAS-No. 342573-75-5
- Vapour pressure 7.1 Pa (20 °C)
- Spec. density 1.239 g/cm<sup>3</sup> (20 °C)
- Flash point 154.5 °C ■ Kin. viscosity 98.7 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O ≥ 1000 g/l (20 °C)

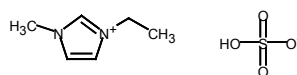
- M = 236.29 g/mol ■ pH value 8.3 (1000 g/l, H<sub>2</sub>O, 20 °C) ■ Ignition temp. 410 °C
- WGK 1
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2933 29 90

**Specification**

- Purity (HPLC) ..... ≥ 99.0 %
- Identity (NMR) ..... passes test

- Diethylsulfate (HPLC) ..... ≤ 0.1 %
- Halides (IC) ..... ≤ 0.01 %
- Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90229.0025	Glass bottle	25 g	inquire
4.90229.0100	Glass bottle	100 g	inquire
4.90229.0500	Glass bottle	500 g	inquire

**490223 1-Ethyl-3-methylimidazolium hydrogensulfate** for synthesisC<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>S

- CAS-No. 412009-61-1
- Spec. density 1.38 g/cm<sup>3</sup> ■ M = 208.24 g/mol
- pH value (H<sub>2</sub>O) no data available

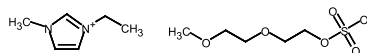
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

**Specification**

- Purity (HPLC) ..... ≥ 98.0 %
- Identity (NMR) ..... passes test
- Diethylsulfate ..... ≤ 0.1 %
- Halides (IC) ..... ≤ 0.1 %

- Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90223.0025	Glass bottle	25 g	inquire
4.90223.0100	Glass bottle	100 g	inquire
4.90223.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490290 1-Ethyl-3-methylimidazolium 2-(2-methoxyethoxy)ethylsulfate** for synthesisC<sub>11</sub>H<sub>22</sub>N<sub>2</sub>O<sub>6</sub>S

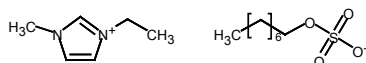
- CAS-No. 790663-77-3
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C)
- M = 310.37 g/mol

- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

**Specification**

- Purity (HPLC) ..... ≥ 98.0 %
- Identity (NMR) ..... passes test
- Halides (IC) ..... ≤ 0.1 %
- Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90290.0025	Glass bottle	25 g	inquire
4.90290.0100	Glass bottle	100 g	inquire
4.90290.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490205 1-Ethyl-3-methylimidazolium octylsulfate** for synthesis C<sub>14</sub>H<sub>28</sub>N<sub>2</sub>O<sub>4</sub>S

- Spec. density 1.095 g/cm<sup>3</sup> (20 °C)
- M = 320.45 g/mol ■ pH value 2.9 (H<sub>2</sub>O)
- Melting point -9 °C
- WGK 3

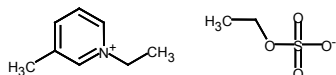
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 29 90

**Specification**

- Purity (HPLC) ..... ≥ 98.0 %
- Identity (NMR) ..... passes test
- Halides (IC) ..... ≤ 0.1 %

- Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90205.0025	Glass bottle	25 g	inquire
4.90205.0100	Glass bottle	100 g	inquire
4.90205.0500	Glass bottle	500 g	inquire

**490298 1-Ethyl-3-methylpyridinium ethylsulfate** for synthesis C<sub>10</sub>H<sub>17</sub>N<sub>0</sub>4S

- CAS-No. 872672-50-9
- Spec. density 1.22 g/cm<sup>3</sup> ■ M = 247.31 g/mol
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B

- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(1-ETHYL-3-METHYLPYRIDINIUM ETHYLSULFAT), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(1-ETHYL-3-METHYLPYRIDINIUM ETHYLSULFATE), 8, II
- IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(1-ETHYL-3-METHYLPYRIDINIUM ETHYLSULFATE), 8, II

**Specification**

- Purity (HPLC) ..... ≥ 98.0 %
- Identity (NMR) ..... passes test

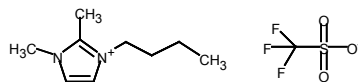
- Halides (IC) ..... ≤ 0.1 %
- Diethylsulfate ..... ≤ 0.1 %
- Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90298.0025	Glass bottle	25 g	inquire
4.90298.0100	Glass bottle	100 g	inquire
4.90298.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

Ionic Liquids – Anions

Sulfonates (Ionic Liquids)

**490115 1-Butyl-2,3-dimethylimidazolium trifluoromethanesulfonate for synthesis**



C<sub>10</sub>H<sub>17</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>S

■ M = 302.32 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point 41 °C

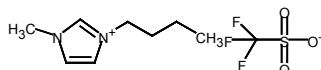
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90

**Specification**

Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 1.0 %  
 Water (K. F.) ..... ≤ 1.0 %

4.90115.0025	Glass bottle	25 g	inquire
4.90115.0100	Glass bottle	100 g	inquire
4.90115.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490024 1-Butyl-3-methylimidazolium trifluoromethanesulfonate for synthesis**



C<sub>9</sub>H<sub>15</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>S

C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> CF<sub>3</sub>O<sub>3</sub>S

■ CAS-No. 174899-66-2

■ Spec. density 1.30 g/cm<sup>3</sup> ■ M = 288.29 g/mol

■ pH value 7 - 8 (200 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 17 °C

■ WGK 3

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 29 90
- ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good
- IATA-DGR No Dangerous Good

■ HS-No. 2933 29 90

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

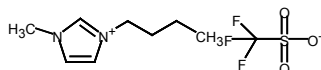
**Specification**

Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

4.90024.0025	Glass bottle	25 g	inquire
4.90024.0100	Glass bottle	100 g	inquire
4.90024.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**491024 1-Butyl-3-methylimidazolium trifluoromethanesulfonate high purity**



C<sub>9</sub>H<sub>15</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>S

C<sub>8</sub>H<sub>15</sub>N<sub>2</sub> CF<sub>3</sub>O<sub>3</sub>S

■ CAS-No. 174899-66-2

■ Spec. density 1.30 g/cm<sup>3</sup> ■ M = 288.29 g/mol

■ pH value 7 - 8 (200 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 17 °C

■ WGK 3

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 29 90
- ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good
- IATA-DGR No Dangerous Good

■ HS-No. 2933 29 90

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

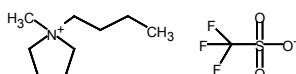
**Specification**

Purity (HPLC) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test

Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

4.91024.0025	Glass bottle	25 g	inquire
4.91024.0100	Glass bottle	100 g	inquire
4.91024.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490029 1-Butyl-1-methylpyrrolidinium trifluoromethanesulfonate for synthesis**



C<sub>10</sub>H<sub>20</sub>F<sub>3</sub>NO<sub>3</sub>S

C<sub>9</sub>H<sub>20</sub>N CF<sub>3</sub>O<sub>3</sub>S

■ CAS-No. 367522-96-1

■ Spec. density 1.25 g/cm<sup>3</sup> (20 °C)

■ M = 291.34 g/mol ■ pH value 6 (H<sub>2</sub>O, 25 °C)

■ Melting point 3 °C

■ WGK 3

■ LGK 10 - 13

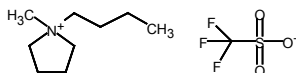
■ HS-No. 2933 99 80

**Specification**

Purity (electrophoresis) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

4.90029.0025	Glass bottle	25 g	inquire
4.90029.0100	Glass bottle	100 g	inquire
4.90029.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**491029 1-Butyl-1-methylpyrrolidinium trifluoromethanesulfonate high purity**



C<sub>10</sub>H<sub>20</sub>F<sub>3</sub>NO<sub>3</sub>S

C<sub>9</sub>H<sub>20</sub>N CF<sub>3</sub>O<sub>3</sub>S

■ CAS-No. 367522-96-1

■ Spec. density 1.25 g/cm<sup>3</sup> (20 °C)

■ M = 291.34 g/mol ■ pH value 6 (H<sub>2</sub>O, 25 °C)

■ Melting point 3 °C

■ WGK 3

■ LGK 10 - 13

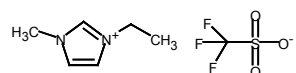
■ HS-No. 2933 99 80

**Specification**

Purity (electrophoresis) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm  
 Water (K. F.) ..... ≤ 100 ppm

4.91029.0025	Glass bottle	25 g	inquire
4.91029.0100	Glass bottle	100 g	inquire
4.91029.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**490061 1-Ethyl-3-methylimidazolium trifluoromethanesulfonate for synthesis**



C<sub>7</sub>H<sub>11</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>S

C<sub>6</sub>H<sub>11</sub>N<sub>2</sub> CF<sub>3</sub>O<sub>3</sub>S

■ CAS-No. 145022-44-2

■ Spec. density 1.386 g/cm<sup>3</sup> (20 °C)

■ M = 260.24 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point -12 °C

■ WGK 3

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 29 90

■ HS-No. 2933 29 90

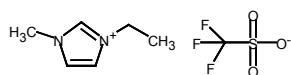
**Specification**

Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %

Water (K. F.) ..... ≤ 1.0 %

4.90061.0025	Glass bottle	25 g	inquire
4.90061.0100	Glass bottle	100 g	inquire
4.90061.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**491061 1-Ethyl-3-methylimidazolium trifluoromethanesulfonate high purity** 



C<sub>7</sub>H<sub>11</sub>F<sub>3</sub>N<sub>2</sub>O<sub>3</sub>S  
 C<sub>6</sub>H<sub>11</sub>N<sub>2</sub> CF<sub>3</sub>O<sub>3</sub>S  
 ■ CAS-No. 145022-44-2  
 ■ Spec. density 1.386 g/cm<sup>3</sup> (20 °C)  
 ■ M = 260.24 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point -12 °C

■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90  
**Specification**  
 Purity (HPLC) ..... ≥ 99.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 100 ppm

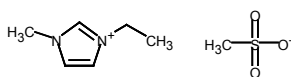
Water (K. F.) ..... ≤ 200 ppm

4.91061.0025	Glass bottle	25 g	inquire
4.91061.0100	Glass bottle	100 g	inquire
4.91061.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**Ionic Liquids - Anions**

**Sulfonates (Ionic Liquids)**

**490286 1-Ethyl-3-methylimidazolium methanesulfonate for synthesis**



C<sub>7</sub>H<sub>14</sub>N<sub>2</sub>O<sub>3</sub>S  
 ■ CAS-No. 145022-45-3  
 ■ Spec. density 1.23 g/cm<sup>3</sup> ■ M = 206.27 g/mol  
 ■ Melting point 35 °C

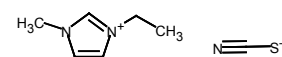
■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90 ■ Disposal 3  
**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

4.90286.0025	Glass bottle	25 g	inquire
4.90286.0100	Glass bottle	100 g	inquire
4.90286.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**Ionic Liquids - Anions**

**Thiocyanates (Ionic Liquids)**

**490201 1-Ethyl-3-methylimidazolium thiocyanate for synthesis**



C<sub>7</sub>H<sub>11</sub>N<sub>3</sub>S  
 ■ CAS-No. 331717-63-6  
 ■ Spec. density 1.11 g/cm<sup>3</sup> ■ M = 169.25 g/mol  
 ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point < -50 °C

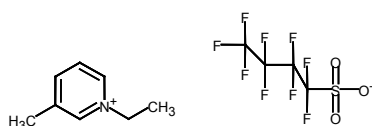
■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90  
**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %  
 Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90201.0025	Glass bottle	25 g	inquire
4.90201.0100	Glass bottle	100 g	inquire
4.90201.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**Ionic Liquids - Anions**

**Nonaflates (Ionic Liquids)**

**490295 1-Ethyl-3-methylpyridinium perfluorobutanesulfonate for synthesis** 



C<sub>12</sub>H<sub>21</sub>F<sub>9</sub>NO<sub>3</sub>S  
 ■ CAS-No. 1015420-87-7  
 ■ Spec. density 1.52 g/cm<sup>3</sup> (20 °C)  
 ■ M = 421.28 g/mol ■ Melting point -6 °C

■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
**Specification**  
 Purity (HPLC) ..... ≥ 98.0 %

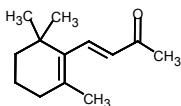
Identity (NMR) ..... passes test  
 Halides (IC) ..... ≤ 0.1 %  
 Water (K. F.) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
4.90295.0025	Glass bottle	25 g	inquire
4.90295.0100	Glass bottle	100 g	inquire
4.90295.0500	Glass bottle	500 g	inquire
	Glass bottle	2 x 500 g	inquire

**Ionic Liquids (Solvents)**

Page	Cat.No.	Designation	Page	Cat.No.	Designation
1018	490015	1-Butyl-3-methylimidazolium dicyanamide	552	490046	1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl) imide
551	490050	1-Butyl-3-methylimidazolium hexafluorophosphate	1026	490044	1-Butyl-1-methylpyrrolidinium dicyanamide
551	490049	1-Butyl-3-methylimidazolium tetrafluoroborate	552	490029	1-Butyl-1-methylpyrrolidinium trifluoromethanesulfonate
551	490024	1-Butyl-3-methylimidazolium trifluoromethanesulfonate	1017	490222	Ethyl-dimethyl-propylammonium bis(trifluoromethylsulfonyl) imide
			1021	490229	1-Ethyl-3-methylimidazolium ethylsulfate
			1022	490201	1-Ethyl-3-methylimidazolium thiocyanate
			875	490061	1-Ethyl-3-methylimidazolium trifluoromethanesulfonate
			1023	490031	1-Hexyl-3-methylimidazolium bis(trifluoromethylsulfonyl) imide

Ionol → 2,6-Di-tert-butyl-4-methylphenol page 709

818619  $\beta$ -Ionone for synthesisC<sub>13</sub>H<sub>20</sub>O

- CAS-No. 79-77-6 ■ EC-No. 201-224-3
- Refractive index 1.5192 (20 °C, 589 nm)

- Spec. density 0.94 g/cm<sup>3</sup> (20 °C)
- Flash point 122 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 192.3 g/mol
- Melting point -49 °C
- Boiling point 127 - 128 °C (13 hPa)
- Ignition temp. 250 °C
- WGK 2
- LD50 oral rat 2920 mg/kg
- LGK 10

- HS-No. 2914 23 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.944 - 0.952  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18619.0100	Glass bottle	100 ml	inquire

## 804778 Ionone for synthesis

C<sub>13</sub>H<sub>20</sub>O

- CAS-No. 8013-90-9 ■ EC-No. 232-396-8
- Refractive index 1.5 (20 °C, 589 nm) ■ Vapour pressure 0.0013 hPa (20 °C)
- Spec. density 0.93 g/cm<sup>3</sup> (20 °C)
- Flash point 117 °C ■ Solub. in H<sub>2</sub>O 110 mg/l (20 °C) ■ M = 192.3 g/mol ■ Boiling point 237 °C

(1013 hPa)

- WGK 2
- LD50 oral rat 4590 mg/kg
- LGK 10
- HS-No. 2914 23 00 ■ Disposal 1

## Specification

Assay (GC, area%) ..... ≥ 90.0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,929 - 0,935  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04778.0050	Glass bottle	50 ml	inquire

## Ion pair reagents LiChropur®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
5	118303	Butane-1-sulfonic acid sodium salt	5	118306	Heptane-1-sulfonic acid sodium salt	5	119754	di-Potassium hydrogen phosphate trihydrate
5	118313	Cetyl trimethylammonium hydrogen sulfate	5	118305	Hexane-1-sulfonic acid sodium salt	5	119753	di-Sodium hydrogen phosphate dihydrate
5	118308	Dodecane-1-sulfonic acid sodium salt	5	118307	Octane-1-sulfonic acid sodium salt	5	118312	Tetra-n-butylammonium hydrogen sulfate
5	118309	Dodecyl hydrogen sulfate sodium salt	5	118304	Pentane-1-sulfonic acid sodium salt	5	118310	Tetramethylammonium hydrogen sulfate

Ion standards → Standards

## 807633 Iridium(III)chloride hydrate for synthesis

Cl<sub>3</sub>Ir·xH<sub>2</sub>OIrCl<sub>3</sub> · x H<sub>2</sub>O

Iridium trichloride

- CAS-No. 14996-61-3 ■ EC-No. 233-044-6
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 2 (H<sub>2</sub>O, 20 °C) Aqueous solution
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 8B

- HS-No. 2843 90 90 ■ Disposal 14
- ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(IRIDIUM(III)-CHLORID), 8, III ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(IRIDIUM(III)-CHLORIDE), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(IRIDIUM(III)-CHLORIDE), 8, III

## Specification

Assay (argentometric, calc. on anhydrous substance) ..... ≥ 98.0 %  
Loss on drying ..... ≤ 10.0 %  
Identity (elemental analysis) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.07633.0001	Glass bottle	1 g	inquire
8.07633.0005	Glass bottle	5 g	inquire

Iridium, determination → Sodium diethyldithiocarbamate trihydrate page 1432

## 103819 Iron for analysis reduced, particle size 10 µm EMSURE®

Fe

- CAS-No. 7439-89-6 ■ EC-No. 231-096-4
- Spec. density 7.87 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 55.85 g/mol
- pH value 7 - 9 (H<sub>2</sub>O) ■ Melting point 1535 °C
- Bulk density 3000 - 4000 kg/m<sup>3</sup>
- Boiling point 3000 °C (1013 hPa)
- Ignition temp. >100 °C
- WGK nwg
- GHS: Warning, Flammable solid, Category 2, H228, P370 + P378
- LD50 oral rat 30000 mg/kg
- LGK 4.1B

- HS-No. 7205 29 00 ■ Disposal 27
- ADR-RID UN 3089 Entzündbares Metallpulver, n.a.g., 4.1, III ■ IMDG-Code UN 3089 METAL POWDER, FLAMMABLE, N.O.S., 4.1, III, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 15 (Powdered metals)
- IATA-DGR UN 3089 METAL POWDER, FLAMMABLE, N.O.S., 4.1, III

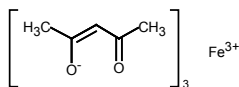
## Specification

Assay (cerimetric) ..... ≥ 99.5 %  
Substances insoluble in sulfuric acid ..... ≤ 0.1 %

Chloride (Cl) ..... ≤ 0.002 %  
Sulphide (S) ..... ≤ 0.002 %  
As (Arsenic) ..... ≤ 0.0002 %  
Pb (Lead) ..... ≤ 0.002 %  
Cu (Copper) ..... ≤ 0.002 %  
Mn (Manganese) ..... ≤ 0.002 %  
Zn (Zinc) ..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.03819.0100	Plastic bottle	100 g	inquire
1.03819.0500	Plastic bottle	500 g	inquire

## 803912 Iron(III) acetylacetonate for synthesis

C<sub>15</sub>H<sub>21</sub>FeO<sub>6</sub>

Tris(acetylacetonato)iron(III), Tris(2,4-pentanedionato)iron(III)

- CAS-No. 14024-18-1 ■ EC-No. 237-853-5
- Vapour pressure 2.6 hPa (110 °C)

- Spec. density 0.8 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 1.7 g/l (20 °C) ■ M = 353.17 g/mol
- Melting point 180 - 183 °C
- Bulk density 500 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338
- LD50 oral rat 1872 mg/kg
- LGK 10 - 13

- HS-No. 2914 19 90 ■ Disposal 14

## Specification

Assay (ex Fe) ..... ≥ 99.0 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03912.0250	Glass bottle	250 g	inquire

Iron Cell Test → page 67



# Ironch

## Iron(III) chloride

Cl<sub>3</sub>Fe  
FeCl<sub>3</sub>  
*Ferric chloride, Iron trichloride*  
■ CAS-No. 7705-08-0 ■ EC-No. 231-729-4  
■ Vapour pressure 1 hPa (20 °C)  
■ Spec. density 2.9 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 920 g/l (20 °C) Hydrolysis ■ M = 162.20 g/mol ■ pH value 1 (200 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 306 °C (decomposition)  
■ Bulk density 1000 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338, P313

■ LD50 oral rat 316 mg/kg  
■ LGK 8B  
■ HS-No. 2827 39 20 ■ Disposal 14  
■ ADR-RID UN 1773 Eisenchlorid, wasserfrei, 8, III  
■ IMDG-Code UN 1773 FERRIC CHLORIDE, ANHYDROUS, 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1773 FERRIC CHLORIDE, ANHYDROUS, 8, III



### 803945 Iron(III) chloride anhydrous for synthesis

#### Specification

Assay (iodometric) ..... ≥ 98,0 %(m)  
Identity (Fe).....conforms  
Identity (Cl).....conforms

Ord.No.	Packaging	Quantity	Price
8.03945.0500	Glass bottle	500 g	inquire
	Glass bottle	6 x 500 g	inquire
8.03945.1000	Glass bottle	1 kg	inquire
	Glass bottle	6 x 1 kg	inquire
8.03945.9060	Steel drum	60 kg	inquire

### 845124 Iron(III) chloride (anhydrous) for pharma synthesis, non-GMP

#### Specification

Colour (visual).....dark green to black  
Assay (iodometric) ..... ≥ 98,0 %  
As (Arsenic).....lot specific result  
Cr (Chromium).....lot specific result

Cu (Copper).....lot specific result  
Mn (Manganese).....lot specific result  
Ni (Nickel).....lot specific result  
Pb (Lead).....lot specific result  
Zn (Zinc).....lot specific result

Ord.No.	Packaging	Quantity	Price
8.45124.0500	Glass bottle	500 g	inquire
8.45124.1000	Glass bottle	1 kg	inquire

### 103943 Iron(III) chloride hexahydrate for analysis EMSURE® ACS,Reag. Ph Eur

Cl<sub>3</sub>Fe \* 6 H<sub>2</sub>O  
FeCl<sub>3</sub> \* 6 H<sub>2</sub>O  
*Ferric chloride hexahydrate, Iron trichloride*  
■ CAS-No. 10025-77-1 ■ EC-No. 231-729-4  
■ Solub. in H<sub>2</sub>O 920 g/l (20 °C) ■ M = 270.33 g/mol ■ pH value 1.8 (10 g/l, H<sub>2</sub>O, 25 °C)  
■ Melting point 37 °C  
■ Bulk density 600 - 1200 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313  
■ LD50 oral rat 316 mg/kg  
■ LGK 10 - 13 ■ Store at +15°C to +25°C.

■ HS-No. 2827 39 20 ■ Disposal 14  
**Specification**  
Assay (iodometric, FeCl<sub>3</sub>·6H<sub>2</sub>O).....99.0 - 102.0 %  
Identity.....passes test  
Insoluble matter.....≤ 0.01 %  
Free chlorine.....passes test  
Acidic substances.....passes test  
Nitrate (NO<sub>3</sub>).....≤ 0.01 %  
Sulphate (SO<sub>4</sub>).....≤ 0.01 %  
Total nitrogen (N).....≤ 0.001 %  
Total phosphorus (as PO<sub>4</sub>).....≤ 0.01 %  
Heavy metals (as Pb).....≤ 0.005 %  
Ca (Calcium).....≤ 0.01 %  
Cu (Copper).....≤ 0.003 %

Fe II (Iron II)\*.....≤ 0.002 %  
K (Potassium).....≤ 0.005 %  
Mg (Magnesium).....≤ 0.005 %  
Na (Sodium).....≤ 0.05 %  
Zn (Zinc).....≤ 0.003 %  
\* The Fe(II)-content increases if the recommended storage conditions (+15 to +25 °C) are not observed.

Ord.No.	Packaging	Quantity	Price
1.03943.0250	Plastic bottle	250 g	inquire
1.03943.1000	Plastic bottle	1 kg	inquire
1.03943.9025	Plastic drum	25 kg	inquire

### 105512 Iron(III) chloride solution (10% Fe) for analysis EMSURE®

■ Spec. density 1.29 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313  
■ LGK 8 B  
■ HS-No. 2827 39 20 ■ Disposal 14

■ ADR-RID UN 2582 Eisen(III)chlorid, Lösung, 8, III  
■ IMDG-Code UN 2582 FERRIC CHLORIDE SOLUTION, 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2582 FERRIC CHLORIDE SOLUTION, 8, III  
**Specification**  
Assay (complexometric) ..... 10.0 - 10.3 %  
Free acid (as HCl) ..... ≤ 0.5 %

As (Arsenic).....≤ 0.0005 %  
Phosphate (PO<sub>4</sub>).....≤ 0.005 %  
Total nitrogen (N).....≤ 0.005 %  
Heavy metals as Pb (as lead).....≤ 0.005 %  
Fe II (Iron II).....≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.05512.0250	Plastic bottle	250 ml	inquire

### 103861 Iron(II) chloride tetrahydrate for analysis EMSURE®

Cl<sub>2</sub>Fe \* 4 H<sub>2</sub>O  
FeCl<sub>2</sub> \* 4 H<sub>2</sub>O  
*Iron dichloride*  
■ CAS-No. 13478-10-9 ■ EC-No. 231-843-4  
■ Spec. density 1.93 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 1600 g/l (10 °C) ■ M = 198.83 g/mol  
■ pH value 2.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 105 - 110 °C Elimination of water of crystallisation ■ Bulk density 900 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious

eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338  
■ LD50 oral rat 450 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2827 39 20 ■ Disposal 14  
**Specification**  
Assay (manganometric).....≥ 99.0 %  
Sulphate (SO<sub>4</sub>).....≤ 0.01 %  
Total nitrogen (N).....≤ 0.001 %  
As (Arsenic).....≤ 0.0005 %  
Cu (Copper).....≤ 0.002 %

Fe(III)-Salt (FeIII).....≤ 0.2 %  
Mn (Manganese).....≤ 0.005 %  
Pb (Lead).....≤ 0.001 %  
Zn (Zinc).....≤ 0.003 %  
Substances not precipitated by ammonia (as sulphates).....≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.03861.0250	Plastic bottle	250 g	inquire
1.03861.1000	Plastic bottle	1 kg	inquire
1.03861.9050	Plastic drum	50 kg	inquire

## Iron, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
434	124513	Bathophenanthroline	791	103061	Dimethylglyoxime disodium salt octahydrate	1551	100700	Thioglycolic acid
462	103098	2,2'-Bipyridine				1615	110238	2,4,6-Tri(2-pyridyl)-1,3,5-triazine
663	105227	Cupferron	893	111613	Ferrospectral®			
791	103062	Dimethylglyoxime	995	107098	8-Hydroxyquinoline			
			1287	107223	1,10-Phenanthroline chloride monohydrate			

Iron dicyclopentadienyl → Ferrocene page 892

## 102402 Iron(II) ethylenediammonium sulfate Volumetric standard, secondary reference material for redox titration, traceable to NIST Standard Reference Material (SRM) Certipur®

$C_2H_{10}N_2O_4S \cdot FeSO_4 \cdot 4H_2O$   
 $(C_2H_5NH_3)_2SO_4 \cdot FeSO_4 \cdot 4H_2O$   
 ■ CAS-No. 113193-60-5 ■ EC-No. 264-357-6  
 ■ Solub. in  $H_2O$  170 g/l (25 °C) ■ M = 382.15 g/mol  
 ■ pH value 4.0 (100 g/l,  $H_2O$ , 25 °C)

■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 29 00 ■ Disposal 14

Ord.No.	Packaging	Quantity	Price
1.02402.0080	Glass bottle	80 g	inquire

## 103883 Iron(III) nitrate nonahydrate for analysis EMSURE® ACS,Reag. Ph Eur

$Fe(NO_3)_3 \cdot 9H_2O$   
 $Fe(NO_3)_3 \cdot 9H_2O$   
 ■ CAS-No. 7782-61-8 ■ EC-No. 233-899-5  
 ■ Spec. density 1.68 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  (20 °C) soluble ■ M = 403.95 g/mol  
 ■ pH value 1.3 (100 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 47 °C ■ Bulk density 900 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Oxidising solid, Category 3, H272; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 3250 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2834 29 80 ■ Disposal 14

■ ADR-RID UN 1466 Eisen(III)nitrat, 5.1, III  
 ■ IMDG-Code UN 1466 FERRIC NITRATE, 5.1, III  
 ■ IATA-DGR UN 1466 FERRIC NITRATE, 5.1, III

**Specification**  
 Assay (complexometric) ..... 99.0 - 101.0 %  
 Insoluble matter ..... ≤ 0.005 %  
 Free acid (as  $HNO_3$ ) ..... ≤ 0.3 %  
 Chloride (Cl) ..... ≤ 0.0005 %  
 Phosphate ( $PO_4$ ) ..... ≤ 0.005 %  
 Sulphate ( $SO_4$ ) ..... ≤ 0.005 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Cu (Copper) ..... ≤ 0.005 %  
 K (Potassium) ..... ≤ 0.005 %  
 Mg (Magnesium) ..... ≤ 0.001 %

Mn (Manganese) ..... ≤ 0.02 %  
 Na (Sodium) ..... ≤ 0.005 %  
 Pb (Lead) ..... ≤ 0.001 %  
 Zn (Zinc) ..... ≤ 0.001 %  
 Substances not precipitated by ammonia (as sulphate) ..... ≤ 0.1 %  
 Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.03883.0250	Plastic bottle	250 g	inquire
1.03883.1000	Plastic bottle	1 kg	inquire
1.03883.9050	Steel drum	50 kg	inquire

## 103935 Iron(III) phosphate for analysis calcined (max. 0.001% $SO_4$ ) EMSURE®

$FeO_4P$   
 $FePO_4$   
 ■ CAS-No. 10045-86-0 ■ EC-No. 233-149-7  
 ■ Spec. density 2.87 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  (20 °C) slightly soluble ■ M = 150.82 g/mol  
 ■ Bulk density 900 kg/m<sup>3</sup>  
 ■ WGK 1

■ LGK 10 - 13  
 ■ HS-No. 2835 29 90 ■ Disposal 15

**Specification**  
 Assay (iodometric, Fe) ..... ≥ 33 %  
 Assay (gravimetric,  $PO_4$ ) ..... ≤ 68 %  
 Total sulfur (as  $SO_4$ ) ..... ≤ 0.001 %

Loss on ignition (700 °C) ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.03935.0100	Plastic bottle	100 g	inquire
1.03935.0500	Plastic bottle	500 g	inquire

Iron Powder Packs for photometers of other manufacturers for 10-ml samples → page 67

## 109972 Iron standard 1000 mg Fe, ( $FeCl_3$ in 15% HCl) Titrisol®

*Iron standard for aqueous matrices*  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  (20 °C) soluble ■ pH value 0.5 ( $H_2O$ , 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Specific target organ toxicity - single exposure, Category 3, H335, P280, P302 + P352, P304 + P340, P305 + P351 +

P338, P313  
 ■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 12  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

**Specification**  
 content (Fe) ..... 1000 mg / Ampoule  
 Determination method: Complexometric titration. (traceable to NIST - SRM 682) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09972.0001	Plastic ampoule	1 amp	inquire

Iron standard for aqueous matrices → Iron standard page 1039

Iron standard for aqueous matrices ready for use → page 1468

## 103965 Iron(II) sulfate heptahydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

$FeO_4S \cdot 7H_2O$   
 $FeSO_4 \cdot 7H_2O$   
*Iron vitriol*  
 ■ CAS-No. 7782-63-0 ■ EC-No. 233-336-3  
 ■ Spec. density 1.89 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  400 g/l (20 °C) ■ M = 278.02 g/mol  
 ■ pH value 3 - 4 (50 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point >60 °C Elimination of water of crystallisation ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 319 mg/kg  
 ■ EC-Index-No. 026-003-01-4 ■ LGK 10 - 13  
 ■ Store at +15 °C to +25 °C.  
 ■ HS-No. 2833 29 80 ■ Disposal 14

**Specification**  
 Assay (manganometric) ..... 99.5 - 102.0 %  
 Identity ..... passes test  
 Appearance of solution ..... passes test  
 Insoluble matter ..... ≤ 0.01 %  
 pH-value (5 %; water) ..... 3.0 - 4.0  
 Chloride (Cl) ..... ≤ 0.0005 %  
 Phosphate ( $PO_4$ ) ..... ≤ 0.001 %  
 Total nitrogen (N) ..... ≤ 0.001 %  
 Heavy metals as Pb ..... ≤ 0.005 %  
 As (Arsenic) ..... ≤ 0.0002 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Cr (Chromium) ..... ≤ 0.005 %  
 Cu (Copper) ..... ≤ 0.001 %  
 Fe III (Iron III) ..... ≤ 0.02 %  
 K (Potassium) ..... ≤ 0.002 %  
 Mg (Magnesium) ..... ≤ 0.002 %  
 Mn (Manganese) ..... ≤ 0.05 %

Na (Sodium) ..... ≤ 0.02 %  
 Ni (Nickel) ..... ≤ 0.005 %  
 Pb (Lead) ..... ≤ 0.0005 %  
 Zn (Zinc) ..... ≤ 0.005 %  
 Substance not precipitated by ammonium hydroxide ..... ≤ 0.1 %  
 Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.03965.0100	Plastic bottle	100 g	inquire
1.03965.0500	Plastic bottle	500 g	inquire
1.03965.1000	Plastic bottle	1 kg	inquire
1.03965.5000	Plastic bottle	5 kg	inquire
1.03965.9025	Plastic drum	25 kg	inquire

## 103956 Iron(II) sulfide sticks Ø ~ 1 cm

$FeS$   
 ■ CAS-No. 1317-37-9 ■ EC-No. 215-268-6  
 ■ Spec. density 4.84 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  (20 °C) insoluble ■ M = 87.91 g/mol  
 ■ Melting point 1195 °C  
 ■ Bulk density 1500 - 2000 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13

■ HS-No. 2830 90 11 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Reagent for the generation of  $H_2S$  in Kipp's apparatus.

**Specification**  
 Assay (sulphide) ..... about 25 %

Ord.No.	Packaging	Quantity	Price
1.03956.1000	Plastic bottle	1 kg	inquire
1.03956.9025	Fibre carton	25 kg	inquire

# Ironte

Iron Test → page 67

Iron Test Refill pack → page 67

Iron two-sugar agar acc. to KLIGLER → page 101

Iron Test in freshwater and seawater → page 66

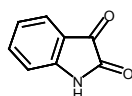
Iron trichloride → page 1038

## IR spectroscopy

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
293	104907	POTASSIUM BROMIDE UVASOL						

IR spectroscopy, solvents → Uvasol®

### 820709 Isatin for synthesis



- M = 147.13 g/mol ■ pH value 7 (1.9 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 199 - 204 °C
- Bulk density 600 kg/m<sup>3</sup> ■ Ignition temp. 220 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2933 79 00

Melting range (lower value)..... ≥ 199 °C  
Melting range (upper value)..... ≤ 204 °C  
Identity (IR)..... passes test

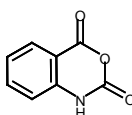
C<sub>8</sub>H<sub>5</sub>NO<sub>2</sub>  
■ CAS-No. 91-56-5 ■ EC-No. 202-077-8  
■ Flash point 200 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C)

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.20709.0005	Glass bottle	5 g	inquire
8.20709.0250	Plastic bottle	250 g	inquire

Isatines → Heterocycles

### 804784 Isoic anhydride for synthesis



- Flash point 308 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (20 °C) ■ M = 163.13 g/mol
- Melting point 230 - 232 °C
- Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 350 °C (1013 hPa) ■ Ignition temp. >600 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338
- LC50 rat > 5.3 mg/l
- LD50 oral rat > 6400 mg/kg

- LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 607-250-00-5 ■ LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

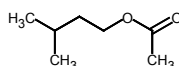
**Specification**  
Assay (acidimetric)..... ≥ 97.0 % (m)  
Identity (IR)..... conforms

C<sub>8</sub>H<sub>5</sub>NO<sub>3</sub>  
*Anthranilic acid N-carboxylic acid anhydride, 1,4-Dihydro-2H-3,1-benzoxazin-2,4-dione, 2H-3,1-Benzoxazine-2,4-(1H)-dione*  
■ CAS-No. 118-48-9 ■ EC-No. 204-255-0

Ord.No.	Packaging	Quantity	Price
8.04784.0100	Plastic bottle	100 g	inquire
8.04784.0500	Plastic bottle	500 g	inquire

Isethionic acid sodium salt → 2-Hydroxyethanesulfonic acid sodium salt page 981

### 101231 Isoamyl acetate EEMPLURA®



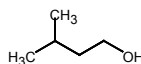
- Ignition temp. 355 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 5000 mg/kg
- EC-Index-No. 607-130-00-2 ■ LGK 3
- HS-No. 2915 39 00 ■ Disposal 3
- ADR-RID UN 1104 Amylacetate, 3, III ■ IMDG-Code UN 1104 AMYL ACETATES, 3, III
- IATA-DGR UN 1104 AMYL ACETATES, 3, III

Identity (IR)..... conforms  
Free acid (as CH<sub>3</sub>COOH)..... ≤ 0.1 %  
Density (d 20 °C/ 4 °C)..... 0.872 - 0.873  
Isoamyl alcohol (GC)..... ≤ 1.0 %  
Water..... ≤ 0.1 %

C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>  
*iso-Amyl acetate, Acetic acid isoamyl ester*  
■ CAS-No. 123-92-2 ■ EC-No. 204-662-3  
■ Vapour pressure 7 hPa (20 °C)  
■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 10 % (V) ■ Flash point 36 °C ■ Solub. in H<sub>2</sub>O 2.12 g/l (19.4 °C) ■ M = 130.18 g/mol
- pH value (H<sub>2</sub>O) neutral ■ Melting point -78 °C
- Boiling point 142 °C (1013 hPa)

Ord.No.	Packaging	Quantity	Price
1.01231.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01231.6025	Drum stainl. st.	25 l	inquire

### Isoamyl alcohol



- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 14.7 (20 °C) ■ El. dipole moment 1.7 (20 °C) ■ Explosive limit 1.2 - 8 % (V)
- Flash point 45 °C ■ Solub. in H<sub>2</sub>O 25 g/l (20 °C)
- M = 88.15 g/mol ■ pH value 7 (25 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 11 g/m<sup>3</sup> (20 °C) Air
- Melting point -117 °C ■ Boiling point 131 °C (1013 hPa) ■ Ignition temp. 335 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3,

H226; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335, P210, P304 + P340

- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 3000 mg/kg
- EC-Index-No. 603-006-00-7 ■ LGK 3
- HS-No. 3824 90 97 ■ Disposal 3
- ADR-RID UN 1105 Pentanole, 3, III ■ IMDG-Code UN 1105 PENTANOLS, 3, III
- IATA-DGR UN 1105 PENTANOLS, 3, III

C<sub>5</sub>H<sub>12</sub>O  
*(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>CH<sub>2</sub>OH*  
*iso-Pentyl alcohol, 3-Methyl-1-butanol, Iso-Amyl alcohol*  
■ CAS-No. 123-51-3 ■ EC-No. 204-633-5  
■ Vapour pressure 3 hPa (20 °C)

### 818969 Isoamyl alcohol for synthesis

**Specification**  
Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.808 - 0.809  
Water (K. F.)..... ≤ 0.30 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18969.1000	Plastic bottle	1 l	inquire

## 100979 Isoamyl alcohol for analysis EMSURE® ACS, Reag. Ph Eur

## Specification

Total isomeric compounds (GC)	≥ 99 %
Identity (IR)	conforms
Appearance	clear
Colour	≤ 10 Hazen
Free acid (as CH <sub>3</sub> COOH)	≤ 0.005 %
Boiling point	129 - 132 °C
n-Amyl alcohol (GC)	≤ 0.5 %
Acids, esters (as pentylacetate)	≤ 0.06 %
Furfural	≤ 0.0001 %
Carbonyl compounds (as CO)	≤ 0.05 %
Readily carbonizable substances	conforms
Al (Aluminium)	≤ 0.00005 %
B (Boron)	≤ 0.000002 %

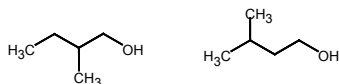
Ba (Barium)	≤ 0.00001 %
Ca (Calcium)	≤ 0.00005 %
Cd (Cadmium)	≤ 0.000005 %
Co (Cobalt)	≤ 0.000002 %
Cr (Chromium)	≤ 0.000002 %
Cu (Copper)	≤ 0.000002 %
Fe (Iron)	≤ 0.00001 %
Mg (Magnesium)	≤ 0.00001 %
Mn (Manganese)	≤ 0.000002 %
Ni (Nickel)	≤ 0.000002 %
Pb (Lead)	≤ 0.00001 %
Sn (Tin)	≤ 0.00001 %
Zn (Zinc)	≤ 0.00001 %

Evaporation residue	≤ 0.002 %
Water	≤ 0.2 %

Corresponds to ACS, Ph Eur-reagent

Ord.No.	Packaging	Quantity	Price
1.00979.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00979.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00979.4000	Glass bottle	4 l	inquire
1.00979.9025	Steel barrel	25 l	inquire

## 822255 Isoamyl alcohol (mixture of isomers) EMPLURA®

C<sub>5</sub>H<sub>12</sub>O

iso-Pentyl alcohol, 3-Methyl-1-butanol, Iso-Amyl alcohol

- CAS-No. 30899-19-5 ■ EC-No. 250-378-8
- Vapour pressure 3.1 hPa (20 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 14.7 (20 °C) ■ El. dipole moment 1.7 (20 °C) ■ Explosive limit 1.2 - 8 % (V)
- Flash point 43 °C ■ Solub. in H<sub>2</sub>O 28 g/l (20 °C)

- M = 88.15 g/mol ■ pH value (25 g/l, H<sub>2</sub>O, 20 °C) neutral ■ Saturation conc. 11 g/m<sup>3</sup> (20 °C) Air ■ Melting point -117 °C
- Boiling point 131 °C (1013 hPa)
- Ignition temp. 340 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335, P210
- EC-Index-No. 603-006-00-7 ■ LGK 3
- HS-No. 2905 19 00 ■ Disposal 3
- ADR-RID UN 1105 Pentanols, 3, III ■ IMDG-Code UN 1105 PENTANOLS, 3, III

■ IATA-DGR UN 1105 PENTANOLS, 3, III

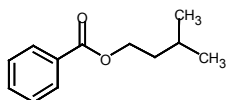
## Specification

Assay isomers (GC, area%)	≥ 99,0 % (a/a)
Density (d 20 °C/ 4 °C)	0,808 - 0,812
Water (K. F.)	≤ 0,30 %
Identity (IR)	passes test

Ord.No.	Packaging	Quantity	Price
8.22255.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.22255.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

Isoamylbenzene → Isopentylbenzene page 1049

## 814500 Isoamyl benzoate for synthesis

C<sub>12</sub>H<sub>16</sub>O<sub>2</sub>

Benzoic acid isoamyl ester

- CAS-No. 94-46-2 ■ EC-No. 202-334-4
- Refractive index 1.4949 (20 °C, 589 nm)

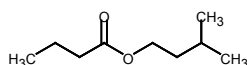
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C)
- Flash point 89 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 192.25 g/mol
- Boiling point 260 °C
- WGK 2
- LD50 oral rat 6330 mg/kg
- LGK 10
- HS-No. 2916 31 00 ■ Disposal 3

## Specification

Assay (GC, area%)	≥ 99,0 Area %
Density (d 20 °C/ 4 °C)	0,988 - 0,990
Identity (IR)	conforms

Ord.No.	Packaging	Quantity	Price
8.14500.0005	Glass bottle	5 ml	inquire
8.14500.0250	Glass bottle	250 ml	inquire

## 814724 Isoamyl butyrate for synthesis

C<sub>9</sub>H<sub>18</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>COOCH<sub>2</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>

Butyric acid (3-methylbutyl) ester

- CAS-No. 106-27-4 ■ EC-No. 203-380-8
- Vapour pressure 1.1 hPa (20 °C)
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C)
- Flash point 59 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l (50 °C)

- M = 158.24 g/mol ■ Melting point -73 °C
- Boiling point 178 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 3, H412, P210, P262, P273
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 3
- HS-No. 2915 60 19 ■ Disposal 3
- ADR-RID UN 2620 Amylbutyrate, 3, III ■ IMDG-

Code UN 2620 AMYL BUTYRATES, 3, III

■ IATA-DGR UN 2620 AMYL BUTYRATES, 3, III

## Specification

Assay (GC, area%)	≥ 98,0 % (a/a)
Density (d 20 °C/ 4 °C)	0,860 - 0,864
Identity (IR)	passes test

Ord.No.	Packaging	Quantity	Price
8.14724.0250	Glass bottle	250 ml	inquire
8.14724.1000	Glass bottle	1 l	inquire

Isoamylene → 2-Methyl-2-butene page 1139

Isoamyl ether → Diisoamyl ether page 302

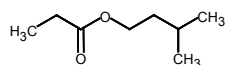
Isoamyl ethyl ketone → 5-Methyl-3-heptanone page 306

Isoamyl iodide → 1-Iodo-3-methylbutane page 1011

Isoamyl isovalerate → 3-Methylbutyl isovalerate page 1140

Isoamyl methyl ketone → 5-Methyl-2-hexanone page 1155

## 814845 Isoamyl propionate for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>CH<sub>2</sub>OCOCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>

Propionic acid isoamyl ester

- CAS-No. 105-68-0 ■ EC-No. 203-322-1
- Spec. density 0.869 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 % (V) ■ Flash point 46 °C ■ M = 144.21 g/mol ■ Melting point -73 °C ■ Boiling point 160 °C
- Ignition temp. 370 °C

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P260, P262
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- EC-Index-No. 607-131-00-8 ■ LGK 3
- HS-No. 2915 50 00 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(ISOAMYLPROPIONAT), 3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(ISOAMYL PROPIONATE), 3, III
- IATA-DGR UN 3272 ESTERS, N.O.S.(ISOAMYL

PROPIONATE), 3, III

## Specification

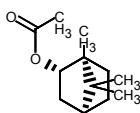
Assay (GC, area%)	≥ 98,0 % (a/a)
Density (d 20 °C/ 4 °C)	0,868 - 0,871
Identity (IR)	passes test

Ord.No.	Packaging	Quantity	Price
8.14845.0025	Glass bottle	25 ml	inquire
8.14845.0100	Glass bottle	100 ml	inquire

1-(3H)-Isobenzofuranone → Phthalide page 1326



## 814998 Isobornyl acetate for synthesis



C<sub>12</sub>H<sub>20</sub>O<sub>2</sub>  
 CH<sub>3</sub>COOC<sub>10</sub>H<sub>17</sub>  
 Acetic acid isobornyl ester, *exo*-(1*R*)-1,7,7-Trimethylbicyclo[2.2.1]hept-2-yl acetate  
 ■ CAS-No. 125-12-2 ■ EC-No. 204-727-6

- Vapour pressure 0.13 hPa (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 88 °C ■ Solub. in H<sub>2</sub>O 0.16 g/l (20 °C) ■ M = 196.29 g/mol ■ Boiling point 215 °C (1013 hPa) ■ Ignition temp. 430 °C DIN 51794
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352
- LD50 oral rat > 10000 mg/kg
- LD50 dermal rabbit > 20000 mg/kg
- LGK 10 - 13

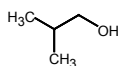
■ HS-No. 2915 39 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 94,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,979 - 0,984  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)] ..... -4,0 - 2,0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14998.0250	Glass bottle	250 ml	inquire

## Isobutanol



C<sub>4</sub>H<sub>10</sub>O  
 (CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>OH  
 Isobutylalcohol, 2-Methyl-1-propanol, *Iso*-Butanol  
 ■ CAS-No. 78-83-1 ■ EC-No. 201-148-0  
 ■ Vapour pressure 12 hPa (20 °C)  
 ■ Spec. density 0.802 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 17.7 (20 °C) ■ El. dipole moment 1.79 (20 °C) ■ Explosive limit 1.5 - 12 % (V)

- Flash point 28 °C ■ Solub. in H<sub>2</sub>O 85 g/l (20 °C)
- M = 74.12 g/mol ■ pH value 7 (80 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 36 g/m<sup>3</sup> (20 °C) Air
- Melting point -108 °C
- Boiling point 106 - 108 °C (1013 hPa)
- Evaporation number 24 ■ Ignition temp. 430 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Specific target organ toxicity - single

exposure, Category 3, H336, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LC50 rat 24.6 mg/l  
 ■ LD50 oral rat > 2830 mg/kg ■ LD50 dermal rat 2460 mg/kg  
 ■ EC-Index-No. 603-108-00-1 ■ LGK 3  
 ■ HS-No. 2905 14 90 ■ Disposal 3  
 ■ ADR-RID UN 1212 Isobutanol, 3, III ■ IMDG-Code UN 1212 ISOBUTANOL, 3, III  
 ■ IATA-DGR UN 1212 ISOBUTANOL, 3, III

## 100985 Isobutanol (isobutyl alcohol) EMPLURA®

## Specification

Purity (GC) ..... ≥ 98,5 %  
 Identity (IR) ..... conforms  
 Free acid (as C<sub>3</sub>H<sub>7</sub>COOH) ..... ≤ 0.005 %  
 Density (d 20 °C/ 4 °C) ..... 0.801 - 0.802  
 Acetone (GC) ..... ≤ 0.02 %

Isobutyraldehyde (GC) ..... ≤ 0.03 %  
 Water ..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.00985.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00985.6025	Drum stainl. st.	25 l	inquire
1.00985.9190	Steel barrel	190 l	inquire

## 100984 Isobutanol for analysis EMSURE® ACS, Reag. Ph Eur

## Specification

Purity (GC) ..... ≥ 99 %  
 Identity (IR) ..... conforms  
 Colour ..... ≤ 10 Hazen  
 Solubility in water ..... conforms  
 Acidity ..... ≤ 0.0005 meq/g  
 Density (d 20 °C/ 20 °C) ..... 0.802 - 0.804  
 Refractive index (n<sub>D</sub><sup>20</sup>) ..... 1.397 - 1.399  
 Boiling range (107-109 °C) ..... ≥ 96 % (v/v)  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.001 %  
 Readily carbonizable substances ..... conforms  
 n-Butyl alcohol (GC) ..... ≤ 0.2 %  
 2-Butanol (GC) ..... ≤ 0.05 %  
 Butyraldehyde (GC) ..... ≤ 0.01 %

Ethylmethylketone (GC) ..... ≤ 0.02 %  
 Isobutyraldehyde (GC) ..... ≤ 0.05 %  
 Al (Aluminium) ..... ≤ 0.00005 %  
 B (Boron) ..... ≤ 0.000002 %  
 Ba (Barium) ..... ≤ 0.00001 %  
 Ca (Calcium) ..... ≤ 0.00005 %  
 Cd (Cadmium) ..... ≤ 0.000005 %  
 Co (Cobalt) ..... ≤ 0.000002 %  
 Cr (Chromium) ..... ≤ 0.000002 %  
 Cu (Copper) ..... ≤ 0.000002 %  
 Fe (Iron) ..... ≤ 0.00001 %  
 Mg (Magnesium) ..... ≤ 0.00001 %  
 Mn (Manganese) ..... ≤ 0.000002 %

Ni (Nickel) ..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.00001 %  
 Sn (Tin) ..... ≤ 0.00001 %  
 Zn (Zinc) ..... ≤ 0.00001 %  
 Evaporation residue ..... ≤ 0.001 %  
 Water ..... ≤ 0.05 %  
 Corresponds to ACS, Ph Eur-reagent

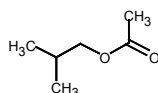
Ord.No.	Packaging	Quantity	Price
1.00984.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00984.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

Iso-Butanol → page 319

Isobutanolamine → 2-Amino-2-methyl-1-propanol  
 page 394

Isobutenylcarbinol → 3-Methyl-2-buten-1-ol page  
 1139

## 820557 Isobutyl acetate for synthesis



C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>  
 CH<sub>3</sub>COOCH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>  
 Acetic acid isobutyl ester  
 ■ CAS-No. 110-19-0 ■ EC-No. 203-745-1  
 ■ Refractive index 1.3877 (20 °C, 589 nm)  
 ■ Vapour pressure 17 hPa (20 °C)  
 ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 5.3 (20 °C) ■ El. dipole moment 5.3

- (20 °C) ■ Explosive limit 2.4 - 10.5 % (V)
- Flash point 18 °C ■ Solub. in H<sub>2</sub>O 7 g/l (20 °C)
- M = 116.16 g/mol ■ pH value 5 (4 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 80 g/m<sup>3</sup> (20 °C) Air
- Melting point -99 °C
- Boiling point 116 - 118 °C (1013 hPa)
- Evaporation number 8 ■ Ignition temp. 510 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P260, P262
- LD50 oral rat 13400 mg/kg
- LD50 dermal rabbit > 17400 mg/kg
- EC-Index-No. 607-026-00-7 ■ LGK 3

■ HS-No. 2915 39 00 ■ Disposal 3  
 ■ ADR-RID UN 1213 Isobutylacetat, 3, II ■ IMDG-Code UN 1213 ISOBUTYL ACETATE, 3, II  
 ■ IATA-DGR UN 1213 ISOBUTYL ACETATE, 3, II

## Specification

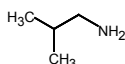
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.870 - 0.872  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20557.0100	Glass bottle	100 ml	inquire
8.20557.1000	Glass bottle	1 l	inquire

Isobutylalcohol → page 319



## 841735 Isobutylamine for synthesis

C<sub>4</sub>H<sub>11</sub>N(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>NH<sub>2</sub>

- CAS-No. 78-81-9 ■ EC-No. 201-145-4
- Vapour pressure 135 hPa (20 °C)
- Spec. density 0.736 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 9 % (V) ■ Flash point -10 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (25 °C) ■ M = 73.14 g/mol
- pH value 12.2 (100 g/l, H<sub>2</sub>O, 20 °C)

- Melting point -85 °C ■ Boiling point 68 °C (1013 hPa) ■ Ignition temp. 400 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P210, P223, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 224 mg/kg
- LGK 3
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 1214 Isobutylamin, 3 (8), II

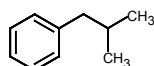
- IMDG-Code UN 1214 ISOBUTYLAMINE, 3 (8), II
- IATA-DGR UN 1214 ISOBUTYLAMINE, 3 (8), II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,728 - 0,731  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41735.0250	Glass bottle	250 ml	inquire
8.41735.1000	Glass bottle	1 l	inquire

## 820712 Isobutylbenzene for synthesis

C<sub>10</sub>H<sub>14</sub>(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>*(2-Methylpropyl)-benzene*

- CAS-No. 538-93-2 ■ EC-No. 208-706-2
- Refractive index 1.4855 (20 °C, 589 nm)
- Vapour pressure 1.8 hPa (20 °C)
- Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 0.8 - 6 % (V) ■ Flash point 52 °C ■ Solub. in H<sub>2</sub>O 0.01 g/l (25 °C) ■ M = 134.22 g/mol
- Melting point -51 °C
- Boiling point 172 - 174 °C
- Ignition temp. 425 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315, P262, P302 + P352
- LD50 dermal rat > 2000 mg/kg
- LGK 3

- HS-No. 2902 90 00 ■ Disposal 3
- ADR-RID UN 2709 Butylbenzene, 3, III ■ IMDG-Code UN 2709 BUTYLBENZENES, 3, III
- IATA-DGR UN 2709 BUTYLBENZENES, 3, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.852 - 0.854  
 Identity (IR) ..... passes test

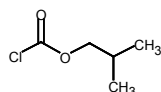
Ord.No.	Packaging	Quantity	Price
8.20712.0250	Glass bottle	250 ml	inquire

Isobutyl bromide → 1-Bromo-2-methylpropane page 507

Isobutyl carbinol → page 319

Isobutyl chloride → 1-Chloro-2-methylpropane page 620

## 802358 Isobutyl chloroformate for synthesis

C<sub>5</sub>H<sub>9</sub>ClO<sub>2</sub>ClCOOCH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>*Chloroformic acid isobutyl ester*

- CAS-No. 543-27-1 ■ EC-No. 208-840-1
- Refractive index 1.407 (20 °C, 589 nm)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C)
- Flash point 30 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 136.58 g/mol
- Boiling point 127 - 129 °C (1013 hPa)

- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P260, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1400 mg/kg
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 2742 Chlorformiate, giftig, ätzend, entzündbar, n.a.g.(CHLORAMEISENSAEURE-ISOBUTYLESTER), 6.1 (3, 8), II ■ IMDG-Code UN 2742 CHLOROFORMATES, TOXIC, CORROSIVE,

FLAMMABLE, N.O.S.(ISOBUTYL CHLOROFORMATE), 6.1 (3, 8), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2742 CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S.(ISOBUTYL CHLOROFORMATE), 6.1 (3, 8), II

## Specification

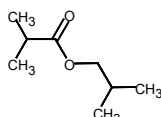
Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,043 - 1,046  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02358.0100	Glass bottle	100 ml	inquire
8.02358.0250	Glass bottle	250 ml	inquire

Isobutylidenemalonate diethyl ester → Diethyl isobutylidenemalonate page 747

Isobutyl iodide → 1-Iodo-2-methylpropane page 1012

## 841833 Isobutyl isobutyrate for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>*Isobutyric acid isobutyl ester*

- CAS-No. 97-85-8 ■ EC-No. 202-612-5
- Refractive index 1.399 (20 °C) ■ Vapour pressure 5.76 hPa (25 °C) ■ Spec. density 0.855 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 % (V)
- Flash point 38 °C ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C)

- M = 144.21 g/mol ■ pH value 7 (H<sub>2</sub>O)
- Melting point -81 °C
- Boiling point 147 - 149 °C (1013 hPa)
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LD50 oral rat 12800 mg/kg
- LD50 dermal rabbit > 8600 mg/kg
- LGK 3
- HS-No. 2915 60 19 ■ Disposal 3
- ADR-RID UN 2528 Isobutylisobutyrate, 3, III
- IMDG-Code UN 2528 ISOBUTYL ISOBUTYRATE, 3, III

- IATA-DGR UN 2528 ISOBUTYL ISOBUTYRATE, 3, III

## Specification

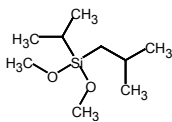
Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,853 - 0,857  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41833.0050	Glass bottle	50 ml	inquire
8.41833.0250	Glass bottle	250 ml	inquire

Isobutyl isopentanoate → Isobutyl isovalerate page 1044

# Isobut

## 814718 Isobutylisopropyltrimethoxysilane for synthesis



C<sub>9</sub>H<sub>22</sub>O<sub>2</sub>Si  
**Dimethoxyisobutylisopropylsilane, Eurenor®**  
 ■ CAS-No. 111439-76-0 ■ EC-No. 402-580-4  
 ■ Vapour pressure 3.1 hPa (25 °C)  
 ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 50 °C ■ Solub. in H<sub>2</sub>O 0.018 mg/l (20 °C) Hydrolysis ■ M = 190.36 g/mol  
 ■ Melting point < -78 °C ■ Boiling point 178 °C

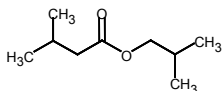
(1013 hPa) ■ Ignition temp. 255 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat 4 mg/l  
 ■ LD50 oral rat > 2180 mg/kg ■ LD50 dermal rat > 2180 mg/kg  
 ■ EC-Index-No. 014-009-00-2 ■ LGK 3  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ISOBUTYLISOPROPYLDIMETHOXYSILAN), 3,

III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ISOBUTYLISOPROPYLDIMETHOXYSILANE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ISOBUTYLISOPROPYLDIMETHOXYSILANE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,865 - 0,870  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14718.0025	Glass bottle	25 ml	inquire

## 814987 Isobutyl isovalerate for synthesis



C<sub>9</sub>H<sub>18</sub>O<sub>2</sub>  
**Isobutyl isopentanoate, Isobutyl 3-methylbutanoate**  
 ■ CAS-No. 589-59-3 ■ EC-No. 209-653-8  
 ■ Refractive index 1.406 ■ Spec. density 0.854 g/cm<sup>3</sup> (20 °C) ■ M = 158.24 g/mol  
 ■ Boiling point 168.5 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P262  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2915 60 90 ■ Disposal 3  
 ■ ADR-RID UN 3272 Ester, n.a.g.(ISOBUTYLISOVALERAT), 3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(ISOBUTYL ISOVALERATE), 3, III  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(ISOBUTYL

ISOVALERATE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,851 - 0,854  
 Identity (IR) ..... passes test

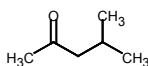
Ord.No.	Packaging	Quantity	Price
8.14987.0250	Glass bottle	250 ml	inquire
8.14987.1000	Glass bottle	1 l	inquire

Isobutyl ketone → Diisobutyl ketone page 302

Isobutyl 3-methylbutanoate → Isobutyl isovalerate page 1044

Isobutyl methyl carbinol → 4-Methyl-2-pentanol page 1168

## Isobutyl methyl ketone



C<sub>6</sub>H<sub>12</sub>O  
 (CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>COCH<sub>3</sub>  
**MIBK, Isopropylacetone, 4-Methyl-2-pentanone, Methyl isobutyl ketone**  
 ■ CAS-No. 108-10-1 ■ EC-No. 203-550-1  
 ■ Refractive index 1.3962 (20 °C) ■ Vapour pressure 20 hPa (20 °C) ■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 13.1 (20 °C)  
 ■ El. dipole moment >9.99 (20 °C) ■ Explosive

limit 1.2 - 8.0 % (V) ■ Flash point 14 °C ■ Solub. in H<sub>2</sub>O 18 - 20 g/l (20 °C) ■ M = 100.16 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral  
 ■ Saturation conc. 27 g/m<sup>3</sup> (20 °C)  
 ■ Melting point -84 °C  
 ■ Boiling point 116 - 118 °C (1013 hPa)  
 ■ Evaporation number 10 ■ Ignition temp. 460 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P210, P305 + P351 + P338,

P304 + P340  
 ■ LC50 rat 8.3 - 16.6 mg/l  
 ■ LD50 oral rat 2080 mg/kg ■ LD50 dermal rabbit > 16000 mg/kg  
 ■ EC-Index-No. 606-004-00-4 ■ LGK 3  
 ■ HS-No. 2914 13 00 ■ Disposal 3  
 ■ ADR-RID UN 1245 Methylisobutylketon, 3, II  
 ■ IMDG-Code UN 1245 METHYL ISOBUTYL KETONE, 3, II  
 ■ IATA-DGR UN 1245 METHYL ISOBUTYL KETONE, 3, II

## 820820 Isobutyl methyl ketone EMPLURA®

**Specification**  
 Purity (GC) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms  
 Density (d 20 °C/ 4 °C) ..... 0.800 - 0.802

Ord.No.	Packaging	Quantity	Price
8.20820.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.20820.6010	Drum stainl. st.	10 l	inquire
8.20820.6025	Drum stainl. st.	25 l	inquire
8.20820.9190	Steel barrel	190 l	inquire

## 106146 Isobutyl methyl ketone for extraction analysis EMSURE® ACS,Reag. Ph Eur

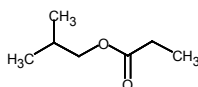
**Specification**  
 Purity (GC) ..... ≥ 99.0 %  
 Identity (IR) ..... conforms  
 Appearance ..... clear  
 Colour ..... ≤ 10 Hazen  
 Titrable acid ..... ≤ 0.002 meq/g  
 Alkalinity ..... ≤ 0.001 meq/g  
 Density (d 20 °C/20 °C) ..... 0.799 - 0.805  
 Boiling point ..... 114 - 117 °C  
 Distilling range ..... ≤ 4 °C  
 Al (Aluminium) ..... ≤ 0.00005 %  
 B (Boron) ..... ≤ 0.000002 %  
 Ba (Barium) ..... ≤ 0.00001 %

Ca (Calcium) ..... ≤ 0.00005 %  
 Cd (Cadmium) ..... ≤ 0.000005 %  
 Co (Cobalt) ..... ≤ 0.000002 %  
 Cr (Chromium) ..... ≤ 0.000002 %  
 Cu (Copper) ..... ≤ 0.000002 %  
 Fe (Iron) ..... ≤ 0.00001 %  
 Mg (Magnesium) ..... ≤ 0.00001 %  
 Mn (Manganese) ..... ≤ 0.000002 %  
 Ni (Nickel) ..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.00001 %  
 Sn (Tin) ..... ≤ 0.00001 %  
 Zn (Zinc) ..... ≤ 0.00001 %

Evaporation residue ..... ≤ 0.0010 %  
 Water ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.06146.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.06146.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.06146.4000		4 l	inquire
1.06146.6025	Drum stainl. st.	25 l	inquire

## 822135 Isobutyl propionate for synthesis

C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>COOCH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>

Propionic acid isobutyl ester

- CAS-No. 540-42-1 ■ EC-No. 208-746-0
- Refractive index 1.3972 (20 °C, 589 nm)
- Vapour pressure 8.6 hPa (25 °C)
- Spec. density 0.867 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 1.1 - 7.5 % (V) ■ Flash point 29 °C ■ Solub. in H<sub>2</sub>O 1.7 g/l (25 °C) ■ M = 130.19 g/mol
- Melting point -71 °C ■ Boiling point 137 °C (1013 hPa) ■ Ignition temp. 435 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- EC-Index-No. 607-029-00-3 ■ LGK 3
- HS-No. 2915 50 00 ■ Disposal 3
- ADR-RID UN 2394 Isobutylpropionat, 3, III
- IMDG-Code UN 2394 ISOBUTYL PROPIONATE, 3, III

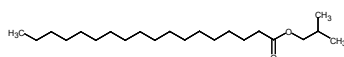
- IATA-DGR UN 2394 ISOBUTYL PROPIONATE, 3, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,865 - 0,867  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22135.0100	Glass bottle	100 ml	inquire
8.22135.0500	Glass bottle	500 ml	inquire

## 843070 Isobutyl stearate for synthesis

C<sub>22</sub>H<sub>44</sub>O<sub>2</sub>

■ CAS-No. 646-13-9 ■ EC-No. 211-466-1

■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C)

- M = 340.58 g/mol ■ Melting point 28.9 °C
- WGK nwg
- LGK 10 - 13
- HS-No. 2915 70 50 ■ Disposal 3

## Specification

Saponification value ..... 170 - 179  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43070.0100	Glass bottle	100 ml	inquire
8.43070.1000	Glass bottle	1 l	inquire
8.43070.2500	Glass bottle	2.5 l	inquire

Isobutyltrimethylmethane → page 298

## 801556 Isobutyraldehyde for synthesis

C<sub>4</sub>H<sub>8</sub>O(CH<sub>3</sub>)<sub>2</sub>CHCHO

■ CAS-No. 78-84-2 ■ EC-No. 201-149-6

■ Vapour pressure 189 hPa (20 °C)

- Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Explosive
- limit 1.6 - 11.0 % (V) ■ Flash point -20 °C ■ Solub. in H<sub>2</sub>O 110 g/l (20 °C) ■ M = 72.11 g/mol

- Saturation conc. 452 g/m<sup>3</sup> ■ Melting point -65 °C ■ Boiling point 63 - 64.5 °C (1013 mbar)
- Ignition temp. 165 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233
- LD50 oral rat > 3000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 3
- HS-No. 2912 19 00
- ADR-RID UN 2045 Isobutyraldehyd, 3, II
- IMDG-Code UN 2045 ISOBUTYRALDEHYDE, 3, II

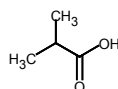
- IATA-DGR UN 2045 ISOBUTYRALDEHYDE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,788 - 0,790  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01556.0100	Glass bottle	100 ml	inquire
8.01556.1000	Glass bottle	1 l	inquire
8.01556.9020	Barrel PE/met	20 kg	inquire

## 800472 Isobutyric acid for synthesis

C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>CHCOOH

2-Methylpropionic acid

■ CAS-No. 79-31-2 ■ EC-No. 201-195-7

■ Refractive index 1.3925 (20 °C, 589 nm)

■ Vapour pressure 12 hPa (20 °C)

- Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive
- limit 2 - 12 % (V) ■ Flash point 57.5 °C ■ Solub. in H<sub>2</sub>O 210 g/l (20 °C) ■ M = 88.11 g/mol

- Melting point -45 °C
- Boiling point 153 - 155 °C (1013 hPa)
- Ignition temp. 420 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Flammable liquid, Category 3, H226, P210, P302 + P352
- LD50 oral rat 266 mg/kg ■ LD50 dermal rabbit 475 mg/kg
- EC-Index-No. 607-063-00-9 ■ LGK 3
- HS-No. 2915 60 19 ■ Disposal 3
- ADR-RID UN 2529 Isobuttersäure, 3 (8), III
- IMDG-Code UN 2529 ISOBUTYRIC ACID, 3 (8), III

- IATA-DGR UN 2529 ISOBUTYRIC ACID, 3 (8), III

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,947 - 0,949  
 Water (K. F.) ..... ≤ 0,20 % (m)  
 Identity (IR) ..... conforms

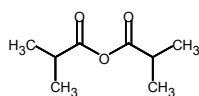
Ord.No.	Packaging	Quantity	Price
8.00472.0100	Glass bottle	100 ml	inquire
8.00472.0500	Glass bottle	500 ml	inquire
8.00472.1000	Glass bottle	1 l	inquire

Isobutyric acid ethyl ester → Ethyl isobutyrate page 872

Isobutyric acid isobutyl ester → Isobutyl isobutyrate page 1043

Isobutyric acid methyl ester → Methyl isobutyrate page 1158

## 800504 Isobutyric anhydride for synthesis



$C_8H_{14}O_3$   
 $[(CH_3)_2CHCO]_2O$   
*Bis(2-methylpropionic acid) anhydride, 2-Methylpropionic anhydride*  
 ■ CAS-No. 97-72-3 ■ EC-No. 202-603-6  
 ■ Vapour pressure 5 hPa (50 °C)  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 6.2 % (V) ■ Flash point 66 °C ■ Solub. in

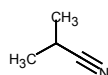
H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 158.2 g/mol  
 ■ Melting point -69 °C ■ Ignition temp. 375 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 266 mg/kg ■ LD50 dermal rabbit 475 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 2922 Ätzender flüssiger Stoff,

giftig, n.a.g.(ISOBUTTERSAEUREANHYDRID), 8 (6.1), III ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(ISOBUTYRIC ANHYDRIDE), 8 (6.1), III  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(ISOBUTYRIC ANHYDRIDE), 8 (6.1), III

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,950 - 0,953  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00504.0100	Glass bottle	100 ml	inquire
8.00504.0500	Glass bottle	500 ml	inquire

## 804805 Isobutyronitrile for synthesis



$C_4H_7N$   
 $(CH_3)_2CHCN$   
*Isopropyl cyanide, 2-Methylpropionitrile*  
 ■ CAS-No. 78-82-0 ■ EC-No. 201-147-5  
 ■ Refractive index 1.372 (20 °C, 589 nm) ■ Vapour pressure 43.5 hPa (25 °C) ■ Spec. density 0.77 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 12.7 % (V)  
 ■ Flash point 8 °C ■ Solub. in H<sub>2</sub>O 35 g/l (20 °C)  
 ■ M = 69.11 g/mol ■ pH value 6 (H<sub>2</sub>O)  
 ■ Melting point -72 °C ■ Boiling point 103.8 °C

■ Ignition temp. 482 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 2, Oral, H300, P210, P233, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LC50 rat 0.85 mg/l  
 ■ LD50 oral rat 50 mg/kg ■ LD50 dermal rabbit 200 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2926 90 95 ■ Disposal 9  
 ■ ADR-RID UN 2284 Isobutyronitril, 3 (6.1), II

■ IMDG-Code UN 2284 ISOBUTYRONITRILE, 3 (6.1), II  
 ■ IATA-DGR UN 2284 ISOBUTYRONITRILE, 3 (6.1), II

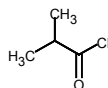
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,770 - 0,771  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04805.0100	Glass bottle	100 ml	inquire
8.04805.1000	Glass bottle	1 l	inquire

Isobutyrophenone → Isopropyl phenyl ketone page 1056

Isobutyrylacetic acid methyl ester → Methyl isobutyrylacetate page 1158

## 801976 Isobutyryl chloride for synthesis



$C_4H_7ClO$   
 $(CH_3)_2CHCOCl$   
*2-Methylpropionyl chloride*  
 ■ CAS-No. 79-30-1 ■ EC-No. 201-194-1  
 ■ Refractive index 1.4073 (20 °C, 589 nm)  
 ■ Vapour pressure 57 hPa (20 °C)  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 - 8.2 % (V) ■ Flash point 8.5 °C ■ Solub.

in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 106.55 g/mol ■ pH value < 7 (H<sub>2</sub>O) ■ Melting point -90 °C  
 ■ Boiling point 92 °C ■ Ignition temp. 325 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1A, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.47 - 1.95 mg/l  
 ■ LD50 oral rat 1000 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 607-140-00-7 ■ LGK 3  
 ■ HS-No. 2915 90 70 ■ Disposal 11

■ ADR-RID UN 2395 Isobutyrylchlorid, 3 (8), II  
 ■ IMDG-Code UN 2395 ISOBUTYRYL CHLORIDE, 3 (8), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2395 ISOBUTYRYL CHLORIDE, 3 (8), II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,008 - 1,009  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01976.0250	Glass bottle	250 ml	inquire

Isocinchomeric acid → Pyridine-2,5-dicarboxylic acid page 1387

3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate → Isophorone diisocyanate page 1050

Isocotyl alcohol → 2-Ethyl-1-hexanol page 303

Isocyanic acid butyl ester → n-Butyl isocyanate page 548

Isocyanate polyaddition → Polycondensation

Isocyanic acid cyclohexyl ester → Cyclohexyl isocyanate page 675

Isocyanates → Nitriles and isonitriles

Isocyanic acid 2,4-dichlorophenyl ester → 2,4-Dichlorophenyl isocyanate page 729

5-Isocyanato-1-isocyanatomethyl-1,3,3-trimethylcyclohexane → Isophorone diisocyanate page 1050

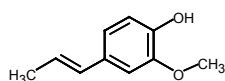
Isocyanic acid ethyl ester → Ethyl isocyanate page 872

Isocyanic acid phenyl ester → page 1307

Isocyanuric acid → Cyanuric acid page 666

Isocyanuric acid triallyl ester → 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione page 1572

## 818451 Isoeugenol for synthesis



$C_{10}H_{12}O_2$   
 $2-(CH_3O)-4-(CH_3CH=CH)C_6H_3OH$   
*4-Propenyl-2-methoxyphenol, 2-Methoxy-4-propenylphenol*  
 ■ CAS-No. 97-54-1 ■ EC-No. 202-590-7  
 ■ Refractive index 1.576 (20 °C, 589 nm)  
 ■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C)

■ Flash point 150 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 164.21 g/mol ■ Melting point 19 - 23 °C  
 ■ Boiling point 266 - 268 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
 ■ LD50 oral rat 1560 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2909 50 00 ■ Disposal 1

**Specification**  
 Assay of cis-trans-Isomers (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.085 - 1.089  
 trans-Isoeugenol (GC, area%) ..... ≥ 85,0 % (a/a)  
 cis-Isoeugenol (GC, area%) ..... ≤ 15,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18451.0100	Glass bottle	100 ml	inquire

## Isohexane

C<sub>6</sub>H<sub>14</sub>2-Methylpentane, *iso*-Hexane

- CAS-No. 92112-69-1 ■ EC-No. 295-570-2
- Vapour pressure 160 - 190 hPa (20 °C)
- Spec. density 0.66 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 7.4 % (V) ■ Flash point -21 °C
- Kin. viscosity 0.5 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.02 g/l (20 °C) ■ M = 86.18 g/mol
- pH value (H<sub>2</sub>O) no data available
- Melting point < -50 °C

- Boiling point 53 - 63 °C (1013 hPa)
- Ignition temp. 260 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P233, P273, P302 + P352, P301 + P330 + P331

- LC50 rat > 5 mg/l
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 601-007-00-7 ■ LGK 3
- HS-No. 2710 12 25 ■ Disposal 1
- ADR-RID UN 1208 Hexane, 3, II ■ IMDG-Code UN 1208 HEXANES, 3, II
- IATA-DGR UN 1208 HEXANES, 3, II



## 104333 Isohexane for analysis EMSURE®

## Specification

Purity C <sub>6</sub> H <sub>14</sub> -isomers (GC)	≥ 95.0 %
Identity (IR)	conforms
Acidity	≤ 0.0003 meq/g
n-Hexane (GC)	≤ 5.0 %
Aromatics (as benzene)	≤ 0.01 %
Sulfur compounds (as S)	≤ 0.005 %
Thiophene	≤ 0.0001 %
Matter discoloured by H <sub>2</sub> SO <sub>4</sub>	≤ 10 Hazen
Evaporation residue	≤ 10 mg/l
Water	≤ 0.01 %
Al (Aluminium)	≤ 0.00005 %

B (Boron)	≤ 0.000002 %
Ba (Barium)	≤ 0.00001 %
Ca (Calcium)	≤ 0.00005 %
Cd (Cadmium)	≤ 0.000005 %
Co (Cobalt)	≤ 0.000002 %
Cr (Chromium)	≤ 0.000002 %
Cu (Copper)	≤ 0.000002 %
Fe (Iron)	≤ 0.00001 %
Mg (Magnesium)	≤ 0.00001 %
Mn (Manganese)	≤ 0.000002 %
Ni (Nickel)	≤ 0.000002 %

Pb (Lead)	≤ 0.00001 %
Sn (Tin)	≤ 0.00001 %
Zn (Zinc)	≤ 0.00001 %

Ord.No.	Packaging	Quantity	Price
1.04333.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04333.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.04333.9190	Steel barrel	190 l	inquire

## 104340 Isohexane for gas chromatography ECD and FID SupraSolv®

## Specification

Purity C <sub>6</sub> H <sub>14</sub> -isomers (GC)	≥ 99.8 %
2-Methylpentane (GC)	≥ 50.0 %
Identity (IR)	conforms
Evaporation residue	≤ 3.0 mg/l
Water	≤ 0.01 %
Colour	≤ 10 Hazen

GC/ECD (retention range 1,2,4-trichlorobenzene to decachlorobiphenyle, individual signals (lindane standard)) ≤ 3 pg/ml  
GC/FID (retention range n-undecane to n-tetracontane, individual signals (n-tetradecane standard)) ≤ 3 ng/ml  
suitable for residue analysis

Ord.No.	Packaging	Quantity	Price
1.04340.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 104335 Isohexane for liquid chromatography LiChrosolv®

## Specification

Purity C <sub>6</sub> H <sub>14</sub> -isomers (GC)	≥ 99.0 %
Isohexane (GC)	≥ 60.0 %
n-Hexane (GC)	≤ 0.5 %
Evaporation residue	≤ 2.0 mg/l
Water	≤ 0.005 %
Colour	≤ 10 Hazen

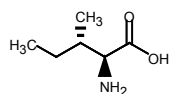
Acidity	≤ 0.0002 meq/g
Alkalinity	≤ 0.0002 meq/g
Transmission (at 210 nm)	≥ 60 %
Transmission (at 220 nm)	≥ 80 %
Transmission (from 245 nm)	≥ 98 %
Filtered by 0.2 µm filter	

Ord.No.	Packaging	Quantity	Price
1.04335.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

Isohexyl alcohol → 2-Ethyl-1-butanol page 855

Isoindazone → Indazole page 1001

## 105362 L-Isoleucine for biochemistry

C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub>*iso*-Leucine, *lle*

- CAS-No. 73-32-5 ■ EC-No. 200-798-2
- Solub. in H<sub>2</sub>O 32.1 g/l (20 °C) ■ M = 131.17 g/mol
- pH value 5.5 - 6.5 (40 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 279 - 280 °C (decomposition)
- Bulk density 470 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

Soluble in water and mineral acids; insoluble in organic solvents.

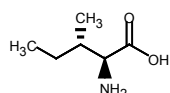
## Specification

Assay (perchloric acid titration, calculated on dried substance)	≥ 99.0 %
Identity (IR-spectrum)	passes test
Appearance	white to almost white, crystalline powder or flakes
Appearance of solution (1 mol/l, hydrochloric acid 1 mol/l)	clear and colorless
Spec. rotation (α <sub>D</sub> <sup>20</sup> , 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance)	+36.2 to +37.2°
UV-Absorption (260 nm, 1 mol/l, 1 cm, hydrochloric acid 1 mol/l)	≤ 0.10
UV-Absorption (280 nm, 1 mol/l, 1 cm, hydrochloric acid 1 mol/l)	≤ 0.10
Chloride (Cl)	≤ 0.02 %
Sulfate (SO <sub>4</sub> )	≤ 0.01 %
Heavy metals (as Pb)	≤ 0.001 %
As (Arsenic)	≤ 0.0005 %

Ca (Calcium)	≤ 0.001 %
Co (Cobalt)	≤ 0.0005 %
Fe (Iron)	≤ 0.0005 %
K (Potassium)	≤ 0.0005 %
Mg (Magnesium)	≤ 0.0005 %
Na (Sodium)	≤ 0.005 %
NH <sub>4</sub> (Ammonium)	≤ 0.01 %
Zn (Zinc)	≤ 0.0005 %
Foreign amino acids	≤ 0.5 %
Other ninhydrine positive substances	≤ 0.1 %
Loss on drying (105 °C; 3 h)	≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.05362.0025	Plastic bottle	25 g	inquire
1.05362.0100	Plastic bottle	100 g	inquire
1.05362.0500	Plastic bottle	500 g	inquire
1.05362.9010	Plastic drum	10 kg	inquire

## 816008 (S)-(+)-Isoleucine for synthesis

C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub>*iso*-Leucine, *lle*

- CAS-No. 73-32-5 ■ EC-No. 200-798-2
- Solub. in H<sub>2</sub>O 32.1 g/l (20 °C) ■ M = 131.17 g/mol

- mol ■ pH value 5.5 - 6.5 (40 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 279 - 280 °C (decomposition)
- Bulk density 470 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (HClO <sub>4</sub> )	≥ 99.0 % (m)
Spec. rotation [α <sub>D</sub> <sup>20</sup> (c=4 in HCl 6 mol/l)]	.....

.....	39.5 - 41.5 °
Identity (IR)	passes test

Ord.No.	Packaging	Quantity	Price
8.16008.0010	Plastic bottle	10 g	inquire
8.16008.0025	Plastic bottle	25 g	inquire



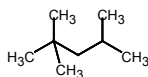
# Isoleu

L-Isoleucine → (S)-(+)-Isoleucine page 1047  
 Isoniazide → 4-Pyridinecarboxylic acid hydrazide page 1387  
 Isonicotinaldehyde → 4-Pyridinecarbaldehyde page 1385  
 Isonicotinaldoxime → 4-Pyridinecarbaldehyde oxime page 1385  
 Isonicotinamide → 4-Pyridinecarboxylic acid amide page 1386

Isonicotinic acid amide → 4-Pyridinecarboxylic acid amide page 1386  
 Isonicotinic acid ethyl ester → Ethyl 4-pyridinecarboxylate page 883  
 Isonicotinic acid hydrazide → 4-Pyridinecarboxylic acid hydrazide page 1387  
 Isonicotinic acid nitrile → 4-Pyridinecarbonitrile page 1386  
 Isonicotinonitrile → 4-Pyridinecarbonitrile page 1386

Isonicotinoyl chloride hydrochloride → 4-Pyridinoyl chloride hydrochloride page 1389  
 Isonipectic acid → 4-Piperidinecarboxylic acid page 1331  
 Isonitriles → Nitriles and isonitriles

## Isooctane



C<sub>8</sub>H<sub>18</sub>  
 CH<sub>3</sub>C(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)CH<sub>3</sub>  
 2,2,4-Trimethylpentane, Isobutyltrimethylmethane, iso-Octane  
 ■ CAS-No. 540-84-1 ■ EC-No. 208-759-1  
 ■ Vapour pressure 51 hPa (20 °C)  
 ■ Spec. density 0.69 g/cm<sup>3</sup> (20 °C) ■ Dielectricity

constant 1.9 (20 °C) ■ Explosive limit 1 % (V)  
 ■ Flash point -12 °C ■ Solub. in H<sub>2</sub>O 0.56 mg/l (25 °C) ■ M = 114.23 g/mol  
 ■ pH value (H<sub>2</sub>O) neutral ■ Saturation conc. 239 g/m<sup>3</sup> (20 °C) ■ Melting point -107 °C  
 ■ Boiling point 99 °C (1013 hPa)  
 ■ Evaporation number 2.3 ■ Ignition temp. 410 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336;

Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P233, P240, P273, P301 + P310, P302 + P352, P304 + P340, P331  
 ■ LC50 rat 37.5 mg/l  
 ■ LD50 oral rat > 2500 mg/kg  
 ■ EC-Index-No. 601-009-00-8 ■ LGK 3  
 ■ HS-No. 2901 10 00 ■ Disposal 1  
 ■ ADR-RID UN 1262 Octane, 3, II ■ IMDG-Code UN 1262 OCTANES, 3, II  
 ■ IATA-DGR UN 1262 OCTANES, 3, II



### 821627 Isooctane for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/4 °C) ..... 0.691 - 0.692  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21627.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

### 104727 Isooctane for analysis EMSURE® ACS, Reag. Ph Eur

#### Specification

Purity (GC) ..... ≥ 99.5 %  
 Identity (IR) ..... conforms  
 Colour ..... ≤ 10 Hazen  
 Acidity ..... ≤ 0.0003 meq/g  
 Density (d 20 °C/20 °C) ..... 0.691 - 0.696  
 Refractive index (n 20/D) ..... 1.391 - 1.393  
 Boiling range (98-100 °C) ..... ≥ 95 % (v/v)  
 Sulfur compounds (as S) ..... ≤ 0.005 %  
 Readily carbonizable substances ..... conforms  
 Transmission (between 250nm and 420nm) ≥ 98 %  
 Al (Aluminium) ..... ≤ 0.00005 %  
 B (Boron) ..... ≤ 0.000002 %  
 Ba (Barium) ..... ≤ 0.00001 %

Ca (Calcium) ..... ≤ 0.00005 %  
 Cd (Cadmium) ..... ≤ 0.000005 %  
 Co (Cobalt) ..... ≤ 0.000002 %  
 Cr (Chromium) ..... ≤ 0.000002 %  
 Cu (Copper) ..... ≤ 0.000002 %  
 Fe (Iron) ..... ≤ 0.00001 %  
 Mg (Magnesium) ..... ≤ 0.00001 %  
 Mn (Manganese) ..... ≤ 0.000002 %  
 Ni (Nickel) ..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.00001 %  
 Sn (Tin) ..... ≤ 0.00001 %  
 Zn (Zinc) ..... ≤ 0.00001 %  
 Evaporation residue ..... ≤ 0.001 %

Water ..... ≤ 0.01 %  
 Corresponds to ACS, Ph Eur-reagent

Ord.No.	Packaging	Quantity	Price
1.04727.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04727.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.04727.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.04727.6010	Drum stainl. st.	10 l	inquire
1.04727.6025	Drum stainl. st.	25 l	inquire

### 104715 Isooctane dried (max. 0.003% H<sub>2</sub>O) SeccoSolv®

#### Specification

Purity (GC) ..... ≥ 99.8 %  
 Identity (IR) ..... conforms  
 Colour ..... ≤ 10 Hazen  
 Acidity ..... ≤ 0.0005 meq/g

Alkalinity ..... ≤ 0.0002 meq/g  
 Evaporation residue ..... ≤ 10 mg/l  
 Water ..... ≤ 0.003 %

Ord.No.	Packaging	Quantity	Price
1.04715.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire

### 115440 Isooctane for gas chromatography ECD and FID SupraSolv®

#### Specification

Purity (GC) ..... ≥ 99.8 %  
 Identity (IR) ..... conforms  
 Evaporation residue ..... ≤ 2.0 mg/l  
 Water ..... ≤ 0.01 %  
 Colour ..... ≤ 10 Hazen  
 GC/ECD (retention range 1,2,4-tri-

chlorobenzene to decachlorobiphenyle, individual signals (lindane standard)) ..... ≤ 3 pg/ml  
 GC/FID (retention range n-undecane to n-tetracontane, individual signals (n-tetradecane standard)) ..... ≤ 3 ng/ml  
 suitable for residue analysis

Ord.No.	Packaging	Quantity	Price
1.15440.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.15440.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

### 104718 Isooctane for spectroscopy Uvasol®

#### Specification

Purity (GC) ..... ≥ 99.8 %  
 Evaporation residue ..... ≤ 0.0002 %  
 Water ..... ≤ 0.005 %  
 Colour ..... ≤ 10 Hazen  
 Acidity ..... ≤ 0.0002 meq/g  
 Alkalinity ..... ≤ 0.0002 meq/g  
 Fluorescence (as quinine at 254 nm) ..... ≤ 1.0 ppb  
 Fluorescence (as quinine at 365 nm) ..... ≤ 1.0 ppb  
 Transmission (at 205nm) ..... ≥ 30 %  
 Transmission (at 215 nm) ..... ≥ 65 %

Transmission (at 220 nm) ..... ≥ 80 %  
 Transmission (at 225 nm) ..... ≥ 85 %  
 Transmission (at 235 nm) ..... ≥ 90 %  
 Transmission (at 245 nm) ..... ≥ 98 %  
 Transmission (from 255 nm) ..... ≥ 99 %  
 Absorbance (at 205nm) ..... ≤ 0.52  
 Absorbance (at 215 nm) ..... ≤ 0.19  
 Absorbance (at 220 nm) ..... ≤ 0.10  
 Absorbance (at 225 nm) ..... ≤ 0.07  
 Absorbance (at 235 nm) ..... ≤ 0.05

Absorbance (at 245 nm) ..... ≤ 0.01  
 Absorbance (from 255 nm) ..... ≤ 0.004  
 Meet the requirements of "Specific use spectroscopy" according ACS and Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04718.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.04718.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 104717 Isooctane for liquid chromatography LiChrosolv®

## Specification

Purity (GC).....	≥ 99.0 %
Identity (IR).....	conforms
Evaporation residue.....	≤ 2.0 mg/l
Water.....	≤ 0.01 %
Acidity.....	≤ 0.0002 meq/g
Alkalinity.....	≤ 0.0002 meq/g

Transmission (at 210 nm).....	≥ 50 %
Transmission (at 220 nm).....	≥ 80 %
Transmission (from 245 nm).....	≥ 98 %

Filtered by 0.2 µm filter

Ord.No.	Packaging	Quantity	Price
1.04717.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.04717.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

Isooctanol → 2-Ethyl-1-hexanol page 303

Isooctyl bromide → 3-(Bromomethyl)heptane page 506

Isooctyl mercaptoacetate → Isooctylthioglycolate page 1049

## 840110 Isooctylthioglycolate for synthesis

C<sub>10</sub>H<sub>20</sub>O<sub>2</sub>S

Mercaptoacetic acid isooctyl ester, Isooctyl mercaptoacetate

- CAS-No. 25103-09-7 ■ EC-No. 246-613-9
- Refractive index 1.4606 (21 °C) ■ Vapour pressure 0.3 hPa (20 °C) ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Flash point 130 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 204.36 g/mol
- Boiling point 96 °C (2.7 hPa)

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 4, H413, P273
- LD50 oral rat 348 mg/kg
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 6

## Specification

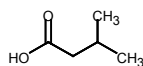
Assay (iodometric).....	≥ 98.0 %
Density (d 20 °C/ 4 °C).....	0.970 - 0.975
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.40110.0025	Glass bottle	25 ml	inquire

Isopentanal → 3-Methylbutyraldehyde page 1141

Isopentane → page 293

## 800820 Isopentanoic acid for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>COOH

3-Methylbutyric acid

- CAS-No. 503-74-2 ■ EC-No. 207-975-3
- Refractive index 1.4034 (20 °C, 589 nm)
- Vapour pressure 0.5 hPa (20 °C)
- Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 6.8 % (V) ■ Flash point 74 °C ■ Solub. in H<sub>2</sub>O 25 g/l (20 °C) ■ M = 102.13 g/mol
- pH value 3 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -26 °C ■ Boiling point 176 °C (1013 hPa)

- Ignition temp. 440 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 3000 mg/kg
- LGK 8A
- HS-No. 2915 60 90 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(ISOVALERIANSAEURE), 8, II
- IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(ISOPENTANOIC ACID), 8, II, Segregation Group: 1 (Acids)

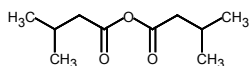
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(ISOPENTANOIC ACID), 8, II

## Specification

Assay (GC, area%).....	≥ 99.0 %
Water (K. F.).....	≤ 0.20 % (m)
Density (d 20 °C/ 4 °C).....	0.925 - 0.926
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
8.00820.0005	Glass bottle	5 ml	inquire
8.00820.0250	Glass bottle	250 ml	inquire
8.00820.1000	Glass bottle	1 l	inquire

## 820722 Isopentanoic anhydride for synthesis

C<sub>10</sub>H<sub>18</sub>O<sub>3</sub>[(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>CO]<sub>2</sub>O

3-Methylbutyric anhydride

- CAS-No. 1468-39-9 ■ EC-No. 215-994-3
- Refractive index 1.4041 (20 °C, 589 nm)

- Spec. density 0.93 g/cm<sup>3</sup> (20 °C)
- Flash point 91 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 186.25 g/mol
- Melting point -65 °C ■ Boiling point 215 °C (1013 hPa)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 11

## Specification

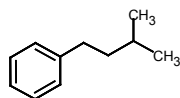
Assay (GC, area%).....	≥ 97.0 % (a/a)
Density (20/4 °C).....	0.929 - 0.931
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.20722.0025	Glass bottle	25 ml	inquire

Isopentanol → Isoamyl alcohol page 304

Isopentyl alcohol → page 319

## 820717 Isopentylbenzene for synthesis

C<sub>11</sub>H<sub>16</sub>C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>

3-Methyl-1-phenylbutane, Isoamylbenzene, (3-Methylbutyl)-benzene

- CAS-No. 2049-94-7 ■ EC-No. 218-075-5
- Refractive index 1.4867 (16 °C, 589 nm)
- Spec. density 0.85 g/cm<sup>3</sup> (20 °C)
- Flash point 62 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 148.25 g/mol
- Boiling point 198 - 199 °C
- WGK 3
- LGK 10
- HS-No. 2902 90 00 ■ Disposal 3

## Specification

Assay (GC, area%).....	≥ 97.0 % (a/a)
Density (d 20 °C/ 4 °C).....	0.851 - 0.856
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.20717.0010	Glass bottle	10 ml	inquire

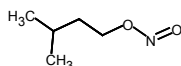
Isopentyl bromide → 1-Bromo-3-methylbutane page 506

Isopentyl iodide → 1-Iodo-3-methylbutane page 1011

Isopentyl isopentanoate → 3-Methylbutyl isovalerate page 1140

# Isopen

## 101245 Isopentyl nitrite extra pure stabilized with potassium carbonate



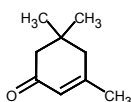
C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>  
*iso*-Amyl nitrite, *iso*-Pentyl nitrite, Nitrous acid isomyl ester  
 ■ CAS-No. 1110-46-3 ■ EC-No. 203-770-8  
 ■ Spec. density 0.872 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point -18 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 117.15 g/mol ■ Boiling point 97 - 99 °C (1013 hPa)

■ Ignition temp. 208 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P210, P233  
 ■ LC50 rat 3.48 mg/l  
 ■ LD50 oral rat 505 mg/kg  
 ■ EC-Index-No. 007-020-00-9 ■ LGK 3  
 ■ HS-No. 2920 90 85 ■ Disposal 3  
 ■ ADR-RID UN 1113 Amylnitrite, 3, II ■ IMDG-Code UN 1113 AMYL NITRITE, 3, II

■ IATA-DGR UN 1113 AMYL NITRITE, 3, II  
**Specification**  
 Total nitrites (GC)..... ≥ 97.0 % (a/a)  
 Identity (IR-spectrum)..... conforms  
 Free acid..... conforms  
 Density (d 20 °C/ 4 °C)..... 0.8720 - 0.8770  
 Non volatile matter..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.01245.0050	Glass btl. pl.coat.	50 ml	inquire
1.01245.0250	Glass btl. pl.coat.	250 ml	inquire

## 804807 Isophorone for synthesis



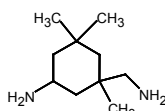
C<sub>9</sub>H<sub>14</sub>O  
 3,5,5-Trimethyl-2-cyclohexen-1-one  
 ■ CAS-No. 78-59-1 ■ EC-No. 201-126-0  
 ■ Refractive index 1.4759 (20 °C, 589 nm)  
 ■ Vapour pressure 0.33 hPa (20 °C)  
 ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 3.8 % (V) ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O 14.5 g/l (20 °C) ■ M = 138.21 g/mol

■ pH value (H<sub>2</sub>O, 20 °C) neutral, Aqueous solution  
 ■ Melting point -8 °C ■ Boiling point 210 - 216 °C (1013 hPa) ■ Ignition temp. 460 °C  
 ■ WGK 1  
 ■ GHS: Warning, Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P281, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LD50 oral rat 1500 mg/kg ■ LD50 dermal rabbit 1500 mg/kg  
 ■ EC-Index-No. 606-012-00-8 ■ LGK 10 - 13

■ HS-No. 2914 29 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,920 - 0,922  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04807.0100	Glass bottle	100 ml	inquire
8.04807.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.04807.2500	Glass bottle	2.5 l	inquire

## 814123 Isophoronediamine (mixture of stereoisomers) for synthesis



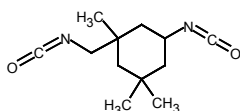
C<sub>10</sub>H<sub>22</sub>N<sub>2</sub>  
 3-Aminomethyl-3,5,5-trimethylcyclohexylamine  
 ■ CAS-No. 2855-13-2 ■ EC-No. 220-666-8  
 ■ Refractive index 1.4888 (20 °C, 589 nm)  
 ■ Vapour pressure 0.02 hPa (20 °C)  
 ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 % (V) ■ Flash point 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 170.3 g/mol

■ pH value 11.6 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 10 °C ■ Boiling point 247 °C (1013 hPa) ■ Ignition temp. 380 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P280, P273, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1030 mg/kg  
 ■ EC-Index-No. 612-067-00-9 ■ LGK 8A  
 ■ HS-No. 2921 30 99 ■ Disposal 3

■ ADR-RID UN 2289 Isophorondiamin, 8, III  
 ■ IMDG-Code UN 2289 ISOPHORONEDIAMINE, 8, III  
 ■ IATA-DGR UN 2289 ISOPHORONEDIAMINE, 8, III  
**Specification**  
 Assay isomers (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,923 - 0,924  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14123.0100	Glass bottle	100 ml	inquire
8.14123.0500	Glass bottle	500 ml	inquire

## 818586 Isophorone diisocyanate (mixture of cis- and trans-isomers) for synthesis



C<sub>12</sub>H<sub>18</sub>N<sub>2</sub>O<sub>2</sub>  
 5-Isocyanato-1-isocyanatomethyl-1,3,3-trimethylcyclohexane, 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate  
 ■ CAS-No. 4098-71-9 ■ EC-No. 223-861-6  
 ■ Refractive index 1.482 (25 °C, 589 nm) ■ Vapour pressure 0.0004 hPa (20 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 4.5 % (V) ■ Flash point 155 °C ■ Solub. in H<sub>2</sub>O 0.015 g/l (20 °C) (slow decomposition)

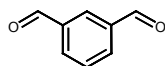
■ M = 222.29 g/mol ■ Melting point -60 °C  
 ■ Boiling point 158 - 159 °C (13 hPa)  
 ■ Ignition temp. 430 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P273, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.67 mg/l  
 ■ LD50 oral rat 4825 mg/kg ■ LD50 dermal rat > 7000 mg/kg

■ EC-Index-No. 615-008-00-5 ■ LGK 6.1A  
 ■ HS-No. 2929 10 00 ■ Disposal 11  
 ■ ADR-RID UN 2290 Isophorondiisocyanat, 6.1, III  
 ■ IMDG-Code UN 2290 ISOPHORONE DIISOCYANATE, 6.1, III  
 ■ IATA-DGR UN 2290 ISOPHORONE DIISOCYANATE, 6.1, III  
**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,060 - 1,062  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18586.0250	Glass bottle	250 ml	inquire
8.18586.1000	Glass bottle	1 l	inquire

Isophthalaldehyde → Isophthalaldialdehyde page 1050

## 821821 Isophthalaldialdehyde for synthesis



C<sub>8</sub>H<sub>6</sub>O<sub>2</sub>  
 1,3-Benzenedicarbaldehyde, Isophthalaldehyde  
 ■ CAS-No. 626-19-7 ■ EC-No. 210-935-8

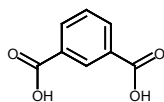
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 134.14 g/mol ■ Melting point 88 - 90 °C  
 ■ Boiling point 134 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 29 00 ■ Disposal 3

Melting range (lower value)..... ≥ 86 °C  
 Melting range (upper value)..... ≤ 90 °C  
 Identity (IR)..... passes test

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.21821.0010	Glass bottle	10 g	inquire

## 800607 Isophthalic acid for synthesis

C<sub>8</sub>H<sub>6</sub>O<sub>4</sub>C<sub>6</sub>H<sub>4</sub>-1,3-(COOH)<sub>2</sub>

1,3-Benzenedicarboxylic acid

■ CAS-No. 121-91-5 ■ EC-No. 204-506-4

- Vapour pressure 6.1 hPa (250 °C)
- Spec. density 1.54 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.12 g/l (25 °C) ■ M = 166.13 g/mol
- Melting point 345 - 348 °C (sublimed)
- Ignition temp. 700 °C
- WGK 1
- LC50 rat > 11370 mg/l
- LD50 oral rat 10400 mg/kg
- LD50 dermal rabbit > 2000 mg/kg

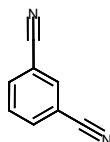
- LGK 10 - 13
- HS-No. 2917 39 95 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00607.0100	Plastic bottle	100 g	inquire
8.00607.1000	Plastic bottle	1 kg	inquire

## 841355 Isophthalonitrile for synthesis

C<sub>8</sub>H<sub>4</sub>N<sub>2</sub>

Benzene-1,3-dicarbonitrile, 1,3-Dicyanobenzene

■ CAS-No. 626-17-5 ■ EC-No. 210-933-7

■ Vapour pressure 0.014 hPa (20 °C)

■ Spec. density 1.3 g/cm<sup>3</sup> (20 °C)

- Flash point >150 °C ■ Solub. in H<sub>2</sub>O 0.7 g/l (20 °C) ■ M = 128.13 g/mol
- Melting point 162 - 163 °C
- Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 288 °C
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2926 90 20 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(ISOPHTHALSAEUREDINITRIL), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(ISOPHTHALONITRILE), 6.1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(ISOPHTHALONITRILE), 6.1, II

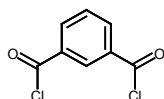
## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 159 °C  
 Melting range (upper value)..... ≤ 162 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41355.0100	Plastic bottle	100 g	inquire
8.41355.0500	Plastic bottle	500 g	inquire

Isophthaloyl chloride → Isophthaloyl dichloride page 1051

## 804808 Isophthaloyl dichloride for synthesis

C<sub>8</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,3-(COCl)<sub>2</sub>

Isophthaloyl chloride

■ CAS-No. 99-63-8 ■ EC-No. 202-774-7

■ Vapour pressure 0.04 hPa (25 °C)

■ Spec. density 1.39 g/cm<sup>3</sup> (17 °C) ■ Explosive limit 1.5 - 8.9 % (V) ■ Flash point 180 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 203.03 g/mol

■ Melting point 42 - 45 °C

■ Boiling point 276 °C

- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 2200 mg/kg ■ LD50 dermal rabbit 1410 mg/kg
- LGK 8A
- HS-No. 2917 39 20 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(ISOPHTHALSAEUREDICHLORID), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(ISOPHTHALOYL DICHLORIDE), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(ISOPHTHALOYL DICHLORIDE), 8, III

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 43 °C  
 Melting range (upper value)..... ≤ 46 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04808.0100	Glass bottle	100 g	inquire
8.04808.1000	Glass btl. pl.coat.	1 kg	inquire
8.04808.5000	Barrel PE/met	5 kg	inquire

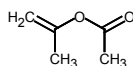
Isoprene → 2-Methyl-1,3-butadiene page 1138

Isopropanolamine → page 400

S-(+)-Isopropanolamine → (S)-(+)-1-Amino-2-propanol page 401

Isopropanol standards → Standards

## 803138 Isopropenyl acetate for synthesis

C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>CH<sub>3</sub>COOC(CH<sub>3</sub>)=CH<sub>2</sub>

Acetone enol acetate

■ CAS-No. 108-22-5 ■ EC-No. 203-562-7

■ Refractive index 1.4 (20 °C, 589 nm) ■ Vapour pressure 23 hPa (20 °C) ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 % (V)■ Flash point 16 °C ■ Solub. in H<sub>2</sub>O 34 g/l (20 °C)■ M = 100.12 g/mol ■ pH value 3 (34 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point -93 °C

■ Boiling point 97 °C (1013 hPa)

■ Ignition temp. 439 °C DIN 51794

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P233

■ LC50 rat &gt; 22 mg/l

■ LD50 oral rat 3000 mg/kg ■ LD50 dermal rat &gt; 2000 mg/kg

■ LGK 3

■ HS-No. 2915 39 00 ■ Disposal 3

■ ADR-RID UN 2403 Isopropenylacetat, 3, II

■ IMDG-Code UN 2403 ISOPROPENYL ACETATE,

3, II

■ IATA-DGR UN 2403 ISOPROPENYL ACETATE, 3, II

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,920 - 0,923  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03138.0100	Glass bottle	100 ml	inquire
8.03138.1000	Glass bottle	1 l	inquire

Isopropenylbenzene → α-Methylstyrene page 1180

4-Isopropenylchlorobenzene → 4-Chloro-α-methylstyrene page 621

(R)-(+)-4-Isopropenyl-1-methyl-1-cyclohexene →

(R)-(+)-Limonene page 1077

(S)-(-)-4-Isopropenyl-1-methyl-1-cyclohexene →

(S)-(-)-Limonene page 1078

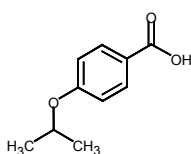
(R)-(-)-5-Isopropenyl-2-methyl-2-cyclohexenone

→ (R)-(-)-Carvone page 583

(S)-(+)-5-Isopropenyl-2-methyl-2-cyclohexenone

→ (S)-(+)-Carvone page 583

## 814461 4-Isopropoxybenzoic acid for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>3</sub>

4-(1-Methylethoxy)benzoic acid

■ CAS-No. 13205-46-4 ■ EC-No. 236-169-4

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 180.2 g/mol

■ Melting point 163 - 166 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2918 99 90 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 163 °C  
 Melting range (upper value)..... ≤ 166 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14461.0010	Plastic bottle	10 g	inquire

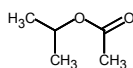


# Isopro

2-(Isopropoxy)ethanol → Ethylene glycol monoisopropyl ether page 303

Isopropoxymethyloxirane → 2,3-Epoxypropyl isopropyl ether page 837

## 820560 Isopropyl acetate for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>  
CH<sub>3</sub>COOCH(CH<sub>3</sub>)<sub>2</sub>  
■ CAS-No. 108-21-4 ■ EC-No. 203-561-1  
■ Vapour pressure 61 hPa (20 °C)  
■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 8 % (V) ■ Flash point 4 °C ■ Solub. in H<sub>2</sub>O 31 g/l (20 °C) ■ M = 102.13 g/mol  
■ Melting point -73 °C ■ Boiling point 88 - 90 °C (1013 hPa) ■ Ignition temp. 460 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319, P210, P233, P305 + P351 + P338
- LC50 rat 50.6 mg/l
- LD50 oral rat 6750 mg/kg ■ LD50 dermal rabbit > 20000 mg/kg
- EC-Index-No. 607-024-00-6 ■ LGK 3
- HS-No. 2915 39 00
- ADR-RID UN 1220 Isopropylacetat, 3, II
- IMDG-Code UN 1220 ISOPROPYL ACETATE, 3, II
- IATA-DGR UN 1220 ISOPROPYL ACETATE, 3, II

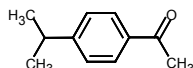
### Specification

Assay (GC, area%) ..... ≥ 99 %  
Density (d 20 °C/ 4 °C) ..... 0.871 - 0.873  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20560.0100	Glass bottle	100 ml	inquire
8.20560.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.20560.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

Isopropylacetone → page 319

## 841367 4'-Isopropylacetophenone for synthesis



C<sub>11</sub>H<sub>14</sub>O  
■ CAS-No. 645-13-6 ■ EC-No. 211-433-1  
■ Spec. density 0.970 g/cm<sup>3</sup> (20 °C)

- M = 162.23 g/mol ■ Boiling point 119 - 120 °C (13.3 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2914 39 00 ■ Disposal 3

Density (d 20 °C/ 4 °C) ..... 0.967 - 0.974  
Identity (IR) ..... passes test

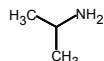
### Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.41367.0010	Glass bottle	10 ml	inquire

Isopropyl alcohol → page 293

## Isopropylamine



C<sub>3</sub>H<sub>9</sub>N  
(CH<sub>3</sub>)<sub>2</sub>CHNH<sub>2</sub>  
2-Aminopropane, 2-Aminopropan  
■ CAS-No. 75-31-0 ■ EC-No. 200-860-9  
■ Refractive index 1.3746 (20 °C, 589 nm)  
■ Vapour pressure 632 hPa (20 °C)

- Spec. density 0.69 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 10.4 % (V) ■ Flash point -37 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 59.11 g/mol
- pH value 13 (700 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -101 °C ■ Boiling point 31 - 33 °C (1013 hPa) ■ Ignition temp. 330 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 1, H224; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category

3, H335; Skin irritation, Category 2, H315, P210, P233, P302 + P352, P305 + P351 + P338  
■ LC50 rat 9.8 mg/l  
■ LD50 oral rat 550 mg/kg ■ LD50 dermal rabbit > 400 mg/kg  
■ EC-Index-No. 612-007-00-1 ■ LGK 3  
■ HS-No. 2921 19 99 ■ Disposal 3  
■ ADR-RID UN 1221 Isopropylamin, 3 (8), I  
■ IMDG-Code UN 1221 ISOPROPYLAMINE, 3 (8), I  
■ IATA-DGR UN 1221 ISOPROPYLAMINE, 3 (8), I

## 807476 Isopropylamine for synthesis

**Specification**  
Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,687 - 0,688  
Water (K. F.) ..... ≤ 0,50 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07476.0100	Glass bottle	100 ml	inquire
8.07476.1000	Glass bottle	1 l	inquire
8.07476.2500	Glass bottle	2.5 l	inquire

## 845053 Isopropylamine for pharma synthesis, non-GMP

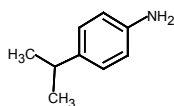
**Specification**  
Appearance of substance (visual) ..... clear  
Colour number (Hazen) ..... ≤ 20  
Assay (GC, area%) ..... ≥ 99,5 Area %  
Density (d 20 °C/ 4 °C) ..... 0,687 - 0,688

Water (K. F.) ..... ≤ 0,20 % (m)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45053.0100	Glass bottle	100 ml	inquire
8.45053.1000	Glass bottle	1 l	inquire

(R)-(+)-1-(Isopropylamino)-3-(1-naphthoxy)-2-propanol hydrochloride → (R)-(+)-Propranolol hydrochloride page 1371

## 818472 4-Isopropylaniline for synthesis



C<sub>9</sub>H<sub>13</sub>N  
4-(NH<sub>2</sub>)-C<sub>6</sub>H<sub>4</sub>-CH(CH<sub>3</sub>)<sub>2</sub>  
Cumidine, p-Aminocumene  
■ CAS-No. 99-88-7 ■ EC-No. 202-797-2  
■ Refractive index 1.5415 (20 °C, 589 nm)  
■ Vapour pressure 0.1 hPa (20 °C)  
■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)  
■ Flash point 92 °C ■ Solub. in H<sub>2</sub>O 2.2 g/l (20 °C)

- M = 135.21 g/mol ■ pH value 7 (2.2 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -63 °C
- Boiling point 226 - 227 °C (1013 hPa)
- Ignition temp. 540 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 757 mg/kg ■ LD50 dermal rat 1030 mg/kg
- LGK 8A
- HS-No. 2921 49 00

■ ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(4-ISOPROPYLANILIN), 8, III ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(4-ISOPROPYLANILINE), 8, III  
■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(4-ISOPROPYLANILINE), 8, III

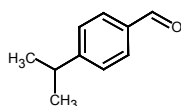
### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.950 - 0.951  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18472.0050	Glass bottle	50 ml	inquire



## 807025 4-Isopropylbenzaldehyde for synthesis

C<sub>10</sub>H<sub>12</sub>O4-[(CH<sub>3</sub>)<sub>2</sub>CH]C<sub>6</sub>H<sub>4</sub>CHO

Cuminaldehyde

■ CAS-No. 122-03-2 ■ EC-No. 204-516-9

■ Refractive index 1.5301 (20 °C, 589 nm)

- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 148.21 g/mol
- Boiling point 82 - 84 °C (5 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1390 mg/kg ■ LD50 dermal rabbit 2800 mg/kg
- LGK 10 - 13

■ HS-No. 2912 29 00 ■ Disposal 1

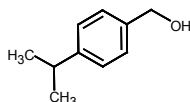
## Specification

Assay (GC, area%)..... ≥ 90,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,978 - 0,981  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07025.0100	Glass bottle	100 ml	inquire

Isopropylbenzene → Cumene page 300

## 814853 4-Isopropylbenzyl alcohol for synthesis

C<sub>10</sub>H<sub>14</sub>O

■ CAS-No. 536-60-7 ■ EC-No. 208-640-4

■ Spec. density 0.982 g/cm<sup>3</sup> ■ Flash point >230 °C

- M = 150.22 g/mol ■ Melting point 28 °C
- Boiling point 135 - 136 °C (34.7 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
- LD50 oral rat 1020 mg/kg ■ LD50 dermal rabbit 2500 mg/kg
- LGK 10 - 13

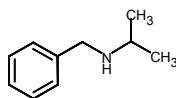
■ HS-No. 2906 29 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14853.0025	Glass bottle	25 ml	inquire

## 841618 N-Isopropylbenzylamine for synthesis

C<sub>10</sub>H<sub>15</sub>N

■ CAS-No. 102-97-6 ■ EC-No. 203-067-6

■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C)

■ Flash point 87 °C ■ M = 149.24 g/mol

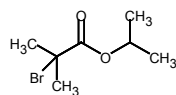
- Boiling point 199 - 200 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2921 49 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,903 - 0,910  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41618.0100	Glass bottle	100 ml	inquire

## 814785 Isopropyl 2-bromoisobutyrate for synthesis

C<sub>7</sub>H<sub>13</sub>BrO<sub>2</sub>

■ CAS-No. 51368-55-9 ■ EC-No. 257-158-0

■ Spec. density 1.24 g/cm<sup>3</sup> (20 °C)

■ Flash point 63 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 209.08 g/mol■ pH value (H<sub>2</sub>O, 20 °C) no data available

■ Saturation conc. (20 °C) Air, no data available

- Boiling point 170 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(ISOPROPYL-2-

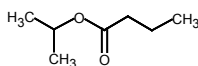
BROMOISOBUTYRATE), 9, III

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14785.0025	Glass bottle	25 ml	inquire
8.14785.0100	Glass bottle	100 ml	inquire

## 821981 Isopropyl butyrate for synthesis

C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>COOCH(CH<sub>3</sub>)<sub>2</sub>

Butyric acid isopropyl ester

■ CAS-No. 638-11-9 ■ EC-No. 211-320-7

■ Refractive index 1.3922 (25 °C, 589 nm)

■ Vapour pressure 65 hPa (50 °C)

- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point 24 °C ■ M = 130.19 g/mol
- Boiling point 130 °C (1013 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2915 60 19 ■ Disposal 3
- ADR-RID UN 2405 Isopropylbutyrat, 3, III
- IMDG-Code UN 2405 ISOPROPYL BUTYRATE,

3, III

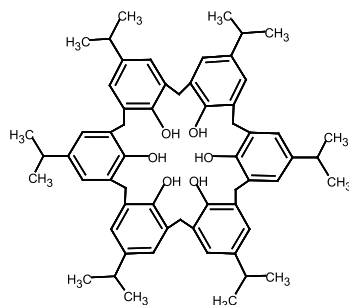
■ IATA-DGR UN 2405 ISOPROPYL BUTYRATE, 3, III

## Specification

Assay (GC, area%)..... ≥ 95,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,860 - 0,865  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21981.0250	Glass bottle	250 ml	inquire

## 824493 p-Isopropylcalix-6-arene for synthesis

C<sub>60</sub>H<sub>72</sub>O<sub>6</sub>

5,11,17,23,29,35-Hexaisopropyl-37,38,39,40,41,42-hexahydroxycalix[6]arene

■ CAS-No. 104789-79-9

■ M = 889.22 g/mol ■ Melting point 347 °C

■ WGK 3

■ HS-No. 2907 29 00 ■ Disposal 3

## Specification

Assay (to C, H)..... ≥ 97,0 %  
 Identity (IR)..... passes test

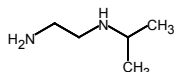
Ord.No.	Packaging	Quantity	Price
8.24493.0250	Glass bottle	250 mg	inquire

Isopropyl chloride → 2-Chloropropane page 630

Isopropyl cyanide → Isobutyronitrile page 1046

Isopropyl ether → page 316

## 841329 N-Isopropylethylenediamine for synthesis



C<sub>5</sub>H<sub>14</sub>N<sub>2</sub>  
 ■ CAS-No. 19522-67-9 ■ EC-No. 243-125-8  
 ■ Spec. density 0.822 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 6 °C ■ M = 102.18 g/mol  
 ■ Boiling point 135 - 137 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2,

H225; Skin corrosion, Category 1B, H314, P210, P223, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 2921 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(N-ISOPROPYLETHYLENDIAMIN), 3 (8), II  
 ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N-ISOPROPYLETHYLENDIAMINE), 3 (8), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(N-ISOPROPYLETHYLENDIAMINE), 3 (8), II

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.826 - 0.832  
 Identity (IR) ..... passes test

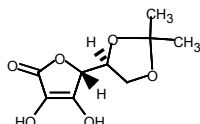
Ord.No.	Packaging	Quantity	Price
8.41329.0010	Glass bottle	10 ml	inquire

Isopropyl glycidyl ether → 2,3-Epoxypropyl isopropyl ether page 837

Isopropyl glycol → Ethylene glycol monoisopropyl ether page 303

Isopropylideneacetone → Mesityl oxide page 1107

## 818234 (+)-5,6-O-Isopropylidene-L-ascorbic acid for synthesis



C<sub>9</sub>H<sub>12</sub>O<sub>6</sub>  
 ■ CAS-No. 15042-01-0

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 216.19 g/mol  
 ■ Melting point 223 - 226 °C (decomposition)  
 ■ Ignition temp. 217 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 20 90 ■ Disposal 3

## Specification

Assay (iodometric) ..... ≥ 98.0 %

Spec. rotation [α<sub>D</sub><sup>20</sup> (c=5 in methanol) ..... 10.0 - 13.0 °  
 Identity (IR) ..... passes test

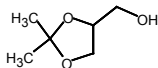
Ord.No.	Packaging	Quantity	Price
8.18234.0010	Glass bottle	10 g	inquire

(+)-2,3-O-Isopropylidene-2,3-dihydroxy-1,4-bis(diphenylphosphino)-butane → (4S,5S)-(+)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane page 469

(-)-2,3-O-Isopropylidene-2,3-dihydroxy-1,4-bis(diphenylphosphino)-butane → (4R,5R)-(-)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane page 469

4,4'-Isopropylidenediphenol → 2,2-Bis(4-hydroxyphenyl) propane page 473

## 820506 1,2-O-Isopropylidenglycerol for synthesis



C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>  
 2,2-Dimethyl-1,3-dioxolane-4-methanol, 2,2-Dimethyl-4-hydroxymethyl-1,3-dioxolane, Solketal  
 ■ CAS-No. 100-79-8 ■ EC-No. 202-888-7

■ Refractive index 1.4383 (20 °C, 589 nm)  
 ■ Vapour pressure 143 hPa (25 °C)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 90 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 132.16 g/mol ■ Melting point -26.4 °C  
 ■ Boiling point 182 - 185 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat 7000 mg/kg  
 ■ LGK 10

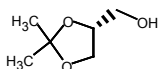
■ HS-No. 2932 99 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.066 - 1.068  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20506.0250	Glass bottle	250 ml	inquire

## 818637 (R)-(-)-1,2-O-Isopropylidenglycerol for synthesis



C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>  
 (R)-(-)-2,2-Dimethyl-4-hydroxymethyl-1,3-dioxolane  
 ■ CAS-No. 14347-78-5 ■ EC-No. 405-320-8  
 ■ Refractive index 1.4351 (20 °C, 589 nm)  
 ■ Vapour pressure 0.4 hPa (20 °C)

■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 80 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 132.16 g/mol ■ pH value 9.4 (H<sub>2</sub>O)  
 ■ Boiling point 190 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2932 99 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.065 - 1.068  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=5 in methanol) ..... -12.0 - -10.0 °  
 Identity (IR) ..... passes test

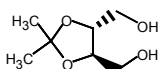
Ord.No.	Packaging	Quantity	Price
8.18637.0001	Glass bottle	1 ml	inquire

Isopropylidenemalonic acid diethyl ester → Diethyl isopropylidenemalonate page 747

(R)-(+)-2-Isopropylidene-5-methylcyclohexanone → (R)-(+)-Pulegone page 1379

2,3-O-Isopropylidene-L-tartaric acid dimethyl ester → (2R,3R)-(-)-Dimethyl-2,3-O-isopropylidene tartrate page 793

## 818636 (-)-2,3-O-Isopropylidene-D-threitol for synthesis



C<sub>7</sub>H<sub>14</sub>O<sub>4</sub>  
 (4R,5R)-(-)-4,5-Bis(hydroxymethyl)-2,2-dimethyl-1,3-dioxolane  
 ■ CAS-No. 73346-74-4 ■ EC-No. 277-391-1  
 ■ Refractive index 1.4574 (20 °C, 589 nm)  
 ■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 162.18 g/mol  
 ■ Melting point 46 - 49 °C  
 ■ Boiling point 110 - 120 °C (1 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 99 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 46 °C  
 Melting range (upper value) ..... ≤ 49 °C

Spez. rotation [α<sub>D</sub><sup>20</sup> (c=5 in acetone) ..... -5.0 - -4.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18636.0001	Glass bottle	1 g	inquire
8.18636.0005	Glass bottle	5 g	inquire

Isopropyl mercaptan → 2-Propanethiol page 1368  
 Isopropyl methyl carbinol → 3-Methyl-2-butanol page 1139

5-Isopropyl-2-methyl-1,3-cyclohexadiene → α-Phellandrene page 1286

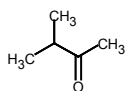
(1R,2S,5R)-(-)-2-Isopropyl-5-methylcyclohexanol → (-)-Menthol page 1099

2-Isopropyl-5-methylcyclohexanol → DL-Menthol page 1099

(2S,5R)-(-)-2-Isopropyl 5-methylcyclohexanone → (-)-Menthone page 1100

4-Isopropyl-1-methylcyclohexene → DL-Limonene page 1077

## 805966 Isopropyl methyl ketone for synthesis

C<sub>5</sub>H<sub>10</sub>OCH<sub>3</sub>COCH(CH<sub>3</sub>)<sub>2</sub>

Methyl isopropyl ketone, 3-Methyl-2-butanone

■ CAS-No. 563-80-4 ■ EC-No. 209-264-3  
 ■ Refractive index 1.388 (20 °C, 589 nm) ■ Vapour pressure 53.33 hPa (19.9 °C)  
 ■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 9 % (V) ■ Flash point -1 °C ■ Solub. in

H<sub>2</sub>O 6 g/l (20 °C) ■ M = 86.13 g/mol  
 ■ Melting point -92 °C ■ Boiling point 93 - 95 °C (1013 hPa) ■ Evaporation number 5.6  
 ■ Ignition temp. 475 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P233  
 ■ LD50 oral rat 148 mg/kg ■ LD50 dermal rabbit 6350 mg/kg  
 ■ EC-Index-No. 606-007-00-0 ■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 3  
 ■ ADR-RID UN 2397 3-Methylbutan-2-on, 3, II  
 ■ IMDG-Code UN 2397 3-METHYLBUTAN-2-ONE,

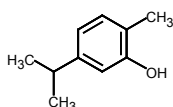
3, II  
 ■ IATA-DGR UN 2397 3-METHYLBUTAN-2-ONE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,803 - 0,804  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05966.0250	Glass bottle	250 ml	inquire
8.05966.1000	Glass bottle	1 l	inquire

## 820258 5-Isopropyl-2-methylphenol for synthesis

C<sub>10</sub>H<sub>14</sub>O2-(CH<sub>3</sub>)<sub>2</sub>CH-5-[CH(CH<sub>3</sub>)<sub>2</sub>]C<sub>6</sub>H<sub>3</sub>OH

2-Methyl-5-isopropylphenol, Isothymol, Carvacrol

■ CAS-No. 499-75-2 ■ EC-No. 207-889-6  
 ■ Refractive index 1.5229 (20 °C, 589 nm)

■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 1.25 g/l (25 °C) ■ M = 150.22 g/mol ■ Melting point 3 °C  
 ■ Boiling point 237 - 239 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P338  
 ■ LD50 oral rat 810 mg/kg  
 ■ LGK 10 - 13

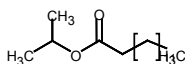
■ HS-No. 2907 19 90 ■ Disposal 1

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.976 - 0.978  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20258.0050	Glass bottle	50 ml	inquire
8.20258.0250	Glass bottle	250 ml	inquire

## 822102 Isopropyl myristate for synthesis

C<sub>17</sub>H<sub>34</sub>O<sub>2</sub>

Tetradecanoic acid isopropyl ester, Myristic acid isopropyl ester

■ CAS-No. 110-27-0 ■ EC-No. 203-751-4  
 ■ Refractive index 1.434 (20 °C, 589 nm) ■ Vapour pressure < 1 hPa (20 °C) ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Flash point >150 °C  
 ■ Kin. viscosity 6.57 mm<sup>2</sup>/s (20 °C) ■ Solub. in

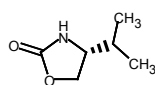
H<sub>2</sub>O < 0.05 mg/l (20 °C) ■ M = 270.45 g/mol  
 ■ Boiling point 140 °C (3 hPa)  
 ■ Ignition temp. >300 °C  
 ■ WGK nwg  
 ■ LD50 oral rat > 10000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2915 90 70 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.853 - 0.854  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22102.0100	Glass bottle	100 ml	inquire
8.22102.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.22102.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 824505 (4R)-(+)-4-Isopropyl-2-oxazolidinone for synthesis

C<sub>6</sub>H<sub>11</sub>NO<sub>2</sub>

■ CAS-No. 95530-58-8

■ Vapour pressure 0.0026 hPa (25 °C)

■ Spec. density 1.04 g/cm<sup>3</sup> ■ Flash point 129.9 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 129.16 g/mol ■ Melting point 70 - 73 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

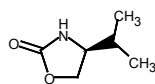
## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)

Melting range (lower value) ..... ≥ 70 °C  
 Melting range (upper value) ..... ≤ 73 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in methanol) ..... 22,0 - 24,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24505.0250	Glass bottle	250 mg	inquire

## 818310 (S)-(-)-4-Isopropyl-2-oxazolidinone for synthesis

C<sub>6</sub>H<sub>11</sub>NO<sub>2</sub>

Evans' reagent

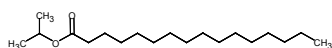
■ CAS-No. 17016-83-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 129.16 g/mol ■ Melting point 71 - 73 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 71 °C  
 Melting range (upper value) ..... ≤ 73 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18310.0001	Glass bottle	1 g	inquire

## 843880 Isopropyl palmitate for synthesis

C<sub>19</sub>H<sub>38</sub>O<sub>2</sub>

■ CAS-No. 142-91-6 ■ EC-No. 205-571-1

■ Spec. density 0.853 g/cm<sup>3</sup> (20 °C)■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O < 0.001 g/l

(25 °C) ■ M = 298.50 g/mol  
 ■ Melting point 11 - 13 °C  
 ■ WGK nwg  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 70 40 ■ Disposal 3

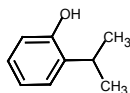
## Specification

Assay (GC, area%) ..... ≥ 92,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 0.850 - 0.860  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43880.0250	Glass bottle	250 ml	inquire
8.43880.1000	Glass bottle	1 l	inquire

## 840160 2-Isopropylphenol for synthesis



C<sub>9</sub>H<sub>12</sub>O  
 2-(1-Methylethyl)phenol, 2-Hydroxycumene  
 ■ CAS-No. 88-69-7 ■ EC-No. 201-852-8  
 ■ Vapour pressure < 0.066 hPa (25 °C)  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 88 °C ■ Solub. in H<sub>2</sub>O 0.22 g/l (20 °C) ■ M = 136.19 g/mol

■ Melting point 14 - 16 °C  
 ■ Boiling point 212 - 214 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2907 19 90 ■ Disposal 3  
 ■ ADR-RID UN 3145 Alkylphenole, flüssig, n.a.g., 8, II ■ IMDG-Code UN 3145 ALKYLPHENOLS, LIQUID, N.O.S., 8, II

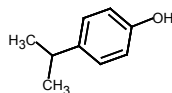
■ IATA-DGR UN 3145 ALKYLPHENOLS, LIQUID, N.O.S., 8, II

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,993 - 0,997  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40160.0100	Glass bottle	100 ml	inquire

## 841571 4-Isopropylphenol for synthesis



C<sub>9</sub>H<sub>12</sub>O  
 4-(1-Methylethyl)phenol  
 ■ CAS-No. 99-89-8 ■ EC-No. 202-798-8  
 ■ Vapour pressure 84 hPa (100 °C)  
 ■ Flash point 108 °C ■ M = 136.19 g/mol  
 ■ Melting point 60 °C

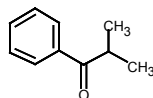
■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2907 19 90 ■ Disposal 3  
 ■ ADR-RID UN 2430 Alkylphenole, fest, n.a.g., 8, III ■ IMDG-Code UN 2430 ALKYLPHENOLS, SOLID, N.O.S., 8, III  
 ■ IATA-DGR UN 2430 ALKYLPHENOLS, SOLID, N.O.S., 8, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 59 °C  
 Melting range (upper value) ..... ≤ 61 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41571.0100	Glass bottle	100 g	inquire

## 814016 Isopropyl phenyl ketone for synthesis



C<sub>10</sub>H<sub>12</sub>O  
 Phenyl isopropyl ketone, Isobutyrophenone, α-Methylpropiophenone  
 ■ CAS-No. 611-70-1 ■ EC-No. 210-275-0  
 ■ Refractive index 1.517 (20 °C, 589 nm)

■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 84 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 148.21 g/mol  
 ■ Melting point 1 °C ■ Boiling point 217 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1946 mg/kg  
 ■ LGK 10

■ HS-No. 2914 39 00 ■ Disposal 3

## Specification

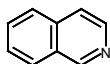
Assay (GC, area%) ..... ≥ 93,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,982 - 0,987  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14016.0050	Glass bottle	50 ml	inquire

Isopropylsulfonyl chloride → 2-Propane sulfonyl chloride page 1368

Isopseudocumenol → 2,3,5-Trimethylphenol page 1605

## 802406 Isoquinoline for synthesis



C<sub>9</sub>H<sub>7</sub>N  
 ■ CAS-No. 119-65-3 ■ EC-No. 204-341-8  
 ■ Vapour pressure 0.05 hPa (20 °C)  
 ■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 107 °C ■ Solub. in H<sub>2</sub>O 5 g/l (20 °C)  
 ■ M = 129.16 g/mol ■ pH value 7.5 (5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 21 - 26 °C  
 ■ Boiling point 243 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 4, Oral, H302, P280, P302 + P352, P309 + P310  
 ■ LD50 oral rat 615 mg/kg ■ LD50 dermal rat 180 mg/kg  
 ■ LGK 6.1B  
 ■ HS-No. 2933 49 90  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(ISOCHINOLIN), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(ISOCHINOLINE), 6.1, II

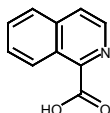
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(ISOCHINOLINE), 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 95,0 Area %  
 Melting range (lower value) ..... ≥ 18 °C  
 Melting range (upper value) ..... ≤ 21 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02406.0100	Glass bottle	100 ml	inquire

## 841663 Isoquinoline-1-carboxylic acid for synthesis



C<sub>10</sub>H<sub>7</sub>NO<sub>2</sub>  
 ■ CAS-No. 486-73-7 ■ EC-No. 207-639-6

■ M = 173.17 g/mol  
 ■ Melting point 161 °C (decomposition)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 90 ■ Disposal 3

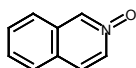
Melting range (upper value) ..... ≤ 162 °C  
 Identity (IR) ..... conforms

## Specification

Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 159 °C

Ord.No.	Packaging	Quantity	Price
8.41663.0005	Plastic bottle	5 g	inquire
8.41663.0025	Plastic bottle	25 g	inquire

## 814817 Isoquinoline-N-oxide for synthesis



C<sub>9</sub>H<sub>7</sub>NO  
 ■ CAS-No. 1532-72-5 ■ EC-No. 216-242-7  
 ■ M = 145.16 g/mol ■ Melting point 103 - 105 °C

■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 90 ■ Disposal 3

Identity (IR) ..... passes test

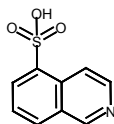
## Specification

Assay (HPLC, area%) ..... ≥ 95,0 % (a/a)  
 Melting range (lower value) ..... ≥ 102 °C  
 Melting range (upper value) ..... ≤ 105 °C

Ord.No.	Packaging	Quantity	Price
8.14817.0005	Glass bottle	5 g	inquire

Isoquinolines → Heterocycles

## 814818 Isoquinoline-5-sulfonic acid for synthesis

C<sub>9</sub>H<sub>7</sub>NO<sub>3</sub>S

- CAS-No. 27655-40-9
- M = 209.22 g/mol ■ Melting point >300 °C

- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2933 49 90 ■ Disposal 3
- ADR-RID UN 2585 Arylsulfonsäuren, fest, 8, III
- IMDG-Code UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III

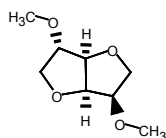
**Specification**

Assay (HPLC, area%) ..... ≥ 95,0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14818.0005	Glass bottle	5 g	inquire

ISOSLIDE® Reticulin → page 203

## 818397 Isosorbide dimethyl ether for synthesis

C<sub>8</sub>H<sub>14</sub>O<sub>4</sub>

1,4:3,6-Dianhydrosorbitol 2,5-dimethyl ether, 1,4:3,6-Dianhydro-2,5-O-dimethyl-D-

*glucitol*

- CAS-No. 5306-85-4 ■ EC-No. 226-159-8
- Refractive index 1.4622 (19 °C, 589 nm)
- Spec. density 1.17 g/cm<sup>3</sup> (20 °C)
- Flash point 103 °C ■ Solub. in H<sub>2</sub>O (20 °C) miscible ■ M = 174.19 g/mol
- pH value 7.0 - 8.0 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -70 °C ■ Boiling point 93 - 95 °C (0.20 hPa)
- WGK 1

- LD50 oral rat 6500 mg/kg
- HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.165 - 1.168  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18397.0025	Glass bottle	25 ml	inquire

Isothiocyanates → Sulfur compounds

1-Isothiocyanato-4-methoxy-benzene → 4-

Methoxyphenyl isothiocyanate page 1125

1-Isothiocyanato-4-nitrobenzene → 4-Nitrophenyl isothiocyanate page 1228

Isothiocyanic acid allyl ester → Allyl isothiocyanate page 366

Isothiocyanic acid ethyl ester → Ethyl isothiocyanate page 873

Isothiocyanic acid 4-methoxyphenyl ester → 4-Methoxyphenyl isothiocyanate page 1125

Isothiocyanic acid 2-methylphenyl ester → 2-Methylphenyl isothiocyanate page 1170

Isothiocyanic acid 3-methylphenyl ester → 3-Methylphenyl isothiocyanate page 1170

Isothiocyanic acid 4-methylphenyl ester → 4-Methylphenyl isothiocyanate page 1170

Isothiocyanic acid phenyl ester → Phenyl isothiocyanate page 1308

Isothymol → 5-Isopropyl-2-methylphenol page 1055

Isotopic enriched standards → Standards

Isovaleraldehyde → 3-Methylbutyraldehyde page 1141

## 820723 Isoxazole for synthesis

C<sub>3</sub>H<sub>3</sub>NO

- CAS-No. 288-14-2 ■ EC-No. 206-018-7
- Refractive index 1.4265 (20 °C, 589 nm)
- Spec. density 1.08 g/cm<sup>3</sup> (20 °C)
- Flash point 10 °C ■ Solub. in H<sub>2</sub>O 167 g/l (20 °C)
- M = 69.06 g/mol ■ Boiling point 93 - 95 °C

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P223
- LGK 3
- HS-No. 2934 99 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ISOXAZOL), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ISOXAZOLE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ISOXAZOLE), 3, II

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.075 - 1.077  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20723.0010	Glass bottle	10 ml	inquire

Isoxazoles → Heterocycles

Itaconic acid → Methylsuccinic acid page 1150

Itaconic anhydride → Methylsuccinic anhydride page 1151

IVA → Standards

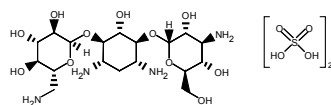


- A
- B
- C
- D
- E
- F
- G
- H
- I
- J**
- K
- L
- M
- N
- O
- P
- Q
- R
- S
- T
- U
- V
- W
- X
- Y
- Z

Kacodylic acid sodium salt → Dimethylarsinic acid sodium salt trihydrate page 782

Kaiser's glycerol gelatine → page 187

### 105177 Kanamycindisulfate for biochemistry



C<sub>18</sub>H<sub>36</sub>N<sub>4</sub>O<sub>11</sub>·xH<sub>2</sub>SO<sub>4</sub>

C<sub>18</sub>H<sub>36</sub>N<sub>4</sub>O<sub>11</sub>·2H<sub>2</sub>SO<sub>4</sub>

- CAS-No. 3847-27-6 ■ EC-No. 223-347-1
- Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 680.66 g/mol ■ pH value 6.5 - 8.5

- (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 250 °C
- Bulk density 730 kg/m<sup>3</sup>
  - WGK 2
  - GHS: Danger, Reproductive toxicity, Category 1B, H360D, P201, P260, P308 + P313
  - LD50 oral rat > 4000 mg/kg
  - LGK 6.1A ■ Store at +2°C to +8°C.
  - HS-No. 2941 90 00
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good

#### Specification

Assay (ex N, calc. on dried substance)...98 - 102 %  
Identity (IR-spectrum).....passes test

Spec. rotation (α 20/D; 50 g/l; water; on dried substance).....+100° to +115°  
Loss on drying (3 h: 60 °C; vacuum).....≤ 5 %

Ord.No.	Packaging	Quantity	Price
1.05177.0005	Glass bottle	5 g	inquire
1.05177.0025	Glass bottle	25 g	inquire

Kanamycin esculin azide agar → page 101

### 104440 Kaolin powder

- CAS-No. 1332-58-7 ■ EC-No. 310-194-1
- Spec. density 2.6 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 6 - 7 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry) ■ Bulk density 470 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 2507 00 20 ■ Disposal 14
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

- Dangerous Good
- IATA-DGR No Dangerous Good

#### Specification

Identity.....passes test  
Substances soluble in hydrochloric acid ..... ≤ 1.0 %  
Appearance of substance (colour).....passes test  
Appearance of substance (description)...passes test

Carbonate.....passes test  
Iron.....passes test  
Pb (Lead).....≤ 0.001 %  
Loss on ignition (600 °C).....≤ 15.0 %

Ord.No.	Packaging	Quantity	Price
1.04440.2500	Plastic bottle	2.5 kg	inquire

### 109248 Karl Fischer reagent 5 single component reagent, with pyridine 1 ml △ 5 mg H<sub>2</sub>O



- Spec. density 1.13 g/cm<sup>3</sup> (20 °C)
- Flash point 35 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 4 - 5 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Danger, Reproductive toxicity, Category 1B, H360FD; Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312, P201, P210, P302 + P352, P304 + P340, P308 + P313
- LGK 3

- HS-No. 3822 00 00 ■ Disposal 22
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ENTH. ETHYLENGLYCOLMONOMETHYLETHER), 3, III
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(CONT. ETHYLENEGLYCOL MONOMETHYLETHER), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CONT. ETHYLENEGLYCOL MONOMETHYLETHER), 3, III

#### Specification

Efficiency.....≥ 5 mg/ml at the time of manufacture

Ord.No.	Packaging	Quantity	Price
1.09248.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09248.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

### 109246 Karl Fischer reagent A with pyridine 1 ml A + B △ 3 mg H<sub>2</sub>O



- Spec. density 0.93 g/cm<sup>3</sup> (20 °C)
- Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value (H<sub>2</sub>O, 20 °C) acidic
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P302 + P352, P304 + P340, P309 + P310

- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 1230 Methanol, Lösung, 3 (6.1), II
- IMDG-Code UN 1230 METHANOL SOLUTION, 3 (6.1), II
- IATA-DGR UN 1230 METHANOL SOLUTION, 3 (6.1), II

#### Specification

Efficiency.....≥ 3 mg/ml

at the time of manufacture

Ord.No.	Packaging	Quantity	Price
1.09246.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09246.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

### 109247 Karl Fischer reagent B pyridine-free 1 ml B + A △ 3 mg H<sub>2</sub>O



Iodine solution methanolic

- Spec. density 0.93 g/cm<sup>3</sup> (20 °C)
- Flash point 8 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Reproductive toxicity, Category 1B, H360FD; Specific target organ toxicity - single exposure, Category 1, H370, P201, P210, P233, P240, P280,

- P302 + P352, P304 + P340, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 22
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(ETHYLENGLYCOLMONOMETHYLETHER UND ENTH. METHANOL), 3 (6.1), II ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(ETHYLENEGLYCOL MONOMETHYL ETHER AND CONT. METHANOL), 3 (6.1), II
- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(ETHYLENEGLYCOL MONOMETHYL ETHER

AND CONT. METHANOL), 3 (6.1), II

#### Specification

Efficiency.....≥ 3 mg/ml at the time of manufacture

Ord.No.	Packaging	Quantity	Price
1.09247.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09247.2500	Glass bottle	2.5 l	inquire

## Karl Fischer Titration, Water Determination

## Volumetric Karl Fischer Titration

## One Component Reagents

**188009 CombiMethanol** Solvent for volumetric Karl Fischer Titration with One Component Reagents   max. 0.01% H<sub>2</sub>O apura®

CH<sub>4</sub>O  
CH<sub>3</sub>OH  
MeOH, Hydroxymethane, Methyl alcohol, Carbinol  
■ CAS-No. 67-56-1 ■ EC-No. 200-659-6  
■ Refractive index 1.33 ■ Vapour pressure 128 hPa (20 °C) ■ Spec. density 0.792 g/cm<sup>3</sup> (20 °C)  
■ Explosive limit 5.5 - 44 % (V) ■ Flash point 10 °C  
■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 32.04 g/mol  
■ pH value (H<sub>2</sub>O) no data available  
■ Melting point -98 °C ■ Boiling point 64.5 °C (1013 hPa) ■ Evaporation number 6.3  
■ Water absorption 1000 g/kg  
■ Ignition temp. 455 °C DIN 51794


■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P280, P302 + P352, P304 + P340, P309 + P310  
■ LD50 rat 85.26 mg/l  
■ LD50 oral rat 5628 mg/kg ■ LD50 dermal rabbit 17100 mg/kg  
■ EC-Index-No. 603-001-00-X ■ LGK 3  
■ HS-No. 2905 11 00 ■ Disposal 1

■ ADR-RID UN 1230 Methanol, 3 (6.1), II ■ IMDG-Code UN 1230 METHANOL, 3 (6.1), II  
■ IATA-DGR UN 1230 METHANOL, 3 (6.1), II

**Specification**

Water..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.88009.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.88009.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**188008 CombiSolvent** methanol-free solvent for volumetric Karl Fischer titration with one component reagents apura® 

■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C)  
■ Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 5.8 - 6.3 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
■ LGK 3  
■ HS-No. 3822 00 00 ■ Disposal 1

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TOLUEN UND ENTH. ETHANOL), 3, II  
■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TOLUENE AND CONT. ETHANOL), 3, II  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TOLUENE AND CONT. ETHANOL), 3, II

**Specification**

Application test..... passes test

Ord.No.	Packaging	Quantity	Price
1.88008.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.88008.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**188001 CombiTitrant 1** one component reagent for volumetric Karl Fischer titration 1 ml  $\Delta$  ca. 1 mg H<sub>2</sub>O apura®

■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value (H<sub>2</sub>O, 20 °C) not applicable  
■ WGK 1  
■ LGK 10 - 13

■ HS-No. 3822 00 00 ■ Disposal 3

**Specification**

Efficiency..... ≥ 1.0 mg/ml

Ord.No.	Packaging	Quantity	Price
1.88001.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

**188002 CombiTitrant 2** one component reagent for volumetric Karl Fischer titration 1 ml  $\Delta$  ca. 2 mg H<sub>2</sub>O Apura®

■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value (H<sub>2</sub>O, 20 °C) not applicable  
■ WGK 2  
■ LGK 10 - 13

■ HS-No. 3822 00 00 ■ Disposal 3

**Specification**

Efficiency..... ≥ 2.0 mg/ml

Ord.No.	Packaging	Quantity	Price
1.88002.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

**188005 CombiTitrant 5** one-component reagent for volumetric Karl Fischer titration 1 ml  $\Delta$  ca. 5 mg H<sub>2</sub>O apura®

■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C)  
■ WGK 1  
■ LGK 10 - 13  
■ HS-No. 3822 00 00 ■ Disposal 3

■ HS-No. 3822 00 00 ■ Disposal 3

**Specification**

Efficiency..... ≥ 5.0 mg/ml

Ord.No.	Packaging	Quantity	Price
1.88005.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.88005.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.88005.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## Volumetric Karl Fischer Titration

## Two Component Reagents

**188015 Solvent** solvent for volumetric Karl Fischer titration with two component reagents apura®   

■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C)  
■ Flash point 11 °C Methanol  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P302 + P352,

P304 + P340, P309 + P310  
■ LGK 3  
■ HS-No. 3822 00 00 ■ Disposal 1  
■ ADR-RID UN 1230 Methanol, Lösung, 3 (6.1), II  
■ IMDG-Code UN 1230 METHANOL SOLUTION, 3 (6.1), II  
■ IATA-DGR UN 1230 METHANOL SOLUTION, 3 (6.1), II

**Specification**

Application test..... passes test

Ord.No.	Packaging	Quantity	Price
1.88015.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.88015.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**188011 Titrant 2** titrant for volumetric Karl Fischer titration with two component reagents

1 ml  $\Delta$  ca. 2 mg H<sub>2</sub>O apura®



- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point < 21 °C ■ Solub. in H<sub>2</sub>O (20 °C) no data available ■ pH value (H<sub>2</sub>O, 20 °C) not applicable
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific

- target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 22
- ADR-RID UN 1230 Methanol, Lösung, 3 (6.1), II
- IMDG-Code UN 1230 METHANOL SOLUTION, 3 (6.1), II
- IATA-DGR UN 1230 METHANOL SOLUTION, 3

(6.1), II

**Specification**

Efficiency..... ≥ 2.0 mg/ml

Ord.No.	Packaging	Quantity	Price
1.88011.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

**188010 Titrant 5** titrant for volumetric Karl Fischer titration with two component reagents

1 ml  $\Delta$  ca. 5 mg H<sub>2</sub>O apura®



- Spec. density 0.85 g/cm<sup>3</sup> (20 °C)
- Flash point < 21 °C ■ pH value (H<sub>2</sub>O, 20 °C) not applicable
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific

- target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 22
- ADR-RID UN 1230 Methanol, Lösung, 3 (6.1), II
- IMDG-Code UN 1230 METHANOL SOLUTION, 3 (6.1), II
- IATA-DGR UN 1230 METHANOL SOLUTION, 3 (6.1), II

**Specification**

Efficiency..... ≥ 5.0 mg/ml

Ord.No.	Packaging	Quantity	Price
1.88010.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.88010.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.88010.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**Volumetric Karl Fischer Titration**

**Solvents for Oils and Fats**

**188021 CombiSolvent Fats** Solvent for volumetric Karl Fischer titration with one component

reagents for fats apura®



- Spec. density 0.83 g/cm<sup>3</sup> (20 °C)
- Flash point 9 °C ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 5.5 (H<sub>2</sub>O)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 1, H370; Specific target

- organ toxicity - single exposure, Category 3, H336; Chronic aquatic toxicity, Category 3, H412, P210, P233, P240, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(BUTYLACETAT UND ENTH. METHANOL), 3 (6.1), II ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(BUTYL ACETATES AND CONT. METHANOL), 3 (6.1), II

- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(BUTYL ACETATES AND CONT. METHANOL), 3 (6.1), II

**Specification**

Application test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.88021.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

**188020 CombiSolvent Oil** Solvent for volumetric Karl Fischer titration with one component

reagents for oils apura®



- Spec. density 0.86 g/cm<sup>3</sup> ■ Flash point 6 °C
- Kin. viscosity 0.67 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 5.6 (H<sub>2</sub>O)
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 1, H370; Specific target

- organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304, P210, P233, P240, P280, P301 + P310, P302 + P352, P304 + P340, P309 + P310, P331
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(TOLUEN UND ENTH. METHANOL), 3 (6.1), II ■ IMDG-Code UN 1992 FLAMMABLE

LIQUID, TOXIC, N.O.S.(TOLUENE AND CONT. METHANOL), 3 (6.1), II

- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(TOLUENE AND CONT. METHANOL), 3 (6.1), II

**Specification**

Application test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.88020.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

**188016 Solvent Oils & Fats** Solvent for volumetric Karl Fischer titration with two component

reagents for oils and fats apura®



- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point 19 °C ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 5.9 (H<sub>2</sub>O)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category 1, H370; Specific target

- organ toxicity - single exposure, Category 3, H336
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(HEXANOLE UND ENTH. METHANOL), 3 (6.1), II ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(HEXANOLS AND CONT. METHANOL), 3 (6.1), II
- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(HEXANOLS AND CONT. METHANOL),

3 (6.1), II

**Specification**

Application test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.88016.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## Volumetric Karl Fischer Titration

## Reagents for Aldehydes and Ketones

**188007 CombiSolvent Keto** Solvent for volumetric Karl Fischer Titration with one component reagents for aldehydes and ketones *apura*®

- Spec. density 0.924 g/cm<sup>3</sup> (20 °C)
- Flash point 31 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H336, P210
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1

- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ENTH. ETHANOL UND 1-METHOXY-2-PROPANOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL AND 1-METHOXY-2-PROPANOL), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CONT. ETHANOL AND 1-METHOXY-2-PROPANOL), 3, III

**Specification**

Application test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.88007.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

**188006 CombiTitrant 5 Keto** one component reagent for volumetric Karl Fischer titration for aldehydes and ketones 1 ml  $\Delta$  ca. 5 mg H<sub>2</sub>O *apura*®

- Spec. density 1.16 g/cm<sup>3</sup> (20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 3

**Specification**Efficiency .....  $\geq$  5.0 mg/ml

Ord.No.	Packaging	Quantity	Price
1.88006.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## Coulometric Karl Fischer Titration

**109255 CombiCoulomat frit** Karl Fischer reagent for the coulometric water determination for cells with diaphragm *apura*®

- Spec. density 0.90 g/cm<sup>3</sup> (20 °C)
- Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 5 (H<sub>2</sub>O, 20 °C) ■ Boiling point 70 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category

- 1, H370, P210, P233, P240, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 1230 Methanol, Lösung, 3 (6.1), II
- IMDG-Code UN 1230 METHANOL SOLUTION, 3 (6.1), II
- IATA-DGR UN 1230 METHANOL SOLUTION, 3 (6.1), II

**Specification**

Application test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.09255.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire

**109257 CombiCoulomat fritless** Karl Fischer reagent for coulometric water determination for cells with and without diaphragm *apura*®

- Spec. density 0.92 g/cm<sup>3</sup> (20 °C)
- Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) partly soluble
- pH value 5.5 (H<sub>2</sub>O, 20 °C)
- Boiling point 70 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category

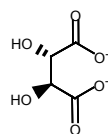
- 1, H370; Chronic aquatic toxicity, Category 3, H412, P210, P233, P240, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 2
- ADR-RID UN 1230 Methanol, Lösung, 3 (6.1), II
- IMDG-Code UN 1230 METHANOL SOLUTION, 3 (6.1), II
- IATA-DGR UN 1230 METHANOL SOLUTION, 3 (6.1), II

**Specification**

Application test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.09257.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.09257.2500	Glass bottle	2.5 l	inquire
	Glass bottle	6 x 2.5 l	inquire

## Standards for Volumetric and Coulometric Karl Fischer Titration

**106664 Sodium tartrate dihydrate** Water standard for volumetric Karl Fischer Titration (volumetric standard) *apura*®*di-Sodium tartrate dihydrate, Tartaric acid sodium salt dihydrate*

- CAS-No. 6106-24-7 ■ EC-No. 212-773-3
- Spec. density 1.82 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 290 g/l (20 °C) ■ M = 230.08 g/mol ■ pH value 8 (50 g/l, H<sub>2</sub>O, 25 °C) ■ Melting point 57 °C
- Bulk density 460 kg/m<sup>3</sup>
- WGK 1

- LGK 10 - 13
- HS-No. 2918 13 00 ■ Disposal 3

**Specification**Assay (perchloric acid titration) ..... 99.5 - 101.0 %  
Loss on drying (150 °C) ..... 15.61 - 15.71 %

Ord.No.	Packaging	Quantity	Price
1.06664.0100	Plastic bottle	100 g	inquire

C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>6</sub> · 2H<sub>2</sub>O**109259 Water standard 5 mg/ml** (1 ml contains 5 mg H<sub>2</sub>O) *apura*®

- EC-No. 200-752-1
- Vapour pressure 2.6 hPa (20 °C) 1-Pentanol
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 8.0 % (V) 1-Pentanol ■ Flash point 49 °C
- Solub. in H<sub>2</sub>O 22 g/l (20 °C) ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point -78 °C
- Boiling point 138 °C (1013 hPa)
- Ignition temp. 300 °C
- WGK 1

- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P302 + P352, P304 + P340
- EC-Index-No. 603-200-00-1 ■ LGK 3
- HS-No. 2905 19 00 ■ Disposal 28
- ADR-RID UN 1105 Pentanole, 3, III ■ IMDG-

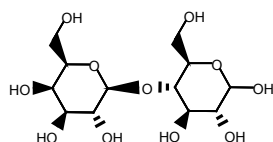
Code UN 1105 PENTANOLS, 3, III  
■ IATA-DGR UN 1105 PENTANOLS, 3, III**Specification**

Assay ..... 4.980 - 5.020 mg/ml

Ord.No.	Packaging	Quantity	Price
1.09259.0250	Glass bottle	250 ml	inquire



**112939 Lactose Standard 5 %** solid water standard for coulometric/volumetric Karl Fischer Titration and Karl Fischer oven method apura®



C<sub>12</sub>H<sub>22</sub>O<sub>11</sub> \* H<sub>2</sub>O  
Milk sugar, Lactobiose  
■ CAS-No. 10039-26-6 ■ EC-No. 200-559-2

- Solub. in H<sub>2</sub>O 161 g/l (20 °C) ■ M = 360.32 g/mol ■ pH value 4.0 - 6.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 202 °C ■ Bulk density 500 kg/m<sup>3</sup>
- Ignition temp. 390 °C
- WGK nwg
- LD50 oral rat > 10000 mg/kg
- LGK 10 - 13
- HS-No. 1702 11 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good  
**Specification**  
Water content..... 5.00 - 5.20 %  
Measurement method: coulometric according Karl Fischer extended measuring uncertainty: +/- 0.05 %

Ord.No.	Packaging	Quantity	Price
1.12939.0010	Plastic bottle	10 g	inquire

**188050 Water Standard 0.01 %** Standard for coulometric Karl Fischer Titration 1 g ± 0.1 mg H<sub>2</sub>O apura®



- WGK 2
- GHS: Warning, P210, P302 + P352, P304 + P340
- LGK 3
- HS-No. 2902 44 00
- ADR-RID UN 1307 Xylene, 3, III ■ IMDG-

Code UN 1307 XYLENES, 3, III  
■ IATA-DGR UN 1307 XYLENES, 3, III  
**Specification**  
Assay (H<sub>2</sub>O) ..... 0.090 - 0.110 mg/g

Ord.No.	Packaging	Quantity	Price
1.88050.0010	Glass ampoule	10x8ml amp	inquire

**188051 Water standard 0.1%** Standard for coulometric Karl Fischer Titration 1 g ± 1 mg H<sub>2</sub>O apura®



- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H336, P210, P262
- LGK 3
- HS-No. 2909 49 80

■ ADR-RID UN 3092 1-Methoxy-2-propanol, 3, III  
■ IMDG-Code UN 3092 1-METHOXY-2-PROPANOL, 3, III  
■ IATA-DGR UN 3092 1-METHOXY-2-PROPANOL, 3, III

**Specification**  
Assay (H<sub>2</sub>O) ..... 0.970 - 1.030 mg/g

Ord.No.	Packaging	Quantity	Price
1.88051.0010	Glass ampoule	10x8ml amp	inquire

**188052 Water standard 1%** Standard for volumetric Karl Fischer Titration 1 g ± 10 mg H<sub>2</sub>O apura®



- WGK 1
- GHS: Warning, P210
- LGK 3
- HS-No. 2909 49 80
- ADR-RID UN 3092 1-Methoxy-2-propanol, 3, III
- IMDG-Code UN 3092 1-METHOXY-2-

PROPANOL, 3, III  
■ IATA-DGR UN 3092 1-METHOXY-2-PROPANOL, 3, III  
**Specification**  
Assay (H<sub>2</sub>O) ..... 9.90 - 10.10 mg/g

Ord.No.	Packaging	Quantity	Price
1.88052.0010	Glass ampoule	10x8ml	inquire

**188054 Water Standard Oven 1%** solid standard for KF oven method apura®

- Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value (H<sub>2</sub>O) no data available
- Bulk density 460 kg/m<sup>3</sup>
- WGK 1

■ LGK 10 - 13  
■ HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
1.88054.0005	Glass bottle	5 g	inquire

**188055 Water standard oil** standard for oil samples for coulometric Karl Fischer Titration (15-30 ppm) apura®

- Spec. density 0.88 g/cm<sup>3</sup> (20 °C)
- Flash point 138 °C ■ Kin. viscosity 7.8 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- WGK 3

■ LGK 10  
■ HS-No. 3822 00 00 ■ Disposal 3  
**Specification**  
Assay (H<sub>2</sub>O) ..... 0.015 - 0.030 mg/g

Ord.No.	Packaging	Quantity	Price
1.88055.0010	Glass ampoule	10x8ml amp	inquire

**Auxiliaries and Additional Reagents for Karl Fischer Titration**

**Karl Fischer Buffer Solutions**

**188035 Buffer solution for strong acids** for Karl Fischer Titration apura®



- Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 36.5 % (V) Methanol
- Flash point 11 °C Methanol ■ pH value 6.8 (H<sub>2</sub>O, 20 °C) ■ Ignition temp. 455 °C Methanol
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Reproductive

toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LGK 3  
■ HS-No. 3822 00 00 ■ Disposal 3  
■ ADR-RID UN 1230 Methanol, Lösung, 3 (6.1), II  
■ IMDG-Code UN 1230 METHANOL SOLUTION, 3 (6.1), II

■ IATA-DGR UN 1230 METHANOL SOLUTION, 3 (6.1), II  
**Specification**  
Assay (H<sub>2</sub>O) ..... ≤ 200 ppm%

Ord.No.	Packaging	Quantity	Price
1.88035.0500	Glass bottle	500 ml	inquire

**188036 Buffer solution for strong bases** for Karl Fischer Titration apura®



■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 36.5 % (V) Methanol  
 ■ Flash point 11 °C Methanol ■ pH value 4.0 (H<sub>2</sub>O, 20 °C) ■ Ignition temp. 455 °C Methanol  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Serious

eye damage, Category 1, H318; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 3822 00 00 ■ Disposal 1  
 ■ ADR-RID UN 1230 Methanol, Lösung, 3 (6.1), II  
 ■ IMDG-Code UN 1230 METHANOL SOLUTION, 3 (6.1), II

■ IATA-DGR UN 1230 METHANOL SOLUTION, 3 (6.1), II

**Specification**  
 Assay (H<sub>2</sub>O) ..... ≤ 600 ppm%

Ord.No.	Packaging	Quantity	Price
1.88036.0500	Glass bottle	500 ml	inquire

**Auxiliaries and Additional Reagents for Karl Fischer Titration**

**Karl Fischer Test Kit**

**188025 Test Kit for water determination** according to Karl Fischer apura®



■ GHS: Danger, P210, P233, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 3822 00 00  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ETHANOL UND ENTH. 1-METHOXY-2-

PROPANOL), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHANOL AND CONT. 1-METHOXY-2-PROPANOL), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHANOL AND CONT. 1-METHOXY-2-PROPANOL), 3, II

**Specification**  
 Extent of testing..... passes test

Ord.No.	Packaging	Quantity	Price
1.88025.0001	Fibre carton	1 set	inquire

**188027 Test Kit Solvent for water determination** acc. to Karl Fischer - refill pack apura®



■ Spec. density 0.993 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 20 °C no data available ■ Solub. in H<sub>2</sub>O (20 °C) no data available ■ pH value (H<sub>2</sub>O, 20 °C) no data available  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336, P210, P233, P240, P305 + P351 + P338

■ LGK 3  
 ■ HS-No. 3822 00 00  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ETHANOL UND ENTH. 1-METHOXY-2-PROPANOL), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHANOL AND CONT. 1-METHOXY-2-PROPANOL), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHANOL AND CONT. 1-METHOXY-2-

PROPANOL), 3, II  
**Specification**  
 Application test..... passes test

Ord.No.	Packaging	Quantity	Price
1.88027.0500	Glass bottle	500 ml	inquire

**188026 Test Kit Titrant for water determination** acc. to Karl Fischer - refill pack apura®



■ Spec. density 1.0385 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 90 °C no data available ■ Solub. in H<sub>2</sub>O (20 °C) no data available ■ pH value (H<sub>2</sub>O, 20 °C) no data available  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 3822 00 00  
**Specification**  
 Efficiency..... 5.0 - 5.4 mg/ml  
 Application test..... passes test

at the time of manufacture

Ord.No.	Packaging	Quantity	Price
1.88026.0100	Glass bottle	100 ml	inquire

Ketales → Ketones	2-Ketoglutaric acid → 2-Oxoglutaric acid page 151	Ketone, determination → Aldehyde, ketone, phenol determination
α-Ketobutyric acid → 2-Oxobutyric acid page 1256	β-Ketoglutaric acid → 3-Oxoglutaric acid page 1257	

**Ketones**

**Aliphatic and araliphatic ketones**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
298	822251	Acetone	304	820621	3-Heptanone	1234	818790	2-Nonanone
347	814518	Acetylferrocene	939	803505	4-Heptanone	1234	818576	3-Nonanone
446	801521	Benzylacetone	956	804533	3-Hexanone	1235	803538	5-Nonanone
680	820380	Cyclopropyl methyl ketone	305	820820	Isobutyl methyl ketone	1242	820926	2-Octanone
686	818795	2-Decanone	305	805966	Isopropyl methyl ketone	1243	821860	3-Octanone
734	814015	Dicyclohexyl ketone	306	818663	5-Methyl-3-heptanone	1264	818771	2-Pentadecanone
302	803605	Diethyl ketone	1154	818626	6-Methyl-5-hepten-2-one	1582	808633	2-Tridecanone
302	818831	Diisobutyl ketone	1155	822093	5-Methyl-2-hexanone	1624	808469	2-Undecanone
784	841645	3,3-Dimethyl-2-butanone	306	805965	Methyl propyl ketone			
939	818711	2-Heptanone	306	814536	Methyl propyl ketone			

## Aliphatic ketones with further substituents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
342	841028	Acetyltriphenylphosphonium chloride	605	821990	3-Chloro-2-butanone	850	841688	L-Ethyl alanate hydrochloride
344	826001	2-(Acetylaminoethyl)-chromen-4-one	626	841726	5-Chloro-2-pentanone	879	841196	Ethyl 3-oxovalerate
348	818086	Acetylmethylenetriphenylphosphorane	691	102918	Diacetyl monoxime	904	814522	4-Fluorophenylacetone
567	822311	(1S)-(+)-Camphor-10-sulfonic acid	712	818602	1,1-Dichloroacetone	945	820630	Hexachloroacetone
567	818358	(1R)-(-)-Camphor-10-sulfonic acid chloride	712	822024	1,3-Dichloroacetone	304	804521	Hexafluoroacetone sesquihydrate
595	802603	Chloroacetone	775	841199	Dimethyl acetylmethylphosphonate	1315	841195	Phenylsulfonylacetone

## Alicyclic ketones

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
346	814829	2-Acetylcyclohexanone	672	814958	1,4-Cyclohexanedione bisethylene ketal	1000	820698	1,3-Indanedione
354	814595	2-Adamantanone	672	818542	1,4-Cyclohexanedione monoethylene ketal	1100	841059	(-)-Menthone
421	801461	Anthrone	672	818542	1,4-Cyclohexanedione monoethylene ketal	1120	841697	5-Methoxy-1-indanone
545	841500	4-tert-Butylcyclohexanone	674	820371	2-Cyclohexen-1-one	1145	820787	2-Methylcyclohexanone
566	814033	(1S)-(-)-Camphor	676	802662	Cyclooctanone	1145	818807	3-Methylcyclohexanone
566	841456	DL-Camphor	676	802662	Cyclooctanone	1145	820788	4-Methylcyclohexanone
567	840094	(1R)-(-)-Camphor-10-sulfonic acid	676	841245	Cyclopentadecanone	1299	818564	4-Phenylcyclohexanone
593	802361	p-Chloranil	300	802670	Cyclopentanone	1375	814584	4-Propylcyclohexanone
639	841471	4-Cholesten-3-one	700	803559	Dibenzosuberone	1407	106595	Rhodizonic acid disodium salt
666	802880	Cyclobutanone	735	840157	Dicyclopropylketone	1535	808203	1,2,3,4-Tetrahydro-1-naphthalenone
667	802676	Cyclododecanone	786	841223	2,6-Dimethylcyclohexanone	1535	820469	1,2,3,4-Tetrahydro-2-naphthalenone
668	802462	Cycloheptanone	857	814456	4-Ethylcyclohexanone	1603	814298	3,3,5-Trimethylcyclohexanone
671	820367	1,3-Cyclohexanedione	858	841763	Ethylcyclopentanone-2-carboxylate	1619	814378	Tropolone
			879	814249	Ethyl-4-oxocyclohexanecarboxylate			
			894	803977	9-Fluorenone			

## Unsaturated ketones

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
451	801516	Benzylideneacetone	949	824460	(R)-(-)-4,4a,5,6,7,8-Hexahydro-4a-methyl-2(3H)-naphthalenone	1119	814561	3-Methoxy-2-cyclohexen-1-one
583	818409	(R)-(-)-Carvone				1146	818493	3-Methyl-2-cyclopenten-1-one
583	818410	(S)-(+)-Carvone	988	814675	2-Hydroxy-3-methyl-2-cyclopenten-1-one	1168	814630	3-Methyl-3-penten-2-one
639	841471	4-Cholesten-3-one	1037	818619	$\beta$ -Ionone	1186	805901	Methyl vinyl ketone
815	820533	2,3-Diphenyl-2-cyclopropen-1-one	1037	804778	Ionone	1379	818665	(R)-(+)-Pulegone
948	814361	1,1,1,5,5,5-Hexafluoroacetylacetone	1050	804807	Isophorone	1603	814493	2,6,6-Trimethyl-2-cyclohexene-1,4-dione
			1107	805791	Mesityl oxide			

## Acetophenones with unsubstituted side chains

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
298	800028	Acetophenone	488	818514	3'-Bromoacetophenone	1052	841367	4'-Isopropylacetophenone
345	821925	2-Acetylbenzoic acid	498	843856	2-Bromo-2,4-difluoroacetophenone	1114	841349	2'-Methoxyacetophenone
345	841664	4-Acetylbenzoic acid	558	841778	Butyrophenone	1129	821243	4'-Methylacetophenone
345	814828	3-Acetylbenzotrile	595	841072	2'-Chloroacetophenone	1215	822105	2'-Nitroacetophenone
345	841061	4-Acetylbenzotrile	596	841795	3'-Chloroacetophenone	1215	806207	3'-Nitroacetophenone
348	818468	1-Acetylnaphthalene	596	802605	4'-Chloroacetophenone	1215	806217	4'-Nitroacetophenone
348	820006	2-Acetylnaphthalene	596	802605	4'-Chloroacetophenone	1296	820977	4'-Phenylacetophenone
376	820060	3'-Aminoacetophenone	751	841166	2',4'-Difluoroacetophenone	1593	841157	3'-(Trifluoromethyl)-acetophenone
376	800273	4'-Aminoacetophenone	896	841206	2'-Fluoroacetophenone	1593	841487	4'-(Trifluoromethyl)-acetophenone
487	841103	2'-Bromoacetophenone	896	841210	4'-Fluoroacetophenone	1596	841389	2',4',6'-Trihydroxyacetophenone monohydrate
487	801658	2-Bromoacetophenone	985	840118	4-Hydroxy-3-methoxyacetophenone	1600	841063	2',4',6'-Trimethylacetophenone
			1007	814897	4'-Iodoacetophenone			

# Ketone

## Benzophenones

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
420	841595	p-Anisoin	601	802610	4-Chlorobenzophenone	779	841828	3-(Dimethylamino)-propiophenone hydrochloride
439	801632	Benzil	607	841527	2-Chloro-3',4'-dihydroxyacetophenone	820	820538	1,3-Diphenyl-1,3-propanedione
444	802195	Benzoylacetone	628	841176	2-Chloro-2-phenylacetophenone	853	801808	Ethyl benzoylacetate
444	800137	2-Benzoylbenzoic acid	632	820334	4'-Chloropropiophenone	881	818544	Ethyl phenylglyoxylate
445	810442	3-Benzoylpropionic acid	688	803213	Deoxybenzoin	1000	820699	1-Indanone
451	801580	Benzylideneacetophenone	693	815111	4,4'-Diaminobenzophenone	1056	814016	Isopropyl phenyl ketone
467	820161	4,4'-Bis(diethylamino)-benzophenone	702	822019	2,4'-Dibromoacetophenone	1169	814269	Methylphenyl glyoxylate
467	808125	4,4'-Bis(dimethylamino)-benzophenone	716	841531	4,4'-Dichlorobenzophenone	1203	820869	2-Naphthyl phenyl ketone
488	821968	4'-Bromoacetophenone	719	814490	2,2-Dichlorobutyrophenone	1286	840167	Phenacyltriphenylphosphonium bromide
511	841256	2-Bromo-4'-phenylacetophenone	752	814664	4,4'-Difluorobenzil	1374	807024	Propiophenone
600	814059	2-Chlorobenzophenone	753	840055	4,4'-Difluorobenzophenone	1590	818371	$\alpha,\alpha,\alpha$ -Trifluoroacetophenone
601	816116	3-Chlorobenzophenone	774	816117	2,4-Dimethylacetophenone	1635	808669	Xanthone

## Heterocyclic ketones

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
346	800110	2-Acetyl- $\gamma$ -butyrolactone	800	841649	2,6-Dimethyl-4H-pyran-4-one	1176	800154	Methyl 2-pyridyl ketone
349	814148	2-Acetylpyrrole	846	818390	N-Ethoxycarbonyl-4-piperidone	1176	800155	Methyl 3-pyridyl ketone
349	841760	2-Acetylthiazole	893	841257	Flavone	1177	800156	Methyl 4-pyridyl ketone
349	800175	2-Acetylthiophene	919	804017	2-Furyl methyl ketone	1181	841051	Methyl 3-thienyl ketone
444	818233	(2R,6S)-(+)-4-Benzoyloxy-2-benzoyloxymethyl-6-methoxy-2H-pyran-3(6H)-one	983	818461	5-Hydroxy-2-hydroxymethyl-4H-pyran-4-one	1198	841442	$\alpha$ -Naphthoflavone
445	801518	2-BENZOYLPIRIDINE	989	814201	3-Hydroxy-2-methyl-4-pyranone	1199	841447	$\beta$ -Naphthoflavone
455	801822	1-Benzyl-4-piperidinone	1004	800148	3-Indolyl methyl ketone	1305	841270	1-(2-Phenylethyl)-4-piperidonone
479	841512	N-tert-BOC-4-Piperidinone	1040	820709	Isatin	1332	841672	4-Piperidinone monohydrate hydrochloride
687	814085	Dehydracetic acid sodium salt	1040	820709	Isatin	1536	818226	Tetrahydro-4H-pyran-4-one
688	822011	Dehydroacetic acid	1151	841878	3-Methylflavone-8-carboxylic acid	1619	841284	Tropinone
			1173	820828	1-Methyl-4-piperidinone			

## 1,2-Dicarbonyl compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
567	814071	(1R)-(-)-Camphorquinone	883	806617	Ethyl pyruvate	1287	807564	9,10-Phenanthrenequinone
567	814065	(1S)-(+)-Camphorquinone	954	818732	2,3-Hexanedione	1305	841007	Phenylglyoxal monohydrate
567	814531	DL-Camphorquinone	1146	841651	3-Methyl-1,2-cyclopentanedione	1395	820170	Pyruvic acid
671	841824	1,2-Cyclohexanedione	1256	820938	2-Oxobutyric acid			
691	803528	Diacetyl	1269	818555	2,3-Pentanedione			

## 1,3-Dicarbonyl compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
298	800023	Acetylacetone	768	106013	Dimedone	305	800107	Methyl acetoacetate
346	814829	2-Acetylcyclohexanone	775	814153	Dimethyl acetylsuccinate	1144	820784	2-Methyl-1,3-cyclohexanedione
346	818395	2-Acetylcyclopentanone	849	809622	Ethyl acetoacetate	1146	810504	2-Methyl-1,3-cyclopentanedione
364	818694	Allyl acetoacetate	849	841465	Ethyl acetopyruvate	1158	814190	Methyl isobutyrylacetate
539	821649	tert-Butyl acetoacetate	855	801557	Ethyl butyrylacetate	1166	818492	Methyl 3-oxopentanoate
596	818692	3-Chloroacetylacetone	856	818571	Ethyl 4-chloroacetoacetate	1257	820940	3-Oxoglutaric acid
677	820377	1,3-Cyclopentanedione	879	822118	Ethyl 2-oxocyclohexanecarboxylate	1542	818341	2,2,6,6-Tetramethyl-3,5-heptanedione
720	814752	1,3-Dichloro-5,5-dimethylhydantoine	886	818777	Ethyl 4,4,4-trifluoroacetoacetate	1595	821167	1,1,1-Trifluoro-2,4-pentanedione

## 1,4-Dicarbonyl compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
672	818566	1,4-Cyclohexanedione	954	800105	2,5-Hexanedione			
873	800397	Ethyl levulinate	1077	814254	Levulinic acid			

## Quinones

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
362	101010	Alizarin-3-methylamine-N,N-diacetic acid dihydrate	593	841528	Chloranilic acid	1132	841724	2-Methylanthraquinone
377	841590	1-Aminoanthraquinone	598	821723	1-Chloroanthraquinone	1200	806215	1,4-Naphthoquinone
421	800465	Anthraquinone	692	842128	1,4-Diaminoanthraquinone	1201	106531	1,2-Naphthoquinone-4-sulfonic acid sodium salt
421	841031	Anthraquinone-2-sulfonic acid sodium salt	720	802940	2,3-Dichloro-5,6-dicyano-p-benzoquinone	1396	102284	Quinhydrone
442	802410	p-Benzoquinone	726	841608	2,3-Dichloro-1,4-naphthoquinone	1522	820180	Tetrabromo-p-benzoquinone
567	814531	DL-Camphorquinone	852	821934	2-Ethylanthraquinone	1540	821098	Tetramethyl-p-benzoquinone

## Ketals

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
468	818470	(2R,3R)-(-)-4,5-Bis(diphenylhydroxymethyl)-2,2-dimethyl-1,3-dioxolane	768	818237	(+)-2,3:5,6-Di-O-isopropylidene- $\alpha$ -D-mannofuranose	1054	818234	(+)-5,6-O-Isopropylidene-L-ascorbic acid
469	824430	(4R,5R)-(-)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane	302	802936	2,2-Dimethoxypropane	1054	820506	1,2-O-Isopropylidenglycerol
469	824429	(4S,5S)-(+)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane	773	818266	4,4-Dimethoxy-tetrahydro-4H-pyran	1054	818637	(R)-(-)-1,2-O-Isopropylidenglycerol
675	818241	(-)-4,5-O-Cyclohexylidenequinic acid lactone	787	814533	2,2-Dimethyl-1,3-dioxolan	1054	818636	(-)-2,3-O-Isopropylidene-D-threitol
736	820391	2,2-Diethoxypropane	793	818225	(2R,3R)-(-)-Dimethyl-2,3-O-isopropylidene tartrate	1603	814170	2,2,6-Trimethyl-1,3-dioxine-4-one
768	818239	(-)-1,2:5,6-Di-O-isopropylidene- $\alpha$ -D-glucufuranose	811	841858	1,4-Dioxa-8-azaspiro[4.5]decane			

Keys, Opening aids → Laboratory equipment, auxiliaries

KF streptococci agar → page 101

Kieselguhr → page 9

Kieselguhr TLC pre coated plates → page 12

Kinetine → 6-(Furfurylamino)purine page 919

KING agar B → page 101

Kitchens → Hygiene monitoring

## Kjeldahl determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
480	107913	Boiling chips granules	1068	118348	Kjeldahl tablets	170	109959	Sodium hydroxide solution
480	100165	Boric acid	1068	115348	Kjeldahl tablets	171	109956	Sodium hydroxide solution
168	109060	Hydrochloric acid	1068	118469	Kjeldahl tablets	1441	105590	Sodium hydroxide solution about 32%
169	109057	Hydrochloric acid	1068	116469	Kjeldahl tablets	171	109074	Sulfuric acid
169	109063	Hydrochloric acid	1188	106130	Mixed indicator 5	171	109072	Sulfuric acid
169	109973	Hydrochloric acid	1415	108030	Selenium reagent mixture	171	109984	Sulfuric acid
169	109970	Hydrochloric acid	1419	107743	Silicon anti-foaming agent	171	109981	Sulfuric acid
1067	117958	Kjeldahl tablets	170	109141	Sodium hydroxide solution	171	109981	Sulfuric acid
1067	110958	Kjeldahl tablets	170	109140	Sodium hydroxide solution	1514	100748	Sulfuric acid 98%
						321	116754	Water

## 117958 Kjeldahl tablets for Wieninger method 3.5g/tablet

- Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ pH value 5 (200 g/l, H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 3815 90 90 ■ Disposal 17
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(KUPFER(II)-SULFAT), 9, III ■ IMDG-

Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III

## Specification

Appearance ..... grey tablets

Application test ..... conforms  
 Grey colour of the product is caused by raw material and does not effect the application.

Ord.No.	Packaging	Quantity	Price
1.17958.0250	Plastic can	250 tabs	inquire

## 110958 Kjeldahl tablets for Wieninger method 5g/tablet

- Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ pH value 5 (200 g/l, H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 3815 90 90 ■ Disposal 17
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(KUPFER(II)-SULFAT), 9, III ■ IMDG-

Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III

## Specification

Appearance ..... grey tablets

Application test ..... conforms  
 Grey colour of the Product is caused by raw material and does not effect the application.

Ord.No.	Packaging	Quantity	Price
1.10958.0250	Plastic can	250 tabs	inquire
1.10958.1000	Plastic bottle	1000 tabs	inquire



## 118348 Kjeldahl tablets (free of mercury and selenium) 3.5g/tablet

- Solub. in H<sub>2</sub>O (20 °C) partly soluble
- WGK 1
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 3815 90 90 ■ Disposal 14
- ADR-RID UN 3077 Umweltgefährdender Stoff,

fest, n.a.g.(KUPFER(II)-SULFAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III

## Specification

Appearance ..... light-grey to light-blue tablets  
 Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.18348.0250	Plastic can	250 tabs	inquire

## 115348 Kjeldahl tablets (free of mercury and selenium) 5 g/tablet

- Solub. in H<sub>2</sub>O (20 °C) partly soluble
- WGK 1
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 3815 90 90 ■ Disposal 14
- ADR-RID UN 3077 Umweltgefährdender Stoff,

Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III

## Specification

Appearance ..... light-grey to light-blue tablets  
 Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.15348.0250	Plastic can	250 tabs	inquire
1.15348.1000	Plastic bottle	1000 tabs	inquire

## 118469 Kjeldahl tablets (Missouri catalyst) 3.5g/tablet

- Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ pH value 6.1 (100 g/l, H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 3815 90 90 ■ Disposal 14
- ADR-RID UN 3077 Umweltgefährdender Stoff,

fest, n.a.g.(KUPFER(II)-SULFAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III

## Specification

Appearance ..... bluish to greenish tablets  
 Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.18469.0250	Plastic can	250 tabs	inquire

## 116469 Kjeldahl tablets (Missouri catalyst) 5g/tablet

- Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ pH value 6.1 (100 g/l, H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 3815 90 90 ■ Disposal 14
- ADR-RID UN 3077 Umweltgefährdender Stoff,

fest, n.a.g.(KUPFER(II)-SULFAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III

## Specification

Appearance ..... bluish to greenish tablets  
 Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.16469.0250	Plastic can	250 tabs	inquire
1.16469.1000	Plastic bottle	1000 tabs	inquire

Klesiella agar → page 104

KLIGLER agar → page 101

KMPS → Potassium hydrogen monopersulfate page 1352

Knorr Amide MBHA → page 269

Knurled nuts for capillary connections 0.2 mm i.d. 0.5 mm e.d. with PVDF double cones → page 35

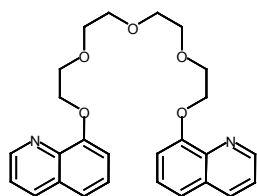
Knurled nuts with long bushing and PVDF cones for 6 port valves (Rheodyne) → page 36

Knurled screws (HPLC accessories) → page 35

Kojic acid → 5-Hydroxy-2-hydroxymethyl-4H-pyran-4-one page 983

Kryptofix® → Kryptofix® 5 page 1068

## 811689 Kryptofix® 5 for synthesis



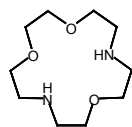
C<sub>26</sub>H<sub>28</sub>N<sub>2</sub>O<sub>5</sub>  
 1,13-Bis(8-quinolyloxy)-1,4,7,10,13-pentaoxadecane, 8,8-(1,4,7,10,13-pentaoxadecylene)-diquinoline  
 ■ CAS-No. 57310-75-5 ■ EC-No. 260-674-9  
 ■ M = 448.52 g/mol ■ Melting point 71 - 74 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 90 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99,0 % (m)  
 Melting range (lower value) ..... ≥ 71 °C  
 Melting range (upper value) ..... ≤ 74 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.11689.0005	Glass bottle	5 g	inquire

## 811720 Kryptofix® 21 for synthesis



1,4,10-Trioxa-7,13-diazacyclpentadecane  
 ■ CAS-No. 31249-95-3 ■ EC-No. 250-530-3  
 ■ M = 218.29 g/mol ■ Melting point 89 - 92 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

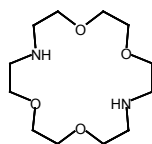
## Specification

Assay (perchloric acid titration) ..... ≥ 97%  
 Identity (IR-spectrum) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.11720.0001	Glass bottle	1 g	inquire
8.11720.0005	Glass bottle	5 g	inquire

C<sub>10</sub>H<sub>22</sub>N<sub>2</sub>O<sub>3</sub>

## 810953 Kryptofix® 22 for synthesis



■ M = 262.35 g/mol ■ Melting point 112 - 115 °C  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 3400 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

## Specification

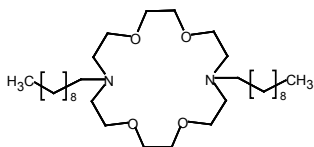
Purity (GC) ..... ≥ 99% (a/a)  
 Identity (IR-spectrum) ..... passes test  
 Melting point ..... 112 - 115 °C

Ord.No.	Packaging	Quantity	Price
8.10953.0001	Glass bottle	1 g	inquire
8.10953.0005	Glass bottle	5 g	inquire
	Glass bottle	6 x 5 g	inquire

C<sub>12</sub>H<sub>26</sub>N<sub>2</sub>O<sub>4</sub>

1,7,10,16-Tetraoxa-4,13-diazacyclooctadecane  
 ■ CAS-No. 23978-55-4 ■ EC-No. 245-965-0

## 811963 Kryptofix® 22 DD for synthesis

C<sub>32</sub>H<sub>66</sub>N<sub>2</sub>O<sub>4</sub>

- 4,13-Didecyl-1,7,10,16-tetraoxa-4,13-diazacyclooctadecane
- CAS-No. 79495-97-9 ■ EC-No. 279-168-4
  - Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 542.88 g/mol ■ Melting point 36 - 39 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2934 99 90 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 36 °C  
 Melting range (upper value)..... ≤ 39 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.11963.0001	Glass bottle	1 g	inquire

## 840044 Kryptofix® 22 polymer (Merrifield) for synthesis

1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane

- Spec. density 1 g/cm<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

## Specification

Assay of N ..... 3,0 - 5,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40044.0001	Glass bottle	1 g	inquire

## 840175 Kryptofix® 22 polymer (silica gel) for synthesis

1,7,10,16-Tetraoxa-4,13-diazacyclooctadecane

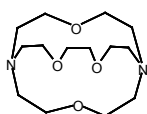
- WGK 2
- LGK 10 - 13
- HS-No. 3824 90 97 ■ Disposal 3

## Specification

Assay of N ..... 1,0 - 2,0 %

Ord.No.	Packaging	Quantity	Price
8.40175.0001	Glass bottle	1 g	inquire

## 810645 Kryptofix® 211 for synthesis

C<sub>14</sub>H<sub>28</sub>N<sub>2</sub>O<sub>4</sub>

4,7,13,18-Tetraoxa-1,10-diazabicyclo[8.5.5]

eicosane

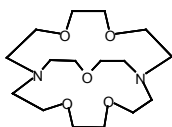
- CAS-No. 31250-06-3 ■ EC-No. 250-531-9
- Spec. density 1.11 g/cm<sup>3</sup> (20 °C)
- M = 288.39 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

## Specification

Purity (GC)..... ≥ 95% (a/a)  
 Identity (IR-spectrum)..... passes test  
 Density (d 20 °C/ 4 °C)..... 1.100 - 1.110

Ord.No.	Packaging	Quantity	Price
8.10645.0001	Glass bottle	1 ml	inquire

## 810646 Kryptofix® 221 for synthesis

C<sub>16</sub>H<sub>32</sub>N<sub>2</sub>O<sub>5</sub>

4,7,13,16,21-Pentaoxa-1,10-diazabicyclo[8.8.5]tricosane

- CAS-No. 31364-42-8 ■ EC-No. 250-592-1
- Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 332.43 g/mol
- WGK 3
- GHS: P260, P262
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

## Specification

Purity (GC)..... ≥ 98% (a/a)

Identity (IR-spectrum)..... passes test  
 Density (d 20 °C/ 4 °C)..... 1.107 - 1.114  
 Water (according to Karl Fischer)..... ≤ 0.5%

Ord.No.	Packaging	Quantity	Price
8.10646.0001	Glass bottle	1 ml	inquire
8.10646.8250	Glass bottle	250 µl	inquire

## 811970 Kryptofix® 221 B polymer for synthesis

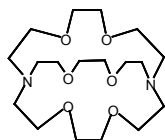
- Solub. in H<sub>2</sub>O (20 °C) insoluble
- WGK 3
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

## Specification

Assay (ex N) ..... 1,0 - 2,0 % (m)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.11970.0001	Glass bottle	1 g	inquire

## 810647 Kryptofix® 222 for synthesis

C<sub>18</sub>H<sub>36</sub>N<sub>2</sub>O<sub>6</sub>

4,7,13,16,21,24-Hexaoxa-1,10-diazabicyclo[8.8.8]hexacosane

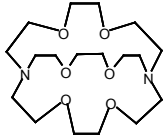
- CAS-No. 23978-09-8 ■ EC-No. 245-962-4
- M = 376.49 g/mol ■ Melting point 68 - 71 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313
- LD50 oral rat > 300 - 2000 mg/kg
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

## Specification

Purity (GC)..... ≥ 99% (a/a)  
 Identity (IR-spectrum)..... passes test  
 Melting range..... 69 - 72 °C

Ord.No.	Packaging	Quantity	Price
8.10647.0001	Glass bottle	1 g	inquire
	Glass bottle	6 x 1 g	inquire
8.10647.0005	Glass bottle	5 g	inquire
8.10647.8250	Glass bottle	250 mg	inquire

## 814925 Kryptofix® 222 special quality for synthesis



$C_{18}H_{36}N_2O_6$

4,7,13,16,21,24-Hexaoxa-1,10-diazabicyclo[8.8.8]hexacosane

- CAS-No. 23978-09-8 ■ EC-No. 245-962-4
- M = 376.49 g/mol ■ Melting point 68 - 71 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious

- eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313
- LD50 oral rat > 300 - 2000 mg/kg
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

### Specification

- Assay (perchloric acid titration)..... ≥ 99%
- Purity (GC)..... ≥ 99% (a/a)
- Identity (IR-spectrum) ..... passes test
- Melting point ..... 69 - 72 °C
- Biggest singly impurity (GC)..... ≤ 0.1 %
- Acetone (HS-GC)..... ≤ 5000 ppm
- Acetonitrile (HS-GC)..... ≤ 410 ppm
- Dichloromethane (HS-GC)..... ≤ 600 ppm
- n-Hexane (HS-GC)..... ≤ 290 ppm

- Methanol (HS-GC) ..... ≤ 3000 ppm
- petroleum ether (HS-GC) ..... ≤ 290 ppm
- Pyridine (HS-GC) ..... ≤ 200 ppm
- Sulfated ash ..... ≤ 0.1 %
- Water (according to Karl Fischer)..... ≤ 0.5%
- E.coli ..... passes test
- Salmonella species..... passes test
- Staphylococcus aureus..... passes test
- Pseudomonas aeruginosa ..... passes test
- Colony count (aerobic bacteria)..... ≤ 5000 CFU/g
- Colony count (Yeasts and moulds)..... ≤ 500 CFU/g
- Endotoxins..... ≤ 50 I.U./g

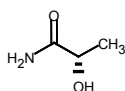
Ord.No.	Packaging	Quantity	Price
8.14925.0001	Glass bottle	1 g	inquire

Kynurenic acid → 4-Hydroxyquinoline-2-carboxylic acid page 995

## Labels

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
328	100801	Label set acc. GHS	328	108899	Labels Geöffnet am /verw. bis			
Labels → Laboratory equipment, auxiliaries			Label set acc. GHS → page 328			Labels Geöffnet am /verw. bis → page 328		

## 820752 L(-)-Lactamide for synthesis



C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>  
 CH<sub>3</sub>CH(OH)CONH<sub>2</sub>  
 2-Hydroxypropionic acid amide  
 ■ CAS-No. 89673-71-2  
 ■ Solub. in H<sub>2</sub>O 782 g/l (25 °C) (experimental)

■ M = 89.09 g/mol ■ Melting point 50 - 53 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3  
**Specification**  
 Assay (ex N) ..... ≥ 99,0 %(m)  
 Melting range (lower value) ..... ≥ 50 °C  
 Melting range (upper value) ..... ≤ 53 °C  
 Spec. rotation [α]<sub>D</sub><sup>20</sup> (c=10 in water) ..... -22,0 - -20,0 °

Water (K. F.) ..... ≤ 0,50 %(m)  
 Identity (IR) ..... conforms  
 Acid value ..... ≤ 1,5  
 Appearance of solution (10 % in water) ..... clear, colourless  
 Methyl acetate (GC, area%) ..... ≤ 0,15 Area %

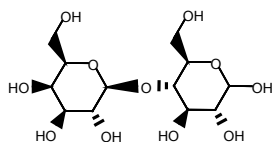
Ord.No.	Packaging	Quantity	Price
8.20752.0100	Glass bottle	100 g	inquire

Lactams → Carboxylic acid derivatives

## Lactates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
563	102103	Calcium lactate						
L(-)-Lactic acid ethyl ester → (S)-(-)-Ethyl lactate page 873			Lactobacillus agar acc. to de MAN, ROGOSA and SHARPE → page 102			Lactones → Carboxylic acid derivatives		
Lactic acid lithium salt → L-(-)-Lithium lactate page 1083			Lactobacillus broth acc. to de MAN, ROGOSA and SHARPE → page 102			Lactophenol blue solution → page 194		
L-Lactic acid methyl ester → (S)-(-)-Methyl lactate page 1158			Lactobacillus selective agar → page 104			Lactose broth → page 106		
Lactic Acid Test → page 67			Lactoglucose → D(+)-Galactose page 920					

## 107660 Lactose monohydrate for biochemistry



C<sub>12</sub>H<sub>22</sub>O<sub>11</sub> \* H<sub>2</sub>O  
 Milk sugar, Lactobiose  
 ■ CAS-No. 10039-26-6 ■ EC-No. 200-559-2

■ Solub. in H<sub>2</sub>O 161 g/l (20 °C) ■ M = 360.32 g/mol  
 ■ pH value 4.0 - 6.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 202 °C ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ Ignition temp. 390 °C  
 ■ WGK nwg  
 ■ LD50 oral rat > 10000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 1702 11 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good  
 Lactose exhibits mutarotation: α-form from [α]<sub>D</sub><sup>20</sup> = +85.0°, β-form from [α]<sub>D</sub><sup>20</sup> = +34.9° to [α]<sub>D</sub><sup>20</sup> = +55.4° at c = 4 in water The monohydrate loses H<sub>2</sub>O at 130°C.

Ord.No.	Packaging	Quantity	Price
1.07660.0250	Plastic bottle	250 g	inquire
1.07660.1000	Plastic bottle	1 kg	inquire

Lactose monohydrate → page 111  
 LAH → page 1079

Lamp → page 93  
 Lamp UV → page 15

Lanthanides, determination → page 995

## 112219 Lanthanum(III) chloride heptahydrate 98% for analysis

Cl<sub>3</sub>La \* 7 H<sub>2</sub>O  
 LaCl<sub>3</sub> \* 7 H<sub>2</sub>O  
 Lanthanum trichloride  
 ■ CAS-No. 10025-84-0 ■ EC-No. 233-237-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 371.37 g/mol  
 ■ pH value 5 (100 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 91 °C Elimination of water of crystallisation ■ Bulk density 900 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LD50 oral rat 4184 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2846 90 00 ■ Disposal 27  
**Specification**  
 Identity (elemental analysis) ..... conforms  
 Assay (complexometric) ..... ≥ 98 %  
 Ca (Calcium) ..... ≤ 0.001 %  
 Mg (Magnesium) ..... ≤ 0.0001 %  
 Cu (Copper) ..... ≤ 0.0001 %  
 Fe (Iron) ..... ≤ 0.0005 %

Pb (Lead) ..... ≤ 0.0001 %  
 Zn (Zinc) ..... ≤ 0.0001 %  
 Water-insoluble matter ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.12219.0100	Plastic bottle	100 g	inquire
1.12219.0250	Plastic bottle	250 g	inquire

## 105326 Lanthanum nitrate hexahydrate for analysis

LaN<sub>3</sub>O<sub>9</sub> \* 6 H<sub>2</sub>O  
 La(NO<sub>3</sub>)<sub>3</sub> \* 6 H<sub>2</sub>O  
 ■ CAS-No. 10277-43-7 ■ EC-No. 233-238-0  
 ■ Solub. in H<sub>2</sub>O 1580 g/l (25 °C) ■ M = 433.02 g/mol  
 ■ pH value 3.4 (50 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 40 °C ■ Bulk density 1300 kg/m<sup>3</sup>  
 ■ Boiling point 126 °C (1013 hPa) (decomposition)  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 2, H272; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313

■ LD50 oral rat 4500 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2846 90 00 ■ Disposal 14  
 ■ ADR-RID UN 1477 Nitrate, anorganische, n.a.g., 5.1, II ■ IMDG-Code UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II  
 ■ IATA-DGR UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II  
 Reagent for acetic and propionic acids.

**Specification**  
 Assay (complexometric) ..... ≥ 96.0 %  
 Chloride (Cl) ..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.002 %  
 Ca (Calcium) ..... ≤ 0.001 %  
 Ce (Cerium) ..... ≤ 0.03 %  
 Fe (Iron) ..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.05326.0100	Plastic bottle	100 g	inquire

# Lantha

## Lanthanum(III) oxide

La<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 1312-81-8 ■ EC-No. 215-200-5  
 ■ Spec. density 6.51 g/cm<sup>3</sup> (20 °C)  
 ■ M = 325.82 g/mol ■ pH value 9.0 (50 g/l, H<sub>2</sub>O,  
 20 °C) (slurry) ■ Melting point 2315 °C

■ Bulk density 1300 kg/m<sup>3</sup> ■ Boiling point 4200 °C  
 ■ WGK nwg  
 ■ GHS: P260  
 ■ LD50 oral rat > 9968 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2846 90 00 ■ Disposal 27

### 110982 Lanthanum(III) oxide for atomic absorption spectroscopy

#### Specification

Assay (complexometric, on of the ignited basis  
 substance) ..... ≥ 99.5 %  
 Chloride (Cl) ..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.002 %

Ca (Calcium) ..... ≤ 0.005%  
 Cu (Copper) ..... ≤ 0.0003 %  
 Fe (Iron) ..... ≤ 0.002%  
 Li (Lithium) ..... ≤ 0.0001 %  
 Mg (Magnesium) ..... ≤ 0.0003 %

Ord.No.	Packaging	Quantity	Price
1.10982.0025	Glass bottle	25 g	inquire

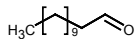
### 112220 Lanthanum(III) oxide

#### Specification

Assay (complexometric, on of the ignited basis  
 substance) ..... ≥ 99.5 %

Ord.No.	Packaging	Quantity	Price
1.12220.0100	Plastic bottle	100 g	inquire
1.12220.0500	Plastic bottle	500 g	inquire

## 818677 Lauraldehyde for synthesis



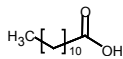
C<sub>12</sub>H<sub>24</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>10</sub>CHO  
*Dodecanal, Dodecylaldehyde*  
 ■ CAS-No. 112-54-9 ■ EC-No. 203-983-6  
 ■ Refractive index 1.435 (20 °C, 589 nm) ■ Vapour  
 pressure < 300 hPa (50 °C) ■ Spec. density 0.83 g/  
 cm<sup>3</sup> (20 °C) ■ Flash point 101 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) practically insoluble ■ M = 184.32 g/  
 mol ■ Melting point 11 - 13 °C  
 ■ Boiling point 237 - 239 °C (1013 hPa)

■ Ignition temp. 200 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Chronic aquatic toxicity, Category 2, H411, P273,  
 P302 + P352  
 ■ LD50 oral rat 23000 mg/kg  
 ■ LGK 10 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2912 19 00 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff,  
 flüssig, n.a.g.(LAURINALDEHYD), 9, III ■ IMDG-  
 Code UN 3082 ENVIRONMENTALLY HAZARDOUS  
 SUBSTANCE, LIQUID, N.O.S.(LAURALDEHYDE), 9, III,  
 Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY  
 HAZARDOUS SUBSTANCE, LIQUID,  
 N.O.S.(LAURALDEHYDE), 9, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.830 - 0.840  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18677.0100	Glass bottle	100 ml	inquire

## 805333 Lauric acid for synthesis



C<sub>12</sub>H<sub>24</sub>O<sub>2</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>10</sub>COOH  
*Dodecanoic acid*  
 ■ CAS-No. 143-07-7 ■ EC-No. 205-582-1  
 ■ Vapour pressure 0.15 hPa (100 °C)  
 ■ Spec. density 0.883 g/cm<sup>3</sup> (50 °C) ■ Explosive  
 limit 0.6 % (V) ■ Flash point 176 °C ■ Solub. in

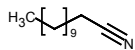
H<sub>2</sub>O 0.058 g/l (20 °C) ■ M = 200.32 g/mol  
 ■ Melting point 43 - 45 °C ■ Bulk density 490 kg/  
 m<sup>3</sup> ■ Boiling point 299 °C (1013 hPa)  
 ■ Ignition temp. 250 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319,  
 P305 + P351 + P338  
 ■ LD50 oral rat 12000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 90 30 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 Area %  
 Melting range (lower value) ..... ≥ 43 °C  
 Melting range (upper value) ..... ≤ 45 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05333.0100	Plastic bottle	100 g	inquire
8.05333.1000	Plastic bottle	1 kg	inquire

Lauric acid ethyl ester → Ethyl laurate page 873

## 805345 Lauronitrile for synthesis



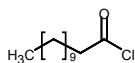
C<sub>12</sub>H<sub>23</sub>N  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>10</sub>CN  
*Dodecanenitrile, Undecyl cyanide*  
 ■ CAS-No. 2437-25-4 ■ EC-No. 219-440-1  
 ■ Refractive index 1.436 (20 °C, 589 nm)  
 ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 113 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 181.32 g/mol  
 ■ Melting point 4 °C ■ Boiling point 197 - 199 °C  
 (133 hPa)  
 ■ WGK 2  
 ■ LGK 6.1A  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig,  
 n.a.g.(LAURINSAEURENITRIL), 6.1, II ■ IMDG-  
 Code UN 3276 NITRILES, TOXIC, LIQUID,  
 N.O.S.(LAURONITRILE), 6.1, II

■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC,  
 N.O.S.(LAURONITRILE), 6.1, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,823 - 0,826  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05345.0100	Glass bottle	100 ml	inquire

## 805336 Lauroyl chloride for synthesis



C<sub>12</sub>H<sub>23</sub>ClO  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>10</sub>COCl  
*Dodecanoyl chloride*  
 ■ CAS-No. 112-16-3 ■ EC-No. 203-941-7  
 ■ Refractive index 1.4459 (20 °C, 589 nm)  
 ■ Spec. density 0.922 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >150 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) (decomposition) ■ M = 218.77 g/mol  
 ■ Melting point -17 °C ■ Boiling point 145 °C

(11 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral,  
 H301; Skin corrosion, Category 1B, H314;  
 Corrosive to metals, Category 1, H290, P280, P301  
 + P330 + P331, P305 + P351 + P338, P309 +  
 P310  
 ■ LD50 oral rat 200 - 2000 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2915 90 30 ■ Disposal 11  
 ■ ADR-RID UN 2922 Ätzender flüssiger Stoff,  
 giftig, n.a.g.(LAURINSAEURECHLORID), 8 (6.1), II  
 ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC,

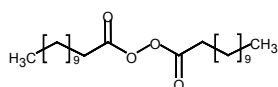
N.O.S.(LAUROYL CHLORIDE), 8 (6.1), II, Segregation  
 Group: 1 (Acids)  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC,  
 N.O.S.(LAUROYL CHLORIDE), 8 (6.1), II

**Specification**  
 Assay (morpholine method) ..... ≥ 98.0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,921 - 0,922  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05336.0250	Glass bottle	250 ml	inquire



## 843861 Lauroyl peroxide for synthesis

C<sub>24</sub>H<sub>46</sub>O<sub>4</sub>

- CAS-No. 105-74-8 ■ EC-No. 203-326-3
- Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 398.63 g/mol
- Melting point 49 °C ■ Ignition temp. 112 °C

Lauryl alcohol → 1-Dodecanol page 828

Laurylamine → Dodecylamine page 829

Lauryl chloride → 1-Chlorododecane page 609

- WGK 1
- GHS: Danger, Organic peroxide, Type D, H242, P210, P280
- LC50 rat 200 mg/l
- LD50 oral rat 10000 mg/kg
- EC-Index-No. 617-003-00-3 ■ LGK 5.2
- HS-No. 2915 90 70 ■ Disposal 10
- ADR-RID UN 3106 Organisches Peroxid Typ D, fest(DILAUROYLPEROXID), 5,2, ■ IMDG-Code UN 3106 ORGANIC PEROXIDE TYPE D,

Lauryl gallate → Dodecyl 3,4,5-trihydroxybenzoate page 830

Lauryl iodide → 1-Iodododecane page 1010

Lauryl mercaptan → tert-Dodecanethiol (mixture of isomers) page 828

SOLID(DILAUROYL PEROXIDE), 5,2,  
 ■ IATA-DGR UN 3106 ORGANIC PEROXIDE TYPE D, SOLID(DILAUROYL PEROXIDE), 5,2,

## Specification

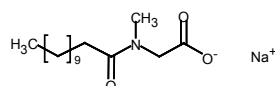
Assay (iodometric) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43861.0100	Glass bottle	100 g	inquire

Lauryl methacrylate → Methacrylic acid alkylester (mixture of C<sub>12</sub>-C<sub>16</sub>) page 1109

N-Laurylpyridinium chloride → N-Dodecylpyridinium chloride page 829

## 814715 N-Lauryl sarcosine sodium salt (stabilised) for synthesis

C<sub>15</sub>H<sub>28</sub>NNaO<sub>3</sub>CH<sub>3</sub>-(CH<sub>2</sub>)<sub>10</sub>-CO-N(CH<sub>3</sub>)-CH<sub>2</sub>-COONa

Sarcosyl, Sodium lauroylsarcosinate

■ CAS-No. 137-16-6 ■ EC-No. 205-281-5

■ Flash point &gt;150 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 293.38 g/mol■ pH value 8 (30 g/l, H<sub>2</sub>O, 20 °C)■ Melting point 45 - 47 °C ■ Bulk density 400 kg/m<sup>3</sup>

Lauryl sulfate → page 830

Lauryl sulfate broth → page 101

- WGK 1
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P304 + P340, P302 + P350, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2888 mg/kg
- LGK 6.1A
- HS-No. 3402 11 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-LAUROYLSARCOSIN NATRIUMSALZ), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-LAUROYL SARCOSINE SODIUM

Lauryl sulfate sodium salt → page 830

Lauryl trimethylammonium bromide → n-Dodecyltrimethylammonium bromide page 830

SALT), 6.1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-LAUROYL SARCOSINE SODIUM SALT), 6.1, II

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 95,0 %(m)  
 Water (K. F.) ..... ≤ 5,0 %(m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14715.0100	Plastic bottle	100 g	inquire
8.14715.0500	Plastic bottle	500 g	inquire

Lawesson's reagent → 2,4-Bis(4-methoxyphenyl)-2,4-dithioxo-1,3,2,4- dithiadiphosphetane page 473

LDA → Lithiumdiisopropylamide page 1082

## Lead

Pb

■ CAS-No. 7439-92-1 ■ EC-No. 231-100-4

■ Spec. density 11.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 207.2 g/mol

■ Melting point 327 °C

■ Boiling point 1740 °C (1013 hPa)

■ WGK nwg

■ GHS: Danger, Reproductive toxicity, Category 1A, H360FD; Acute toxicity, Category 4,

Inhalation, H332; Acute toxicity, Category 4, Oral,

H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P304 + P340, P308 + P313

■ EC-Index-No. 082-001-00-6 ■ LGK 6.1 D

■ HS-No. 7804 20 00 ■ Disposal 15

■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(BLEI), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,

SOLID, N.O.S.(LEAD), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 9 (Lead and its compounds)

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(LEAD), 9, III

As protection against X-rays and other ionising radiation. Role, 23 cm wide

## 112067 Lead fine powder 99+

## Specification

Identity (elemental analysis) ..... conforms

Assay (complexometric) ..... ≥ 99.0 %

Particle size (&lt; 100 µm) ..... ≥ 99 %

Ord.No.	Packaging	Quantity	Price
1.12067.1000	Plastic bottle	1 kg	inquire

## 107362 Lead coarse powder GR for analysis

## Specification

Ag (Silver) ..... ≤ 0.005 %

As (Arsenic) ..... ≤ 0.01 %

Bi (Bismuth) ..... ≤ 0.01 %

Cu (Copper) ..... ≤ 0.002 %

Fe (Iron) ..... ≤ 0.001 %

Ni (Nickel) ..... ≤ 0.002 %

Sb (Antimony) ..... ≤ 0.01 %

Sn (Tin) ..... ≤ 0.001 %

Sieve residue (&gt; 0.5 mm) ..... ≥ 98 %

Sieve residue (&gt; 3 mm) ..... ≤ 1 %

Ord.No.	Packaging	Quantity	Price
1.07362.1000	Plastic bottle	1 kg	inquire

## 107365 Lead foil for analysis about 0.25 mm thick EMSURE®

## Specification

Ag (Silver) ..... ≤ 0.001 %

As (Arsenic) ..... ≤ 0.01 %

Bi (Bismuth) ..... ≤ 0.01 %

Cu (Copper) ..... ≤ 0.002 %

Fe (Iron) ..... ≤ 0.001 %

Ni (Nickel) ..... ≤ 0.002 %

Sb (Antimony) ..... ≤ 0.01 %

Sn (Tin) ..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.07365.0500	Plastic bag	500 g	inquire

## 109511 Lead(II)acetate paper roll length 4.8 m

■ Store at +15°C to +25°C.

■ HS-No. 3822 00 00

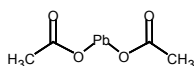
## Specification

Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09511.0003	Fibre case	3 rolls	inquire

Lead(II) acetate paper → Lead(II)acetate paper page 68

## 107375 Lead(II) acetate trihydrate for analysis EMSURE® ACS, Reag. Ph Eur

C<sub>4</sub>H<sub>6</sub>O<sub>4</sub>Pb · 3 H<sub>2</sub>O(CH<sub>3</sub>COO)<sub>2</sub>Pb · 3 H<sub>2</sub>O

- CAS-No. 6080-56-4 ■ EC-No. 206-104-4
- Spec. density 3.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 443 g/l (20 °C) ■ M = 379.34 g/mol
- pH value 5.5 - 6.5 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 75 °C ■ Bulk density 1200 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Reproductive toxicity, Category 1A, H360Df; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute

aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410; Reproductive toxicity, Category 2, H361; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 1, H410, P201, P281, P273, P308 + P313

- LD50 oral rat 4665 mg/kg
- EC-Index-No. 082-005-00-8 ■ LGK 6.1 D
- HS-No. 2915 29 00 ■ Disposal 15
- ADR-RID UN 1616 Bleiacetat, 6.1, III ■ IMDG-Code UN 1616 LEAD ACETATE, 6.1, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 9 (Lead and its compounds)
- IATA-DGR UN 1616 LEAD ACETATE, 6.1, III

## Specification

Assay (complexometric) .....	99.5 - 102.0 %
Insoluble matter .....	≤ 0.01 %
Chloride (Cl) .....	≤ 0.0005 %
Nitrite and Nitrate (as NO <sub>3</sub> ) .....	≤ 0.005 %
Ca (Calcium) .....	≤ 0.005 %
Cu (Copper) .....	≤ 0.001 %
Fe (Iron) .....	≤ 0.001 %
K (Potassium) .....	≤ 0.005 %
Na (Sodium) .....	≤ 0.005 %

Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.07375.0250	Plastic bottle	250 g	inquire
1.07375.1000	Plastic bottle	1 kg	inquire

## 101189 Lead borate

BH<sub>3</sub>O<sub>3</sub>·xPbPb<sub>3</sub>B(OH)<sub>3</sub>

- CAS-No. 35498-15-8 ■ EC-No. 252-594-8
- Spec. density 11.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (25 °C) soluble ■ M = 328.85 g/mol
- pH value 8.6 (650 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 3870 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Reproductive toxicity, Category 1A, H360Df; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure,

Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P304 + P340, P308 + P313

- EC-Index-No. 082-001-00-6 ■ LGK 6.1 B
- HS-No. 2840 20 90 ■ Disposal 15
- ADR-RID UN 2291 Bleiverbindung, löslich, n.a.g.(BLEIBORAT), 6.1, III ■ IMDG-Code UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD BORATE), 6.1, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 9 (Lead and its

compounds)

- IATA-DGR UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD BORATE), 6.1, III

## Specification

Identity .....	passes test
Residue on ignition .....	≤ 0.5 %
Bulk density .....	300 - 350 g/100 ml

Ord.No.	Packaging	Quantity	Price
1.01189.1000	Plastic bottle	1 kg	inquire

## 107381 Lead(II) carbonate for analysis EMSURE® ACS

CO<sub>3</sub>PbPbCO<sub>3</sub>

- CAS-No. 598-63-0 ■ EC-No. 209-943-4
- Spec. density 6.6 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 267.21 g/mol
- pH value 5.8 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 315 °C (decomposition)
- Bulk density 1300 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Reproductive toxicity, Category 1A, H360FD; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P304 +

P340, P308 + P313

- EC-Index-No. 082-001-00-6 ■ LGK 6.1 B
- HS-No. 2836 99 17 ■ Disposal 15
- ADR-RID UN 2291 Bleiverbindung, löslich, n.a.g.(BLEI(II)-CARBONAT), 6.1, III ■ IMDG-Code UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD(II) CARBONATE), 6.1, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 9 (Lead and its compounds)
- IATA-DGR UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD(II) CARBONATE), 6.1, III

## Specification

Assay (complexometric) .....	≥ 99.0 %
Substances insoluble in dilute acetic acid .....	≤ 0.02 %

Chloride (Cl) .....	≤ 0.002 %
Nitrite and Nitrate (as NO <sub>3</sub> ) .....	≤ 0.005 %
Total nitrogen (N) .....	≤ 0.02 %
Ca (Calcium) .....	≤ 0.01 %
Cd (Cadmium) .....	≤ 0.002 %
Cu (Copper) .....	≤ 0.002 %
Fe (Iron) .....	≤ 0.002 %
K (Potassium) .....	≤ 0.02 %
Na (Sodium) .....	≤ 0.05 %
Zn (Zinc) .....	≤ 0.003 %

corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.07381.0250	Plastic bottle	250 g	inquire

Lead Cell Test → page 68

## 807383 Lead(II) chloride anhydrous for synthesis

Cl<sub>2</sub>PbPbCl<sub>2</sub>

## Lead dichloride

- CAS-No. 7758-95-4 ■ EC-No. 231-845-5
- Spec. density 5.85 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 278.1 g/mol
- Melting point 500 °C ■ Boiling point 950 °C (1013 hPa)
- WGK 3
- GHS: Warning, Reproductive toxicity, Category 1A, H360Df; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - repeated

exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P281, P304 + P340, P308 + P313

- LD50 oral rat > 1947 mg/kg
- EC-Index-No. 082-001-00-6 ■ LGK 6.1 D
- HS-No. 2827 39 85 ■ Disposal 15
- ADR-RID UN 2291 Bleiverbindung, löslich, n.a.g.(BLEI(II)-CHLORID WASSERFREI), 6.1, III
- IMDG-Code UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD(II) CHLORIDE ANHYDROUS), 6.1, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their

organometallic compounds)), 9 (Lead and its compounds)

- IATA-DGR UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD(II) CHLORIDE ANHYDROUS), 6.1, III

## Specification

Assay (argentometric) .....	≥ 98.0 % (m)
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Ord.No.	Packaging	Quantity	Price
8.07383.0100	Glass bottle	100 g	inquire
8.07383.0500	Glass bottle	500 g	inquire

## 107512 Lead(II) chromate sintered, for elemental analysis

CrO<sub>4</sub>PbPbCrO<sub>4</sub>

## Chrome yellow

- CAS-No. 7758-97-6 ■ EC-No. 231-846-0
- Spec. density 6.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 323.19 g/mol
- Melting point 844 °C
- Bulk density 2600 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 1A, H361;

Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P281, P308 + P313

- EC-Index-No. 082-004-00-2 ■ LGK 6.1 B
- HS-No. 2841 50 00 ■ Disposal 15
- ADR-RID UN 2291 Bleiverbindung, löslich, n.a.g.(BLEI(II)-CHROMAT), 6.1, III ■ IMDG-Code UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD(II) CHROMATE), 6.1, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their

salts (including their organometallic compounds)), 9 (Lead and its compounds)

- IATA-DGR UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD(II) CHROMATE), 6.1, III

## Specification

Assay (iodometric) .....	≥ 99.0 %
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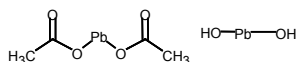
Ord.No.	Packaging	Quantity	Price
1.07512.0250	Glass bottle	250 g	inquire

## Lead, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
172	103092	Dithizone	1432	106689	Sodium diethyldithiocarbamate trihydrate			
1407	106595	Rhodizonic acid disodium salt	1554	107979	Thiourea			

Lead dichloride → Lead(II) chloride page 1074

## 107414 Lead(II) hydroxide acetate anhydrous, for the analysis of sugar acc. to Horne EMSURE® ACS

C<sub>4</sub>H<sub>6</sub>O<sub>6</sub>Pb<sub>2</sub>(CH<sub>3</sub>COO)<sub>2</sub>Pb \* Pb(OH)<sub>2</sub>

Horne's compound

- CAS-No. 51404-69-4 ■ EC-No. 257-175-3
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 566.50 g/mol ■ pH value 7.2 (50 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 2100 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Carcinogenicity, Category 2, H351; Reproductive toxicity, Category 1A, H361; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity,

- Category 1, H410, P273, P281, P308 + P313
  - EC-Index-No. 082-001-00-6 ■ LGK 6.1B
  - HS-No. 2915 29 00 ■ Disposal 15
  - ADR-RID UN 2291 Bleiverbindung, löslich, n.a.g.(BLEI(II)-HYDROXIDACETAT), 6.1, III ■ IMDG-Code UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD(II) HYDROXIDE ACETATE), 6.1, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 9 (Lead and its compounds)
  - IATA-DGR UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD(II) HYDROXIDE ACETATE), 6.1, III
- Specification**
- Assay (PbO) ..... ≥ 33.0 %
  - In water insoluble matter ..... ≤ 1.0 %

Substances insoluble in dilute acetic acid ≤ 0.02 %  
 Chloride (Cl) ..... ≤ 0.003 %  
 Nitrate und Nitrite (as NO<sub>3</sub>) ..... passes test  
 Ca (Calcium) ..... ≤ 0.01 %  
 Cu (Copper) ..... ≤ 0.002 %  
 Fe (Iron) ..... ≤ 0.002 %  
 K (Potassium) ..... ≤ 0.02 %  
 Na (Sodium) ..... ≤ 0.05 %  
 Loss on drying (105 °C) ..... ≤ 1.0 %  
 Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.07414.1000	Plastic bottle	1 kg	inquire
1.07414.9030	Fibre carton	30 kg	inquire

## 107398 Lead(II) nitrate for analysis EMSURE® ACS, Reag. Ph Eur

N<sub>2</sub>O<sub>6</sub>PbPb(NO<sub>3</sub>)<sub>2</sub>

- CAS-No. 10099-74-8 ■ EC-No. 233-245-9
- Vapour pressure (20 °C) low
- Spec. density 4.49 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 522 g/l (20 °C) ■ M = 331.2 g/mol
- pH value 3 - 4 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 458 - 459 °C
- Bulk density 1850 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Serious eye damage, Category 1, H318; Reproductive toxicity, Category 1A, H360Df; Acute aquatic toxicity,

- Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P210, P221, P273, P280, P305 + P351 + P338, P308 + P313
  - EC-Index-No. 082-001-00-6 ■ LGK 5.1B
  - HS-No. 2834 29 20 ■ Disposal 15
  - ADR-RID UN 1469 Bleinitrat, 5.1 (6.1), II
  - IMDG-Code UN 1469 LEAD NITRATE, 5.1 (6.1), II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 9 (Lead and its compounds)
  - IATA-DGR UN 1469 LEAD NITRATE, 5.1 (6.1), II
- Specification**
- Assay (complexometric) ..... ≥ 99.5 %

Insoluble matter ..... ≤ 0.005 %  
 Chloride (Cl) ..... ≤ 0.0005 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Cu (Copper) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.005 %  
 Na (Sodium) ..... ≤ 0.02 %  
 corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.07398.0100	Plastic bottle	100 g	inquire
1.07398.1000	Plastic bottle	1 kg	inquire

## Lead(II) oxide



OPb

PbO

- CAS-No. 1317-36-8 ■ EC-No. 215-267-0
- Spec. density 9.53 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.017 g/l (20 °C) ■ M = 223.19 g/mol
- pH value 8 - 9 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 888 °C
- Bulk density 3500 - 3700 kg/m<sup>3</sup>
- Boiling point 1470 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Oral,

- H302; Acute toxicity, Category 4, Inhalation, H332; Reproductive toxicity, Category 1A, H360Df; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P304 + P340, P308 + P313
- LD50 oral rat > 10000 mg/kg
- EC-Index-No. 082-001-00-6 ■ LGK 6.1B
- HS-No. 2824 10 00 ■ Disposal 15
- ADR-RID UN 2291 Bleiverbindung, löslich,

n.a.g.(BLEI(II)-OXID), 6.1, III ■ IMDG-Code UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD(2)-OXIDE), 6.1, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 9 (Lead and its compounds)
- IATA-DGR UN 2291 LEAD COMPOUND, SOLUBLE, N.O.S.(LEAD(2)-OXIDE), 6.1, III

Modification: yellow B-form

## 105658 Lead(II) oxide extra pure

## Specification

- Assay (complexometric) ..... 99.0 - 100.5 %
- Substances insoluble in dilute acetic acid.. ≤ 0.2 %
- Loss on ignition (700 °C) ..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.05658.1000	Plastic bottle	1 kg	inquire
1.05658.5000	Plastic bottle	5 kg	inquire
1.05658.9050	Plastic drum	50 kg	inquire

## 107401 Lead(II) oxide for analysis EMSURE®

## Specification

- Assay (complexometric) ..... ≥ 99.0 %
- Substances insoluble in dilute acetic acid ≤ 0.05 %
- Chloride (Cl) ..... ≤ 0.005 %
- Total nitrogen (N) ..... ≤ 0.001 %
- Ag (Silver) ..... ≤ 0.0005 %
- Bi (Bismuth) ..... ≤ 0.005 %
- Cu (Copper) ..... ≤ 0.001 %
- Fe (Iron) ..... ≤ 0.002 %
- Loss on ignition (850 °C) ..... ≤ 0.2 %
- Substances not precipitated by hydrogen sulfide

(as SO<sub>4</sub>) ..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.07401.0250	Plastic bottle	250 g	inquire
1.07401.1000	Plastic bottle	1 kg	inquire

# Leadox

## 107407 Lead(IV) oxide for analysis EMSURE®



O<sub>2</sub>Pb  
PbO<sub>2</sub>  
 ■ CAS-No. 1309-60-0 ■ EC-No. 215-174-5  
 ■ Spec. density 9.4 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 239.19 g/mol ■ pH value 6 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Melting point 290 °C (decomposition)  
 ■ Bulk density 1500 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Warning, Oxidising solid, Category 3, H272; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Reproductive toxicity, Category 1A, H361; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity,

Category 1, H410, P273, P281, P304 + P340, P308 + P313  
 ■ EC-Index-No. 082-001-00-6 ■ LGK 5.1 B  
 ■ HS-No. 2824 90 00 ■ Disposal 15  
 ■ ADR-RID UN 1872 Bleidioxid, 5.1 (6.1), III  
 ■ IMDG-Code UN 1872 LEAD DIOXIDE, 5.1, III, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 9 (Lead and its compounds)  
 ■ IATA-DGR UN 1872 LEAD DIOXIDE, 5.1, III  
 Oxidizing agent for the detection of manganese and contact substance in elemental analysis.

### Specification

Assay (bromometric) ..... ≥ 97 %  
 Substances insoluble in acid ..... ≤ 0.05 %

Chloride (Cl) ..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.003 %  
 Total nitrogen (N) ..... ≤ 0.005 %  
 C (Carbon) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.02 %  
 Cu (Copper) ..... ≤ 0.001 %  
 Mn (Manganese) ..... ≤ 0.0002 %  
 Substances not precipitated by hydrogen sulfide (as SO<sub>4</sub>) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.07407.0250	Plastic bottle	250 g	inquire
1.07407.1000	Plastic bottle	1 kg	inquire

## 109969 Lead standard 1000 mg Pb, (Pb(NO<sub>3</sub>)<sub>2</sub> in H<sub>2</sub>O) Titrisol®



### Lead standard for aqueous matrices

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.8 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Serious eye damage, Category 1, H318; Reproductive toxicity, Category 1A, H360Df; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280,

P305 + P351 + P338, P308 + P313

■ LGK 6.1 D  
 ■ HS-No. 2834 29 20 ■ Disposal 15  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(BLEINITRAT), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(LEAD NITRATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(LEAD

NITRATE), 9, III

### Specification

content (Pb) ..... 1000 mg / Ampoule  
 Determination method: Complexometric titration. (traceable to NIST - SRM 682) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09969.0001	Plastic ampoule	1 amp	inquire

Lead standard for aqueous matrices → Lead standard page 1076

Lead Test → page 68

LEIFSON agar → page 102

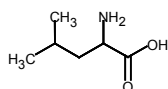
Lead standard for aqueous matrices ready for use → page 1468

Leishman's eosine methylene blue → page 191

Leishman's eosin methylene blue solution modified → page 199

Lead superoxide → Lead(IV) oxide page 1076

## 814986 DL-Leucine for synthesis



■ Spec. density 1.293 g/cm<sup>3</sup> (18 °C) ■ Solub. in H<sub>2</sub>O 7.97 g/l (0 °C) ■ M = 131.17 g/mol  
 ■ Melting point 290 - 295 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

Melting range (upper value) ..... ≤ 295 °C  
 Sulfated ash ..... ≤ 0,10 %  
 Identity (IR) ..... passes test

C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub>

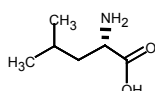
DL-2-Aminmo-4-methylvalerianic acid, DL-2-Aminmo-4-methylpentanoic acid  
 ■ CAS-No. 328-39-2 ■ EC-No. 206-328-2

### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 290 °C

Ord.No.	Packaging	Quantity	Price
8.14986.0050	Glass bottle	50 g	inquire
8.14986.0250	Glass bottle	250 g	inquire

## 105360 L-Leucine for biochemistry



C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub>

Leu  
 ■ CAS-No. 61-90-5 ■ EC-No. 200-522-0  
 ■ Spec. density 1.29 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 24 g/l (20 °C) ■ M = 131.18 g/mol  
 ■ pH value 5.5 - 6.5 (20 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 300 °C (decomposition)  
 ■ Bulk density 300 - 400 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85

Easily soluble in hot water and mineral acids; insoluble in ethanol and ether.

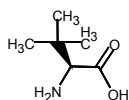
### Specification

Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ..... white to almost white, crystalline powder or shiny flakes  
 Appearance of solution (0.5 mol/l, hydrochloric acid 1 mol/l) ..... clear and colorless  
 Spec. rotation (α<sub>20</sub>D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +12.2 to +13.2°  
 UV-Absorption (260 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l) ..... ≤ 0.05  
 UV-Absorption (280 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l) ..... ≤ 0.02  
 Chloride (Cl) ..... ≤ 0.02 %  
 Sulfate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 As (Arsenic) ..... ≤ 0.0005 %

Ca (Calcium) ..... ≤ 0.001 %  
 Co (Cobalt) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.0005 %  
 Mg (Magnesium) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.005 %  
 Zn (Zinc) ..... ≤ 0.0005 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 Isoleucine ..... ≤ 1.0 %  
 other foreign amino acids ..... ≤ 0.3 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %  
 Loss on drying (105 °C; 3 h) ..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.05360.0025	Plastic bottle	25 g	inquire
1.05360.0250	Plastic bottle	250 g	inquire
1.05360.9010	Plastic drum	10 kg	inquire

## 818367 L-(+)-tert-Leucine for synthesis



mol ■ pH value 5.9 (10 g/l, H<sub>2</sub>O, 22 °C)  
 ■ Melting point >300 °C  
 ■ WGK 1  
 ■ LD50 oral rat > 2150 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85

### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99.0 %  
 Spec. rotation [α<sub>20</sub>D (c=5 in HCl 5 mol/l) ..... 6.0 - 8.0 °  
 Identity (IR) ..... passes test

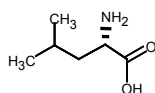
Ord.No.	Packaging	Quantity	Price
8.18367.0001	Plastic bottle	1 g	inquire

C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub>

■ CAS-No. 20859-02-3 ■ EC-No. 424-750-7  
 ■ Solub. in H<sub>2</sub>O 126 g/l (20 °C) ■ M = 131.17 g/



816009 (S)-(+)-Leucine for synthesis



C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub>

Leu

- CAS-No. 61-90-5 ■ EC-No. 200-522-0
- Spec. density 1.29 g/cm<sup>3</sup> (20 °C) ■ Solub. in

- H<sub>2</sub>O 24 g/l (20 °C) ■ M = 131.18 g/mol
- pH value 5.5 - 6.5 (20 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 300 °C (decomposition)
- Bulk density 300 - 400 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85

Specification

Assay (HClO<sub>4</sub>)..... ≥ 99,0 %(m)

Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=4 in HCl 6 mol/l)..... 15,0 - 16,0 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16009.0025	Plastic bottle	25 g	inquire
8.16009.0100	Plastic bottle	100 g	inquire

iso-Leucine → L-Isoleucine page 1047

L-Leucine → (S)-(+)-Leucine page 1077

L-(-)-tert-Leucine methyl ester hydrochloride →

L-(-)-Methyl-tert-leucinate hydrochloride page 1159

LeucoGnost® → page 199

LEUCOGNOST® ALPA → page 199

LEUCOGNOST® AP → page 199

LEUCOGNOST® Basis kit → page 200

LeucoGnost® cytochemical reagent kits for diagnosis of leukemia → page 200

LEUCOGNOST® EST → page 200

LEUCOGNOST® Fixing Mixture → page 186

LEUCOGNOST® NASDCL → page 200

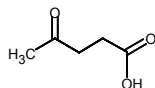
LEUCOGNOST® PAS → page 200

LEUCOGNOST® POX → page 200

LEVINE EMB agar → page 102

Levoglucosan → (-)-1,6-Anhydro-β-D-glucopyranose page 417

814254 Levulinic acid for synthesis



C<sub>5</sub>H<sub>8</sub>O<sub>3</sub>

CH<sub>3</sub>COCH<sub>2</sub>CH<sub>2</sub>COOH

4-Oxopentanoic acid, 4-Oxovalerianic acid

■ CAS-No. 123-76-2 ■ EC-No. 204-649-2

■ Refractive index 1.4396 (20 °C, 589 nm)

- Flash point 98 °C ■ Solub. in H<sub>2</sub>O 675 g/l (25 °C)
- M = 116.12 g/mol ■ Melting point 26 - 29 °C
- Boiling point 245 - 246 °C (1013 mbar)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338
- LD50 oral rat 1850 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg

- LGK 10 - 13
- HS-No. 2918 30 00 ■ Disposal 3

Specification

Assay (acidimetric)..... ≥ 98,0 %(m)

Water (K. F.)..... ≤ 1,0 %(m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14254.0100	Plastic bottle	100 g	inquire
8.14254.0500	Plastic bottle	500 g	inquire

Levulinic acid ethyl ester → Ethyl levulinate page 873

LiChroCART® → page 30

LiChroLut® → page 6

LiChroPrep® → page 37

LiChropur® → page 5

LiChrosolv® → page 3

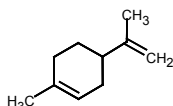
LiChrospher® → page 11

LiChrospher® spherical carriers for HPLC → page 18

Light green SF yellowish (C.I. 42095) → page 189

Ligroin → Petroleum benzine page 313

814546 DL-Limonene (mixture of D- and L-form ~1:1) for synthesis



C<sub>10</sub>H<sub>16</sub>

DL-p-Mentha-1,8-diene, 4-Isopropyl-1-methylcyclohexene

■ CAS-No. 138-86-3 ■ EC-No. 205-341-0

■ Vapour pressure 2.1 hPa (20 °C)

■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 6.1 %(V) ■ Flash point 43 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 136.24 g/mol
- Melting point -89 °C ■ Boiling point 178 °C (1013 hPa) ■ Ignition temp. 255 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273, P280, P302 + P352
- LD50 oral rat 5300 mg/kg
- EC-Index-No. 601-029-00-7 ■ LGK 3
- HS-No. 2902 19 00 ■ Disposal 3

- ADR-RID UN 2052 Dipenten, 3, III ■ IMDG-Code UN 2052 DIPENTENE, 3, III, Marine Pollutant: P
- IATA-DGR UN 2052 DIPENTENE, 3, III

Specification

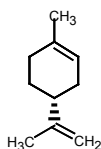
Assay (GC, area%)..... ≥ 95,0 Area %

Density (d 20 °C/ 4 °C)..... 0,841 - 0,843

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14546.1000	Glass bottle	1 l	inquire

818407 (R)-(+)-Limonene for synthesis



C<sub>10</sub>H<sub>16</sub>

(+)-p-Mentha-1,8-diene, (R)-(+)-4-Isopropenyl-1-methyl-1-cyclohexene

■ CAS-No. 5989-27-5 ■ EC-No. 227-813-5

■ Refractive index 1.4722 (20 °C, 589 nm)

■ Vapour pressure 2.1 hPa (20 °C)

■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 6.1 %(V) ■ Flash point 43 °C DIN 51758

- Solub. in H<sub>2</sub>O 0.02 g/l (25 °C) ■ M = 136.24 g/mol
- Melting point -74 °C
- Boiling point 177 - 178 °C (1013 hPa)
- Ignition temp. 255 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273, P280, P302 + P352
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 601-029-00-7 ■ LGK 3
- HS-No. 2902 19 00 ■ Disposal 3

- ADR-RID UN 2052 Dipenten, 3, III ■ IMDG-Code UN 2052 DIPENTENE, 3, III, Marine Pollutant: P
- IATA-DGR UN 2052 DIPENTENE, 3, III

Specification

Assay (GC, area%)..... ≥ 94,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 0.841 - 0.846

Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)..... 113.0 - 120.0 °

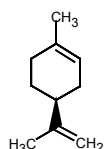
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18407.0100	Glass bottle	100 ml	inquire
8.18407.0500	Glass bottle	500 ml	inquire



# Limone

## 818408 (S)-(-)-Limonene for synthesis



C<sub>10</sub>H<sub>16</sub>  
 (-)-p-Mentha-1,8-diene, (S)-(-)-4-Isopropenyl-1-methyl-1-cyclohexene  
 ■ CAS-No. 5989-54-8 ■ EC-No. 227-815-6  
 ■ Refractive index 1.474 (21 °C, 589 nm) ■ Vapour pressure 2.1 hPa (20 °C) ■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 6.1 % (V)

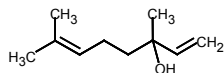
■ Flash point 43 °C DIN 51758 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 136.24 g/mol  
 ■ Melting point -74 °C  
 ■ Boiling point 177 - 178 °C  
 ■ Ignition temp. 255 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273, P280, P302 + P352  
 ■ LD50 oral rat 4400 mg/kg  
 ■ EC-Index-No. 601-029-00-7 ■ LGK 3

■ HS-No. 2902 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2052 Dipenten, 3, III ■ IMDG-Code UN 2052 DIPENTENE, 3, III, Marine Pollutant: P  
 ■ IATA-DGR UN 2052 DIPENTENE, 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.841 - 0.843  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)] ..... -98.0 - -95.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18408.0005	Glass bottle	5 ml	inquire
8.18408.0250	Glass bottle	250 ml	inquire

## 818627 Linalool for synthesis



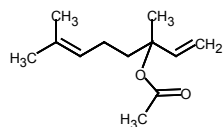
C<sub>10</sub>H<sub>18</sub>O  
 CH<sub>3</sub>C(CH<sub>3</sub>)=CH(CH<sub>2</sub>)<sub>2</sub>C(OH)(CH<sub>3</sub>)CH=CH<sub>2</sub>  
 3,7-Dimethyl-1,6-octadien-3-ol  
 ■ CAS-No. 78-70-6 ■ EC-No. 201-134-4  
 ■ Refractive index 1.462 (20 °C, 589 nm) ■ Vapour pressure 0.10 hPa (20 °C) ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 5.2 % (V)

■ Flash point 79 °C ■ Solub. in H<sub>2</sub>O 1.45 g/l (20 °C) ■ M = 154.25 g/mol ■ pH value 4.5 (1.45 g/l, H<sub>2</sub>O, 25 °C) ■ Boiling point 198 - 200 °C  
 ■ Ignition temp. 235 °C  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315, P302 + P352  
 ■ LD50 oral rat 2790 mg/kg ■ LD50 dermal rabbit 5610 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 22 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.860 - 0.862  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18627.0005	Glass bottle	5 ml	inquire
8.18627.0250	Glass bottle	250 ml	inquire

## 814988 Linalyl acetate for synthesis



C<sub>12</sub>H<sub>20</sub>O<sub>2</sub>  
 ■ CAS-No. 115-95-7 ■ EC-No. 204-116-4  
 ■ Spec. density 0.906 g/cm<sup>3</sup> (15 °C)  
 ■ Flash point 90 °C ■ M = 196.29 g/mol  
 ■ Boiling point 220 °C  
 ■ WGK 1

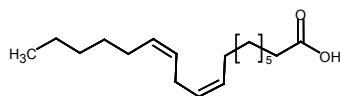
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 13934 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 39 00 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(ESSIGSAEURELINALYLESTER), 9, III  
 ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(ACETIC ACID LINALYL ESTER), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(ACETIC ACID LINALYL ESTER), 9, III

**Specification**  
 Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,900 - 0,910  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14988.0250	Glass bottle	250 ml	inquire

## 843483 Linoleic acid for synthesis



C<sub>18</sub>H<sub>32</sub>O<sub>2</sub>  
 ■ CAS-No. 60-33-3 ■ EC-No. 200-470-9  
 ■ Spec. density 0.903 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 280.45 g/mol

mol ■ Melting point -5 °C ■ Boiling point 230 °C (21 hPa)  
 ■ WGK 1  
 ■ GHS: P262  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 15 00 ■ Disposal 4  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**  
 Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,900 - 0,910  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43483.0025	Glass bottle	25 ml	inquire
8.43483.0100	Glass bottle	1x100ml	inquire
8.43483.8100	Glass bottle	100 µl	inquire

## Liquid-liquid extraction

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
7	115373	Exit cannulas	8	115096	EXtrelut® NT 20	7	114237	Spare filters for EXtrelut® NT 3 prepacked glass columns
7	115092	EXtrelut® NT	7	115622	EXtrelut® NT collection tubes			
8	115094	EXtrelut® NT 1	7	115093	EXtrelut® NT Refill pack	7	114236	Spare filters for EXtrelut® NT1 prepacked glass columns
8	115095	EXtrelut® NT 3	7	114567	Replacement filter			

Listeria agar → page 103

Listeria enrichment broth → PALCAM Listeria enrichment broth

Listeria selective agar → page 103

Listeria selective enrichment broth → page 105

Listeria selective supplement → page 108

Literature → Books

Litharge → page 1075

## Lithium

Li  
 ■ CAS-No. 7439-93-2 ■ EC-No. 231-102-5  
 ■ Vapour pressure 1 hPa (723 °C)  
 ■ Spec. density 0.534 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 6.94 g/mol  
 ■ Melting point 179 °C ■ Boiling point 1347 °C

■ WGK 2  
 ■ GHS: Danger, Substances, which in contact with water, emit flammable gases, Category 1, H260; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310,

P370 + P378  
 ■ EC-Index-No. 003-001-00-4 ■ LGK 4.3  
 ■ HS-No. 2805 19 90 ■ Disposal 26  
 ■ ADR-RID UN 1415 Lithium, 4.3, I ■ IMDG-Code UN 1415 LITHIUM, 4.3, I  
 ■ IATA-DGR UN 1415 LITHIUM, 4.3, I

**818044 Lithium (granular) (protective medium: argon) for synthesis**

## Specification

Assay of Li ..... ≥ 99,0 %(m)

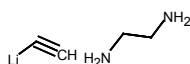
Ord.No.	Packaging	Quantity	Price
8.18044.0050	Glass bottle	50 g	inquire

**805660 Lithium (sticks) (protective liquid: paraffin oil) for synthesis**

## Specification

Assay of Li ..... ≥ 99,0 %

Ord.No.	Packaging	Quantity	Price
8.05660.0010	Glass bottle	10 g	inquire
8.05660.0025	Glass bottle	25 g	inquire
8.05660.0100	Glass bottle	100 g	inquire

**814870 Lithium acetylde-ethylenediamine complex for synthesis**

C<sub>4</sub>H<sub>9</sub>LiN<sub>2</sub>  
 C<sub>2</sub>H<sub>4</sub>Li<sup>+</sup>C<sub>2</sub>H<sub>8</sub>N<sub>2</sub><sup>-</sup>  
 ■ CAS-No. 6867-30-7 ■ EC-No. 229-967-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) decomposes, Risk of violent reaction. ■ M = 92.07 g/mol ■ Melting point 76 °C  
 ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Substances and mixtures, which in

contact with water, emit flammable gases, Category 1, H260; Skin corrosion, Category 1A, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 4.3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2931 90 90 ■ Disposal 8  
 ■ ADR-RID UN 3131 Mit Wasser reagierender fester Stoff, ätzend, n.a.g.(LITHIUMACETYLID-ETHYLENEDIAMIN-KOMPLEX), 4.3 (8), I ■ IMDG-Code UN 3131 WATER-REACTIVE SOLID, CORROSIVE, N.O.S.(LITHIUM ACETYLIDE, ETHYLENEDIAMINE COMPLEX), 4.3 (8), I,

Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 3131 WATER-REACTIVE SOLID, CORROSIVE, N.O.S.(LITHIUM ACETYLIDE, ETHYLENEDIAMINE COMPLEX), 4.3 (8), I

## Specification

Assay (by gasvolumetry)..... ≥ 90,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14870.0010	Glass bottle	10 g	inquire
8.14870.0050	Glass bottle	50 g	inquire

Lithium alanate → page 1079

**815048 Lithium aluminium deuteride deuteration degree min. 98% for NMR spectroscopy MagniSolv™**

LiD<sub>4</sub>Al  
 LiAlD<sub>4</sub>  
 ■ CAS-No. 14128-54-2 ■ EC-No. 237-980-6  
 ■ Spec. density 0.917 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 41.98 g/mol  
 ■ Melting point 125 °C (decomposition)  
 ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 1

■ GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases, Category 1, H260; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 4.3  
 ■ HS-No. 2845 90 10 ■ Disposal 26  
 ■ ADR-RID UN 1410 Lithiumaluminiumhydrid, 4.3, I ■ IMDG-Code UN 1410 LITHIUM ALUMINIUM

HYDRIDE, 4.3, I  
 ■ IATA-DGR UN 1410 LITHIUM ALUMINIUM HYDRIDE, 4.3, I

## Specification

Deuteration degree..... ≥ 98 %

Ord.No.	Packaging	Quantity	Price
8.15048.0005	Glass ampoule	5 g	inquire

**Lithium aluminium hydride**

H<sub>4</sub>AlLi  
 LiAlH<sub>4</sub>  
 LAH, Lithium alanate, Aluminium lithium hydride  
 ■ CAS-No. 16853-85-3 ■ EC-No. 240-877-9  
 ■ Spec. density 0.917 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 37.95 g/mol ■ pH value (H<sub>2</sub>O) alkaline  
 ■ Melting point 125 °C (decomposition)

■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Substances, which in contact with water, emit flammable gases, Category 1, H260; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310, P370 + P378  
 ■ EC-Index-No. 001-002-00-4 ■ LGK 4.3

■ HS-No. 2850 00 20 ■ Disposal 26  
 ■ ADR-RID UN 1410 Lithiumaluminiumhydrid, 4.3, I ■ IMDG-Code UN 1410 LITHIUM ALUMINIUM HYDRIDE, 4.3, I  
 ■ IATA-DGR UN 1410 LITHIUM ALUMINIUM HYDRIDE, 4.3, I

**805661 Lithium aluminium hydride (powder) for synthesis**

## Specification

Assay (by gasvolumetry)..... ≥ 97,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.05661.0010	Glass bottle	10 g	inquire
	Glass bottle	15 x 10 g	inquire

**818875 Lithium aluminium hydride (powder) for synthesis**

## Specification

Assay (by gasvolumetry)..... ≥ 96,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.18875.0025		25 g	inquire
		6 x 25 g	inquire

**818876 Lithium aluminium hydride (powder) for synthesis**

## Specification

Assay (by gasvolumetry)..... ≥ 97,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.18876.0100		100 g	inquire

**814763 Lithium aluminium hydride (powder) for synthesis**

## Specification

Assay (by gasvolumetry)..... ≥ 97,0 %

Ord.No.	Packaging	Quantity	Price
8.14763.1000	Metal can	1 kg	inquire

# Lithium

## 805663 Lithium aluminium hydride (powder) for synthesis

### Specification

Assay (by gasvolumetry)..... ≥ 97.0 %

Ord.No.	Packaging	Quantity	Price
8.05663.0250		250 g	inquire

## 818877 Lithium aluminium hydride (tablets) for synthesis

### Specification

Assay (by gasvolumetry)..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.18877.025		25 g	inquire

## 818878 Lithium aluminium hydride (tablets) for synthesis

### Specification

Assay (by gasvolumetry)..... ≥ 98,0 %(m)

Weight of tablets..... 0,45 - 0,55 g

Ord.No.	Packaging	Quantity	Price
8.18878.0250	Glass bottle	250 g	inquire

## 805678 Lithium amide for synthesis

H<sub>2</sub>LiN

LiNH<sub>2</sub>

- CAS-No. 7782-89-0 ■ EC-No. 231-968-4
- Spec. density 1.178 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) decomposes ■ M = 22.96 g/mol
- Melting point 373 °C ■ Bulk density 600 kg/m<sup>3</sup>
- Boiling point 430 °C
- WGK 2
- GHS: Danger, Substances, which in contact with

- water, emit flammable gases, Category 2, H261;
- Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 4.3
- HS-No. 2853 00 90 ■ Disposal 26
- ADR-RID UN 1390 Alkalimetallamide, 4.3, II
- IMDG-Code UN 1390 ALKALI METAL AMIDE, 4.3, II
- IATA-DGR UN 1390 ALKALI METAL AMIDES,

4.3, II

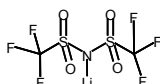
### Specification

Assay (HClO<sub>4</sub>)..... ≥ 95,0 %(m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.05678.0100	Glass bottle	100 g	inquire

## 843873 Lithium bis(trifluoromethanesulfonyl)imide for synthesis



C<sub>2</sub>F<sub>6</sub>LiNO<sub>4</sub>S<sub>2</sub>

- CAS-No. 90076-65-6 ■ EC-No. 415-300-0
- Spec. density 2.152 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 287.09 g/mol
- pH value 6.0 - 8.0 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 233 °C
- Boiling point (1013 hPa) not applicable, (decomposition) ■ Ignition temp. >420 °C
- WGK 2

- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301;
- Specific target organ toxicity - repeated exposure, Category 2, H373; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 160 mg/kg
- EC-Index-No. 616-124-00-9 ■ LGK 6.1 B
- HS-No. 2935 00 90 ■ Disposal 26
- ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(LITHIUM BIS(TRIFLUORMETHANSULFONYL)IMID), 8 (6.1), II ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(LITHIUM

BIS(TRIFLUOROMETHANE SULFONYL)IMIDE), 8 (6.1), II

■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(LITHIUM BIS(TRIFLUOROMETHANE SULFONYL)IMIDE), 8 (6.1), II

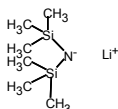
### Specification

Assay (alkalimetric after ionic exchange)..... ≥ 98,0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43873.0010	Glass bottle	10 g	inquire
8.43873.0050	Glass bottle	50 g	inquire

## 843954 Lithium bis(trimethylsilyl)amide for synthesis



C<sub>6</sub>H<sub>18</sub>LiNSi<sub>2</sub>

- CAS-No. 4039-32-1 ■ EC-No. 223-725-6
- Spec. density 0.86 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 167.33 g/mol
- Melting point 71 °C ■ Boiling point 114 - 116 °C (1013 hPa)
- WGK 1
- GHS: Danger, Flammable solid, Category 1,

- H228; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310, P370 + P378
- LGK 4.1 B
- HS-No. 2931 90 90 ■ Disposal 26
- ADR-RID UN 2925 Entzündbarer organischer fester Stoff, ätzend, n.a.g.(1,1,1,3,3,3-HEXAMETHYLDISILAZAN LITHIUMSALZ), 4.1 (8), II
- IMDG-Code UN 2925 FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.(1,1,1,3,3,3-HEXAMETHYLDISILAZANE LITHIUM SALT), 4.1 (8), II

■ IATA-DGR UN 2925 FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.(1,1,1,3,3,3-HEXAMETHYLDISILAZANE LITHIUM SALT), 4.1 (8), II

### Specification

Assay (HClO<sub>4</sub>)..... ≥ 97,0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43954.0050	Glass bottle	50 g	inquire
8.43954.0250	Glass bottle	250 g	inquire

Lithium boranate → Lithium tetrahydroborate page 1084

Lithium boron hydride → Lithium tetrahydroborate page 1084

## 105668 Lithium bromide hydrate 99.95 Suprapur®

BrLi \* x H<sub>2</sub>O

LiBr \* x H<sub>2</sub>O (x=1-2)

- CAS-No. 23303-71-1 ■ EC-No. 231-439-8
- Solub. in H<sub>2</sub>O (20 °C) soluble
- Melting point 547 °C (anhydrous)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1800 mg/kg
- LGK 10 - 13
- HS-No. 2827 59 00 ■ Disposal 14

### Specification

Purity (metallic)..... ≥ 99,95 %

Assay (LiBr)..... ≥ 78,0 %

Phosphate..... ≤ 20 ppm

Sulphate..... ≤ 50 ppm

- Al (Aluminium)..... ≤ 0.05 ppm
- Ba (Barium)..... ≤ 0.5 ppm
- Ca (Calcium)..... ≤ 0.50 ppm
- Cd (Cadmium)..... ≤ 0.010 ppm
- Ce (Cerium)..... ≤ 0.010 ppm
- Co (Cobalt)..... ≤ 0.010 ppm
- Cr (Chromium)..... ≤ 0.010 ppm
- Cs (Cesium)..... ≤ 5.0 ppm
- Cu (Copper)..... ≤ 0.050 ppm
- Eu (Europium)..... ≤ 0.010 ppm
- Fe (Iron)..... ≤ 0.05 ppm
- K (Potassium)..... ≤ 10 ppm
- La (Lanthanum)..... ≤ 0.010 ppm
- Mg (Magnesium)..... ≤ 0.5 ppm
- Mn (Manganese)..... ≤ 0.010 ppm
- Na (Sodium)..... ≤ 10 ppm

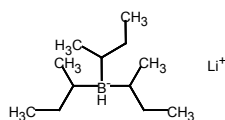
- Ni (Nickel)..... ≤ 0.010 ppm
- Pb (Lead)..... ≤ 0.050 ppm
- Rb (Rubidium)..... ≤ 5 ppm
- Sc (Scandium)..... ≤ 0.010 ppm
- Sm (Samarium)..... ≤ 0.010 ppm
- Sr (Strontium)..... ≤ 0.5 ppm
- Tl (Thallium)..... ≤ 0.20 ppm
- Y (Yttrium)..... ≤ 0.010 ppm
- Yb (Ytterbium)..... ≤ 0.010 ppm
- Zn (Zinc)..... ≤ 0.05 ppm

Ord.No.	Packaging	Quantity	Price
1.05668.0050	Plastic bottle	50 g	inquire
1.05668.0250	Plastic bottle	250 g	inquire

Lithiumbutyl → page 548

Lithium-tert-butyl → tert-Butyllithium page 549

## 843842 Lithium tri-sec-butylborohydride (1M solution in tetrahydrofuran) for synthesis



■ Spec. density 0.89 g/cm<sup>3</sup> ■ Explosive limit 1.5 - 12.4 % (V) (THF) ■ Flash point - 21.5 °C (THF) ■ Solub. in H<sub>2</sub>O (20 °C) Risk of violent reaction. ■ Ignition temp. 215 °C (THF) ■ WGK 1

■ GHS: Danger, Pyrophoric liquid, Category 1, H250; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310, P370 + P378  
 ■ LGK 4.2  
 ■ HS-No. 2931 90 90 ■ Disposal 26  
 ■ ADR-RID UN 3394 Pyrophorer metallorganischer flüssiger Stoff, mit Wasser reagierend (LITHIUMTRI-SEC-BUTYLBORHYDRID), 4.2 (4.3), I ■ IMDG-Code UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE (LITHIUM

TRI-SEC-BUTYLBOROHRID), 4.2 (4.3), I  
 ■ IATA-DGR UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE (LITHIUM TRI-SEC-BUTYLBOROHRID), 4.2 (4.3),

**Specification**

Assay (by gasvolumetry)..... 0.8 - 1.2 mol/l

Ord.No.	Packaging	Quantity	Price
8.43842.0100	Glass bottle	100 ml	inquire

## Lithium carbonate

Cl<sub>2</sub>O<sub>3</sub>  
 Li<sub>2</sub>CO<sub>3</sub>  
 ■ CAS-No. 554-13-2 ■ EC-No. 209-062-5  
 ■ Spec. density 2.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 13 g/l (20 °C) ■ M = 73.89 g/mol

■ pH value 10 - 11 (5 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 720 °C ■ Bulk density 250 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P262, P305

+ P351 + P338  
 ■ LC50 rat > 2.17 mg/l  
 ■ LD50 oral rat 525 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2836 91 00 ■ Disposal 14

## 105670 Lithium carbonate pure

**Specification**

Assay (acidimetric)..... ≥ 98.5 %  
 Identity..... passes test  
 Chloride (Cl)..... ≤ 0.05 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.4 %  
 Heavy metals (as Pb)..... ≤ 0.005 %

Ca (Calcium)..... ≤ 0.05 %  
 Fe (Iron)..... ≤ 0.003 %  
 K (Potassium)..... ≤ 0.02 %  
 Na (Sodium)..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.05670.1000	Plastic bottle	1 kg	inquire
1.05670.9050	Fibre carton	50 kg	inquire

## 105680 Lithium carbonate for analysis EMSURE® ACS, Reag. Ph Eur

**Specification**

Assay (acidimetric)..... ≥ 99.0 %  
 Substances insoluble in dilute hydrochloric acid..... ≤ 0.01 %  
 Chloride (Cl)..... ≤ 0.002 %  
 Nitrate (NO<sub>3</sub>)..... ≤ 0.0005 %

Sulfur compounds (as SO<sub>4</sub>)..... ≤ 0.2 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Ca (Calcium)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.001 %  
 K (Potassium)..... ≤ 0.005 %

Mg (Magnesium)..... ≤ 0.001 %  
 Na (Sodium)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.05680.0250	Plastic bottle	250 g	inquire

## 105676 Lithium carbonate 99.99 Suprapur®

**Specification**

Purity (metallic)..... ≥ 99.99 %  
 Chloride (Cl)..... ≤ 10 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 50 ppm  
 Al (Aluminium)..... ≤ 0.05 ppm  
 Ba (Barium)..... ≤ 5 ppm  
 Ca (Calcium)..... ≤ 5 ppm  
 Cd (Cadmium)..... ≤ 0.01 ppm  
 Co (Cobalt)..... ≤ 0.01 ppm

Cs (Cesium)..... ≤ 20 ppm  
 Cu (Copper)..... ≤ 0.01 ppm  
 Fe (Iron)..... ≤ 0.05 ppm  
 K (Potassium)..... ≤ 10 ppm  
 Mg (Magnesium)..... ≤ 0.5 ppm  
 Mn (Manganese)..... ≤ 0.01 ppm  
 Na (Sodium)..... ≤ 10 ppm  
 Ni (Nickel)..... ≤ 0.01 ppm

Pb (Lead)..... ≤ 0.05 ppm  
 Rb (Rubidium)..... ≤ 10 ppm  
 Sr (Strontium)..... ≤ 5 ppm  
 Tl (Thallium)..... ≤ 0.05 ppm  
 Zn (Zinc)..... ≤ 0.05 ppm

Ord.No.	Packaging	Quantity	Price
1.05676.0250	Plastic bottle	250 g	inquire

## 105679 Lithium chloride for analysis EMSURE® ACS, Reag. Ph Eur

CLi  
 LiCl  
 ■ CAS-No. 7447-41-8 ■ EC-No. 231-212-3  
 ■ Vapour pressure 1.33 hPa (547 °C)  
 ■ Spec. density 2.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 832 g/l (20 °C) ■ M = 42.39 g/mol  
 ■ pH value 6 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 614 °C ■ Bulk density 530 kg/m<sup>3</sup>  
 ■ Boiling point 1360 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 +

P351 + P338  
 ■ LD50 oral rat 526 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 14

**Specification**

Assay (argentometric, LiCl)..... ≥ 99 %  
 Insoluble matter..... ≤ 0.01 %  
 Nitrate (NO<sub>3</sub>)..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ba (Barium)..... ≤ 0.002 %  
 Ca (Calcium)..... ≤ 0.005 %

Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.01 %  
 Mg (Magnesium)..... ≤ 0.005 %  
 Na (Sodium)..... ≤ 0.02 %  
 Total of alkali..... ≤ 0.008 meq/g  
 Loss on drying (130 °C)..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.05679.0100	Plastic bottle	100 g	inquire
1.05679.0250	Plastic bottle	250 g	inquire

# Lithium

## 105677 Lithium chloride monohydrate 99.95 Suprapur®

LiCl \* H<sub>2</sub>O  
 LiCl \* H<sub>2</sub>O  
 ■ CAS-No. 16712-20-2 ■ EC-No. 231-212-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 60.41 g/mol  
 ■ pH value 5.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 614 °C (anhydrous substance)  
 ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ Boiling point 1360 °C (anhydrous substance)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 526 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 14

**Specification**  
 Purity (metallic)..... ≥ 99.95 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 10 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 20 ppm  
 Al (Aluminium)..... ≤ 0.05 ppm  
 Ba (Barium)..... ≤ 0.5 ppm  
 Ca (Calcium)..... ≤ 0.50 ppm  
 Cd (Cadmium)..... ≤ 0.010 ppm  
 Ce (Cerium)..... ≤ 0.010 ppm  
 Co (Cobalt)..... ≤ 0.010 ppm  
 Cr (Chromium)..... ≤ 0.010 ppm  
 Cu (Copper)..... ≤ 0.010 ppm  
 Eu (Europium)..... ≤ 0.010 ppm  
 Fe (Iron)..... ≤ 0.05 ppm  
 K (Potassium)..... ≤ 10.0 ppm  
 La (Lanthanum)..... ≤ 0.010 ppm  
 Mg (Magnesium)..... ≤ 0.50 ppm

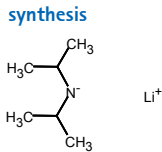
Mn (Manganese)..... ≤ 0.010 ppm  
 Na (Sodium)..... ≤ 10.0 ppm  
 Ni (Nickel)..... ≤ 0.010 ppm  
 Pb (Lead)..... ≤ 0.010 ppm  
 Rb (Rubidium)..... ≤ 5.0 ppm  
 Sc (Scandium)..... ≤ 0.010 ppm  
 Sm (Samarium)..... ≤ 0.010 ppm  
 Sr (Strontium)..... ≤ 0.50 ppm  
 Tl (Thallium)..... ≤ 0.01 ppm  
 Y (Yttrium)..... ≤ 0.010 ppm  
 Yb (Ytterbium)..... ≤ 0.010 ppm  
 Zn (Zinc)..... ≤ 0.050 ppm

Ord.No.	Packaging	Quantity	Price
1.05677.0250	Plastic bottle	250 g	inquire

## Lithium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
995	107098	8-Hydroxyquinoline	1555	108294	Thorin			

## 814225 Lithiumdiisopropylamide (solution about 2 molar in cyclohexane/ethylbenzene/ tetrahydrofuran) for synthesis



*Diisopropylaminolithium, LDA*  
 ■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Flash point - 25 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 1, H224; Specific target organ toxicity - single

exposure, Category 3, H336; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P240, P273, P280, P301 + P310 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 3824 90 97 ■ Disposal 26  
 ■ ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(LITHIUM DIISOPROPYLAMID), 3 (8), I  
 ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(LITHIUM DIISOPROPYLAMIDE),

3 (8), I, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(LITHIUM DIISOPROPYLAMIDE), 3 (8), I  
**Specification**  
 Assay (acidimetric)..... 26,0 - 34,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.14225.0100	Glass bottle	100 ml	inquire

## 105686 Lithium fluoride 99.99 Suprapur®

FLi  
 LiF  
 ■ CAS-No. 7789-24-4 ■ EC-No. 232-152-0  
 ■ Spec. density 2.64 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1.3 g/l (25 °C) ■ M = 25.94 g/mol  
 ■ Melting point 870 °C ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ Boiling point 1676 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 143 mg/kg  
 ■ LGK 6.1B  
 ■ HS-No. 2826 19 90 ■ Disposal 14

■ ADR-RID UN 3288 Giftiger anorganischer fester Stoff, n.a.g.(LITHIUMFLUORID), 6.1, III ■ IMDG-Code UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(LITHIUMFLUORIDE), 6.1, III  
 ■ IATA-DGR UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(LITHIUMFLUORIDE), 6.1, III  
**Specification**  
 Purity (metallic)..... ≥ 99.99 %  
 Ba (Barium)..... ≤ 5.0 ppm  
 Ca (Calcium)..... ≤ 2.0 ppm  
 Cd (Cadmium)..... ≤ 0.5 ppm  
 Co (Cobalt)..... ≤ 0.5 ppm  
 Cs (Cesium)..... ≤ 20 ppm  
 Cu (Copper)..... ≤ 0.5 ppm  
 Fe (Iron)..... ≤ 0.5 ppm

K (Potassium)..... ≤ 10 ppm  
 Mg (Magnesium)..... ≤ 0.5 ppm  
 Mn (Manganese)..... ≤ 0.5 ppm  
 Na (Sodium)..... ≤ 10 ppm  
 Ni (Nickel)..... ≤ 0.5 ppm  
 Pb (Lead)..... ≤ 0.5 ppm  
 Rb (Rubidium)..... ≤ 10 ppm  
 Sr (Strontium)..... ≤ 5 ppm  
 Zn (Zinc)..... ≤ 0.5 ppm

Ord.No.	Packaging	Quantity	Price
1.05686.0050	Plastic bottle	50 g	inquire
1.05686.0500	Plastic bottle	500 g	inquire

## 820753 Lithium hydride for synthesis

HLi  
 LiH  
 ■ CAS-No. 7580-67-8 ■ EC-No. 231-484-3  
 ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 7.95 g/mol ■ pH value >7 (21 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 688 °C  
 ■ Bulk density 290 - 430 kg/m<sup>3</sup>  
 ■ WGK 2

■ GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases, Category 1, H260; Skin corrosion, Category 1A, H314; Acute toxicity, Category 3, Oral, H301, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 78 mg/kg  
 ■ LGK 4.3  
 ■ HS-No. 2850 00 20 ■ Disposal 26

■ ADR-RID UN 1414 Lithiumhydrid, 4.3, I ■ IMDG-Code UN 1414 LITHIUM HYDRIDE, 4.3, I  
 ■ IATA-DGR UN 1414 LITHIUM HYDRIDE, 4.3, I  
**Specification**  
 Assay (by gasvolumetry)..... ≥ 96.0 %

Ord.No.	Packaging	Quantity	Price
8.20753.0050	Metal can	50 g	inquire

## 105691 Lithium hydroxide 98%+

HLiO  
 LiOH  
 ■ CAS-No. 1310-65-2 ■ EC-No. 215-183-4  
 ■ Spec. density 2.54 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 71 g/l (20 °C) ■ M = 23.95 g/mol ■ pH value 12 (50 g/l, H<sub>2</sub>O, 50 °C) ■ Melting point 462 °C  
 ■ Bulk density 550 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 210 mg/kg  
 ■ LGK 6.1 D  
 ■ HS-No. 2825 20 00 ■ Disposal 13  
 ■ ADR-RID UN 2680 Lithiumhydroxid, 8, II  
 ■ IMDG-Code UN 2680 LITHIUM HYDROXIDE, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2680 LITHIUM HYDROXIDE, 8, II CO<sub>2</sub> adsorber  
**Specification**  
 Assay (acidimetric, LiOH)..... ≥ 98.0 %  
 Carbonate (as Li<sub>2</sub>CO<sub>3</sub>)..... ≤ 2.0 %

Chloride (Cl)..... ≤ 0.05 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.05 %  
 Heavy metals (as Pb)..... ≤ 0.002 %  
 Ca (Calcium)..... ≤ 0.02 %  
 Fe (Iron)..... ≤ 0.002 %  
 K (Potassium)..... ≤ 0.02 %  
 Na (Sodium)..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.05691.0100	Plastic bottle	100 g	inquire
1.05691.1000	Plastic bottle	1 kg	inquire



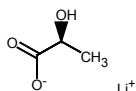
**818287 Lithium iodide** anhydrous for synthesis

- LiI  
LiI  
 ■ CAS-No. 10377-51-2 ■ EC-No. 233-822-5  
 ■ Spec. density 4 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 133.84 g/mol  
 ■ Melting point 450 °C ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ Boiling point 1180 °C
- WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 60 00 ■ Disposal 14

**Specification**

Assay (argentometric)..... ≥ 98,0 %(m)  
 Water (K. F.)..... ≤ 0,50 %(m)

Ord.No.	Packaging	Quantity	Price
8.18287.0002	Glass bottle	2 g	inquire
8.18287.0050	Glass bottle	50 g	inquire

**822084 L-(+)-Lithium lactate** for synthesis

C<sub>3</sub>H<sub>5</sub>LiO<sub>3</sub>  
 CH<sub>3</sub>CH(OH)COOLi  
 Lactic acid lithium salt

- CAS-No. 27848-80-2 ■ EC-No. 248-692-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 96.01 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 11 00 ■ Disposal 3

**Specification**

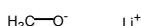
Assay (HClO<sub>4</sub>)..... ≥ 98,0 %(m)  
 Spec. rotation [α<sup>20</sup>/D (c=4 in water).....

.....-15,0 - -13,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22084.0100	Plastic bottle	100 g	inquire
8.22084.0250	Plastic bottle	250 g	inquire

Lithium metaborate for X-ray fluorescence analysis  
 → Spectromelt® A 20 page 167

Lithium methyl → Methyl lithium page 1159

**814519 Lithium methylate** (10% solution in methanol) for synthesis

- Vapour pressure 128 hPa (20 °C) Methanol  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 36.5 %(V) Methanol ■ Flash point 9 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ Ignition temp. 455 °C Methanol  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331;

Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 3824 90 97 ■ Disposal 13  
 ■ ADR-RID UN 3274 Alkoholate, Lösung, n.a.g.(LITHIUMMETHYLAT IN METHANOL), 3 (8), II  
 ■ IMDG-Code UN 3274 ALCOHOLATES SOLUTION, N.O.S.(LITHIUMMETHYLATE IN METHANOL), 3 (8),

II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 3274 ALCOHOLATES SOLUTION, N.O.S.(LITHIUMMETHYLATE IN METHANOL), 3 (8), II  
**Specification**  
 Assay (acidimetric)..... 9,0 - 11,0 %(m)  
 Density (d 20 °C/ 4 °C)..... 0,851 - 0,856

Ord.No.	Packaging	Quantity	Price
8.14519.0100	Glass bottle	100 ml	inquire

**Lithium nitrate**

- LiNO<sub>3</sub>  
 ■ CAS-No. 7790-69-4 ■ EC-No. 232-218-9  
 ■ Spec. density 2.36 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 522 g/l (20 °C) ■ M = 68.94 g/mol  
 ■ pH value 7 - 9 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 255 °C ■ Bulk density 910 kg/m<sup>3</sup>

- WGK 1  
 ■ GHS: Warning, Oxidising solid, Category 2, H272, P262  
 ■ LGK 5.1B  
 ■ HS-No. 2834 29 80 ■ Disposal 22

- ADR-RID UN 2722 Lithiumnitrat, 5.1, III  
 ■ IMDG-Code UN 2722 LITHIUM NITRATE, 5.1, III  
 ■ IATA-DGR UN 2722 LITHIUM NITRATE, 5.1, III

**105653 Lithium nitrate 99.995 Suprapur®****Specification**

Purity (metallic)..... ≥ 99.995 %  
 Assay (perchloric acid titration)..... ≥ 99.0 %  
 Chloride (Cl)..... ≤ 10 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 10 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 10 ppm  
 Al (Aluminium)..... ≤ 0.02 ppm  
 Ba (Barium)..... ≤ 1.0 ppm  
 Ca (Calcium)..... ≤ 1.0 ppm  
 Cd (Cadmium)..... ≤ 0.005 ppm  
 Ce (Cerium)..... ≤ 0.010 ppm  
 Co (Cobalt)..... ≤ 0.005 ppm  
 Cr (Chromium)..... ≤ 0.005 ppm

Cs (Cesium)..... ≤ 5 ppm  
 Cu (Copper)..... ≤ 0.005 ppm  
 Eu (Europium)..... ≤ 0.005 ppm  
 Fe (Iron)..... ≤ 0.05 ppm  
 K (Potassium)..... ≤ 5 ppm  
 La (Lanthanum)..... ≤ 0.005 ppm  
 Mg (Magnesium)..... ≤ 0.5 ppm  
 Mn (Manganese)..... ≤ 0.005 ppm  
 Na (Sodium)..... ≤ 5 ppm  
 Ni (Nickel)..... ≤ 0.005 ppm  
 Pb (Lead)..... ≤ 0.005 ppm  
 Rb (Rubidium)..... ≤ 0.5 ppm

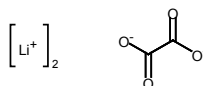
Sc (Scandium)..... ≤ 0.005 ppm  
 Sm (Samarium)..... ≤ 0.005 ppm  
 Sr (Strontium)..... ≤ 1.0 ppm  
 Tl (Thallium)..... ≤ 0.010 ppm  
 Y (Yttrium)..... ≤ 0.005 ppm  
 Yb (Ytterbium)..... ≤ 0.005 ppm  
 Zn (Zinc)..... ≤ 0.020 ppm

Ord.No.	Packaging	Quantity	Price
1.05653.0100	Plastic bottle	100 g	inquire
1.05653.0500	Plastic bottle	500 g	inquire

**112230 Lithium nitrate 98+****Specification**

Assay (perchloric acid titration)..... ≥ 98,0 %  
 Melting point..... about 255 °C

Ord.No.	Packaging	Quantity	Price
1.12230.0250	Plastic bottle	250 g	inquire
1.12230.1000	Plastic bottle	1 kg	inquire

**822085 di-Lithium oxalate** for synthesis

C<sub>2</sub>Li<sub>2</sub>O<sub>4</sub>  
 LiOCCOOLi  
 Oxalic acid dilithium salt

- CAS-No. 553-91-3 ■ EC-No. 209-054-1  
 ■ Solub. in H<sub>2</sub>O 66 g/l (20 °C) ■ M = 101.9 g/mol  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352  
 ■ EC-Index-No. 607-007-00-3 ■ LGK 10 - 13  
 ■ HS-No. 2917 11 00 ■ Disposal 3

**Specification**

Assay (manganometric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22085.0100	Plastic bottle	100 g	inquire

# Lithium

## 109934 Lithium standard 1000 mg Li, (LiCl in H<sub>2</sub>O) Titrisol®

■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.0 (H<sub>2</sub>O, 20 °C) ■ WGK 1  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13  
■ HS-No. 2827 39 85 ■ Disposal 28

**Specification**  
content (argentometric)..... 1000 mg / Ampoule  
Determination method: argentometric titration.

(traceable to NIST - SRM 999a) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09934.0001	Plastic ampoule	1 amp	inquire

Lithium standard for aqueous matrices → Lithium standard page 1084

## Lithium sulfate monohydrate

Li<sub>2</sub>O·S \* H<sub>2</sub>O

Li<sub>2</sub>SO<sub>4</sub> \* H<sub>2</sub>O

■ CAS-No. 10102-25-7 ■ EC-No. 233-820-4

■ Spec. density 2.05 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 340 g/l (20 °C) ■ M = 127.96 g/mol

■ pH value 4.5 - 6.0 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 120 °C ■ Bulk density 940 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262

■ LD50 oral rat 613 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2833 29 80 ■ Disposal 14

## 105694 Lithium sulfate monohydrate for analysis EMSURE® ACS,Reag. Ph Eur

**Specification**

Assay (alkalimetric, after drying)..... ≥ 99.0 %  
Insoluble matter..... ≤ 0.01 %  
Chloride (Cl)..... ≤ 0.002 %  
Nitrate (NO<sub>3</sub>)..... ≤ 0.001 %  
Heavy metals (as Pb)..... ≤ 0.0005 %

Ca (Calcium)..... ≤ 0.005 %  
Fe (Iron)..... ≤ 0.0005 %  
K (Potassium)..... ≤ 0.05 %  
Na (Sodium)..... ≤ 0.005 %  
Loss on drying (150 °C)..... 13.0 - 15.0 %

Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.05694.0250	Plastic bottle	250 g	inquire

## 105697 Lithium sulfate monohydrate 99.99 Suprapur®

**Specification**

Purity (metallic)..... ≥ 99.99 %  
Al (Aluminium)..... ≤ 0.05 ppm  
Ba (Barium)..... ≤ 5 ppm  
Ca (Calcium)..... ≤ 10 ppm  
Cd (Cadmium)..... ≤ 0.010 ppm  
Co (Cobalt)..... ≤ 0.010 ppm  
Cs (Cesium)..... ≤ 10 ppm  
Cu (Copper)..... ≤ 0.010 ppm

Fe (Iron)..... ≤ 0.050 ppm  
K (Potassium)..... ≤ 10 ppm  
Mg (Magnesium)..... ≤ 1.0 ppm  
Mn (Manganese)..... ≤ 0.050 ppm  
Na (Sodium)..... ≤ 5 ppm  
Ni (Nickel)..... ≤ 0.010 ppm  
Pb (Lead)..... ≤ 0.050 ppm  
Rb (Rubidium)..... ≤ 10 ppm

Sr (Strontium)..... ≤ 5 ppm  
Tl (Thallium)..... ≤ 0.01 ppm  
Zn (Zinc)..... ≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.05697.0050	Plastic bottle	50 g	inquire

## 105699 di-Lithium tetraborate for analysis

B<sub>4</sub>Li<sub>2</sub>O<sub>7</sub>

Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub>

■ CAS-No. 12007-60-2 ■ EC-No. 234-514-3

■ Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 169.12 g/mol

■ pH value 9.1 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)

■ Melting point 930 °C ■ Bulk density 330 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2840 20 90 ■ Disposal 14

In sintered form (Spectromelt®) as a dissolution

agent in RFA.

**Specification**

Assay (acidimetric)..... ≥ 98.0 %  
Chloride (Cl)..... ≤ 0.005 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.002 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
Heavy metals (as Pb)..... ≤ 0.005 %  
Ca (Calcium)..... ≤ 0.005 %  
Fe (Iron)..... ≤ 0.001 %

K (Potassium)..... ≤ 0.005 %  
Mg (Magnesium)..... ≤ 0.001 %  
Na (Sodium)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.05699.0100	Plastic bottle	100 g	inquire
1.05699.1000	Plastic bottle	1 kg	inquire

di-Lithium tetraborate for X-ray fluorescence analysis → Spectromelt® A 10 page 167

## 814347 Lithium tetrafluoroborate for synthesis

BF<sub>4</sub>Li

LiBF<sub>4</sub>

■ CAS-No. 14283-07-9 ■ EC-No. 238-178-9

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 93.74 g/mol

■ Melting point 324 °C (decomposition)

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 1638 mg/kg ■ LD50 dermal rat >

2000 mg/kg

■ LGK 8 B

■ HS-No. 2826 90 80

■ ADR-RID UN 3260 Ätzender saurer

anorganischer fester Stoff,

n.a.g.(LITHIUMTETRAFLUOROBORAT), 8, II ■ IMDG-

Code UN 3260 CORROSIVE SOLID, ACIDIC,

INORGANIC,

N.O.S.(LITHIUMTETRAFLUOROBORATE), 8, II,

Segregation Group: 1 (Acids)

■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC,

INORGANIC,  
N.O.S.(LITHIUMTETRAFLUOROBORATE), 8, II

**Specification**

Assay (acidimetric)..... ≥ 97.0 %(m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14347.0010	Plastic bottle	10 g	inquire

## 822197 Lithium tetrahydroborate for synthesis

BH<sub>4</sub>Li

LiBH<sub>4</sub>

*Lithium boron hydride, Lithium boranate*

■ CAS-No. 16949-15-8 ■ EC-No. 241-021-7

■ Spec. density 0.666 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 4.00 - 75.60 %(V) ■ Flash point -17 °C

■ Solub. in H<sub>2</sub>O 209 g/l (10 °C) ■ M = 21.78 g/mol

■ pH value (H<sub>2</sub>O) alkaline, Aqueous solution

■ Melting point 280 °C (decomposition)

■ Bulk density 300 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases,

Category 1, H260; Skin corrosion, Category 1B,

H314, P280, P301 + P330 + P331, P305 + P351 +

P338, P309 + P310

■ LGK 4.3

■ HS-No. 2850 00 20 ■ Disposal 26

■ ADR-RID UN 1413 Lithiumborhydrid, 4.3, I

■ IMDG-Code UN 1413 LITHIUM BOROHYDRIDE,

4.3, I

■ IATA-DGR UN 1413 LITHIUM BOROHYDRIDE,

4.3, I

**Specification**

Assay (hypochlorite)..... ≥ 93.0 %

Ord.No.	Packaging	Quantity	Price
8.22197.0010		10 g	inquire

LOEWENSTEIN-JENSEN medium → page 104

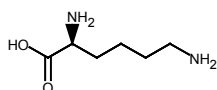
Löffler'smethylene blue solution → page 194

LÖWENSTEIN-JENSEN TB medium → page 104

## Low-mercury compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
967	113386	Hydrochloric acid fuming 37%	166	100514	Perchloric acid 70%	1363	105091	Potassium peroxodisulfate
166	104619	Hydroxylammonium chloride	166	104865	Potassium dichromate	167	100732	Sulfuric acid 95-97%
166	100452	Nitric acid 65%	166	105084	Potassium permanganate	167	107814	Tin(II) chloride dihydrate
Lugol's solution → page 192			2,4-Lutidine → 2,4-Dimethylpyridine page 800			3,5-Lutidine → 3,5-Dimethylpyridine page 801		
Lugol's solution (diluted iodine-potassium iodide solution) → page 192			2,6-Lutidine → 2,6-Dimethylpyridine page 801			Lutidinic acid → 2,4-Pyridinedicarboxylic acid page 1387		
Luminol → 5-Amino-2,3-dihydrophthalazine-1,4-dione page 385			3,4-Lutidine → 3,4-Dimethylpyridine page 801			Lysine iron agar → page 102		

## 112233 L-Lysine monohydrate for biochemistry

C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>O<sub>2</sub> \* H<sub>2</sub>ONH<sub>2</sub>(CH<sub>2</sub>)<sub>4</sub>CH(NH<sub>2</sub>)COOH

Lys

- CAS-No. 39665-12-8 ■ EC-No. 200-294-2
- Solub. in H<sub>2</sub>O >1500 g/l (20 °C) ■ M = 164.21 g/mol ■ pH value 9 - 10.5 (80 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 207 - 209 °C decomposes
- Bulk density 366 kg/m<sup>3</sup>
- WGK 1

- LGK 10 - 13 ■ Store at +2°C to +8°C.
  - HS-No. 2922 41 00 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- Soluble in water and mineral oxides, insoluble in organic solvents.

## Specification

Assay (Perchloric acid titration, calc. on anhydrous substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ... white, crystalline powder or colorless crystals with characteristic odor  
 Appearance of solution (100 g/l, water) .. clear and

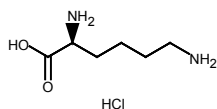
colorless

Spec. rotation

(α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +25.5 to +26.5°  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 Foreign amino acids ..... ≤ 0.3 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %  
 Water (according to Karl Fischer) ..... 10.0 - 12.0 %

Ord.No.	Packaging	Quantity	Price
1.12233.0100	Plastic bottle	100 g	inquire
1.12233.1000	Plastic bottle	1 kg	inquire

## 105700 L-Lysine monohydrochloride for biochemistry

C<sub>6</sub>H<sub>15</sub>ClN<sub>2</sub>O<sub>2</sub>

Lys

- CAS-No. 657-27-2 ■ EC-No. 211-519-9
- Solub. in H<sub>2</sub>O 420 g/l (20 °C) ■ M = 182.64 g/mol ■ pH value 5.5 - 6.0 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 263 - 264 °C
- Bulk density 360 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat 10000 mg/kg
- LGK 10 - 13
- HS-No. 2922 41 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

- IATA-DGR No Dangerous Good
- Soluble in water and mineral acids; insoluble in organic solvents.

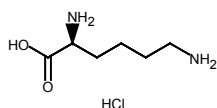
## Specification

Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance ..... white to almost white, fine powder  
 Appearance of solution (1 mol/l, water) .... clear and colorless  
 Spec. rotation  
 (α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +20.3 to +21.3°  
 UV-Absorption  
 (260 nm; 1 mol/l; 1 cm; water) ..... ≤ 0.20  
 UV-Absorption  
 (280 nm; 1 mol/l; 1 cm; water) ..... ≤ 0.25  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %

As (Arsenic) ..... ≤ 0.0005 %  
 Ca (Calcium) ..... ≤ 0.001 %  
 Co (Cobalt) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.005 %  
 Mg (Magnesium) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.005 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 Zn (Zinc) ..... ≤ 0.0005 %  
 Foreign amino acids ..... ≤ 0.3 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %  
 Loss on drying (105 °C; 3 h) ..... ≤ 0.4 %

Ord.No.	Packaging	Quantity	Price
1.05700.0100	Plastic bottle	100 g	inquire
1.05700.1000	Plastic bottle	1 kg	inquire
1.05700.9010	Plastic drum	10 kg	inquire

## 816018 (S)-(+)-Lysine monohydrochloride for synthesis

C<sub>6</sub>H<sub>15</sub>ClN<sub>2</sub>O<sub>2</sub>

Lys

- CAS-No. 657-27-2 ■ EC-No. 211-519-9
- Solub. in H<sub>2</sub>O 420 g/l (20 °C) ■ M = 182.64 g/mol

- mol ■ pH value 5.5 - 6.0 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 263 - 264 °C
- Bulk density 360 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat 10000 mg/kg
- LGK 10 - 13
- HS-No. 2922 41 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (argentometric) ..... ≥ 99.0 % (m)  
 Spec. rotation [α<sub>20</sub>/D (c=8 in HCl 6 mol/l) ..... 20.5 - 21.5°  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16018.0100	Plastic bottle	100 g	inquire
8.16018.0500	Plastic bottle	500 g	inquire

L-Lysine monohydrochloride → (S)-(+)-Lysine monohydrochloride page 1085

Löffler's methylene blue solution → page 194

## 105809 Magnesia rods for the phosphorus salt pearls

■ HS-No. 6903 90 90  
**Specification**  
 Length..... about 14 cm  
 Diameter..... about 2 mm  
 Pearl test..... passes test  
 Flame test..... passes test

Ord.No.	Packaging	Quantity	Price
1.05809.0100	Plastic bottle	100 units	inquire

## Magnesium

Mg  
 ■ CAS-No. 7439-95-4 ■ EC-No. 231-104-6  
 ■ Vapour pressure 0.00013 hPa (325 °C)  
 ■ Spec. density 1.74 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 500 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition) ■ M = 24.31 g/mol  
 ■ Melting point 651 °C ■ Boiling point 1107 °C (1013 hPa) ■ Ignition temp. >450 °C

■ WGK nwg  
 ■ GHS: Danger, Pyrophoric solid, Category 1, H250; Substances, which in contact with water, emit flammable gases, Category 1, H260, P210, P370 + P378  
 ■ EC-Index-No. 012-001-00-3 ■ LGK 4.2  
 ■ HS-No. 8104 30 00 ■ Disposal 26

■ ADR-RID UN 1418 Magnesium-Pulver, 4.3 (4.2), II ■ IMDG-Code UN 1418 MAGNESIUM POWDER, 4.3 (4.2), II, Segregation Group: 15 (Powdered metals)  
 ■ IATA-DGR UN 1418 MAGNESIUM POWDER, 4.3 (4.2), II



## 818506 Magnesium powder (particle size < 0.1 mm) for synthesis

**Specification**  
 Assay (on Mg)..... ≥ 97.0 %

Ord.No.	Packaging	Quantity	Price
8.18506.0100	Plastic bottle	100 g	inquire
8.18506.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire

## 105815 Magnesium powder particle size about 0.06–0.3mm

**Specification**  
 Assay (complexometric)..... ≥ 98.5 %  
 Substances insoluble in hydrochloric acid ≤ 0.05 %  
 Fe (Iron)..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.05815.1000	Metal can	1 kg	inquire

## 805817 Magnesium turnings acc. to Grignard for synthesis

**Specification**  
 Assay (on Mg)..... ≥ 99.0 % (m)

Ord.No.	Packaging	Quantity	Price
8.05817.0250	Metal can	250 g	inquire
	Metal can	6 x 250 g	inquire
8.05817.1000	Metal can	1 kg	inquire
	Metal can	6 x 1 kg	inquire

## 845042 Magnesium turnings acc. to Grignard for pharma synthesis, non-GMP

**Specification**  
 Colour (visual)..... grey  
 Appearance of substance (visual)..... chips  
 Assay (on Mg)..... ≥ 99.0 % (m)  
 Splinter..... ≤ 4 mm

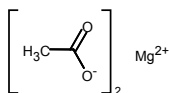
Ord.No.	Packaging	Quantity	Price
8.45042.0250	Glass bottle	250 g	inquire
8.45042.1000	Glass bottle	1 kg	inquire

## 105812 Magnesium foil 0.15–0.30 mm thickness, 3 mm wide

**Specification**  
 Assay (complexometric)..... ≥ 99.5 %  
 Substances insoluble in hydrochloric acid ≤ 0.05 %  
 Cu (Copper)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.05 %  
 Pb (Lead)..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.05812.0001	Fibre case	1 roll	inquire

## 105819 Magnesium acetate tetrahydrate for analysis EMSURE® ACS,Reag. Ph Eur



C<sub>4</sub>H<sub>8</sub>MgO<sub>4</sub> \* 4 H<sub>2</sub>O  
 (CH<sub>3</sub>COO)<sub>2</sub>Mg \* 4 H<sub>2</sub>O  
 ■ CAS-No. 16674-78-5 ■ EC-No. 205-554-9  
 ■ Spec. density 1.45 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 1200 g/l (15 °C) ■ M = 214.46 g/mol  
 ■ pH value 6.1 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 80 °C ■ Bulk density 510 kg/m<sup>3</sup>  
 ■ WGK 1

■ LGK 10 - 13  
 ■ HS-No. 2915 29 00 ■ Disposal 14  
**Specification**  
 Assay (complexometric)..... 99.5 - 102.0 %  
 Insoluble matter..... ≤ 0.005 %  
 Chloride (Cl)..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ba (Barium)..... ≤ 0.001 %  
 Ca (Calcium)..... ≤ 0.001 %  
 Cu (Copper)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0001 %  
 K (Potassium)..... ≤ 0.005 %

Mn (Manganese)..... ≤ 0.001 %  
 Na (Sodium)..... ≤ 0.001 %  
 Sr (Strontium)..... ≤ 0.005 %  
 Zn (Zinc)..... ≤ 0.0002 %  
 Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.05819.0250	Plastic bottle	250 g	inquire
1.05819.1000	Plastic bottle	1 kg	inquire
1.05819.9050	Fibre carton	50 kg	inquire

Magnesium carbonate basic → Magnesium hydroxide carbonate page 1087

Magnesium Cell Test → page 68

## 814733 Magnesium chloride anhydrous for synthesis

Cl<sub>2</sub>Mg  
 MgCl<sub>2</sub>  
 Magnesium dichloride  
 ■ CAS-No. 7786-30-3 ■ EC-No. 232-094-6  
 ■ Spec. density 2.32 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 542 g/l (20 °C) ■ M = 95.22 g/mol  
 ■ pH value >=7 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 712 °C ■ Boiling point 1412 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat 2800 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 31 00

**Specification**  
 Assay (argentometric)..... ≥ 98.0 % (m)

Ord.No.	Packaging	Quantity	Price
8.14733.0100	Plastic bottle	100 g	inquire
8.14733.0500	Plastic bottle	500 g	inquire

## 105833 Magnesium chloride hexahydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Cl<sub>2</sub>Mg \* 6 H<sub>2</sub>OMgCl<sub>2</sub> \* 6 H<sub>2</sub>O

Magnesium dichloride

- CAS-No. 7791-18-6 ■ EC-No. 232-094-6
- Spec. density 1.57 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1670 g/l (20 °C) ■ M = 203.30 g/mol
- pH value 4.5 - 7.0 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 117 °C (decomposition)
- WGK 1
- LD50 oral rat 8100 mg/kg
- LGK 10 - 13
- HS-No. 2827 31 00
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (complexometric) ..... 99.0 - 101.0 %

Identity..... conforms

Appearance of solution ..... passes test

Insoluble matter ..... ≤ 0.005 %

pH-value (5 %; water)..... 5.0 - 6.5

Acidity or alkalinity ..... passes test

Bromide (Br)..... ≤ 0.05 %

Nitrate (NO<sub>3</sub>)..... ≤ 0.001 %

Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %

Total nitrogen (N)..... ≤ 0.0002 %

Heavy metals (as Pb)..... ≤ 0.0005 %

Al (Aluminium)..... ≤ 0.0002 %

As (Arsenic)..... ≤ 0.0002 %

Ba (Barium)..... ≤ 0.002 %

Ca (Calcium)..... ≤ 0.003 %

Cu (Copper)..... ≤ 0.0005 %

Fe (Iron)..... ≤ 0.0005 %

K (Potassium)..... ≤ 0.001 %

Mn (Manganese)..... ≤ 0.0005 %

Na (Sodium)..... ≤ 0.001 %

NH<sub>4</sub> (Ammonium)..... ≤ 0.002 %

Pb (Lead)..... ≤ 0.0005 %

Sr (Strontium)..... ≤ 0.005 %

Water..... 51.0 - 55.0 %

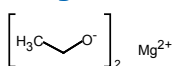
Corresponds to ACS, ISO, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.05833.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.05833.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.05833.5000	Plastic bottle	5 kg	inquire
1.05833.9025	Fibre carton	25 kg	inquire

## Magnesium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
815	103091	1,5-Diphenylcarbazine	995	107098	8-Hydroxyquinoline	1560	101307	Titan yellow (C.I. 19540)
172	103170	Eriochrome black T (C.I. 14645)	1089	108712	Magnesium reagent			

## 818894 Magnesium ethylate for synthesis

C<sub>4</sub>H<sub>10</sub>MgO<sub>2</sub>

- CAS-No. 2414-98-4 ■ EC-No. 219-323-5
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 114.43 g/mol ■ Bulk density 480 kg/m<sup>3</sup>
- Ignition temp. 70 °C
- WGK 1
- GHS: Danger, Self-heating substances, Category

1, H251; Eye irritation, Category 2, H319, P305 + P351 + P338

- LD50 oral rat > 3160 mg/kg
- LGK 4.2
- HS-No. 2905 19 00 ■ Disposal 13
- ADR-RID UN 3205 Erdalkalimetallalkoholate, n.a.g.(MAGNESIUMETHYLAT), 4.2, II ■ IMDG-Code UN 3205 ALKALINE EARTH METAL ALCOHOLATES, N.O.S.(MAGNESIUMETHYLATE), 4.2, II
- IATA-DGR UN 3205 ALKALINE EARTH METAL

ALCOHOLATES, N.O.S.(MAGNESIUMETHYLATE), 4.2, II

**Specification**

Assay (acidimetric)..... ≥ 97.0 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18894.0100	Glass bottle	100 g	inquire
8.18894.0500	Metal can	500 g	inquire

## 843843 Magnesium hydride for synthesis

H<sub>2</sub>MgMgH<sub>2</sub>

- CAS-No. 7693-27-8 ■ EC-No. 231-705-3
- M = 26.32 g/mol
- WGK nwg
- GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases,

Category 1, H260, P262

- LGK 4.3
- HS-No. 2850 00 20 ■ Disposal 26
- ADR-RID UN 2010 Magnesiumhydrid, 4.3, I
- IMDG-Code UN 2010 MAGNESIUM HYDRIDE, 4.3, I
- IATA-DGR UN 2010 MAGNESIUM HYDRIDE,

4.3, I

**Specification**

Assay (by gasvolumetry)..... ≥ 97.0 %

Ord.No.	Packaging	Quantity	Price
8.43843.0025	Glass bottle	25 g	inquire

## 105827 Magnesium hydroxide carbonate for analysis EMSURE®

~ 4 MgCO<sub>3</sub> \* Mg(OH)<sub>2</sub> \* 5 H<sub>2</sub>O

Magnesium carbonate basic

- CAS-No. 12125-28-9 ■ EC-No. 235-192-7
- Spec. density 2.16 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 485 g/mol
- pH value 10.5 (50 g/l, H<sub>2</sub>O, 20 °C) suspension
- Melting point 600 °C (decomposition)
- Bulk density 80 - 100 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 2836 99 11 ■ Disposal 14
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**

Assay (komplexometric, Mg)..... ≥ 24.0 %

Substances soluble in water ..... ≤ 0.5 %

Substances insoluble in hydrochloric acid..... ≤ 0.005 %

Chloride (Cl)..... ≤ 0.005 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.003 %

Total nitrogen (N)..... ≤ 0.001 %

Heavy metals (as Pb)..... ≤ 0.001 %

Barium and Strontium (as Ba)..... ≤ 0.001 %

Ca (Calcium)..... ≤ 0.01 %

Cu (Copper)..... ≤ 0.0005 %

Fe (Iron)..... ≤ 0.001 %

K (Potassium)..... ≤ 0.001 %

Na (Sodium)..... ≤ 0.2 %

Pb (Lead)..... ≤ 0.001 %

Zn (Zinc)..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.05827.0250	Plastic bottle	250 g	inquire
1.05827.1000	Plastic bottle	1 kg	inquire

105813 Magnesium matrix modifier for graphite furnace AAS c(Mg) = 10.0 ± 0.2 g/l (Mg(NO<sub>3</sub>)<sub>2</sub> \* 6 H<sub>2</sub>O in HNO<sub>3</sub> ca. 17%)

- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2834 29 80

- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2031 NITRIC ACID, 8, II

**Specification**

Ag (Silver)..... ≤ 0.000002 g/l

As (Arsenic)..... ≤ 0.00001 g/l

Cd (Cadmium)..... ≤ 0.000001 g/l

Pb (Lead)..... ≤ 0.00001 g/l

Se (Selenium)..... ≤ 0.0001 g/l

Tl (Thallium)..... ≤ 0.00001 g/l

Ord.No.	Packaging	Quantity	Price
1.05813.0050	Plastic bottle	50 ml	inquire



# Magnes

## Magnesium nitrate hexahydrate

MgN<sub>2</sub>O<sub>6</sub> \* 6 H<sub>2</sub>O

Mg(NO<sub>3</sub>)<sub>2</sub> \* 6 H<sub>2</sub>O

■ CAS-No. 13446-18-9 ■ EC-No. 233-826-7

■ Spec. density 1.46 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 420 g/l (20 °C) ■ M = 256.41 g/mol

■ pH value 5.0 - 7.0 (50 g/l, H<sub>2</sub>O, 25 °C)

■ Melting point 89 °C (for the hexahydrate)

■ WGK 1

■ GHS: P262

■ LD50 oral rat 5440 mg/kg

■ LGK 10 - 13

■ HS-No. 2834 29 80 ■ Disposal 14

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

### 105853 Magnesium nitrate hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur

#### Specification

Assay (complexometric) ..... 99.0 - 102.0 %

Insoluble matter ..... ≤ 0.005 %

pH-value (5 %; water, 25 °C) ..... 5.0 - 7.0

Chloride (Cl) ..... ≤ 0.001 %

Phosphate (PO<sub>4</sub>) ..... ≤ 0.0005 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.002 %

Heavy metals (as Pb) ..... ≤ 0.0005 %

As (Arsenic) ..... ≤ 0.0001 %

Ba (Barium) ..... ≤ 0.005 %

Ca (Calcium) ..... ≤ 0.005 %

Fe (Iron) ..... ≤ 0.0005 %

K (Potassium) ..... ≤ 0.0005 %

Mn (Manganese) ..... ≤ 0.0005 %

Na (Sodium) ..... ≤ 0.0005 %

NH<sub>4</sub> (Ammonium) ..... ≤ 0.001 %

Sr (Strontium) ..... ≤ 0.005 %

Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.05853.0500	Plastic bottle	500 g	inquire
1.05853.9025	Plastic drum	25 kg	inquire

### 105855 Magnesium nitrate hexahydrate 99,99 Suprapur®

#### Specification

Purity (metallic) ..... ≥ 99.99 %

Assay (complexometric, calc. as hexahydrate) ..... ≥ 99.0 %

Chloride (Cl) ..... ≤ 2 ppm

NH<sub>4</sub> (Ammonium) ..... ≤ 10.0 ppm

Phosphate (PO<sub>4</sub>) ..... ≤ 10 ppm

Sulphate (SO<sub>4</sub>) ..... ≤ 20 ppm

Al (Aluminium) ..... ≤ 0.010 ppm

Ba (Barium) ..... ≤ 5.0 ppm

Bi (Bismuth) ..... ≤ 0.005 ppm

Ca (Calcium) ..... ≤ 5.00 ppm

Cd (Cadmium) ..... ≤ 0.005 ppm

Ce (Cerium) ..... ≤ 0.010 ppm

Co (Cobalt) ..... ≤ 0.005 ppm

Cr (Chromium) ..... ≤ 0.005 ppm

Cu (Copper) ..... ≤ 0.005 ppm

Eu (Europium) ..... ≤ 0.010 ppm

Fe (Iron) ..... ≤ 0.050 ppm

K (Potassium) ..... ≤ 1.0 ppm

La (Lanthanum) ..... ≤ 0.010 ppm

Li (Lithium) ..... ≤ 1.0 ppm

Mn (Manganese) ..... ≤ 0.050 ppm

Na (Sodium) ..... ≤ 5 ppm

Ni (Nickel) ..... ≤ 0.005 ppm

Pb (Lead) ..... ≤ 0.005 ppm

Sc (Scandium) ..... ≤ 0.010 ppm

Sm (Samarium) ..... ≤ 0.010 ppm

Sr (Strontium) ..... ≤ 1.00 ppm

Tl (Thallium) ..... ≤ 0.01 ppm

Y (Yttrium) ..... ≤ 0.010 ppm

Yb (Ytterbium) ..... ≤ 0.010 ppm

Zn (Zinc) ..... ≤ 0.050 ppm

Ord.No.	Packaging	Quantity	Price
1.05855.0050	Plastic bottle	50 g	inquire
1.05855.0500	Plastic bottle	500 g	inquire

## Magnesium oxide

MgO

*Magnesia usta*

■ CAS-No. 1309-48-4 ■ EC-No. 215-171-9

■ Spec. density 3.58 g/cm<sup>3</sup> (25 °C) ■ Dielectricity

constant 11 ■ Solub. in H<sub>2</sub>O (20 °C) practically

insoluble ■ M = 40.3 g/mol ■ pH value 10.3 (H<sub>2</sub>O,

20 °C) (saturated solution)

■ Melting point 2800 °C ■ Bulk density 100 kg/m<sup>3</sup>

■ Boiling point 3600 °C (1000 hPa)

■ WGK 1

■ GHS: P260

■ LGK 10 - 13

■ HS-No. 2519 90 10 ■ Disposal 14

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

With sodium carbonate as Eschka's reagent for

the determination of sulfur in coal and coke.

### 105866 Magnesium oxide for analysis (max.0.001% SO<sub>4</sub>) EMSURE® ACS

#### Specification

Identity ..... conforms

Assay (complexometric) ..... ≥ 97.0 %

Appearance of solution ..... conforms

Substances soluble in water ..... ≤ 0.4 %

Substances insoluble in hydrochloric acid ..... ≤ 0.02 %

Substances precipitated by ammonia ..... ≤ 0.02 %

Carbonate (as CO<sub>2</sub>) ..... ≤ 1.5 %

Chloride (Cl) ..... ≤ 0.01 %

Nitrate (NO<sub>3</sub>) ..... ≤ 0.005 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.001 %

Total nitrogen (N) ..... ≤ 0.002 %

Heavy metals (as Pb) ..... ≤ 0.003 %

As (Arsenic) ..... ≤ 0.0001 %

Ca (Calcium) ..... ≤ 0.05 %

Cu (Copper) ..... ≤ 0.001 %

Fe (Iron) ..... ≤ 0.005 %

K (Potassium) ..... ≤ 0.005 %

Mn (Manganese) ..... ≤ 0.0005 %

Na (Sodium) ..... ≤ 0.25 %

Pb (Lead) ..... ≤ 0.001 %

Zn (Zinc) ..... ≤ 0.0005 %

Barium and Strontium (as Ba) ..... ≤ 0.005 %

Loss on ignition (1000 °C) ..... ≤ 2.0 %

Conforms to ACS

Ord.No.	Packaging	Quantity	Price
1.05866.0100	Plastic bottle	100 g	inquire
1.05866.0500	Plastic bottle	500 g	inquire

### 105865 Magnesium oxide for analysis EMSURE®

#### Specification

Assay (complexometric) ..... ≥ 97 %

Substances soluble in water ..... ≤ 0.5 %

Substances insoluble in hydrochloric acid ..... ≤ 0.10 %

Carbonate (as CO<sub>2</sub>) ..... ≤ 1.5 %

Chloride (Cl) ..... ≤ 0.01 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.02 %

Total nitrogen (N) ..... ≤ 0.002 %

Ca (Calcium) ..... ≤ 0.10 %

Cu (Copper) ..... ≤ 0.001 %

Fe (Iron) ..... ≤ 0.005 %

K (Potassium) ..... ≤ 0.005 %

Na (Sodium) ..... ≤ 0.30 %

Pb (Lead) ..... ≤ 0.001 %

Zn (Zinc) ..... ≤ 0.0005 %

Barium and Strontium (as Ba) ..... ≤ 0.005 %

Loss on ignition (1000 °C) ..... ≤ 3.0 %

Ord.No.	Packaging	Quantity	Price
1.05865.0100	Plastic bottle	100 g	inquire
1.05865.0500	Plastic bottle	500 g	inquire

## Magnesium perchlorate hydrate

Cl<sub>2</sub>MgO<sub>8</sub> \* x H<sub>2</sub>OMg(ClO<sub>4</sub>)<sub>2</sub> \* x H<sub>2</sub>O

- CAS-No. 64010-42-0 ■ EC-No. 233-108-3
- Spec. density 2.60 g/cm<sup>3</sup> (25 °C) (anhydrous substance) ■ Solub. in H<sub>2</sub>O 500 g/l (25 °C)
- pH value 8.2 (50 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 251 °C decomposes
- Bulk density 600 – 800 kg/m<sup>3</sup>

- WGK 1
- GHS: Danger, Oxidising solid, Category 2, H272; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 5.1A
- HS-No. 2829 90 10 ■ Disposal 22

- ADR-RID UN 1475 Magnesiumperchlorat, 5.1, II
  - IMDG-Code UN 1475 MAGNESIUM PERCHLORATE, 5.1, II, Segregation Group: 13 (Perchlorates)
  - IATA-DGR UN 1475 MAGNESIUM PERCHLORATE, 5.1, II
- Dessicant

105874 Magnesium perchlorate hydrate [about 83% Mg(ClO<sub>4</sub>)<sub>2</sub>] for analysis EMSURE®

## Specification

Assay (complexometric) ..... ≥ 83 %  
 Chloride (Cl) ..... ≤ 0.005 %  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.002 %  
 Free alkali (as magnesium oxide) ..... ≤ 0.05 %

Free acid (as perchloric acid) ..... ≤ 0.05 %  
 Particle size (1-4 mm) ..... about 75 %

Ord.No.	Packaging	Quantity	Price
1.05874.0100	Metal can	100 g	inquire
1.05874.0500	Metal can	500 g	inquire

105875 Magnesium perchlorate hydrate [about 83% Mg(ClO<sub>4</sub>)<sub>2</sub>] for elemental analysis

## Specification

Assay (complexometric) ..... ≥ 83 %  
 Free alkali (as magnesium oxide) ..... ≤ 0.05 %

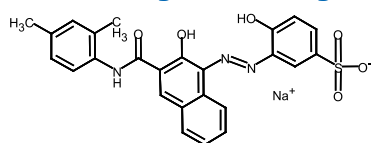
Free acid (as perchloric acid) ..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.05875.0500	Metal can	500 g	inquire

105873 Magnesium perchlorate hydrate [about 83% Mg(ClO<sub>4</sub>)<sub>2</sub>], desiccant, about 1-4 mm

Ord.No.	Packaging	Quantity	Price
1.05873.0500	Metal can	500 g	inquire

## 108712 Magnesium reagent acc. to Mann and Yoe (reagent for magnesium)



Xylidyl blue, Mann and Yoe's magnesium reagent

- CAS-No. 14936-97-1 ■ EC-No. 239-012-8
  - Solub. in H<sub>2</sub>O (20 °C) slightly soluble
  - M = 513.51 g/mol
  - WGK 3
  - LGK 10 - 13
  - HS-No. 3204 19 00 ■ Disposal 3
- Use as metal indicator: 0.01 % in water

## Specification

Identity (IR-spectrum) ..... passes test  
 Absorbance A (492 nm; 1 cm) ..... ≥ 0.350  
 Loss on drying (105 °C) ..... ≤ 5%

Ord.No.	Packaging	Quantity	Price
1.08712.0005	Glass bottle	5 g	inquire

C<sub>25</sub>H<sub>20</sub>N<sub>3</sub>NaO<sub>6</sub>S

Magnesium silicate (Florasil®) → page 38

109949 Magnesium standard 1000 mg Mg, (MgCl<sub>2</sub> in 6% HCl) Titrisol®

- Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 12

- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

## Specification

content (Mg) ..... 1000 mg / Ampoule

Determination method: Complexometric titration. (traceable to NIST - SRM 682) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09949.0001	Plastic ampoule	1 amp	inquire

Magnesium standard for aqueous matrices ready for use → page 1469

Magnesium standard water-soluble → Magnesium standard page 1089

## 106067 Magnesium sulfate anhydrous for analysis EMSURE®

MgO·S

MgSO<sub>4</sub>

- CAS-No. 7487-88-9 ■ EC-No. 231-298-2
- Spec. density 2.66 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 300 g/l (20 °C) ■ M = 120.37 g/mol
- pH value 7.9 (50 g/l, H<sub>2</sub>O, 25 °C)
- Bulk density 600 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13

- HS-No. 2833 21 00 ■ Disposal 14

## Specification

Assay (complexometric) ..... ≥ 98.0 %  
 Chloride (Cl) ..... ≤ 0.001 %  
 Total nitrogen (N) ..... ≤ 0.004 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 As (Arsenic) ..... ≤ 0.0001 %  
 Ca (Calcium) ..... ≤ 0.04 %

Fe (Iron) ..... ≤ 0.001 %  
 Mn (Manganese) ..... ≤ 0.002 %  
 Loss on ignition (600 °C) ..... ≤ 2 %

Ord.No.	Packaging	Quantity	Price
1.06067.1000	Glass bottle	1 kg	inquire
1.06067.9025	Plastic drum	25 kg	inquire

## 105886 Magnesium sulfate heptahydrate for analysis EMSURE® ACS,Reag. Ph Eur

MgO·S \* 7 H<sub>2</sub>OMgSO<sub>4</sub> \* 7 H<sub>2</sub>O

bitter salt, epsom salt, sulfuric acid magnesium salt heptahydrate

- CAS-No. 10034-99-8 ■ EC-No. 231-298-2
- Spec. density 1.68 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 710 g/l (20 °C) ■ M = 246.48 g/mol
- pH value 5.0 - 8.0 (50 g/l, H<sub>2</sub>O, 25 °C)
- Bulk density 900 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2833 21 00 ■ Disposal 14

substance) ..... 99.0 - 100.5 %  
 Identity ..... passes test  
 Appearance of solution ..... passes test  
 Insoluble matter ..... ≤ 0.005 %  
 Acidity or alkalinity ..... passes test  
 pH-value (5 %; water; 25 °C) ..... 5.0 - 8.0  
 Chloride (Cl) ..... ≤ 0.0003 %  
 Total nitrogen (N) ..... ≤ 0.002 %  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.002 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %  
 As (Arsenic) ..... ≤ 0.0002 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Cu (Copper) ..... ≤ 0.0001 %  
 Fe (Iron) ..... ≤ 0.0001 %  
 K (Potassium) ..... ≤ 0.001 %

Mn (Manganese) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.001 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.002 %  
 Pb (Lead) ..... ≤ 0.0001 %  
 Sr (Strontium) ..... ≤ 0.005 %  
 Loss on drying (400 °C) ..... 48.0 - 52.0 %  
 Corresponds to ACS,Reag. Ph Eur

## Specification

Assay (complexometric) ..... ≥ 99.5 %  
 Assay (complexometric; calculated on dried

Ord.No.	Packaging	Quantity	Price
1.05886.0500	Plastic bottle	500 g	inquire
1.05886.1000	Plastic bottle	1 kg	inquire
1.05886.5000	Plastic bottle	5 kg	inquire
1.05886.9050	Fibre carton	50 kg	inquire

# Magnes

Magnesium Test → page 68

Magneson → 4-(4-Nitrophenylazo)-resorcinol page 1227

Magneson II → 4-(4-Nitrophenylazo)-1-naphthol page 1227

MagPrep® → MagPrep® Silica Particles page 1090

## 101899 MagPrep® Silica HS

- Spec. density 1.04 g/cm<sup>3</sup> (20 °C)
- WGK nwg
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338
- LGK 10 - 13 ■ Store at +2°C to +8°C.

- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good
- Magnetic Silica Particles for DNA Clean-Up

### Specification

Appearance (colour) .....black  
 Appearance (description) .....suspension  
 RNases ..... not detectable

Ord.No.	Packaging	Quantity	Price
1.01899.0001	Fibre case	1 ml	inquire

## 101644 MagPrep® Silica MS

- Spec. density 1.04 g/cm<sup>3</sup> (20 °C)
- WGK nwg
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

- IATA-DGR No Dangerous Good
- Magnetic Silica Particles for the extraction of DNA and RNA.

### Specification

Appearance .....black suspension  
 pH-value ..... 5.2 - 5.8  
 Dry residue (content of partikels) ..... 45 - 55 mg/ml  
 Magnetic Response ..... 1 - 20 s  
 Settling time ..... ≥ 5 min

RNases ..... not detectable  
 Fe (Iron) ..... ≤ 5 ppm  
 Particlesurface (BET) ..... 14 - 25 m<sup>2</sup>/g  
 Performance test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.01644.0001	Fibre case	1 ml	inquire

## 101193 MagPrep® Silica Particles

- Spec. density 1.04 g/cm<sup>3</sup> (20 °C)
- WGK nwg
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 3822 00 00 ■ Disposal 28

- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

### Specification

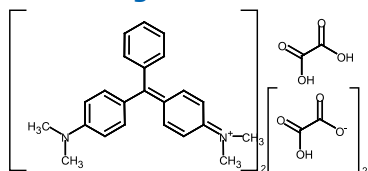
Appearance .....black suspension  
 Magnetic Response ..... 1 - 20 s  
 Settling time ..... ≥ 5 min

RNases ..... not detectable  
 Fe (Iron) ..... ≤ 5 ppm  
 Particlesurface (BET) ..... 14 - 25 m<sup>2</sup>/g  
 Performance test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.01193.0001	Fibre case	1 ml	inquire

Malachite green G → page 111

## Malachite green oxalate (C.I. 42000)



C<sub>52</sub>H<sub>54</sub>N<sub>4</sub>O<sub>12</sub>

C<sub>46</sub>H<sub>50</sub>N<sub>4</sub> \* 2 C<sub>2</sub>H<sub>2</sub>O<sub>4</sub> \* C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>

■ CAS-No. 2437-29-8 ■ EC-No. 219-441-7

- Solub. in H<sub>2</sub>O 110 g/l (24 °C) ■ M = 927.01 g/mol ■ pH value 2.4 (10 g/l, H<sub>2</sub>O, 24 °C)
- Melting point 159 °C
- Bulk density 400 - 500 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Reproductive toxicity, Category 2, H361d; Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P281, P305 + P351 + P338, P308 + P313

- LD50 oral rat 275 mg/kg
- EC-Index-No. 602-096-00-5 ■ LGK 6.1 C
- HS-No. 3204 13 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(MALACHITGRUEN-OXALAT), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(MALACHITE GREEN OXALATE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(MALACHITE GREEN OXALATE), 6.1, III

## 101398 Malachite green oxalate (C.I. 42000) for microscopy and for microbiology

### Specification

Dye content (spectrophotometrically) . ≥ 90 % (als C<sub>46</sub>H<sub>50</sub>N<sub>4</sub> \* 2 C<sub>2</sub>H<sub>2</sub>O<sub>4</sub> \* C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>)  
 Identity (oxalate) ..... passes test  
 Identity (UV/VIS-Spectrum) ..... passes test  
 Absorption maximum λ max (water). 616 - 620 nm

Spec. Absorptivity A 1%/1cm (λmax; 0.003 g/l; water) ..... 1730 - 1960  
 TLC-Test ..... passes test  
 Loss on drying (50 °C / < 1 hPa) ..... ≤ 7 %  
 Suitability for microbiology ..... passes test  
 Suitability for microscopy ..... passes test

Ord.No.	Packaging	Quantity	Price
1.01398.0025	Glass bottle	25 g	inquire
1.01398.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire

## 115942 Malachite green oxalate (C.I. 42000) for microscopy Certistain®

### Specification

Dye content (spectrophotometrically) . ≥ 90 % (als C<sub>46</sub>H<sub>50</sub>N<sub>4</sub> \* 2 C<sub>2</sub>H<sub>2</sub>O<sub>4</sub> \* C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>)  
 Identity (oxalate) ..... passes test  
 Identity (UV/VIS-Spectrum) ..... passes test  
 Absorption maximum λ max (water). 616 - 620 nm

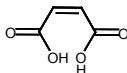
Spec. Absorptivity A 1%/1cm (λmax; 0.003 g/l; water) ..... 1730 - 1960  
 TLC-Test ..... passes test  
 Loss on drying (50 °C / < 1 hPa) ..... ≤ 7 %  
 Suitability for microscopy ..... passes test

Ord.No.	Packaging	Quantity	Price
1.15942.0025	Glass bottle	25 g	inquire
1.15942.0100	Glass bottle	100 g	inquire

Malachite green (oxalate) (C.I.42000) GR and for Microbiology → page 191

DL-Malate → page 1092

## Maleic acid

C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>

HOOCCH=CHCOOH

*cis-Butenedioic acid*

- CAS-No. 110-16-7 ■ EC-No. 203-742-5
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.59 g/cm<sup>3</sup> (20 °C)

- Flash point >100 °C ■ Solub. in H<sub>2</sub>O 478.8 g/l (20 °C) ■ M = 116.07 g/mol ■ pH value 1.3 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 130 - 135 °C
- Bulk density 750 - 800 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P280, P302 +

- P352, P305 + P351 + P338
- LC50 rat > 720 mg/m<sup>3</sup>
- LD50 oral rat 708 mg/kg
- EC-Index-No. 607-095-00-3 ■ LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## 800380 Maleic acid for synthesis

## Specification

Assay (HPLC, area%) ..... ≥ 99 %  
 Melting range  
 - (lower value) ..... ≥ 131 °C  
 - (upper value) ..... ≤ 134 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00380.0100	Plastic bottle	100 g	inquire
8.00380.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
8.00380.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.00380.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
8.00380.9050	Fibre carton	50 kg	inquire

## 845002 Maleic acid for pharma synthesis, non GMP

## Specification

Colour (visual) ..... white  
 Appearance of substance (visual) ..... powder  
 Assay (HPLC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 130 °C

Melting range (upper value) ..... ≤ 135 °C  
 Assay (acidimetric) ..... ≥ 99,0 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45002.0100	Glass bottle	100 g	inquire
8.45002.1000	Glass bottle	1 kg	inquire
8.45002.5000	Plastic bottle	5 kg	inquire

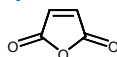
Maleic acid anhydride → page 1091

Maleic acid dibutyl ester → Dibutyl maleate page 708

Maleic acid diethyl ester → Diethyl maleate page 747

Maleic acid imide → Maleimide page 1091

## Maleic anhydride

C<sub>4</sub>H<sub>2</sub>O<sub>3</sub>

2,5-Furanedione

- CAS-No. 108-31-6 ■ EC-No. 203-571-6
- Vapour pressure 1.33 hPa (44 °C)
- Spec. density 1.32 g/cm<sup>3</sup> (55 °C) ■ Explosive limit 1.4 - 7.1 % (V) ■ Flash point 103 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (decomposition)

- M = 98.06 g/mol ■ pH value 0.8 (550 g/l, H<sub>2</sub>O, 20 °C) Hydrolysis ■ Melting point 51 - 53 °C
- Bulk density 700 - 800 kg/m<sup>3</sup>
- Boiling point 202 °C (1013 hPa)
- Ignition temp. 475 °C DIN 51794
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P301 + P330 + P331, P302 + P352, P304 + P341, P305 +

- P351 + P338, P309 + P310
- LD50 oral rat 1090 mg/kg ■ LD50 dermal rabbit 2620 mg/kg
- EC-Index-No. 607-096-00-9 ■ LGK 8A
- HS-No. 2917 14 00 ■ Disposal 3
- ADR-RID UN 2215 Maleinsäureanhydrid, 8, III
- IMDG-Code UN 2215 MALEIC ANHYDRIDE, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2215 MALEIC ANHYDRIDE, 8, III

## 800408 Maleic anhydride for synthesis

## Specification

Assay (morpholine method) ..... ≥ 99,0 % (m)  
 Melting range (lower value) ..... ≥ 51 °C  
 Melting range (upper value) ..... ≤ 54 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00408.0100	Plastic bottle	100 g	inquire
8.00408.0500	Plastic bottle	500 g	inquire
8.00408.1000	Plastic bottle	1 kg	inquire
8.00408.5000	Plastic bottle	5 kg	inquire
8.00408.9050	Fibre carton	50 kg	inquire

## 845122 Maleic anhydride for pharma synthesis, non-GMP

## Specification

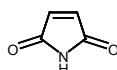
Colour (visual) ..... white  
 Appearance of substance (visual) ..... flakes  
 Assay (morpholine method) ..... ≥ 99,0 %  
 Melting range (lower value) ..... ≥ 51 °C

Melting range (upper value) ..... ≤ 54 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45122.0100	Plastic bottle	100 g	inquire
8.45122.0500	Plastic bottle	500 g	inquire
8.45122.1000	Plastic bottle	1 kg	inquire

Maleic hydrazide → 3,6-Pyridazinediol page 1383

## 820754 Maleimide for synthesis

C<sub>4</sub>H<sub>3</sub>NO<sub>2</sub>

Maleic acid imide

- CAS-No. 541-59-3 ■ EC-No. 208-787-4
- Vapour pressure 8 hPa (115 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 97.07 g/mol
- Melting point 90 - 93 °C

- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2925 19 95 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g. (MALEINIMID), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S. (MALEIMIDE), 8, II
- IATA-DGR UN 1759 CORROSIVE SOLID,

N.O.S. (MALEIMIDE), 8, II

## Specification

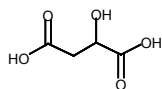
Assay (acidimetric) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 90 °C  
 Melting range (upper value) ..... ≤ 93 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20754.0010	Glass bottle	10 g	inquire

Maleimidobenzene → N-Phenylmaleimide page 1308

# Malica

## DL-Malic acid



C<sub>4</sub>H<sub>6</sub>O<sub>5</sub>  
DL-Hydroxysuccinic acid, Hydroxybutanedioic acid  
■ CAS-No. 6915-15-7 ■ EC-No. 230-022-8

■ Spec. density 1.60 g/cm<sup>3</sup> (20 °C)  
■ Flash point 203 °C ■ Solub. in H<sub>2</sub>O 558 g/l (20 °C) ■ M = 134.08 g/mol ■ pH value 2.3 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point >128 - 132 °C  
■ Bulk density 800 kg/m<sup>3</sup> ■ Ignition temp. 349 °C  
■ WGK 1  
■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338

■ LD50 oral rat > 3200 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2918 19 98 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
■ IATA-DGR No Dangerous Good

### 814737 DL-Malic acid for synthesis

#### Specification

Assay (acidimetric)..... ≥ 99.0 %  
Melting range (lower value)..... ≥ 128 °C  
Melting range (upper value)..... ≤ 132 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14737.1000	Plastic bottle	1 kg	inquire
8.14737.5000	Plastic bottle	5 kg	inquire

### 100382 DL-Malic acid for biochemistry

#### Specification

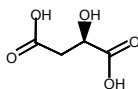
Assay (acidimetric)..... ≥ 99.5 %  
Identity (IR-spectrum)..... passes test  
Melting point..... 128 - 132 °C  
Optical rotation (20 %; water)..... -0.1 - 0.1 °  
Fe (Iron)..... ≤ 0.001 %  
Heavy metals (as Pb)..... ≤ 0.001 %

Related substances (HPLC) (Impurity A (fumaric acid))..... ≤ 1.0 %  
Related substances (HPLC) (Impurity B (maleic acid))..... ≤ 0.05 %  
Related substances (HPLC) (any other impurity)..... ≤ 0.1 %  
Related substances (HPLC) (Sum of all other

impurities)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.00382.0250	Plastic bottle	250 g	inquire
1.00382.1000	Plastic bottle	1 kg	inquire

## 800763 D-(+)-Malic acid for the resolution of racemates for synthesis



C<sub>4</sub>H<sub>6</sub>O<sub>5</sub>  
HOOCCH(OH)CH<sub>2</sub>COOH  
(R)-(+)-Malic acid  
■ CAS-No. 636-61-3 ■ EC-No. 211-262-2  
■ Solub. in H<sub>2</sub>O 364 g/l (20 °C) ■ M = 134.08 g/mol

mol ■ pH value 2.2 (10 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 101 - 104 °C  
■ Bulk density 600 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2918 19 98 ■ Disposal 3

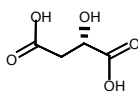
#### Specification

Assay (acidimetric)..... ≥ 99.0 % (m)

Melting range (lower value)..... ≥ 101 °C  
Melting range (upper value)..... ≤ 104 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=5 in pyridine)..... 27.0 - 30.0 °  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00763.0005	Plastic bottle	5 g	inquire

## 800384 L-(-)-Malic acid for resolution of racemates for synthesis



C<sub>4</sub>H<sub>6</sub>O<sub>5</sub>  
HOOCCH(OH)CH<sub>2</sub>COOH  
(S)-(-)-Malic acid  
■ CAS-No. 97-67-6 ■ EC-No. 202-601-5  
■ Spec. density 1.60 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 160 g/l (20 °C) ■ M = 134.08 g/mol  
■ pH value 2.2 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 101 - 104 °C  
■ Bulk density 600 kg/m<sup>3</sup>  
■ Boiling point 140 °C (decomposition)  
■ WGK 3  
■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2918 19 98 ■ Disposal 3

#### Specification

Assay (acidimetric)..... ≥ 99.0 % (m)  
Melting range (lower value)..... ≥ 101 °C  
Melting range (upper value)..... ≤ 104 °C

Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=5 in pyridine)..... -30.0 - -27.0 °  
Identity (IR)..... conforms

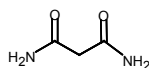
Ord.No.	Packaging	Quantity	Price
8.00384.0005	Plastic bottle	5 g	inquire
8.00384.0010	Plastic bottle	10 g	inquire
8.00384.0050	Plastic bottle	50 g	inquire
8.00384.0500	Plastic bottle	500 g	inquire

(R)-(+)-Malic acid → D-(+)-Malic acid page 1092  
(S)-(-)-Malic acid → L-(-)-Malic acid page 1092

L-(-)-Malic acid dimethyl ester → (S)-(-)-Dimethyl malate page 794  
DL-Malic acid disodium salt → di-Sodium DL-malate page 1446

Malic Acid Test → page 68

## 806190 Malonamide for synthesis



C<sub>3</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>  
CH<sub>2</sub>(CONH<sub>2</sub>)<sub>2</sub>  
Malonic acid diamide

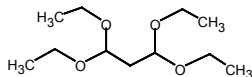
■ CAS-No. 108-13-4 ■ EC-No. 203-553-8  
■ Solub. in H<sub>2</sub>O 180 g/l (20 °C) ■ M = 102.09 g/mol  
■ Melting point 169 - 172 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2924 19 00 ■ Disposal 3

#### Specification

Assay (ex N)..... ≥ 98.0 % (m)  
Melting range (lower value)..... ≥ 168 °C  
Melting range (upper value)..... ≤ 173 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06190.0100	Plastic bottle	100 g	inquire

## 805797 Malondialdehyde bis (diethyl acetal) for synthesis



C<sub>11</sub>H<sub>24</sub>O<sub>4</sub>  
(C<sub>2</sub>H<sub>5</sub>O)<sub>2</sub>CHCH<sub>2</sub>CH(OC<sub>2</sub>H<sub>5</sub>)<sub>2</sub>  
1,1,3,3-Tetraethoxypropane, Malondialdehyde tetraethyl acetal  
■ CAS-No. 122-31-6 ■ EC-No. 204-533-1  
■ Refractive index 1.4105 (20 °C, 589 nm)  
■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C)

■ Flash point 78 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 220.31 g/mol  
■ Melting point -90 °C ■ Boiling point 220 °C (1013 hPa)  
■ WGK 3  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
■ LD50 oral rat 1610 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2911 00 00 ■ Disposal 3

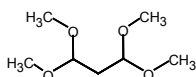
#### Specification

Assay (GC, area%)..... ≥ 95.0 Area %  
Density (d 20 °C/ 4 °C)..... 0,916 - 0,918  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.05797.0005	Glass bottle	5 ml	inquire
8.05797.0050	Glass bottle	50 ml	inquire
8.05797.0250	Glass bottle	250 ml	inquire



## 820756 Malondialdehyde bis(dimethyl acetal) for synthesis

C<sub>7</sub>H<sub>16</sub>O<sub>4</sub>(CH<sub>3</sub>O)<sub>2</sub>CHCH<sub>2</sub>CH(OCH<sub>3</sub>)<sub>2</sub>

1,1,3,3-Tetramethoxypropane, Malondialdehyde tetramethyl acetal

■ CAS-No. 102-52-3 ■ EC-No. 203-037-2

■ Refractive index 1.4067 (20 °C, 589 nm)

- Vapour pressure 1.7 hPa (20 °C)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C)
- Flash point 66 °C ■ Kin. viscosity 1.75 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 164.2 g/mol ■ pH value 7 (H<sub>2</sub>O)
- Boiling point 183 °C
- WGK 1
- LD50 oral rat 2440 mg/kg
- LGK 10
- HS-No. 2911 00 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.992 - 0.994  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20756.0005	Glass bottle	5 ml	inquire
8.20756.0250	Glass bottle	250 ml	inquire

Malondialdehyde tetraethyl acetal →

Malondialdehyde bis (diethyl acetal) page 1092

Malondialdehyde tetramethyl acetal →

Malondialdehyde bis(dimethyl acetal) page 1093

Malonic acid-di-tert-butylester → Di-tert-butyl malonate page 709

Malonic acid diamide → Malonamide page 1092

Malonic acid diethyl ester → Diethyl malonate page 748

Malonic acid dimethyl ester → Dimethyl malonate page 794

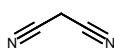
Malonic acid monoethyl ester potassium salt → Monoethyl malonate potassium salt page 1191

Malonic acid monomethyl ester potassium salt → Monomethyl malonate potassium salt page 1191

Malonic acid mononitrile → Cyanoacetic acid page 664

Malonodinitrile → Malononitrile page 1093

## 806189 Malononitrile for synthesis

C<sub>3</sub>H<sub>2</sub>N<sub>2</sub>NCCH<sub>2</sub>CN

Malonodinitrile

■ CAS-No. 109-77-3 ■ EC-No. 203-703-2

■ Vapour pressure 1 hPa (50 °C)

■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)■ Flash point 112 °C ■ Solub. in H<sub>2</sub>O 133 g/l

(20 °C) ■ M = 66.06 g/mol

■ Melting point 32 - 34 °C ■ Boiling point 220 °C (1013 hPa) ■ Ignition temp. 365 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P260, P273, P280, P304 + P340, P302 + P352, P309 + P310

■ LD50 oral rat 25 mg/kg ■ LD50 dermal rat 350 mg/kg

■ EC-Index-No. 608-009-00-7 ■ LGK 6.1A

■ HS-No. 2926 90 95 ■ Disposal 9

■ ADR-RID UN 2647 Malonitril, 6.1, II ■ IMDG-

Code UN 2647 MALONONITRILE, 6.1, II

■ IATA-DGR UN 2647 MALONONITRILE, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Melting range (lower value) ..... ≥ 30 °C  
 Melting range (upper value) ..... ≤ 33 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06189.0100	Glass bottle	100 g	inquire
8.06189.0250	Glass bottle	250 g	inquire

N,N'-Malonylurea → page 430

Malonylurea natrium salt → Sodium barbiturate page 1426

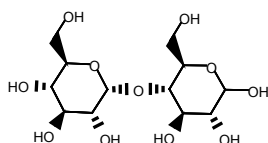
Maltene → 3-Hydroxy-2-methyl-4-pyranone page 989

Malt extract → page 111

Malt-extract agar → page 102

Malt extract broth → page 102

## 105912 Maltose monohydrate for biochemistry

C<sub>12</sub>H<sub>22</sub>O<sub>11</sub> \* H<sub>2</sub>O

■ CAS-No. 6363-53-7 ■ EC-No. 200-716-5

■ Solub. in H<sub>2</sub>O 1080 g/l (20 °C) ■ M = 360.32 g/mol ■ pH value 4.5 - 6.0 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 160 - 165 °C (anhydrous)

■ Bulk density 320 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13

■ HS-No. 1702 90 10 ■ Disposal 3

Maltose exhibits mutarotation: β-form from [α] 20°/D = + 111.7° to [α] 20°/D = + 130.4° at c = 4 in water

## Specification

Purity (HPLC) ..... ≥ 98.0 %

Identity (IR) ..... conforms

Spec. rotation [α<sup>20</sup>]/D (10 %; water; calc. on anhydrous substance) ..... 135 - 139 °

N (Nitrogen) ..... ≤ 0.1 %

Heavy metals (as Pb) ..... ≤ 0.001 %

Fe (Iron) ..... ≤ 0.0005 %

Methanol (HS-GC) ..... ≤ 3000 ppm

Residual solvents class 3

(Ph. Eur./ICH) ..... ≤ 0.5 %

Other residual solvents (Ph. Eur./ICH) ...excluded by production process

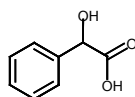
Glucose (HPLC) ..... ≤ 0.5 %

Sulfated ash ..... ≤ 0.1 %

Water ..... 5.0 - 5.5 %

Ord.No.	Packaging	Quantity	Price
1.05912.0025	Plastic bottle	25 g	inquire
1.05912.0100	Plastic bottle	100 g	inquire

## 806913 DL-Mandelic acid for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>C<sub>6</sub>H<sub>5</sub>CH(OH)COOH

DL-α-Hydroxyphenylacetic acid, Phenylglycollic acid

■ CAS-No. 611-72-3 ■ EC-No. 210-277-1

■ Spec. density 0.7 - 0.8 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 150 g/l (20 °C) ■ M = 152.15 g/mol

■ pH value 2.3 (10 g/l, H<sub>2</sub>O)

■ Melting point 117 - 120 °C

■ Bulk density 750 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Danger, Serious eye damage, Category 1, H318, P260, P280, P305 + P351 + P338, P313

■ LGK 10 - 13

■ HS-No. 2918 19 98 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 99.0 % (m)

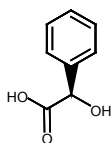
Melting range (lower value) ..... ≥ 116 °C

Melting range (upper value) ..... ≤ 121 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06913.0250	Plastic bottle	250 g	inquire
8.06913.1000	Plastic bottle	1 kg	inquire

## 806914 (R)-(-)-Mandelic acid for resolution of racemates for synthesis



$C_8H_8O_3$   
 $C_6H_5CH(OH)COOH$   
*D-Mandelic acid, D- $\alpha$ -Hydroxyphenylacetic acid*  
 ■ CAS-No. 611-71-2 ■ EC-No. 210-276-6

- Flash point >190 °C ■ Solub. in  $H_2O$  (20 °C) soluble ■ M = 152.15 g/mol
- pH value 2.1 (60 g/l,  $H_2O$ , 20 °C)
- Melting point 130 - 132 °C
- Bulk density 670 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P260, P280, P305 + P351 + P338
- LD50 oral rat 5000 mg/kg
- LGK 10 - 13
- HS-No. 2918 19 98 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99,0 %(m)  
 Melting range (lower value)..... ≥ 131 °C  
 Melting range (upper value)..... ≤ 134 °C  
 Spec. rotation [ $\alpha^20/D$  (c=2 in water).....  
 Identity (IR)..... -157,0 - -153,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06914.0025	Glass bottle	25 g	inquire
8.06914.0100	Glass bottle	100 g	inquire

## 806925 (S)-(+)-Mandelic acid for resolution of racemates for synthesis

$C_8H_8O_3$   
 $C_6H_5CH(OH)COOH$   
*L-Mandelic acid, L- $\alpha$ -Hydroxyphenylacetic acid*  
 ■ CAS-No. 17199-29-0 ■ EC-No. 241-240-8  
 ■ Flash point >190 °C ■ Solub. in  $H_2O$  (20 °C) soluble ■ M = 152.15 g/mol

- GHS: Danger, Serious eye damage, Category 1, H318, P280, P260, P305 + P351 + P338, P302 + P352, P313
- LGK 10 - 13
- HS-No. 2918 19 98 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99,0 %(m)  
 Melting range (lower value)..... ≥ 131 °C  
 Melting range (upper value)..... ≤ 134 °C

Spec. rotation [ $\alpha^20/D$  (c=2 in water).....  
 Identity (IR)..... 153,0 - 157,0 °  
 Identity (IR)..... conforms

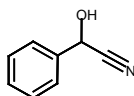
Ord.No.	Packaging	Quantity	Price
8.06925.0005	Glass bottle	5 g	inquire
8.06925.0025	Glass bottle	25 g	inquire

D-Mandelic acid → (R)-(-)-Mandelic acid page 1094

L-Mandelic acid → (S)-(+)-Mandelic acid page 1094

Mandelic acid ethyl ester → Ethyl mandelate page 874

## 819016 DL-Mandelic acid nitrile for synthesis



$C_8H_7NO$   
*Benzaldehyde cyanohydrin, DL- $\alpha$ -Hydroxyphenylacetone nitrile*  
 ■ CAS-No. 532-28-5 ■ EC-No. 208-532-7  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 86 °C ■ Solub. in  $H_2O$  < 1 g/l (20 °C)  
 ■ M = 133.15 g/mol ■ Melting point -10 °C

- Boiling point 170 °C (1013 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 116 mg/kg
- LGK 6.1A
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(MANDELSAEURENITRIL), 6.1, II ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID,

N.O.S.(MANDELONITRILE), 6.1, II  
 ■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(MANDELONITRILE), 6.1, II

## Specification

Assay (argentometric)..... ≥ 95,0 %(m)  
 Density (d 20 °C / 4 °C)..... 1,110 - 1,121  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.19016.0100	Glass bottle	100 ml	inquire
8.19016.0250	Glass bottle	250 ml	inquire

## 112237 Manganese powder 99+

Mn  
 ■ CAS-No. 7439-96-5 ■ EC-No. 231-105-1  
 ■ Spec. density 7.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  (20 °C) insoluble ■ M = 54.94 g/mol  
 ■ Melting point 1245 °C ■ Boiling point 2097 °C  
 ■ WGK nwg  
 ■ GHS: Warning, Flammable solid, Category 2, H228, P260  
 ■ LD50 oral rat 9000 mg/kg  
 ■ LGK 4.1B

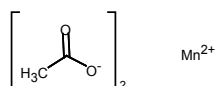
- HS-No. 8111 00 11 ■ Disposal 27
- ADR-RID UN 3089 Entzündbares Metallpulver, n.a.g., 4.1, III ■ IMDG-Code UN 3089 METAL POWDER, FLAMMABLE, N.O.S., 4.1, III, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 15 (Powdered metals)
- IATA-DGR UN 3089 METAL POWDER, FLAMMABLE, N.O.S., 4.1, III

## Specification

Identity (elemental analysis)..... conforms  
 Assay (complexometric)..... ≥ 99,0 %(m)  
 Particle size (< 100  $\mu$ m)..... ≥ 90 %

Ord.No.	Packaging	Quantity	Price
1.12237.0250	Plastic bottle	250 g	inquire

## 843828 Manganese(II) acetate (anhydrous) for synthesis



$C_4H_6MnO_4$   
 $(CH_3COO)_2Mn$

- CAS-No. 638-38-0 ■ EC-No. 211-334-3
- M = 173.03 g/mol ■ pH value ( $H_2O$ ) no data available
- WGK 1
- LGK 10 - 13
- HS-No. 2915 29 00 ■ Disposal 14

## Specification

Assay (complexometric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43828.0025	Plastic bottle	25 g	inquire
8.43828.0100	Plastic bottle	100 g	inquire

## 843487 Manganese(II)acetate tetrahydrate for synthesis

$C_4H_6MnO_4 \cdot 4H_2O$   
 $(CH_3COO)_2Mn \cdot 4H_2O$   
 ■ CAS-No. 6156-78-1 ■ EC-No. 211-334-3  
 ■ Spec. density 1.59 g/cm<sup>3</sup> ■ Solub. in  $H_2O$  330 g/l (20 °C) ■ pH value 7.0 (50 g/l,  $H_2O$ , 20 °C)  
 ■ Bulk density 700 kg/m<sup>3</sup>  
 ■ WGK 1

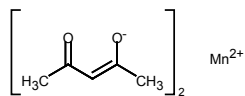
- LD50 oral rat 3730 mg/kg
- LGK 10 - 13
- HS-No. 2915 29 00 ■ Disposal 14

## Specification

Assay (complexometric)..... ≥ 99,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43487.0025	Glass bottle	25 g	inquire
8.43487.0250	Plastic bottle	250 g	inquire

## 805922 Manganese(II) acetylacetonate for synthesis

C<sub>10</sub>H<sub>14</sub>MnO<sub>4</sub>

Bis(acetylacetonato)manganese(II), Bis(2,4-pentanedionato)manganese(II)

- CAS-No. 14024-58-9 ■ EC-No. 237-858-2
- Solub. in H<sub>2</sub>O 11.5 g/l (20 °C) ■ M = 253.16 g/mol
- Bulk density 550 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2914 19 90 ■ Disposal 14

## Specification

Assay (out of Mn)..... ≥ 98 %  
Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05922.0100	Glass bottle	100 g	inquire

Manganese carbonyl → di-Manganese decacarbonyl page 1095

Manganese Cell Test → page 69

## 805930 Manganese(II) chloride for synthesis

Cl<sub>2</sub>Mn  
MnCl<sub>2</sub>

## Manganese dichloride

- CAS-No. 7773-01-5 ■ EC-No. 231-869-6
- Spec. density 2.977 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 723 g/l (25 °C) ■ M = 125.84 g/mol
- pH value 5.5 (25 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 650 °C ■ Boiling point 1190 °C
- WGK 1
- GHS: Danger, Chronic aquatic toxicity, Category

- 2, H411; Acute toxicity, Category 3, Oral, H301, P273, P309 + P310
- LD50 oral rat 250 mg/kg
- LGK 6.1 D
- HS-No. 2827 39 85 ■ Disposal 15
- ADR-RID UN 3288 Giftiger anorganischer fester Stoff, n.a.g.(MANGAN(II)-CHLORID), 6.1, III
- IMDG-Code UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(MANGANESE(II) CHLORIDE), 6.1, III
- IATA-DGR UN 3288 TOXIC SOLID, INORGANIC,

N.O.S.(MANGANESE(II) CHLORIDE), 6.1, III

## Specification

Assay (out of Mn)..... ≥ 96.0 %(m)

Ord.No.	Packaging	Quantity	Price
8.05930.0100	Glass bottle	100 g	inquire
8.05930.0500	Glass bottle	500 g	inquire

## 105934 Manganese(II) chloride dihydrate for analysis EMSURE®

Cl<sub>2</sub>Mn \* 2 H<sub>2</sub>O  
MnCl<sub>2</sub> \* 2 H<sub>2</sub>O

## Manganese dichloride

- CAS-No. 20603-88-7 ■ EC-No. 231-869-6
- Spec. density 2.27 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1200 g/l (20 °C) ■ M = 161.87 g/mol
- pH value 5 - 6 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 650 °C (anhydrous substance)
- Bulk density 850 kg/m<sup>3</sup>
- Boiling point 1190 °C (anhydrous substance)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 250 mg/kg

- LGK 10 - 13
- HS-No. 2827 39 85 ■ Disposal 14
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(MANGAN(II)-CHLORID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(MANGANESE(II) CHLORIDE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(MANGANESE(II) CHLORIDE), 9, III

## Specification

Assay (complexometric) ..... ≥ 99.0 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.002 %  
Ca (Calcium) ..... ≤ 0.001 %

Cu (Copper) ..... ≤ 0.0005 %  
Fe (Iron) ..... ≤ 0.0005 %  
K (Potassium) ..... ≤ 0.001 %  
Mg (Magnesium) ..... ≤ 0.005 %  
Na (Sodium) ..... ≤ 0.005 %  
Ni (Nickel) ..... ≤ 0.0005 %  
Pb (Lead) ..... ≤ 0.0005 %  
Zn (Zinc) ..... ≤ 0.001 %  
Substances reducing potassium permanganate ..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.05934.0100	Plastic bottle	100 g	inquire
1.05934.1000	Plastic bottle	1 kg	inquire

## 105927 Manganese(II) chloride tetrahydrate for analysis EMSURE® ACS

Cl<sub>2</sub>Mn \* 4 H<sub>2</sub>O  
MnCl<sub>2</sub> \* 4 H<sub>2</sub>O

## Manganese dichloride

- CAS-No. 13446-34-9 ■ EC-No. 231-869-6
- Spec. density 2.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1980 g/l (20 °C) ■ M = 197.91 g/mol
- pH value 3.5 - 6 (50 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 650 °C (anhydrous substance)
- Bulk density 1150 kg/m<sup>3</sup> ■ Boiling point 1190 °C (1013 hPa) (anhydrous substance)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 1484 mg/kg
- LGK 10 - 13
- HS-No. 2827 39 85 ■ Disposal 14

- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(MANGAN(II)-CHLORID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(MANGANESE(II) CHLORIDE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(MANGANESE(II) CHLORIDE), 9, III

## Specification

Assay (complexometric) ..... 99.0 - 101.0 %  
Insoluble matter ..... ≤ 0.005 %  
pH-value (5 %; water; 25 °C) ..... 3.5 - 6.0  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.002 %  
Heavy metals (as Pb) ..... ≤ 0.0005 %  
Ca (Calcium) ..... ≤ 0.001 %  
Cu (Copper) ..... ≤ 0.0005 %

Fe (Iron) ..... ≤ 0.0005 %  
K (Potassium) ..... ≤ 0.001 %  
Mg (Magnesium) ..... ≤ 0.005 %  
Na (Sodium) ..... ≤ 0.005 %  
Pb (Lead) ..... ≤ 0.0005 %  
Zn (Zinc) ..... ≤ 0.001 %  
Substances not precipitated by ammonium sulfide (as SO<sub>4</sub>) ..... ≤ 0.2 %  
Substances reducing potassium permanganate (as O) ..... ≤ 0.0005 %  
Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.05927.0100	Plastic bottle	100 g	inquire
1.05927.1000	Plastic bottle	1 kg	inquire

## 820760 di-Manganese decacarbonyl for synthesis

C<sub>10</sub>Mn<sub>2</sub>O<sub>10</sub>  
Mn<sub>2</sub>(CO)<sub>10</sub>

## Decacarbonyldimanganese, Manganese carbonyl

- CAS-No. 10170-69-1 ■ EC-No. 233-445-6
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 389.98 g/mol
- Melting point 152 °C
- WGK 3
- LGK 6.1A ■ Store at +2°C to +8°C.
- HS-No. 2931 90 90 ■ Disposal 14

- ADR-RID UN 3467 Metallorganische Verbindung, fest, giftig, n.a.g.(DI-MANGANDECARBONYL), 6.1, II ■ IMDG-Code UN 3467 ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S.(DI-MANGANESE DECACARBONYL), 6.1, II
- IATA-DGR UN 3467 ORGANOMETALLIC COMPOUND, SOLID, TOXIC, N.O.S.(DI-MANGANESE DECACARBONYL), 6.1, II

## Specification

Assay (out of Mn) ..... ≥ 98.0 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20760.0001	Glass bottle	1 g	inquire

Manganese, determination → Sodium diethyldithiocarbamate trihydrate page 1432

Manganese dichloride → Manganese(II) chloride page 1095

Manganese dioxide → page 1096

# Mangan

## 105940 Manganese(II) nitrate tetrahydrate for analysis EMSURE®



MnN<sub>2</sub>O<sub>6</sub> \* 4 H<sub>2</sub>O  
 Mn(NO<sub>3</sub>)<sub>2</sub> \* 4 H<sub>2</sub>O  
 ■ CAS-No. 20694-39-7 ■ EC-No. 233-828-8  
 ■ Spec. density 2.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 3800 g/l (20 °C) ■ M = 251.01 g/mol  
 ■ pH value 3 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 37 °C  
 ■ Bulk density 750 - 950 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Oxidising solid, Category 3, H272  
 ■ LGK 5.1B  
 ■ HS-No. 2834 29 80 ■ Disposal 14  
 ■ ADR-RID UN 2724 Mangannitrat, 5.1, III

■ IMDG-Code UN 2724 MANGANESE NITRATE, 5.1, III  
 ■ IATA-DGR UN 2724 MANGANESE NITRATE, 5.1, III  
**Specification**  
 Assay (complexometric) ..... ≥ 98.5 %  
 pH-value (5 %; water)..... 2.8 - 3.6  
 Chloride (Cl)..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.05 %  
 Ca (Calcium)..... ≤ 0.001 %  
 Cu (Copper)..... ≤ 0.0005 %

Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.005 %  
 Mg (Magnesium)..... ≤ 0.005 %  
 Na (Sodium)..... ≤ 0.005 %  
 Ni (Nickel)..... ≤ 0.0005 %  
 Pb (Lead)..... ≤ 0.001 %  
 Zn (Zinc)..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.05940.0500	Plastic bottle	500 g	inquire
1.05940.1000	Plastic bottle	1 kg	inquire
1.05940.5000	Plastic bottle	5 kg	inquire

## Manganese(IV) oxide



MnO<sub>2</sub>  
*Manganese dioxide, Pyrolusite*  
 ■ CAS-No. 1313-13-9 ■ EC-No. 215-202-6  
 ■ Vapour pressure (20 °C) not applicable  
 ■ Spec. density 5.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 86.94 g/mol  
 ■ pH value (H<sub>2</sub>O) not applicable  
 ■ Bulk density 600 - 800 kg/m<sup>3</sup>  
 ■ WGK 1

■ GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P221  
 ■ LD50 oral rat > 3478 mg/kg  
 ■ EC-Index-No. 025-001-00-3 ■ LGK 5.1 B  
 ■ HS-No. 2602 00 00 ■ Disposal 22  
 ■ ADR-RID UN 1479 Entzündend (oxidierend) wirkender fester Stoff, n.a.g.(MANGAN(IV)-OXID),

5.1, II ■ IMDG-Code UN 1479 OXIDIZING SOLID, N.O.S.(MANGANESE(IV)OXIDE), 5.1, II  
 ■ IATA-DGR UN 1479 OXIDIZING SOLID, N.O.S.(MANGANESE(IV)OXIDE), 5.1, II  
 Starting compound for other manganese compounds, preparation of chlorine and oxygen, in flashlight cells.

## 105957 Manganese(IV) oxide powder

**Specification**  
 Assay (manganometric)..... ≥ 89.0 %  
 Substances insoluble in hydrochloric acid.. ≤ 5.0 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.1 %  
 Ba (Barium)..... ≤ 1.0 %

Ca (Calcium)..... ≤ 1.0 %  
 Fe (Iron)..... ≤ 1.5 %  
 Loss on drying (105 °C)..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.05957.1000	Glass bottle	1 kg	inquire

## 805958 Manganese(IV) oxide (precipitated active) for synthesis

**Specification**  
 Assay (iodometric, calc. on dried substance)..... ≥ 90.0 %  
 Loss on drying..... ≤ 3.5 %  
 Oxidation Activity..... passes test

Ord.No.	Packaging	Quantity	Price
8.05958.0100	Plastic bottle	100 g	inquire
8.05958.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.05958.9050	Fibre carton	50 kg	inquire

## 109988 Manganese standard 1000 mg Mn, (MnCl<sub>2</sub> in H<sub>2</sub>O) Titrisol®

■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Chronic aquatic toxicity, Category 3, H412, P273  
 ■ LGK 10 - 13

■ HS-No. 2827 39 85 ■ Disposal 28  
**Specification**  
 content (Mn) ..... 1000 mg / Ampoule  
 Determination method:Complexometric titration. (traceable of NIST - SRM 682) Accuracy of the

method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09988.0001	Plastic ampoule	1 amp	inquire

Manganese standard for aqueous matrices →  
 Manganese standard page 1096

Manganese standard for aqueous matrices ready  
 for use → page 1469

## 105941 Manganese(II) sulfate monohydrate spray-dried for analysis EMSURE® ACS, Reag. Ph Eur



MnO<sub>4</sub>S \* H<sub>2</sub>O  
 MnSO<sub>4</sub> \* H<sub>2</sub>O  
 ■ CAS-No. 10034-96-5 ■ EC-No. 232-089-9  
 ■ Spec. density 2.95 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 762 g/l (20 °C) ■ M = 169.02 g/mol  
 ■ pH value 3.0 - 3.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 700 °C (anhydrous substance)  
 ■ Bulk density 1000 - 1200 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273  
 ■ LD50 oral rat 2150 mg/kg  
 ■ EC-Index-No. 025-003-00-4 ■ LGK 10 - 13  
 ■ HS-No. 2833 29 80 ■ Disposal 14  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(MANGAN(II)-SULFAT), 9, III ■ IMDG-

Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(MANGANESE(II)-SULPHATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(MANGANESE(II)-SULPHATE), 9, III  
**Specification**  
 Assay (complexometric, MnSO<sub>4</sub>·H<sub>2</sub>O)..... 98.0 - 101.0 %  
 Assay (complexometric, calc. on the ignited basis).. 99.0 - 101.0 %  
 Identity..... passes test  
 Appearance of solution ..... passes test  
 Insoluble matter..... ≤ 0.01 %  
 Chloride (Cl)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.001 %

Ca (Calcium)..... ≤ 0.005 %  
 Cu (Copper)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.001 %  
 K (Potassium)..... ≤ 0.005 %  
 Mg (Magnesium)..... ≤ 0.005 %  
 Na (Sodium)..... ≤ 0.005 %  
 Ni (Nickel)..... ≤ 0.0005 %  
 Pb (Lead)..... ≤ 0.001 %  
 Zn (Zinc)..... ≤ 0.005 %  
 Substances reducing potassium permanganate..... passes test  
 Loss on ignition (500 °C) ..... 10.0 - 12.0 %

Ord.No.	Packaging	Quantity	Price
1.05941.0250	Plastic bottle	250 g	inquire
1.05941.9025	Fibre carton	25 kg	inquire

## 102786 Manganese(II) sulfate tetrahydrate for analysis EMSURE®

MnO<sub>4</sub>S \* 4 H<sub>2</sub>OMnSO<sub>4</sub> \* 4 H<sub>2</sub>O

- CAS-No. 10101-68-5 ■ EC-No. 232-089-9
- Spec. density 2.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 223.06 g/mol
- pH value 4.5 - 6.0 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 26 - 27 °C
- Bulk density 1000 - 1200 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P314
- LD50 oral rat 2150 mg/kg
- EC-Index-No. 025-003-00-4 ■ LGK 10 - 13
- Store at +15°C to +25°C.

- HS-No. 2833 29 80 ■ Disposal 14
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(MANGAN(II)-SULFAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(MANGANESE(II)-SULPHATE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(MANGANESE(II)-SULPHATE), 9, III

**Specification**

- Assay (complexometric) ..... ≥ 98.5 %
- pH-value (5 %; water) ..... 4.5 - 6.0
- Chloride (Cl) ..... ≤ 0.001 %
- Ca (Calcium) ..... ≤ 0.005 %

Cu (Copper).....	≤ 0.0002 %
Fe (Iron).....	≤ 0.0005 %
K (Potassium).....	≤ 0.002 %
Mg (Magnesium).....	≤ 0.01 %
Na (Sodium).....	≤ 0.005 %
Ni (Nickel).....	≤ 0.002 %
Pb (Lead).....	≤ 0.0002 %
Zn (Zinc).....	≤ 0.002 %
Oxidizing matter.....	passes test
Reducing substances.....	passes test

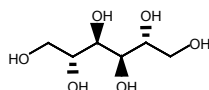
Ord.No.	Packaging	Quantity	Price
1.02786.1000	Plastic bottle	1 kg	inquire
1.02786.9025	Fibre carton	25 kg	inquire

Manganese Test → page 69

Manganese Test Refill pack → page 69

Mann and Yoe's magnesium reagent → Magnesium reagent page 1089

## 105983 D(-)-Mannitol for the determination of boric acid

C<sub>6</sub>H<sub>14</sub>O<sub>6</sub>

- CAS-No. 69-65-8 ■ EC-No. 200-711-8
- Spec. density 1.49 g/cm<sup>3</sup> (20 °C)
- Kin. viscosity (20 °C) not applicable ■ Solub. in H<sub>2</sub>O 213 g/l (25 °C) ■ M = 182.17 g/mol
- pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)

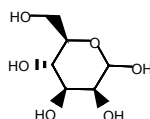
- Melting point 164 - 169 °C
- Bulk density 400 - 500 kg/m<sup>3</sup>
- Boiling point 290 - 295 °C (4 hPa)
- Ignition temp. 410 °C
- WGK nwg
- LD50 oral rat 13500 mg/kg
- LGK 10 - 13
- HS-No. 2905 43 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

- Identity (IR-spectrum) ..... passes test
- Melting range (beginning) ..... ≥ 164 °C
- Melting range (end) ..... ≤ 169 °C
- Suitability for boric acid determination. passes test

Ord.No.	Packaging	Quantity	Price
1.05983.0250	Plastic bottle	250 g	inquire
1.05983.1000	Plastic bottle	1 kg	inquire

## 105388 D(+)-Mannose for biochemistry

C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>

- CAS-No. 3458-28-4 ■ EC-No. 222-392-4
- Spec. density 1.54 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 713 g/l (17 °C) (experimental)

- M = 180.15 g/mol ■ pH value 7 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 133 °C
- Bulk density 100 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2940 00 00 ■ Disposal 3
- D(+)-Mannose exhibits mutarotations: α-form from [α] 20°/D = + 29.3°, β-form from [α] 20°/D = - 17.0°, to [α] 20°/D = 14.2° at c = 4 in water.

**Specification**

- Purity (HPLC) ..... ≥ 98.0 %
- Identity (IR) ..... conforms
- Spec. rotation [α<sub>D</sub><sup>20</sup>] (5 %; water) ..... 13.8 - 14.4 °
- Heavy metals (as Pb) ..... ≤ 0.001 %
- Water ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.05388.0025	Glass bottle	25 g	inquire
1.05388.0100	Plastic bottle	100 g	inquire

manu-CART® → page 35

manu-CART® "10"-II cartridge holder for LiChroCART® 10 mm i.d. HPLC-cartridges → page 35

manu-CART® 30 mm cartridge holder for LiChroCART® 30-2, 30-3 and 30-4 mm HPLC-cartridges → page 35

manu-CART® 55 mm cartridge holder for LiChroCART® 55-2, 55-3 and 55-4 mm HPLC-cartridges → page 35

manu-CART® cartridge holder for LiChroCART® 25-4 HPLC cartridges → page 35  
manu-CART® Coupling kit for LiChroCART® 25-4 HPLC- cartridges → page 35manu-CART® Coupling unit for the coupling of two LiChroCART® HPLC cartridges → page 35  
manu-CART® NT cartridge holder for LiChroCART® 2,3,4,4.6 mm i.d. HPLC cartridges → page 35105986 Marble granular for producing CO<sub>2</sub>CCaO<sub>3</sub>CaCO<sub>3</sub>

- CAS-No. 471-34-1 ■ EC-No. 207-439-9
- Solub. in H<sub>2</sub>O 0.014 g/l (20 °C) ■ M = 100.09 g/mol ■ pH value 9.5 - 10.5 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 825 °C (decomposition)
- Bulk density 400 - 1400 kg/m<sup>3</sup>

- WGK nwg
- LD50 oral rat 6450 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- HS-No. 2517 41 00 ■ Disposal 14
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

- Identity ..... passes test
- Particle size (0.5-2 mm) ..... ≥ 95 %

Ord.No.	Packaging	Quantity	Price
1.05986.1000	Plastic bottle	1 kg	inquire
1.05986.5000	Plastic bottle	5 kg	inquire

MARSHALL perfringens selective agar → page 105

Masson-Goldner staining kit → page 202

## Matrix modifier

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation			
	166	105813	Magnesium matrix modifier		166	107289	Palladium matrix modifier		166	107290	Phosphate modifier
	Mayer's hemalum solution → page 201			MBA → page 1150			MBTH → 3-Methyl-2-benzothiazolinone-hydrazonehydrochloride page 1134				
	May-Grünwald's eosine-methylene blue solution modified → page 199			MBHA resin HL (100-200 mesh) . HCl → page 266			Mca NovaTag™ resin → page 260				
	May-Grünwald's eosin methylene blue → page 191			MBHA resin LL (100-200 mesh). HCl → page 266			Mca-OH → page 260				



# Mcolor

## MColortest™ for Medium Concentrations

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
49	111109	Alkalinity Test	63	114651	Copper Test in freshwater and seawater	79	114661	Phosphate Test in freshwater and seawater
49	111117	Ammonium Test				79	108046	Phosphate Test Refill pack
50	108024	Ammonium Test	90	114901	Flat-bottomed long tubes with screw caps	77	108038	pH Test
49	114657	Ammonium Test in freshwater and seawater	90	117988	Flat-bottomed tubes with screw caps	77	108027	pH Test
90	111165	Areometer				58	111116	pH Test
53	111110	Calcium Test	90	114902	Flat-bottomed tubes with screw caps	77	114669	pH Test for swimming pools
54	111103	Carbonate Hardness Test				77	118773	pH Test in freshwater and seawater
54	108048	Carbonate Hardness Test	64	118771	Fluoride Test			
54	114653	Carbonate Hardness Test in freshwater and seawater	64	108028	Formaldehyde Test	77	108043	pH Test Refill pack
			65	108017	Hydrazine Test	81	111142	Residual Hardness Test
54	111132	Chloride Test	66	111136	Iron Test	82	108045	Silicate (Silicic Acid) Test Refill pack
54	111106	Chloride Test	66	114660	Iron Test in freshwater and seawater			
57	111160	Chlorine and pH Test				84	111148	Sulfite Test
58	111174	Chlorine and pH Test	66	108023	Iron Test Refill pack	90	117989	Test vessels
58	111143	Chlorine and pH Test Refill pack Reagent pH-1	68	111131	Magnesium Test	87	108312	Total Hardness Test
			71	111170	Nitrate Test	87	111104	Total Hardness Test
58	111157	Chlorine and pH Test Refill pack Reagents for chlorine (Cl <sub>2</sub> -1, Cl <sub>2</sub> -2, Cl <sub>2</sub> -3)	71	111169	Nitrate Test in freshwater	87	108047	Total Hardness Test
			72	108025	Nitrite Test	87	108039	Total Hardness Test
			72	110057	Nitrite Test	87	114652	Total Hardness Test in freshwater
58	111113	Chlorine Test	72	114658	Nitrite Test in freshwater and seawater			
58	111114	Chlorine Test				87	111141	Total Hardness Test Reagent H-2 (titration solution) Refill pack
58	111115	Chlorine Test	74	114663	Oxygen Reaction Bottle			
55	114670	Chlorine Test in freshwater and seawater	74	117117	Oxygen Test			
			74	111107	Oxygen Test	87	108033	Total Hardness Test Refill pack
65	108018	Color-matching vessel Hydrazine	74	114662	Oxygen Test in freshwater and seawater	87	108040	Total Hardness Test Refill pack
						87	111122	Total Hardness Test Refill pack Reagent H-1 (indicator solution)
90	111102	Compact Laboratory for Aquaristics	74	111152	Oxygen Test Refill pack			
			79	111138	Phosphate Test			
90	111151	Compact Laboratory for Water Testing				87	108203	Total Hardness Test Refill pack Reagent H-2 (titration solution)

## MColortest™ for Medium to High Concentrations

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
49	118386	Aluminium Test	59	118456	Chromate Test Refill pack	74	118758	Ozone Test
49	118452	Aluminium Test Refill pack	63	114765	Copper Test	74	118759	Ozone Test Refill pack
50	114750	Ammonium Test	63	118459	Copper Test Refill pack	79	114846	Phosphate Test
51	118455	Ammonium Test Refill pack	63	114798	Cyanide Test	79	118388	Phosphate Test
54	114753	Chloride Test	63	118457	Cyanide Test Refill pack	79	118466	Phosphate Test Refill pack
55	118322	Chloride Test Refill pack	90	117988	Flat-bottomed tubes with screw caps	79	118465	Phosphate-Test Refill pack
58	118756	Chlorine Dioxide Test				82	114792	Silicate (Silicic Acid) Test
58	118757	Chlorine Dioxide Test Refill pack	65	117046	Free Fatty Acids	82	118323	Silicate (Silicic Acid) Test Refill pack
			66	114759	Iron Test			
56	114826	Chlorine Test	67	118458	Iron Test Refill pack	84	118389	Sulfate Test
56	114801	Chlorine Test	69	114768	Manganese Test	83	118467	Sulfate Test Refill pack
56	114976	Chlorine Test	69	118460	Manganese Test Refill pack	84	114777	Sulfide Test
56	114978	Chlorine Test	70	114783	Nickel Test	84	118468	Sulfide Test Refill pack
56	114977	Chlorine Test Refill pack	70	118461	Nickel Test Refill pack	88	114843	Urea Test for swimming pools
56	114803	Chlorine Test Refill pack	71	118387	Nitrate Test	88	114845	Urea Test in swimming pool Refill pack
56	118326	Chlorine Test Refill pack	71	118462	Nitrate Test Refill pack			
56	114979	Chlorine Test Refill pack	72	114774	Nitrite Test	88	114780	Zinc Test
59	114756	Chromate Test	72	118463	Nitrite Test Refill pack	89	114782	Zinc Test Refill pack

## MColortest™ for Very Low to Medium Concentrations

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
49	114413	Aluminium Test	63	114414	Copper Test	72	114424	Nitrite Test
49	118452	Aluminium Test Refill pack	63	114418	Copper Test	72	118463	Nitrite Test Refill pack
50	114400	Ammonium Test	63	118459	Copper Test Refill pack	74	118755	Ozone Test
50	114423	Ammonium Test	63	114417	Cyanide Test	74	118759	Ozone Test Refill pack
50	114428	Ammonium Test	63	114429	Cyanide Test	79	114449	Phosphate Test
51	118455	Ammonium Test Refill pack	63	118457	Cyanide Test Refill pack	79	118466	Phosphate Test Refill pack
54	114401	Chloride Test	67	114403	Iron Test	79	118465	Phosphate-Test Refill pack
58	118754	Chlorine Dioxide Test	67	114404	Iron Test	82	114410	Silicate (Silicic Acid) Test
58	118757	Chlorine Dioxide Test Refill pack	67	114438	Iron Test	82	118323	Silicate (Silicic Acid) Test Refill pack
			67	118458	Iron Test Refill pack			
56	114434	Chlorine Test	69	114406	Manganese Test	83	114411	Sulfate Test
56	114977	Chlorine Test Refill pack	69	118460	Manganese Test Refill pack	83	118467	Sulfate Test Refill pack
59	114402	Chromate Test	70	114420	Nickel Test	84	114416	Sulfide Test
59	114441	Chromate Test	70	118461	Nickel Test Refill pack	84	118468	Sulfide Test Refill pack
59	118456	Chromate Test Refill pack	72	114408	Nitrite Test	89	114412	Zinc Test
62	114421	Color Test				89	114782	Zinc Test Refill pack

MCP → m-Cresol purple page 658

Meat extract → page 111

Meat-liver agar → page 102

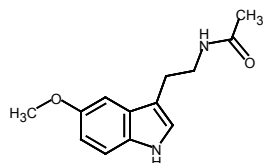
MDEB → (-)-N-Dodecyl-N-methylephedrinium  
bromide page 829

Meat industry → Hygiene monitoring

## Media for density-gradient centrifugation

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
165	102039	Cesium chloride	165	106363	Sodium bromide			
Medronic acid → Methylenebisphosphonic acid page 1150			MEK → page 303			Melaniline → 1,3-Diphenylguanidine page 817		
MEGA-8 → Octanoyl-N-methylglucamide page 1243			Melamine → 2,4,6-Triamino-1,3,5-triazine page 1573					
MEHQ → 4-Methoxyphenol page 1123			Melampyrit → page 111					

## 814537 Melatonin for synthesis

C<sub>13</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>*N*-Acetyl-5-methoxytryptamine

- CAS-No. 73-31-4 ■ EC-No. 200-797-7
- M = 232.28 g/mol ■ Melting point 116 - 118 °C
- WGK 2
- LD50 oral rat > 3200 mg/kg
- LGK 10 - 13
- HS-No. 2937 90 00 ■ Disposal 3

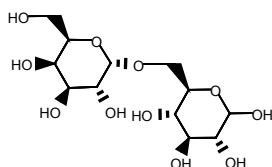
## Specification

Assay (HPLC, area%) ..... ≥ 99,0 Area %

Melting range (lower value)..... ≥ 116 °C  
Melting range (upper value)..... ≤ 118 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14537.0001	Glass bottle	1 g	inquire
8.14537.0005	Glass bottle	5 g	inquire

## 112240 Melibiose monohydrate for biochemistry

C<sub>12</sub>H<sub>22</sub>O<sub>11</sub> \* H<sub>2</sub>O

- CAS-No. 66009-10-7 ■ EC-No. 209-568-6
- Solub. in H<sub>2</sub>O 2500 g/l (25 °C) ■ M = 360.32 g/mol
- Melting point 179 - 181 °C
- WGK 1
- HS-No. 2940 00 00 ■ Disposal 3

## Specification

Purity (HPLC)..... ≥ 98,0 %  
Identity (IR-spectrum)..... conforms  
Spec. rotation (α<sub>20</sub>/D, 50 g/l, water, calc. onanhydrous substance)..... 141,0 - 143,0 °  
Saccharose (HPLC)..... ≤ 0,1 %  
Water (according to Karl Fischer)..... 3,5 - 5,0 %

Ord.No.	Packaging	Quantity	Price
1.12240.0005	Glass bottle	5 g	inquire
1.12240.0025	Glass bottle	25 g	inquire

Melitose → Raffinose pentahydrate page 1399

Melting Alloy → Devarda's alloy page 690

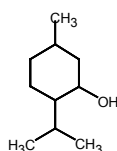
Membrane filtration Enterococcus selective agar →  
page 102

Membrane filtration rinse fluid → page 102

DL-p-Mentha-1,8-diene → DL-Limonene page 1077

(+)p-Mentha-1,8-diene → (R)-(+)-Limonene page  
1077(-)p-Mentha-1,8-diene → (S)-(-)-Limonene page  
1078(R)-(-)p-Mentha-6,8-dien-2-one → (R)-(-)-  
Carvone page 583(S)-(+)-p-Mentha-6,8-dien-2-one → (S)-(+)-  
Carvone page 583p-Menth-1-en-8-ol → (S)-(-)-α-Terpineol page  
1521(R)-(+)-p-Menth-4(8)-en-3-one → (R)-(+)-  
Pulegone page 1379

## 818452 DL-Menthol for synthesis

C<sub>10</sub>H<sub>20</sub>O*Hexahydrothymol*, 2-*Isopropyl*-5-  
*methylcyclohexanol*

■ CAS-No. 89-78-1 ■ EC-No. 201-939-0

- Refractive index 1.4615 (20 °C, 589 nm)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C)
- Flash point 96 °C ■ Solub. in H<sub>2</sub>O 456 mg/l (25 °C) ■ M = 156.27 g/mol
- Melting point 31 - 34 °C ■ Boiling point 212 °C (1013 hPa)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315, P262, P302 + P352
- LD50 oral rat 3180 mg/kg
- LGK 10 - 13

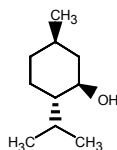
■ HS-No. 2906 11 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Melting range (lower value)..... ≥ 31 °C  
Melting range (upper value)..... ≤ 35 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18452.0100	Glass bottle	100 g	inquire

## 814113 (-)-Menthol for synthesis

C<sub>10</sub>H<sub>20</sub>O2-*Isopropyl*-5-*methylcyclohexanol*■ CAS-No. 2216-51-5 ■ EC-No. 218-690-9  
■ Spec. density 0.890 g/cm<sup>3</sup> (20 °C)

- Flash point 101 °C ■ Solub. in H<sub>2</sub>O 490 mg/l (25 °C) ■ M = 156.26 g/mol
- Melting point 41 - 44 °C ■ Bulk density 450 kg/m<sup>3</sup> ■ Boiling point 216 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315, P262, P302 + P352
- LD50 oral rat 3300 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2906 11 00 ■ Disposal 3

## Specification

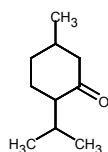
Assay (GC, area%)..... ≥ 99,0 Area %  
Melting range (lower value)..... ≥ 41 °C  
Melting range (upper value)..... ≤ 44 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=10 in ethanol)..... -50,0 -  
-48,0 °  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14113.0100	Plastic bottle	100 g	inquire



# Mentho

## 841059 (-)-Menthone for synthesis



C<sub>10</sub>H<sub>18</sub>O  
(2*S*,5*R*)-(-)-2-Isopropyl 5-

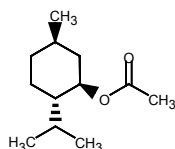
*menthylcyclohexanone, 2*S*-trans-5-Methyl-2-(1-methylethyl)cyclohexanone*  
 ■ CAS-No. 14073-97-3 ■ EC-No. 237-926-1  
 ■ Spec. density 0.894 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 72 °C ■ M = 154.25 g/mol  
 ■ Boiling point 208 - 210 °C  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2914 29 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0.890 - 0.895  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41059.0025	Glass bottle	25 ml	inquire

## 816147 (R)-(-)-Menthyl acetate for synthesis



C<sub>12</sub>H<sub>22</sub>O<sub>2</sub>  
 ■ CAS-No. 2623-23-6 ■ EC-No. 220-076-0

■ Spec. density 0.925 g/cm<sup>3</sup> ■ Flash point 77 °C  
 ■ M = 198.3 g/mol ■ Boiling point 229.5 °C  
 ■ WGK 2  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2915 39 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 97,0 Area %

Density (d 20 °C/ 4 °C) .....0,923 - 0,928  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=8 in chloroform) ... -93,0 -  
 -83,0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16147.0010	Glass bottle	10 ml	inquire
8.16147.0100	Glass bottle	100 ml	inquire

**Mercaptans** → Sulfur compounds

**Mercaptoacetic acid ethyl ester** → Ethyl thioglycolate page 884

**Mercaptoacetic acid 2-ethylhexyl ester** → 2-Ethylhexyl thioglycolate page 871

**Mercaptoacetic acid isoctyl ester** → Isooctylthioglycolate page 1049

**Mercaptoacetic acid methyl ester** → Methyl thioglycolate page 1182

**3-Mercapto-2-aminopropionic acid hydrochloride** → L-Cysteine hydrochloride monohydrate page 681

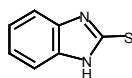
**2-Mercaptoaniline** → 2-Aminothiophenol page 404

**4-Mercaptoaniline** → 4-Aminothiophenol page 405

**3-Mercaptoanisole** → 3-Methoxythiophenol page 1127

**Mercaptobenzene** → Thiophenol page 1553

## 814126 2-Mercaptobenzimidazole for synthesis



C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>S  
**2-Benzimidazolethiol**  
 ■ CAS-No. 583-39-1 ■ EC-No. 209-502-6  
 ■ Spec. density 1.42 g/cm<sup>3</sup> ■ Flash point >250 °C  
 ■ Solub. in H<sub>2</sub>O 0.3 g/l (25 °C) ■ M = 150.19 g/mol  
 ■ Melting point 285 - 290 °C  
 ■ Ignition temp. 480 °C

■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P262, P309 + P310  
 ■ LD50 oral rat 300 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1H-BENZIMIDAZOL-2-THIOL), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1H-BENZIMIDAZOLE-2-THIOL), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(1H-BENZIMIDAZOLE-2-THIOL), 6.1, III

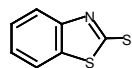
### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14126.0100	Plastic bottle	100 g	inquire
8.14126.0500	Plastic bottle	500 g	inquire

**2-Mercaptobenzoic acid** → Thiosalicylic acid page 1553

## 814674 2-Mercaptobenzothiazole for synthesis



C<sub>7</sub>H<sub>5</sub>NS<sub>2</sub>  
 ■ CAS-No. 149-30-4 ■ EC-No. 205-736-8  
 ■ Vapour pressure < 0.000003 hPa (25 °C)  
 ■ Spec. density 1.42 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 15 % (V) ■ Flash point 243 °C ■ Solub. in H<sub>2</sub>O 0.12 g/l (25 °C) ■ M = 167.25 g/mol  
 ■ pH value 7 (0.12 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 180 - 183 °C  
 ■ Bulk density 390 kg/m<sup>3</sup>  
 ■ Boiling point >260 °C decomposes  
 ■ Ignition temp. 465 °C

■ WGK 2  
 ■ GHS: Warning, Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P280, P273, P302 + P352  
 ■ LC50 rat > 1270 mg/m<sup>3</sup>  
 ■ LD50 oral rat 1680 mg/kg ■ LD50 dermal rabbit > 7940 mg/kg  
 ■ EC-Index-No. 613-108-00-3 ■ LGK 10 - 13  
 ■ HS-No. 2934 20 20 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2-MERCAPTOBENZOTHIAZOL), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-MERCAPTOBENZOTHIAZOLE), 9, III, Marine

Pollutant: P

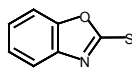
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-MERCAPTOBENZOTHIAZOLE), 9, III

### Specification

Assay (acidimetric)..... ≥ 97.0 %  
 Melting range (lower value)..... ≥ 176 °C  
 Melting range (upper value) ..... ≤ 181 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14674.0250	Plastic bottle	250 g	inquire
8.14674.1000	Plastic bottle	1 kg	inquire

## 818697 2-Mercaptobenzoxazole for synthesis



C<sub>7</sub>H<sub>5</sub>NOS  
**Benzoxazol-2-thiole**  
 ■ CAS-No. 2382-96-9 ■ EC-No. 219-191-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 151.18 g/

mol ■ pH value 5 (5 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 189 - 192 °C  
 ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 95.0 %

Melting range (lower value)..... ≥ 189 °C  
 Melting range (upper value) ..... ≤ 192 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18697.0100	Plastic bottle	100 g	inquire

**2-Mercaptoethanesulfonic acid sodium salt** → Sodium 2-mercaptoethanesulfonate page 1446

### 805740 2-Mercaptoethanol for synthesis



C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>  
 HSCH<sub>2</sub>CH<sub>2</sub>OH  
*Thioethylene glycol, Thioglycol*  
 ■ CAS-No. 60-24-2 ■ EC-No. 200-464-6  
 ■ Refractive index 1.5006 (20 °C, 589 nm)  
 ■ Vapour pressure 0.76 hPa (20 °C)  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.3 - 18 % (V) ■ Flash point 68 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 78.13 g/mol  
 ■ pH value 4.5 - 6 (500 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point < -50 °C  
 ■ Boiling point 154 - 161 °C (1013 hPa)  
 ■ Ignition temp. 295 °C

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 2 mg/l  
 ■ LD50 oral rat 98 - 162 mg/kg  
 ■ LD50 dermal rabbit 112 - 224 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2930 90 99

■ ADR-RID UN 2966 Thioglycol, 6.1, II ■ IMDG-Code UN 2966 THIOGLYCOL, 6.1, II  
 ■ IATA-DGR UN 2966 THIOGLYCOL, 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 1.115 - 1.116  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.05740.0005	Glass bottle	5 ml	inquire
8.05740.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.05740.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

2-Mercaptoethylamine hydrochloride →  
 Cysteaminium chloride page 681

N-(2-Mercaptoethyl)aminomethyl polystyrene →  
 page 282

### 841473 2-Mercapto-1-methylimidazole for synthesis



C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>S  
 ■ CAS-No. 60-56-0 ■ EC-No. 200-482-4  
 ■ Spec. density 0.6 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 200 g/l

■ M = 114.17 g/mol ■ pH value (H<sub>2</sub>O) neutral  
 ■ Melting point 146 - 148 °C  
 ■ Boiling point 280 °C (decomposition)  
 ■ WGK 2  
 ■ LD50 oral rat 2250 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 144 °C  
 Melting range (upper value) ..... ≤ 148 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41473.0010	Plastic bottle	10 g	inquire

Mercaptomethyl polystyrene → page 271

### 818125 2-Mercaptophenol for synthesis



C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>  
 2-(SH)C<sub>6</sub>H<sub>4</sub>OH  
*2-Hydroxythiophenol*  
 ■ CAS-No. 1121-24-0 ■ EC-No. 214-326-8  
 ■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 97 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 126.18 g/mol ■ Melting point 20 °C  
 ■ Boiling point 113 - 117 °C (40 hPa)

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 178 mg/kg  
 ■ LGK 6.1 C  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-MERCAPTOPHENOL), 6.1, III

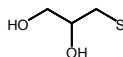
■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-MERCAPTOPHENOL), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-MERCAPTOPHENOL), 6.1, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.219 - 1.224  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18125.0005	Glass bottle	5 ml	inquire

5-Mercapto-1-phenyltetrazole → 1-Phenyl-1H-tetrazole-5-thiol page 1315

### 841705 3-Mercapto-1,2-propanediol for synthesis



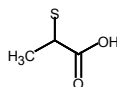
C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>S  
*1-Thioglycerol*  
 ■ CAS-No. 96-27-5 ■ EC-No. 202-495-0  
 ■ Spec. density 1.247 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 110 °C ■ M = 108.15 g/mol  
 ■ Boiling point 118 °C (6.7 hPa)  
 ■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(3-MERCAPTO-1,2-PROPANEDIOL), 9, III

**Specification**  
 Assay (iodometric) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41705.0050	Glass bottle	50 ml	inquire
8.41705.0250	Glass bottle	250 ml	inquire
8.41705.1000	Glass bottle	1 l	inquire

### 822087 2-Mercaptopropionic acid for synthesis



C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>S  
 CH<sub>3</sub>CH(SH)COOH  
*Thiolactic acid*  
 ■ CAS-No. 79-42-5 ■ EC-No. 201-206-5  
 ■ Refractive index 1.4809 (20 °C, 589 nm)  
 ■ Vapour pressure 1.7 hPa (20 °C)  
 ■ Spec. density 1.20 g/cm<sup>3</sup> (20 °C)

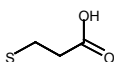
■ Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 106.14 g/mol  
 ■ pH value 2 (H<sub>2</sub>O, 20 °C) (undiluted)  
 ■ Melting point 10 - 14 °C  
 ■ Boiling point 203 - 208 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 730 mg/kg  
 ■ LGK 6.1A ■ Store below +15 °C

■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 2936 Thiomilchsäure, 6.1, II  
 ■ IMDG-Code UN 2936 THIOACTIC ACID, 6.1, II  
 ■ IATA-DGR UN 2936 THIOACTIC ACID, 6.1, II

**Specification**  
 Assay (iodometric) ..... ≥ 96.0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,194 - 1,197  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22087.0100	Glass bottle	100 ml	inquire

## 805967 3-Mercaptopropionic acid for synthesis



C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>S  
 HSCH<sub>2</sub>CH<sub>2</sub>COOH  
 ■ CAS-No. 107-96-0 ■ EC-No. 203-537-0  
 ■ Refractive index 1.4911 (20 °C, 589 nm)  
 ■ Vapour pressure 0.053 hPa (20 °C)  
 ■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.60 % (V) ■ Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 106.14 g/mol  
 ■ pH value 2 (120 g/l, H<sub>2</sub>O, 20 °C)

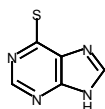
■ Melting point 17 - 19 °C ■ Boiling point 110 °C (20 hPa) ■ Ignition temp. 350 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 96 mg/kg  
 ■ LGK 6.1 C  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(3-MERCAPTOPROPIONSÄURE), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE

LIQUID, TOXIC, N.O.S.(3-MERCAPTOPROPIONIC ACID), 8 (6.1), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(3-MERCAPTOPROPIONIC ACID), 8 (6.1), II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,220 - 1,222  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05967.0100	Glass bottle	100 ml	inquire
8.05967.0250	Glass bottle	250 ml	inquire

(3-Mercaptopropyl)trimethoxysilane → 3-(Trimethoxysilyl)-1-propanethiol page 1600

## 841397 6-Mercaptopurine monohydrate for synthesis



C<sub>5</sub>H<sub>4</sub>N<sub>4</sub>S \* H<sub>2</sub>O  
 ■ CAS-No. 6112-76-1 ■ EC-No. 200-037-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 170.19 g/mol  
 ■ Melting point 315 - 319 °C (decomposition)

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Reproductive toxicity, Category 2, H361fd; Germ cell mutagenicity, Category 2, H341, P281, P309 + P310  
 ■ LD50 oral rat 277 mg/kg  
 ■ LGK 6.1 C  
 ■ HS-No. 2933 59 95 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(6-MERCAPTOPURIN-MONOHYDRAT), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID,

ORGANIC, N.O.S.(6-MERCAPTOPURINE MONOHYDRATE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(6-MERCAPTOPURINE MONOHYDRATE), 6.1, III  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41397.0001	Plastic bottle	1 g	inquire

## 841594 2-Mercaptopyrimidine for synthesis



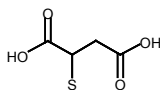
C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>S  
 2-Pyrimidinethiol

■ CAS-No. 1450-85-7 ■ EC-No. 215-917-3  
 ■ M = 112.16 g/mol ■ Melting point 230 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 59 95 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41594.0010	Plastic bottle	10 g	inquire

## 820763 Mercaptosuccinic acid for synthesis



C<sub>4</sub>H<sub>6</sub>O<sub>4</sub>S  
 HOOCCH<sub>2</sub>CH(SH)COOH  
 ■ CAS-No. 70-49-5 ■ EC-No. 200-736-4  
 ■ Solub. in H<sub>2</sub>O 150 g/l (20 °C) ■ M = 150.15 g/mol  
 ■ Melting point 150 - 153 °C

■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR UN 3335 AVIATION REGULATED

SOLID, N.O.S.(MERCAPTOSUCCINIC ACID), 9, III  
**Specification**  
 Assay (iodometric) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 151 °C  
 Melting range (upper value) ..... ≤ 154 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20763.0100	Glass bottle	100 g	inquire

2-Mercaptothiazoline → 2-Thiazoline-2-thiol page 1548

## 814268 3-Mercapto-1,2,4-triazole for synthesis



C<sub>2</sub>H<sub>3</sub>N<sub>3</sub>S  
 1H-1,2,4-Triazol-3-thiol  
 ■ CAS-No. 3179-31-5 ■ EC-No. 221-656-6  
 ■ Solub. in H<sub>2</sub>O 85 g/l (20 °C) ■ M = 101.13 g/mol  
 ■ pH value 4.0 (85 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 217 - 220 °C  
 ■ Bulk density 550 kg/m<sup>3</sup> ■ Ignition temp. 370 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 1353 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 217 °C  
 Melting range (upper value) ..... ≤ 220 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14268.0025	Plastic bottle	25 g	inquire

Merckofix® → page 186  
 Merckoglas® → page 188

Merckoquant®, Analytical test kits → page 49  
 Mercuric salts → Mercury(II) acetate page 1103

Mercurous salts → Mercury(I) chloride page 1104



Mercury



Hg  
 ■ CAS-No. 7439-97-6 ■ EC-No. 231-106-7  
 ■ Vapour pressure 0.0017 hPa (20 °C)  
 ■ Spec. density 13.55 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.02 mg/l (25 °C) ■ M = 200.59 g/mol  
 ■ pH value (H<sub>2</sub>O) neutral ■ Melting point -39 °C  
 ■ Boiling point 357 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Reproductive toxicity, Category

1B, H360D; Acute toxicity, Category 2, Inhalation, H330; Specific target organ toxicity - repeated exposure, Category 1, H372; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P309 + P310, P304 + P340  
 ■ EC-Index-No. 080-001-00-0 ■ LGK 6.1B  
 ■ HS-No. 2805 40 90 ■ Disposal 20  
 ■ ADR-RID UN 2809 Quecksilber, 8 (6.1) ■ IMDG-

Code UN 2809 MERCURY, 8, III, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)  
 ■ IATA-DGR UN 2809 MERCURY, 8 (6.1), III

104401 Mercury extra pure

Specification

Assay (complexometric) .....99.6 - 100.0 %  
 Appearance of solution .....passes test  
 Identity.....passes test

Substances insoluble in nitric acid .....≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.04401.0250	Plastic bottle	250 g	inquire
1.04401.1000	Plastic bottle	1 kg	inquire

104403 Mercury for analysis and for polarography EMSURE®

Specification

Assay.....99.6 - 100.0 %  
 Appearance.....passes test  
 Substances insoluble in nitric acid .....≤ 0.002 %  
 Ag (Silver).....≤ 0.0001 %  
 Bi (Bismuth).....≤ 0.00001 %  
 Cd (Cadmium).....≤ 0.00001 %

Cu (Copper).....≤ 0.00001 %  
 Fe (Iron).....≤ 0.00005 %  
 Ni (Nickel).....≤ 0.00001 %  
 Pb (Lead).....≤ 0.00001 %  
 Tl (Thallium).....≤ 0.00005 %  
 Zn (Zinc).....≤ 0.00005 %

Ord.No.	Packaging	Quantity	Price
1.04403.0250	Plastic bottle	250 g	inquire
1.04403.1000	Plastic bottle	1 kg	inquire

104404 Mercury 99.9999 Suprapur®

Specification

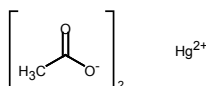
Purity (metallic).....≥ 99.9999 %  
 Al (Aluminium).....≤ 0.010 ppm  
 Ba (Barium).....≤ 0.005 ppm  
 Be (Beryllium).....≤ 0.005 ppm  
 Bi (Bismuth).....≤ 0.005 ppm  
 Ca (Calcium).....≤ 0.050 ppm  
 Cd (Cadmium).....≤ 0.005 ppm  
 Co (Cobalt).....≤ 0.005 ppm  
 Cr (Chromium).....≤ 0.005 ppm  
 Cu (Copper).....≤ 0.005 ppm

Fe (Iron).....≤ 0.050 ppm  
 In (Indium).....≤ 0.005 ppm  
 K (Potassium).....≤ 0.10 ppm  
 Li (Lithium).....≤ 0.005 ppm  
 Mg (Magnesium).....≤ 0.005 ppm  
 Mn (Manganese).....≤ 0.005 ppm  
 Mo (Molybdenum).....≤ 0.005 ppm  
 Na (Sodium).....≤ 0.05 ppm  
 Ni (Nickel).....≤ 0.010 ppm  
 Pb (Lead).....≤ 0.005 ppm

Sn (Tin).....≤ 0.005 ppm  
 Sr (Strontium).....≤ 0.005 ppm  
 Ti (Titanium).....≤ 0.005 ppm  
 Tl (Thallium).....≤ 0.005 ppm  
 V (Vanadium).....≤ 0.005 ppm  
 Zn (Zinc).....≤ 0.005 ppm

Ord.No.	Packaging	Quantity	Price
1.04404.0250	Plastic bottle	250 g	inquire
1.04404.1000	Plastic bottle	1 kg	inquire

104410 Mercury(II) acetate for analysis EMSURE® ACS,Reag. Ph Eur



C<sub>4</sub>H<sub>6</sub>HgO<sub>4</sub>  
 Hg(CH<sub>3</sub>COO)<sub>2</sub>  
 ■ CAS-No. 1600-27-7 ■ EC-No. 216-491-1  
 ■ Spec. density 3.27 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 400 g/l (20 °C) ■ M = 318.68 g/mol  
 ■ Melting point 178 - 180 °C (decomposition)  
 ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated

exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410; Specific target organ toxicity - repeated exposure, Category 2, H373, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LD50 oral rat 40.9 mg/kg ■ LD50 dermal rat 570 mg/kg  
 ■ EC-Index-No. 080-004-00-7 ■ LGK 6.1B  
 ■ HS-No. 2852 10 00 ■ Disposal 20  
 ■ ADR-RID UN 1629 Quecksilberacetat, 6.1, II  
 ■ IMDG-Code UN 1629 MERCURY ACETATE, 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)  
 ■ IATA-DGR UN 1629 MERCURY ACETATE, 6.1, II

Assay (complexometric) .....≥ 99.0 %  
 Substances insoluble in dilute acetic acid ≤ 0.01 %  
 Chloride (Cl).....≤ 0.005 %  
 Nitrate (NO<sub>3</sub>).....≤ 0.005 %  
 Sulphate (SO<sub>4</sub>).....≤ 0.005 %  
 other heavy metals (as Pb).....≤ 0.002 %  
 Fe (Iron).....≤ 0.001 %  
 Mercury (I) (as Hg).....≤ 0.3 %  
 Residue after reduction.....≤ 0.02 %  
 Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04410.0050	Plastic bottle	50 g	inquire
1.04410.0250	Plastic bottle	250 g	inquire

Mercury bistrifluoroacetate → Mercury(II) trifluoroacetate page 1107

104421 Mercury(II) bromide for analysis EMSURE® ACS,Reag. Ph Eur



Br<sub>2</sub>Hg  
 HgBr<sub>2</sub>  
 ■ CAS-No. 7789-47-1 ■ EC-No. 232-169-3  
 ■ Vapour pressure 3.0 hPa (150 °C)  
 ■ Spec. density 6.1 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 6 g/l (25 °C) ■ M = 360.39 g/mol  
 ■ pH value 4.5 (5 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 237 °C ■ Bulk density 1450 kg/m<sup>3</sup>  
 ■ Boiling point 322 °C (1013 hPa) (sublimed)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Specific target organ toxicity - repeated exposure,

Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LD50 oral rat 40 mg/kg ■ LD50 dermal rabbit 100 mg/kg  
 ■ EC-Index-No. 080-002-00-6 ■ LGK 6.1A  
 ■ HS-No. 2852 10 00 ■ Disposal 20  
 ■ ADR-RID UN 1634 Quecksilberbromide, 6.1, II  
 ■ IMDG-Code UN 1634 MERCURY BROMIDES, 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)

■ IATA-DGR UN 1634 MERCURY BROMIDES, 6.1, II  
**Specification**  
 Assay (complexometric) .....≥ 99.0 %  
 Insoluble matter (in methanol).....≤ 0.05 %  
 Chloride (Cl).....≤ 0.25 %  
 Residue after reduction.....≤ 0.02 %  
 Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04421.0050	Plastic bottle	50 g	inquire
1.04421.0250	Plastic bottle	250 g	inquire

# Mercur

## 104425 Mercury(I) chloride for analysis EMSURE®



Cl<sub>2</sub>Hg<sub>2</sub>  
Hg<sub>2</sub>Cl<sub>2</sub>  
*Calomel*  
 ■ CAS-No. 10112-91-1 ■ EC-No. 233-307-5  
 ■ Vapour pressure 0.0003 Pa (50 °C) ■ Solub. in H<sub>2</sub>O 0.0023 g/l (20 °C) ■ M = 472.08 g/mol  
 ■ Bulk density 1200 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 +

P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 210 mg/kg ■ LD50 dermal rat 1500 mg/kg  
 ■ EC-Index-No. 080-003-00-1 ■ LGK 10 - 13  
 ■ HS-No. 2852 10 00 ■ Disposal 20  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(QUECKSILBER(I)-CHLORID), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(MERCURY(I)-CHLORIDE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(MERCURY(I)-CHLORIDE), 9, III

**Specification**  
 Assay (iodometric) ..... ≥ 99.5 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Mercury(II)-chloride (HgCl<sub>2</sub>) ..... ≤ 0.01 %  
 Substances not reducing by formic acid (residue on ignition) ..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.04425.0050	Plastic bottle	50 g	inquire
1.04425.0250	Plastic bottle	250 g	inquire

## Mercury(II) chloride



Cl<sub>2</sub>Hg  
HgCl<sub>2</sub>  
*Mercury dichloride*  
 ■ CAS-No. 7487-94-7 ■ EC-No. 231-299-8  
 ■ Vapour pressure 0.0001 hPa (20 °C)  
 ■ Spec. density 5.44 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 74 g/l (20 °C) ■ M = 271.5 g/mol  
 ■ pH value 3.2 (15 g/l, H<sub>2</sub>O)  
 ■ Melting point 280.7 °C ■ Bulk density 2000 kg/m<sup>3</sup> ■ Boiling point 302 °C (1013 hPa) (sublimed)  
 ■ WGK 3

■ GHS: Danger, Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 2, H361F; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1 mg/kg ■ LD50 dermal rabbit 41 mg/kg

■ EC-Index-No. 080-010-00-X ■ LGK 6.1B  
 ■ HS-No. 2852 10 00 ■ Disposal 20  
 ■ ADR-RID UN 1624 Quecksilber(II)chlorid, 6.1, II  
 ■ IMDG-Code UN 1624 MERCURIC CHLORIDE, 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)  
 ■ IATA-DGR UN 1624 MERCURIC CHLORIDE, 6.1, II

## 104417 Mercury(II) chloride extra pure fine cryst.

**Specification**  
 Assay (complexometric; calculated on dried substance) ..... 99.5 - 100.5 %  
 Identity ..... passes test  
 Appearance of solution ..... passes test

Acidity or alkalinity ..... passes test  
 Mercury(I)-chloride ..... passes test  
 Loss on drying ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.04417.0100	Plastic bottle	100 g	inquire
1.04417.1000	Plastic bottle	1 kg	inquire

## 104419 Mercury(II) chloride for analysis EMSURE® Reag. Ph Eur,ACS

**Specification**  
 Assay (complexometric) ..... ≥ 99.5 %  
 Assay (complexometric; calculated on dried substance) ..... 99.5 - 100.5 %  
 Identity ..... passes test  
 Appearance of solution ..... passes test  
 Solution in Ether ..... passes test

Acidity or alkalinity ..... passes test  
 Mercury(I)-chloride ..... passes test  
 Fe (Iron) ..... ≤ 0.002 %  
 Residue after reduction ..... ≤ 0.02 %  
 Loss on drying (24 h im Vakuum) ..... ≤ 1.0 %  
 Corresponds to Reag. Ph Eur,ACS

Ord.No.	Packaging	Quantity	Price
1.04419.0050	Plastic bottle	50 g	inquire
1.04419.0250	Plastic bottle	250 g	inquire
1.04419.1000	Plastic bottle	1 kg	inquire

Mercury(II) chloride → page 1104

## Mercury, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
172	102498	Chromotropic acid disodium salt dihydrate	815	103091	1,5-Diphenylcarbazine	172	103092	Dithizone
776	103059	5-(4-Dimethylaminobenzylidene)-rhodanine	815	103087	1,5-Diphenylcarbazon	1432	106689	Sodium diethyldithiocarbamate trihydrate

## Mercury(II) iodide



HgI<sub>2</sub>  
*Mercury diiodide*  
 ■ CAS-No. 7774-29-0 ■ EC-No. 231-873-8  
 ■ Vapour pressure 0.006 hPa (80 °C)  
 ■ Spec. density 6.36 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 0.06 g/l (25 °C) ■ M = 454.39 g/mol  
 ■ pH value 6 - 7 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Melting point 259 °C ■ Bulk density 1350 kg/m<sup>3</sup>  
 ■ Boiling point 354 °C (1013 hPa) (sublimed)  
 ■ WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LD50 oral rat 18 mg/kg ■ LD50 dermal rat 75

mg/kg  
 ■ EC-Index-No. 080-002-00-6 ■ LGK 6.1B  
 ■ HS-No. 2852 10 00 ■ Disposal 20  
 ■ ADR-RID UN 1638 Quecksilberiodid, 6.1, II  
 ■ IMDG-Code UN 1638 MERCURY IODIDE, 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)  
 ■ IATA-DGR UN 1638 MERCURY IODIDE, 6.1, II

## 104420 Mercury(II) iodide red, extra pure

**Specification**  
 Assay (argentometric) ..... ≥ 99.0 %  
 Identity ..... passes test  
 Appearance of solution in ethanol ..... passes test  
 Water-soluble substances ..... ≤ 0.05 %

Substances not reducing by formic acid (residue on ignition) ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.04420.0100	Plastic bottle	100 g	inquire
1.04420.1000	Plastic bottle	1 kg	inquire

**104428 Mercury(II) iodide** red, for analysis EMSURE® ACS,Reag. Ph Eur**Specification**

Assay (argentometric, dried sust.)..... ≥ 99.0 %  
 Solubility in Potassium iodide..... passes test  
 Soluble mercury salts (as Hg)..... ≤ 0.05 %  
 Foreign heavy metals (as Pb)..... ≤ 0.001 %

Fe (Iron)..... ≤ 0.001 %  
 Mercury (I) (as Hg)..... ≤ 0.1 %  
 Substances not reducing by formic acid... ≤ 0.02 %  
 Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04428.0050	Plastic bottle	50 g	inquire
1.04428.0250	Plastic bottle	250 g	inquire

**104437 Mercury(I) nitrate dihydrate** for analysis EMSURE®Hg<sub>2</sub>N<sub>2</sub>O<sub>6</sub> \* 2 H<sub>2</sub>OHg<sub>2</sub>(NO<sub>3</sub>)<sub>2</sub> \* 2 H<sub>2</sub>O

■ CAS-No. 14836-60-3 ■ EC-No. 233-886-4  
 ■ Spec. density 4.78 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 561.22 g/mol  
 ■ Melting point 70 °C (decomposition)  
 ■ Bulk density 2340 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P280, P273, P304 +

P340, P302 + P352, P309 + P310

■ EC-Index-No. 080-002-00-6 ■ LGK 6.1B ■ Store at +15°C to +25°C.  
 ■ HS-No. 2852 10 00 ■ Disposal 20  
 ■ ADR-RID UN 1627 Quecksilber(I)nitrat, 6.1, II  
 ■ IMDG-Code UN 1627 MERCUROUS NITRATE, 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)  
 ■ IATA-DGR UN 1627 MERCUROUS NITRATE, 6.1, II

**Specification**

Assay (iodometric) ..... ≥ 97.0 %

Substances insoluble in dilute nitric acid..... ≤ 0.005 %  
 Chloride (Cl)..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Foreign heavy metals (as Pb)..... ≤ 0.002 %  
 Fe (Iron)..... ≤ 0.001 %  
 Substances not reducing by formic acid (Residue on ignition, as sulphate)..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.04437.0050	Plastic bottle	50 g	inquire
1.04437.0250	Plastic bottle	250 g	inquire

**104439 Mercury(II) nitrate monohydrate** for analysis EMSURE® ACS,Reag. Ph EurHgN<sub>2</sub>O<sub>6</sub> \* H<sub>2</sub>OHg(NO<sub>3</sub>)<sub>2</sub> \* H<sub>2</sub>O

■ CAS-No. 7783-34-8 ■ EC-No. 233-152-3  
 ■ Spec. density 4.39 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, Hydrolysis ■ M = 342.62 g/mol  
 ■ Melting point 79 °C (anhydrous substance)  
 ■ Bulk density 1200 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P280, P273, P309 +

P310, P304 + P340, P302 + P352

■ LD50 oral rat 26 mg/kg ■ LD50 dermal rat 75 mg/kg  
 ■ EC-Index-No. 080-002-00-6 ■ LGK 6.1B  
 ■ HS-No. 2852 10 00 ■ Disposal 20  
 ■ ADR-RID UN 1625 Quecksilber(II)nitrat, 6.1, II  
 ■ IMDG-Code UN 1625 MERCURIC NITRATE, 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)  
 ■ IATA-DGR UN 1625 MERCURIC NITRATE, 6.1, II

**Specification**

Assay (complexometric) ..... ≥ 99.0 %

Chloride (Cl)..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %  
 Cu (Copper)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.001 %  
 K (Potassium)..... ≤ 0.005 %  
 Na (Sodium)..... ≤ 0.005 %  
 Residue after reduction..... ≤ 0.01 %  
 Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04439.0050	Plastic bottle	50 g	inquire
1.04439.0250	Plastic bottle	250 g	inquire

**109143 Mercury(II) nitrate solution** c(Hg(NO<sub>3</sub>)<sub>2</sub>) = 0.05 mol/l (0.1 N) Titripur®

■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P273, P280, P302 + P352, P309 + P310  
 ■ LGK 6.1B  
 ■ HS-No. 2852 10 00 ■ Disposal 20  
 ■ ADR-RID UN 3289 Giftiger anorganischer flüssiger Stoff, ätzend, n.a.g.(SALPETERSÄURE UND ENTH. QUECKSILBERNITRAT), 6.1 (8), II  
 ■ IMDG-Code UN 3289 TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.(NITRIC ACID NOT MORE THAN

5% AND CONT. MERCURY NITRATE), 6.1 (8), II, Segregation Group: 1 (Acids), 7 (Heavy metals and their salts (including their organometallic compounds))  
 ■ IATA-DGR UN 3289 TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S.(NITRIC ACID AND CONT. MERCURY NITRATE), 6.1 (8), II

**Specification**

Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (USP).  
 Amount-of-substance concentration 0.05000 mol/l  
 The concentration of this volumetric solution was determined with ammonium thiocyanate standard solution (Merck article number 1.09079) standardized by silver nitrate against volumetric

standard sodium chloride (Merck article number 1.02406). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 999b (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard sodium chloride, measured in the accredited calibration

Ord.No.	Packaging	Quantity	Price
1.09143.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

**Mercury(II) oxide**

HgO

■ CAS-No. 21908-53-2 ■ EC-No. 244-654-7  
 ■ Vapour pressure 0.12 Pa (20 °C)  
 ■ Spec. density 11.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.052 g/l (25 °C) ■ M = 216.58 g/mol  
 ■ pH value 6 - 7 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Melting point >400 °C (decomposition)  
 ■ Bulk density 3000 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral,

H300; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LD50 oral rat 18 mg/kg ■ LD50 dermal rat 315 mg/kg  
 ■ EC-Index-No. 080-002-00-6 ■ LGK 6.1B

■ HS-No. 2852 10 00 ■ Disposal 20  
 ■ ADR-RID UN 1641 Quecksilberoxid, 6.1, II  
 ■ IMDG-Code UN 1641 MERCURY OXIDE, 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)  
 ■ IATA-DGR UN 1641 MERCURY OXIDE, 6.1, II

**104465 Mercury(II) oxide** red extra pure**Specification**

Assay (complexometric) ..... 99.0 - 100.5 %  
 Identity..... passes test  
 Appearance of solution..... passes test  
 Acidic or alkaline substances..... passes test  
 Chloride (Cl)..... ≤ 0.05 %

Nitrate (NO<sub>3</sub>)..... passes test  
 Yellow mercury (II)-oxide..... passes test  
 Substances not reducing by formic acid (residue on ignition)..... ≤ 0.05 %  
 Loss on drying (105 °C)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.04465.0100	Plastic bottle	100 g	inquire

# Mercur

## 104466 Mercury(II) oxide red, for analysis EMSURE®

<b>Specification</b>	Cd (Cadmium) ..... ≤ 0.0001 %	on ignition, as sulphate) ..... ≤ 0.025 %
Assay (complexometric) ..... ≥ 99.0 %	Cu (Copper) ..... ≤ 0.0005 %	
Substances insoluble in dilute hydrochloric acid ..... ≤ 0.03 %	Fe (Iron) ..... ≤ 0.01 %	
Chloride (Cl) ..... ≤ 0.025 %	Pb (Lead) ..... ≤ 0.0005 %	
Sulphate (SO <sub>4</sub> ) ..... ≤ 0.005 %	Zn (Zinc) ..... ≤ 0.0005 %	
Total nitrogen (N) ..... ≤ 0.005 %	Substances not reducing by formic acid (Residue	

Ord.No.	Packaging	Quantity	Price
1.04466.0050	Plastic bottle	50 g	inquire
1.04466.0250	Plastic bottle	250 g	inquire

Mercury(II) rhodanide → Mercury(II) thiocyanate page 1107

## Mercury(II) sulfate



HgO <sub>2</sub> S	H330; Acute toxicity, Category 1, Dermal, H310;	■ ADR-RID UN 1645 Quecksilbersulfat, 6.1, II
HgSO <sub>4</sub>	Specific target organ toxicity - repeated exposure,	■ IMDG-Code UN 1645 MERCURY SULPHATE, 6.1,
■ CAS-No. 7783-35-9 ■ EC-No. 231-992-5	Category 2, H373; Acute aquatic toxicity,	II, Marine Pollutant: P, Segregation Group: 7
■ Spec. density 6.47 g/cm <sup>3</sup> (20 °C) ■ Solub. in	Category 1, H400; Chronic aquatic toxicity,	(Heavy metals and their salts (including their
H <sub>2</sub> O (20 °C) (decomposition) ■ M = 296.65 g/mol	Category 1, H410, P273, P280, P302 + P352, P304	organometallic compounds)), 11 (Mercury and
■ pH value 1 (50 g/l, H <sub>2</sub> O, 20 °C)	+ P340, P309 + P310	mercury compounds)
■ Bulk density 670 kg/m <sup>3</sup> ■ Ignition temp. >450 °C	■ LD50 oral rat 57 mg/kg ■ LD50 dermal rat 625	■ IATA-DGR UN 1645 MERCURY SULPHATE, 6.1, II
■ WGK 3	mg/kg	
■ GHS: Danger, Acute toxicity, Category 2, Oral,	■ EC-Index-No. 080-002-00-6 ■ LGK 6.1B	
H300; Acute toxicity, Category 2, Inhalation,	■ HS-No. 2852 10 00 ■ Disposal 20	

## 104481 Mercury(II) sulfate extra pure

<b>Specification</b>	Mercury (I) (as Hg) ..... ≤ 0.1 %
Assay (complexometric) ..... ≥ 99.0 %	Substances not reducing by formic acid (residue
Identity ..... passes test	on ignition) ..... ≤ 0.1 %
Chloride (Cl) ..... ≤ 0.003 %	
Fe (Iron) ..... ≤ 0.005 %	

Ord.No.	Packaging	Quantity	Price
1.04481.0100	Plastic bottle	100 g	inquire
1.04481.0250	Plastic bottle	250 g	inquire
1.04481.1000	Plastic bottle	1 kg	inquire

## 104480 Mercury(II) sulfate for analysis EMSURE® ACS

<b>Specification</b>	Mercury (I) (as Hg) ..... ≤ 0.15 %
Assay (complexometric) ..... ≥ 98.0 %	Residue after reduction ..... ≤ 0.02 %
Chloride (Cl) ..... ≤ 0.003 %	Corresponds to ACS
Nitrate (NO <sub>3</sub> ) ..... ≤ 0.005 %	
Fe (Iron) ..... ≤ 0.005 %	

Ord.No.	Packaging	Quantity	Price
1.04480.0050	Plastic bottle	50 g	inquire
1.04480.0250	Plastic bottle	250 g	inquire

## 104476 Mercury(II) sulfate 80 g/l in potassium dichromate solution c(K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>)=0.02 mol/l acidified with sulfuric acid for COD determination



■ Spec. density 1.19 g/cm <sup>3</sup> (20 °C) ■ Solub. in	toxicity, Category 2, H411, P201, P273, P280,	N.O.S.(MERCURY SULPHATE AND CONT.
H <sub>2</sub> O (20 °C) soluble ■ pH value 0.5 (H <sub>2</sub> O, 20 °C)	P302 + P352, P304 + P340, P305 + P351 + P338,	SULPHURIC ACID), 8 (6.1), II
■ WGK 3	P309 + P310	<b>Specification</b>
■ GHS: Danger, Corrosive to metals, Category 1,	■ LGK 6.1B	Assay (HgSO <sub>4</sub> ) ..... 79.2 - 80.8 g/l
H290; Acute toxicity, Category 3, Oral, H301;	■ HS-No. 3822 00 00 ■ Disposal 20	- (H <sub>2</sub> SO <sub>4</sub> ) ..... 173.0 - 180.0 g/l
Acute toxicity, Category 3, Inhalation, H331;	■ ADR-RID UN 2922 Ätzender flüssiger Stoff,	concentration (Potassium dichromate K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> ) ..... 0.0199 - 0.0201 mol/l
Acute toxicity, Category 2, Dermal, H310; Skin	giftig, n.a.g.(QUECKSILBERSULFAT UND ENTH.	
irritation, Category 2, H315; Eye irritation,	SCHWEFELSAEURE), 8 (6.1), II ■ IMDG-Code UN	
Category 2, H319; Germ cell mutagenicity,	2922 CORROSIVE LIQUID, TOXIC, N.O.S.(MERCURY	
Category 1B, H340; Carcinogenicity, Category 1B,	SULPHATE AND CONT. SULPHURIC ACID), 8 (6.1),	
H350; Reproductive toxicity, Category 1B,	II, Segregation Group: 1 (Acids), 11 (Mercury and	
H360FD; Specific target organ toxicity - repeated	mercury compounds)	
exposure, Category 2, H373; Chronic aquatic	■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC,	

Ord.No.	Packaging	Quantity	Price
1.04476.1000	Glass bottle	1 l	inquire
1.04476.2500	Glass bottle	2.5 l	inquire

## 104413 Mercury(II) sulfate solution 200 g/l in diluted sulfuric acid for determination of COD acc. to DIN 38409-H 43-1 (short-term experience)

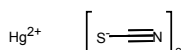


■ Spec. density 1.3 g/cm <sup>3</sup> (20 °C) ■ Solub. in	P302 + P352, P304 + P340, P305 + P351 + P338,	■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC,
H <sub>2</sub> O (20 °C) soluble ■ pH value 0.5 (H <sub>2</sub> O, 20 °C)	P309 + P310	N.O.S.(MERCURY SULPHATE AND CONT.
■ WGK 3	■ LGK 6.1B	SULPHURIC ACID), 8 (6.1), II
■ GHS: Danger, Corrosive to metals, Category 1,	■ HS-No. 3822 00 00 ■ Disposal 20	<b>Specification</b>
H290; Acute toxicity, Category 2, Oral, H300;	■ ADR-RID UN 2922 Ätzender flüssiger Stoff,	Concentration (HgSO <sub>4</sub> ) ..... 198.0 - 202.0 g/l
Acute toxicity, Category 3, Inhalation, H331;	giftig, n.a.g.(QUECKSILBERSULFAT UND ENTH.	Concentration (H <sub>2</sub> SO <sub>4</sub> ) ..... 173.0 - 180.0 g/l
Acute toxicity, Category 1, Dermal, H310; Skin	SCHWEFELSAEURE), 8 (6.1), II ■ IMDG-Code UN	
irritation, Category 2, H315; Eye irritation,	2922 CORROSIVE LIQUID, TOXIC, N.O.S.(MERCURY	
Category 2, H319; Specific target organ toxicity -	SULPHATE AND CONT. SULPHURIC ACID), 8 (6.1),	
repeated exposure, Category 2, H373; Chronic	II, Segregation Group: 1 (Acids), 11 (Mercury and	
aquatic toxicity, Category 2, H411, P273, P280,	mercury compounds)	

Ord.No.	Packaging	Quantity	Price
1.04413.1000	Glass bottle	1 l	inquire



## 104484 Mercury(II) thiocyanate for analysis EMSURE® Reag. Ph Eur

C<sub>2</sub>HgN<sub>2</sub>S<sub>2</sub>Hg(SCN)<sub>2</sub>

Mercury(II) rhodanide, Mercury(II) thiocyanate

- CAS-No. 592-85-8 ■ EC-No. 209-773-0
- Spec. density 3.71 g/cm<sup>3</sup> (20 °C)
- Flash point 120 °C ■ Solub. in H<sub>2</sub>O 0.7 g/l (25 °C) ■ M = 316.76 g/mol ■ pH value 5 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 165 °C (decomposition)
- Bulk density 750 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Oral,

H300; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P304 + P340, P302 + P352, P309 + P310

- LD50 oral rat 46 mg/kg
- EC-Index-No. 080-002-00-6 ■ LGK 6.1A
- HS-No. 2852 10 00 ■ Disposal 20
- ADR-RID UN 1646 Quecksilberthiocyanat, 6.1, II
- IMDG-Code UN 1646 MERCURY THIOCYANATE, 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and

mercury compounds)

- IATA-DGR UN 1646 MERCURY THIOCYANATE, 6.1, II

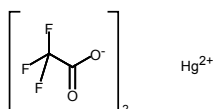
**Specification**

Assay (complexometric) ..... ≥ 99.0 %  
 Fe (Iron) ..... ≤ 0.002 %  
 Substances not reducing by formic acid (residue on ignition) ..... ≤ 0.05 %  
 Corresponds to Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04484.0025	Plastic bottle	25 g	inquire
1.04484.0100	Plastic bottle	100 g	inquire

Mercury(II) thiocyanate → page 1107

## 804482 Mercury(II) trifluoroacetate for synthesis

C<sub>4</sub>F<sub>6</sub>HgO<sub>4</sub>(CF<sub>3</sub>COO)<sub>2</sub>Hg

Mercury bistrifluoroacetate, Trifluoroacetic acid mercury(II) salt

- CAS-No. 13257-51-7 ■ EC-No. 236-250-4
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 426.62 g/mol ■ Melting point 171 - 173 °C
- WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310

- EC-Index-No. 080-004-00-7 ■ LGK 6.1A
- HS-No. 2852 10 00 ■ Disposal 20
- ADR-RID UN 2025 Quecksilberverbindung, fest, n.a.g.(QUECKSILBER(II)TRIFLUOROACETAT), 6.1, II
- IMDG-Code UN 2025 MERCURY COMPOUND, SOLID, N.O.S.(MERCURY(II)TRIFLUORO ACETATE),

6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)

- IATA-DGR UN 2025 MERCURY COMPOUND, SOLID, N.O.S.(MERCURY(II)TRIFLUORO ACETATE), 6.1, II

**Specification**

Assay (ex Hg) ..... ≥ 98.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04482.0025	Glass bottle	25 g	inquire

Merrifield resin HL (100-200 mesh) → page 266

Merrifield resin LL (100-200 mesh) → page 266

MES → 2-Morpholinoethanesulfonic acid monohydrate page 1193

Mesidine → 2,4,6-Trimethylaniline page 1601

Mesitaldehyde → 2,4,6-Trimethylbenzaldehyde page 1601

Mesitylacetic acid ethyl ester → Ethyl 2,4,6-trimethylphenyl-acetate page 887

Mesitylene-2-carbaldehyde → 2,4,6-Trimethylbenzaldehyde page 1601

Mesitylene-2-carboxylic acid → 2,4,6-Trimethylbenzoic acid page 1602

Mesitylene-2-sulfonic acid chloride → 2,4,6-

Trimethylbenzenesulfonyl chloride page 1602

Mesitylenic acid → 3,5-Dimethylbenzoic acid page 783

## 805791 Mesityl oxide for synthesis

C<sub>8</sub>H<sub>10</sub>O(CH<sub>3</sub>)<sub>2</sub>CCHCOCH<sub>3</sub>

Isopropylideneacetone, 4-Methyl-3-penten-2-one

- CAS-No. 141-79-7 ■ EC-No. 205-502-5
- Refractive index 1.4445 (20 °C, 589 nm)
- Vapour pressure 10.5 hPa (20 °C)
- Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 10.1 % (V) ■ Flash point 28 °C ■ Solub. in H<sub>2</sub>O 30 g/l (20 °C) ■ M = 98.14 g/mol
- Melting point -59 °C ■ Boiling point 130 °C
- Ignition temp. 344 °C
- WGK 1

■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P302 + P352

- LC50 rat 4.5 mg/l
- LD50 oral rat 1120 mg/kg ■ LD50 dermal rabbit 5150 mg/kg
- EC-Index-No. 606-009-00-1 ■ LGK 3
- HS-No. 2914 19 90 ■ Disposal 3
- ADR-RID UN 1229 Mesityloxid, 3, III ■ IMDG-Code UN 1229 MESITYL OXIDE, 3, III

- IATA-DGR UN 1229 MESITYL OXIDE, 3, III

**Specification**

Assay isomers (GC, area%) ..... ≥ 97.0 Area %  
 a-Mesityl oxide (GC, area%) ..... ≥ 85.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.853 - 0.856  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05791.0100	Glass bottle	100 ml	inquire
8.05791.1000	Glass bottle	1 l	inquire

Mesityl chloride → page 1110

Metaformaldehyde → 1,3,5-Trioxane page 1610

## Metal indicators

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
362	101010	Alizarin-3-methylamine-N,N-diacetic acid dihydrate	172	103092	Dithizone	172	101306	Naphthol green B (C.I. 10020)
362	106278	Alizarin red S mono sodiumsalt (C.I. 58005)	172	103170	Eriochrome black T (C.I. 14645)	172	107297	Phthalein purple
426	100128	Aurin tricarboxylic acid ammonium salt	172	103168	Eriochrome blue-black B (C.I. 14640)	172	107531	1-(2-Pyridylazo)-2-naphthol (PAN)
172	102315	Calcein indicator	172	103164	Eriochrome cyanine R (C.I. 43820)	172	107533	4-(2-Pyridylazo)resorcinol monosodium salt monohydrate
172	104595	Calconcarboxylic acid	172	108409	Ethylendiamintetraacetic acid magnesium dipotassium salt	172	101922	3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate
172	104594	Calcon (C.I.15705)	189	115938	Hematoxylin monohydrate (C.I.75290)	172	107534	Pyrogallol red
191	100211	Carminic acid (C.I. 75470)				1407	106595	Rhodizonic acid disodium salt
172	103122	3,3'-Dimethylnaphthidine	990	104593	Hydroxynaphthol blue	1555	108294	Thorin
815	103091	1,5-Diphenylcarbazine	172	108430	Indicator buffer tablets	173	108677	Xylenol orange tetrasodium salt
815	103087	1,5-Diphenylcarbazon	172	106084	Methylthymol blue sodium salt	1641	108739	Zincon
			172	106161	Murexide			

Metal phthaleine, Cresol phthalexone → Phthalein purple page 172

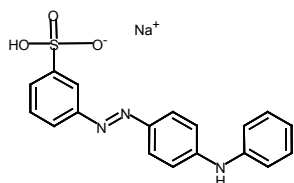


# Metals

## Metals / Elements

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
368	101056	Aluminium	1005	104761	Iodine	1334	119233	Platinum
368	101057	Aluminium	1037	103819	Iron	1334	119232	Platinum
368	820051	Aluminium	1073	107362	Lead	1343	804815	Potassium
368	814917	Aluminium	1073	112067	Lead	1414	107714	Selenium
422	107832	Antimony	1073	107365	Lead	1420	101506	Silver
425	100115	Arsenic	1079	818044	Lithium	1424	106260	Sodium
430	112046	Barium	1079	805660	Lithium	1424	822284	Sodium
474	112400	Bismuth	1086	818506	Magnesium	1518	112349	Tantalum powder
481	112070	Boron	1086	105815	Magnesium	1557	107807	Tin
559	102001	Cadmium	1086	845042	Magnesium	1557	107806	Tin
559	102004	Cadmium	1086	805817	Magnesium	1559	112379	Titanium
561	102053	Calcium	1086	105812	Magnesium foil	1620	112406	Tungsten
640	112097	Chromium	1094	112237	Manganese	1627	112392	Vanadium
649	112211	Cobalt powder	165	104404	Mercury	1639	108756	Zinc
652	102703	Copper	1103	104401	Mercury	1639	108774	Zinc
652	102700	Copper	1103	104403	Mercury	1639	108755	Zinc
920	112169	Gallium	1190	112254	Molybdenum powder	1639	108780	Zinc
931	104206	Graphite	1205	112277	Nickel	1639	108789	Zinc
1002	112196	Indium	1258	119225	Palladium	1640	108782	Zinc
165	104763	Iodine	1323	807270	Phosphorus (red)	168	102409	Zinc

### 159267 Metanil yellow Reag. Ph Eur



$C_{18}H_{14}N_3NaO_3S$   
3-(4-Anilinophenylazo)benzenesulfonic acid

*sodium salt*  
 ■ CAS-No. 587-98-4 ■ EC-No. 209-608-2  
 ■ Solub. in  $H_2O$  25 g/l (20 °C) ■  $M = 375.38$  g/mol  
 ■ pH value 10 (10 g/l,  $H_2O$ , 20 °C)  
 ■ Bulk density 330 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 3, H412, P273, P280, P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg

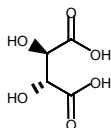
■ LGK 10 - 13  
 ■ HS-No. 2927 00 00 ■ Disposal 3

**Specification**  
 Description.....brownish-yellow powder  
 Transition range.....pH 1.2 - 2.3  
 Sensitivity test.....conforms

Ord.No.	Packaging	Quantity	Price
1.59267.0010	Glass bottle	10 g	inquire

Metaphosphoric acid → meta-Phosphoric acid page 1321

### 820771 Metatartaric acid for synthesis



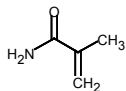
$(C_4H_4O_5)_n$   
*m-Tartaric acid*  
 ■ CAS-No. 56959-20-7  
 ■ Solub. in  $H_2O$  (20 °C) soluble  
 ■ Melting point 168 - 169 °C  
 ■ WGK 1  
 ■ LGK 10 - 13

■ HS-No. 2918 19 98 ■ Disposal 3

**Specification**  
 Assay (of esterified acid).....36.0 - 40.0 %  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.20771.0250	Glass bottle	250 g	inquire

### 805792 Methacrylamide for synthesis



$C_4H_7NO$   
 $CH_2=C(CH_3)CONH_2$   
 2-Methyl-2-propenamamide  
 ■ CAS-No. 79-39-0 ■ EC-No. 201-202-3  
 ■ Spec. density 1.10 - 1.12 g/cm<sup>3</sup> (20 °C)  
 ■ Explosive limit 2 - 15 % (V) ■ Solub. in

$H_2O$  200 g/l (20 °C) ■  $M = 85.11$  g/mol  
 ■ pH value 7.1 (100 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 106 - 109 °C  
 ■ Bulk density 550 kg/m<sup>3</sup> ■ Boiling point 215 °C (1013 hPa) ■ Ignition temp. 510 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
 ■ LD50 oral rat 1815 mg/kg ■ LD50 dermal rat > 5000 mg/kg  
 ■ LGK 10 - 13

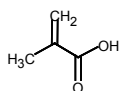
■ HS-No. 2924 19 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%).....≥ 99,0 Area %  
 Melting range (lower value).....≥ 109 °C  
 Melting range (upper value).....≤ 111 °C  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.05792.0250	Plastic bottle	250 g	inquire

Methacrylate acid-2-ethylhexyl ester → 2-Ethylhexyl methacrylate page 870

## 800578 Methacrylic acid (stabilised with hydroquinone monomethyl ether) for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>2</sub>CH<sub>2</sub>C(CH<sub>3</sub>)COOH

2-Methylpropenoic acid

- CAS-No. 79-41-4 ■ EC-No. 201-204-4
- Refractive index 1.431 (20 °C, 589 nm) ■ Vapour pressure < 1 hPa (20 °C) ■ Spec. density 1.015 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 8.7 % (V)
- Flash point 65 °C ■ Solub. in H<sub>2</sub>O 98 g/l (20 °C)
- M = 86.09 g/mol ■ pH value 2.0 - 2.2 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 15 °C

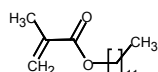
- Boiling point 161 °C (1013 hPa)
- Ignition temp. 370 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 7.1 mg/l
- LD50 oral rat 1320 mg/kg
- EC-Index-No. 607-088-00-5 ■ LGK 8A
- HS-No. 2916 13 00 ■ Disposal 4
- ADR-RID UN 2531 Methacrylsäure, stabilisiert, 8, II ■ IMDG-Code UN 2531 METHACRYLIC ACID, STABILIZED, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2531 METHACRYLIC ACID, STABILIZED, 8, II

**Specification**

Assay (GC, area%) ..... ≥ 99 %  
Density (d 20 °C/ 4 °C) ..... 1.013 - 1.015  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00578.0100	Glass bottle	100 ml	inquire
8.00578.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.00578.2500	Glass bottle	2.5 l	inquire

800589 Methacrylic acid alkylester (mixture of C<sub>12</sub>-C<sub>16</sub>) (stabilised with hydroquinone monomethyl ether) for synthesis

Dodecyl 2-methylpropenoate, Lauryl methacrylate, Methacrylic acid dodecyl ester

- CAS-No. 90551-76-1 ■ EC-No. 292-094-7
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C)
- Flash point 105 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ Melting point -

- 25 °C ■ Boiling point >300 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- EC-Index-No. 607-134-00-4 ■ LGK 10 - 13
- HS-No. 3824 90 97 ■ Disposal 3

**Specification**

assay n-C12 isomer (GC, area%) .....

..... 60,0 - 70,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,873 - 0,875  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00589.0100	Glass bottle	100 ml	inquire
8.00589.0500	Glass bottle	500 ml	inquire

Methacrylic acid butyl ester → Butyl methacrylate page 549

Methacrylic acid dodecyl ester → Methacrylic acid alkylester (mixture of C<sub>12</sub>-C<sub>16</sub>) page 1109

Methacrylic acid 2-ethoxyethyl ester → (2-Ethoxyethyl) methacrylate page 846

Methacrylic acid ethyl ester → Ethyl methacrylate page 874

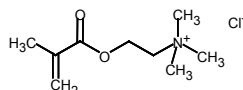
Methacrylic acid 2-hydroxyethyl ester → 2-Hydroxyethyl methacrylate page 982

Methacrylic acid 2-hydroxypropyl ester → Hydroxypropyl methacrylate page 994

Methacrylic acid methyl ester → Methyl methacrylate page 1160

Methacryloxypropyl trimethoxysilane → Silane A 174 page 1417

## 840089 (Methacryloyloxyethyl)trimethyl ammonium chloride (75% solution in water) (stabilised with hydroquinone monomethyl ether) for synthesis



- Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ Melting point -25 °C
- WGK 1
- GHS: Warning, Skin sensitisation, Category 1,

- H317, P302 + P352
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13 ■ Store at +2 °C to +8 °C.
- HS-No. 2923 90 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (argentometric) ..... ≥ 74,0 %  
Density (d 20 °C/ 4 °C) ..... 1,100 - 1,110  
Water (K. F.) ..... ≤ 26,0 %

Ord.No.	Packaging	Quantity	Price
8.40089.0025	Glass bottle	25 ml	inquire

β-Methallyl chloride → 3-Chloro-2-methyl-1-propene page 620

Methanal solution → page 185

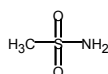
Methane amide → page 304

Methane carboxylic acid → Acetic acid 99-100% page 335

Methane carboxylic acid solution → Acetic acid page 168

Methanediphosphonic acid → Methylendiphosphonic acid page 1150

## 840001 Methanesulfonamide for synthesis

CH<sub>3</sub>NO<sub>2</sub>SCH<sub>3</sub>SO<sub>2</sub>NH<sub>2</sub>

- CAS-No. 3144-09-0 ■ EC-No. 221-553-6
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 95.11 g/mol

- Melting point 91 - 92 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2935 00 90 ■ Disposal 3

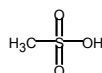
**Specification**

Assay (ex N) ..... ≥ 97,0 %  
Melting range (lower value) ..... ≥ 88 °C  
Melting range (upper value) ..... ≤ 92 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40001.0010	Glass bottle	10 g	inquire

# Methan

## Methanesulfonic acid



CH<sub>4</sub>O<sub>3</sub>S  
CH<sub>3</sub>SO<sub>3</sub>H  
MSA  
■ CAS-No. 75-75-2 ■ EC-No. 200-898-6  
■ Refractive index 1.4303 (20 °C, 589 nm)  
■ Vapour pressure < 1 hPa (20 °C)  
■ Spec. density 1.48 g/cm<sup>3</sup> (20 °C)

■ Flash point 189 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 96.11 g/mol ■ pH value (H<sub>2</sub>O) no data available ■ Melting point 20 °C  
■ Boiling point 167 °C (13 hPa)  
■ Ignition temp. >500 °C  
■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1B, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 200 mg/kg ■ LD50 dermal rabbit 200 - 2000 mg/kg

■ EC-Index-No. 607-145-00-4 ■ LGK 6.1A  
■ HS-No. 2904 10 00 ■ Disposal 4  
■ ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(METHANSULFONSAEURE), 8 (6.1), II  
■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(METHANESULFONIC ACID), 8 (6.1), II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(METHANESULFONIC ACID), 8 (6.1), II

### 806022 Methanesulfonic acid for synthesis

#### Specification

Assay (acidimetric)..... ≥ 99,0 %(m)  
Density (d 20 °C/ 4 °C)..... 1,478 - 1,482

Ord.No.	Packaging	Quantity	Price
8.06022.0005	Glass bottle	5 ml	inquire
8.06022.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.06022.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

### 814637 Methanesulfonic acid (70% solution in water) for synthesis

#### Specification

Assay (acidimetric)..... 69,0 - 71,0 %(m)  
Density (d 20 °C/ 4 °C)..... 1,350 - 1,360

Ord.No.	Packaging	Quantity	Price
8.14637.0250	Glass bottle	250 ml	inquire
8.14637.1000	Glass bottle	1 l	inquire

### 845044 Methanesulfonic acid for pharma synthesis, non-GMP

#### Specification

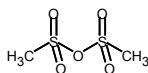
Appearance of substance (visual) clear  
Colour number (Apha) ..... ≤ 50  
Assay (acidimetric)..... ≥ 99,0 %(m)

Density (d 20 °C/ 4 °C)..... 1,478 - 1,482

Ord.No.	Packaging	Quantity	Price
8.45044.0005	Glass bottle	5 ml	inquire
8.45044.1000	Glass bottle	1 l	inquire

Methanesulfonic acid chloride → page 1110

## 818034 Methanesulfonic anhydride for synthesis



C<sub>2</sub>H<sub>6</sub>O<sub>5</sub>S<sub>2</sub>  
(CH<sub>3</sub>SO<sub>2</sub>)<sub>2</sub>O  
■ CAS-No. 7143-01-3 ■ EC-No. 230-442-1  
■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
■ M = 174.2 g/mol ■ Melting point 64 - 67 °C  
■ Boiling point 105 - 109 °C (1.3 hPa)  
■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309, P310  
■ LGK 8 B ■ Store below +15°C.  
■ HS-No. 2904 10 00 ■ Disposal 3  
■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(METHANSULFONSAEUREANHYDRID), 8, II  
■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(METHANESULFONIC ANHYDRIDE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(METHANESULFONIC ANHYDRIDE), 8, II

#### Specification

Assay (morpholine method)..... ≥ 98,0 %(m)  
Melting range (lower value)..... ≥ 63 °C  
Melting range (upper value)..... ≤ 66 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18034.0025	Glass bottle	25 g	inquire

## Methanesulfonyl chloride



CH<sub>3</sub>ClO<sub>2</sub>S  
CH<sub>3</sub>SO<sub>2</sub>Cl  
Methanesulfonyl chloride, Mesyl chloride  
■ CAS-No. 124-63-0 ■ EC-No. 204-706-1  
■ Refractive index 1.45 (20 °C) ■ Vapour pressure 2.79 hPa (20 °C) (calculated)  
■ Spec. density 1.478 g/cm<sup>3</sup> (20 °C)  
■ Flash point >110 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble,(slow decomposition)  
■ M = 114.55 g/mol ■ Melting point -32 °C  
■ Boiling point 161 °C (1013 hPa)  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P309 + P310, P304 + P340, P302 + P352, P301 + P330 + P331, P305 + P351 + P338

■ LC50 rat 0.117 mg/l  
■ LD50 oral rat 205 - 317 mg/kg  
■ LD50 dermal rabbit 200 - 2000 mg/kg  
■ LGK 6.1A  
■ HS-No. 2904 90 95 ■ Disposal 11  
■ ADR-RID UN 3246 Methansulfonylchlorid, 6.1 (8), I ■ IMDG-Code UN 3246 METHANESULPHONYL CHLORIDE, 6.1 (8), I, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3246 METHANESULPHONYL CHLORIDE, 6.1 (8),

### 806021 Methanesulfonyl chloride for synthesis

#### Specification

Assay (GC, area%)..... ≥ 99 %  
Density (d 20 °C/ 4 °C)..... 1.473 - 1.476  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.06021.0250	Glass bottle	250 ml	inquire
8.06021.1000	Glass bottle	1 l	inquire

### 845043 Methanesulfonyl chloride for pharma synthesis, non-GMP

#### Specification

Colour (visual)..... colourless  
Appearance of substance (visual)..... clear  
Assay (GC, area%)..... ≥ 99,0 Area %

Density (d 20 °C/ 4 °C)..... 1,473 - 1,476  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45043.0250	Glass bottle	250 ml	inquire
8.45043.1000	Glass bottle	1 l	inquire

Methanetricarboxylic acid triethyl ester → Triethyl methanetricarboxylate page 1587

4,7-Methano-3a,4,7,7a-tetrahydroindene → Dicyclopentadiene page 735

## Methanol

CH<sub>4</sub>OCH<sub>3</sub>OH

MeOH, Hydroxymethane, Methyl alcohol, Carbinol

■ CAS-No. 67-56-1 ■ EC-No. 200-659-6

■ Refractive index 1.33 ■ Vapour pressure 128 hPa (20 °C) ■ Spec. density 0.792 g/cm<sup>3</sup> (20 °C)

■ Explosive limit 5.5 - 44 % (V) ■ Flash point 10 °C

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 32.04 g/mol■ pH value (H<sub>2</sub>O) no data available

■ Melting point -98 °C ■ Boiling point 64.5 °C

(1013 hPa) ■ Evaporation number 6.3

■ Water absorption 1000 g/kg

■ Ignition temp. 455 °C DIN 51794

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 2,

H225; Acute toxicity, Category 3, Oral, H301;

Acute toxicity, Category 3, Inhalation, H331;

Acute toxicity, Category 3, Dermal, H311; Specific

target organ toxicity - single exposure, Category

1, H370, P210, P233, P280, P302 + P352, P304 +

P340, P309 + P310

■ LC50 rat 85.26 mg/l

■ LD50 oral rat 5628 mg/kg ■ LD50 dermal rabbit 17100 mg/kg

■ EC-Index-No. 603-001-00-X ■ LGK 3 ■ Store below +30 °C.

■ HS-No. 2905 11 00 ■ Disposal 1

■ ADR-RID UN 1230 Methanol, 3 (6.1), II ■ IMDG-

Code UN 1230 METHANOL, 3 (6.1), II

■ IATA-DGR UN 1230 METHANOL, 3 (6.1), II



## 822283 Methanol EMPLURA®

## Specification

Purity (GC)..... ≥ 99.5 %

Identity (IR)..... conforms

Density (d 20 °C/ 4 °C)..... 0.791 - 0.792

Evaporation residue..... ≤ 0.0010 %

Water..... ≤ 0.10 %

Ord.No.	Packaging	Quantity	Price
8.22283.1000	Plastic bottle	1 l	inquire
8.22283.2500	Plastic bottle	2.5 l	inquire
8.22283.5000	Plastic bottle	5 l	inquire
8.22283.9011	Steel barrel	10 l	inquire
8.22283.9025	Steel barrel	25 l	inquire
8.22283.9180	Barrel PE/met	180 l	inquire

## 107018 Methanol for analysis EMPARTA® ACS

## Specification

Purity (GC)..... ≥ 99.8 %

Identity (IR)..... conforms

Appearance..... clear

Colour..... ≤ 10 Hazen

Solubility in water..... conforms

Titrable acid..... ≤ 0.0003 meq/g

Titrable base..... ≤ 0.0002 meq/g

Boiling point..... 64 - 65 °C

Acetone..... ≤ 0.001 %

Acetaldehyde..... ≤ 0.001 %

Formaldehyde..... ≤ 0.001 %

Readily carbonizable substances..... conforms

Substances reducing potassium permanganate (as O)..... ≤ 0.0003 %

Evaporation residue..... ≤ 0.001 %

Water..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.07018.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07018.4000	Glass bottle	4 l	inquire
1.07018.9026	Steel barrel	25 l	inquire

## 106009 Methanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur

## Specification

Purity (GC)..... ≥ 99.9 %

Identity (IR)..... conforms

Appearance..... clear

Colour..... ≤ 10 Hazen

Solubility in water..... conforms

Acidity..... ≤ 0.0002 meq/g

Alkalinity..... ≤ 0.0002 meq/g

Density (d 20 °C/20 °C)..... 0.791 - 0.793

Boiling point..... 64 - 65 °C

Benzene (impurity A) (GC)..... ≤ 2 ppm

Ethanol (GC)..... ≤ 0.05 %

Acetone..... ≤ 0.001 %

Acetaldehyde..... ≤ 0.001 %

Formaldehyde..... ≤ 0.001 %

Readily carbonizable substances..... conforms

Carbonyl compounds (as CO)..... ≤ 0.001 %

Chloride (Cl)..... ≤ 0.5 ppm

Sulphate (SO<sub>4</sub>)..... ≤ 1 ppm

Substances reducing potassium permanganate (as O)..... ≤ 0.00025 %

Ag (Silver)..... ≤ 0.000002 %

Al (Aluminium)..... ≤ 0.00005 %

As (Arsenic)..... ≤ 0.000002 %

Au (Gold)..... ≤ 0.000002 %

Ba (Barium)..... ≤ 0.00001 %

Be (Beryllium)..... ≤ 0.000002 %

Bi (Bismuth)..... ≤ 0.000002 %

Ca (Calcium)..... ≤ 0.00005 %

Cd (Cadmium)..... ≤ 0.000005 %

Co (Cobalt)..... ≤ 0.000002 %

Cr (Chromium)..... ≤ 0.000002 %

Cu (Copper)..... ≤ 0.000002 %

Fe (Iron)..... ≤ 0.00001 %

Ga (Gallium)..... ≤ 0.000002 %

In (Indium)..... ≤ 0.000002 %

Li (Lithium)..... ≤ 0.000002 %

Mg (Magnesium)..... ≤ 0.00001 %

Mn (Manganese)..... ≤ 0.000002 %

Mo (Molybdenum)..... ≤ 0.000002 %

Ni (Nickel)..... ≤ 0.000002 %

Pb (Lead)..... ≤ 0.00001 %

Pt (Platinum)..... ≤ 0.000005 %

Sn (Tin)..... ≤ 0.00001 %

Ti (Titanium)..... ≤ 0.000002 %

Tl (Thallium)..... ≤ 0.000002 %

V (Vanadium)..... ≤ 0.000002 %

Zn (Zinc)..... ≤ 0.00001 %

Zr (Zirconium)..... ≤ 0.000002 %

Evaporation residue..... ≤ 0.0005 %

Water..... ≤ 0.05 %

ACS, ISO, Reag Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06009.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.06009.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.06009.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.06009.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.06009.4000	Glass bottle	4 l	inquire
1.06009.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire
1.06009.6010	Drum stainl. st.	10 l	inquire
1.06009.6025	Drum stainl. st.	25 l	inquire
1.06009.9025	Barrel PE/met	25 l	inquire
1.06009.9180	Barrel PE/met	180 l	inquire

106012 Methanol dried (max. 0.003% H<sub>2</sub>O) SeccoSolv®

## Specification

Purity (GC)..... ≥ 99.9 %

Identity (IR)..... conforms

Colour..... ≤ 10 Hazen

Acidity..... ≤ 0.0005 meq/g

Alkalinity..... ≤ 0.0002 meq/g

Acetone (GC)..... ≤ 0.05 %

Ethanol (GC)..... ≤ 0.1 %

Evaporation residue..... ≤ 10 mg/l

Water..... ≤ 0.003 %

Ord.No.	Packaging	Quantity	Price
1.06012.0161	Septum bottle	150 ml	inquire
1.06012.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.06012.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.06012.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire
1.06012.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.06012.6010	Drum stainl. st.	10 l	inquire

## 106011 Methanol for gas chromatography ECD and FID SupraSolv®

## Specification

Purity (GC)..... ≥ 99.8 %

Identity (IR)..... conforms

Evaporation residue..... ≤ 3.0 mg/l

Water..... ≤ 0.1 %

Colour..... ≤ 10 Hazen

GC/ECD (retention range 1,2,4-tri-

chlorobenzene to decachlorobiphenyle, individual signals (lindane standard))..... ≤ 3 mg/ml

GC/FID (retention range n-undecane to

n-tetracontane, individual signals

(n- tetradecane standard))..... ≤ 3 mg/ml

suitable for residue analysis

Ord.No.	Packaging	Quantity	Price
1.06011.1000	Glass bottle	1 l	inquire
1.06011.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.06011.4000	Glass bottle	4 l	inquire

# Methan

## 100837 Methanol for gas chromatography MS SupraSolv®

<b>Specification</b>	GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n- tetradecane standard)).....
Purity (GC).....	≥ 99.8 %
Identity (IR).....	conforms
Evaporation residue.....	≤ 3.0 mg/l
Water.....	≤ 0.1 %
Colour.....	≤ 10 Hazen
	Suitable for residue analysis. ≤ 3 ng/ml

Ord.No.	Packaging	Quantity	Price
1.00837.1000	Glass bottle	1 l	inquire
1.00837.2500	Glass bottle	2.5 l	inquire

## 106002 Methanol for spectroscopy Uvasol®

<b>Specification</b>	Transmission (at 220 nm).....	≥ 60 %
Purity (GC).....	Transmission (at 230 nm).....	≥ 80 %
Evaporation residue.....	Transmission (at 240 nm).....	≥ 90 %
Water.....	Transmission (at 250 nm).....	≥ 95 %
Colour.....	Transmission (from 260 nm).....	≥ 98 %
Acidity.....	Absorbance (at 205nm).....	≤ 1.00
Alkalinity.....	Absorbance (at 210 nm).....	≤ 0.52
Fluorescence (as quinine at 254 nm).....	Absorbance (at 220 nm).....	≤ 0.22
Fluorescence (as quinine at 365 nm).....	Absorbance (at 230 nm).....	≤ 0.10
Transmission (at 205nm).....	Absorbance (at 240 nm).....	≤ 0.05
Transmission (at 210 nm).....		

Absorbance (at 250 nm)..... ≤ 0.02  
 Absorbance (from 260 nm)..... ≤ 0.01  
 Meet the requirements of "Specific use spectroscopy" according ACS and Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06002.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.06002.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 106018 Methanol for liquid chromatography LiChrosolv®

<b>Specification</b>	Transmission (at 240 nm).....	≥ 80 %
Purity (GC).....	Transmission (from 265 nm).....	≥ 98 %
Identity (IR).....	Filtered by 0.2 µm filter	
Evaporation residue.....		
Water.....		
Colour.....		
Acidity.....		
Alkalinity.....		
Transmission (at 225 nm).....		

Ord.No.	Packaging	Quantity	Price
1.06018.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.06018.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.06018.4000	Glass bottle	4 l	inquire
1.06018.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.06018.9010	Barrel stainl. st.	10 l	inquire
1.06018.9030	Barrel stainl. st.	30 l	inquire
1.06018.9185	Barrel stainl. st.	185 l	inquire

## 106007 Methanol gradient grade for liquid chromatography LiChrosolv® Reag. Ph Eur

<b>Specification</b>	Transmission (at 210 nm).....	≥ 20 %
Purity (GC).....	Transmission (at 220 nm).....	≥ 60 %
Identity (IR).....	Transmission (at 230 nm).....	≥ 75 %
Evaporation residue.....	Transmission (at 235 nm).....	≥ 83 %
Water.....	Transmission (at 250 nm).....	≥ 95 %
Colour.....	Transmission (from 260 nm).....	≥ 98 %
Density (d 20 °C/20 °C).....	Absorbance (at 225 nm).....	≤ 0.170
Boiling point.....	Filtered by 0.2 µm filter. Suitable for UPLC / UHPLC / Ultra HPLC - instruments. Conforms to Methanol R1 and R2 according to Reag. Ph Eur; conforms to the requirements of ACS for liquid chromatography suitability.	
Acidity.....		
Alkalinity.....		
Gradient grade (at 235 nm).....		
Gradient grade (at 254 nm).....		
Fluorescence (as quinine at 254 nm).....		
Fluorescence (as quinine at 365 nm).....		

Ord.No.	Packaging	Quantity	Price
1.06007.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.06007.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.06007.4000	Glass bottle	4 l	inquire
1.06007.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.06007.9010	Barrel stainl. st.	10 l	inquire
1.06007.9030	Barrel stainl. st.	30 l	inquire
1.06007.9185	Barrel stainl. st.	185 l	inquire

## 106035 Methanol hypergrade for LC-MS LiChrosolv®

<b>Specification</b>	Transmission (at 210 nm).....	≥ 35 %
Purity (GC).....	Transmission (at 220 nm).....	≥ 60 %
Identity (IR).....	Transmission (at 230 nm).....	≥ 75 %
Evaporation residue.....	Transmission (from 260 nm).....	≥ 98 %
Water.....	Suitable for LC-MS (tested with ion trap MS); (Intensity of background mass peak based on reserpine (APCI/ESI positiv)).....	≤ 2 ppb
Acidity.....	Suitable for LC-MS (tested with ion trap MS); Intensity of background mass peak based on reserpine (APCI/ESI negative).....	≤ 20 ppb
Alkalinity.....		
Na (Sodium).....		
K (Potassium).....		
Gradient grade (at 220 nm).....		
Gradient grade (at 235 nm).....		

Suitable for PAH-analysis. Filtered by 0.2 µm filter. Suitable for UPLC / UHPLC / Ultra HPLC - instruments

Ord.No.	Packaging	Quantity	Price
1.06035.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.06035.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 113351 Methanol for preparative chromatography Prepsolv®

<b>Specification</b>	Transmission (at 225 nm).....	≥ 50 %
Purity (GC).....	Transmission (from 265 nm).....	≥ 98 %
Identity (IR).....	Filtered by 0.2 µm filter	
Evaporation residue.....		
Water.....		
Acidity.....		
Alkalinity.....		

Ord.No.	Packaging	Quantity	Price
1.13351.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.13351.4000	Glass bottle	4 l	inquire
1.13351.9030	Barrel stainl. st.	30 l	inquire
1.13351.9185	Barrel stainl. st.	185 l	inquire



**815051 Methanol-D1** deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™CH<sub>3</sub>DO  
CH<sub>3</sub>OD*Tetra*deuteromethanol

- CAS-No. 1455-13-6 ■ EC-No. 215-933-0
- Vapour pressure 128 hPa (20 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 36.5 % (V) ■ Flash point 11 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 33.05 g/mol
- Melting point -98 °C ■ Boiling point 64.5 °C

- (1013 hPa) ■ Evaporation number 5.3
- Ignition temp. 455 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 1, H370, P210, P280, P302 + P352, P304 + P340, P309 + P310
- LC50 rat 85.26 mg/l
- LD50 oral rat 5628 mg/kg

- LGK 3
- HS-No. 2845 90 10 ■ Disposal 1
- ADR-RID UN 1230 Methanol, 3 (6.1), II ■ IMDG-Code UN 1230 METHANOL, 3 (6.1), II
- IATA-DGR UN 1230 METHANOL, 3 (6.1), II

**Specification**

Deuteration degree..... ≥ 99.5 %

Ord.No.	Packaging	Quantity	Price
8.15051.0050	Glass bottle	50 ml	inquire
8.15051.0100	Glass bottle	100 ml	inquire

**815052 Methanol-D3** deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™CHD<sub>3</sub>O  
CD<sub>3</sub>OH*Tetra*deuteromethanol

- CAS-No. 1849-29-2 ■ EC-No. 217-435-9
- Vapour pressure 128 hPa (20 °C)
- Spec. density 0.867 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 36.5 % (V) ■ Flash point 11 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 35.06 g/mol

- Melting point -98 °C ■ Boiling point 64.5 °C (1013 hPa) ■ Ignition temp. 455 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P280, P302 + P352, P309 + P310
- LC50 rat 85.26 mg/l
- LD50 oral rat 5628 mg/kg

- EC-Index-No. 603-001-00-X ■ LGK 3
- HS-No. 2845 90 10 ■ Disposal 1
- ADR-RID UN 1230 Methanol, 3 (6.1), II ■ IMDG-Code UN 1230 METHANOL, 3 (6.1), II
- IATA-DGR UN 1230 METHANOL, 3 (6.1), II

**Specification**

Deuteration degree..... ≥ 99.5 %

Ord.No.	Packaging	Quantity	Price
8.15052.0001	Glass ampoule	1 ml	inquire
8.15052.0005	Glass ampoule	5 ml	inquire

**Methanol-D4**CD<sub>4</sub>O  
CD<sub>3</sub>OD*Tetra*deuteromethanol

- CAS-No. 811-98-3 ■ EC-No. 212-378-6
- Vapour pressure 128 hPa (20 °C)
- Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 5.5 - 36.5 % (V) ■ Flash point 11 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 36.07 g/mol
- Melting point -98 °C ■ Boiling point 64.5 °C (1013 hPa) ■ Ignition temp. 455 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category

- 1, H370, P210, P233, P280, P302 + P352, P309 + P310
- LC50 rat 85.26 mg/l
- LD50 oral rat 5628 mg/kg ■ LD50 dermal rabbit 17100 mg/kg
- LGK 3
- HS-No. 2845 90 10 ■ Disposal 1
- ADR-RID UN 1230 Methanol, 3 (6.1), II ■ IMDG-Code UN 1230 METHANOL, 3 (6.1), II
- IATA-DGR UN 1230 METHANOL, 3 (6.1), II

**106025 Methanol-D4** deuteration degree min. 99.95% for NMR spectroscopy MagniSolv™**Specification**

Deuteration degree..... ≥ 99.95 %  
 Water (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O)..... ≤ 0.020 %  
 Performance test (NMR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.06025.0005	Glass ampoule	10x 0.5 ml	inquire
1.06025.0009	Glass ampoule	10x0.75 ml	inquire

**106028 Methanol-D4** deuteration degree min. 99.8 % for NMR spectroscopy MagniSolv™**Specification**

Deuteration degree..... ≥ 99.80 %  
 Water (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O)..... ≤ 0.030 %  
 Performance test (NMR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.06028.0001	Glass ampoule	1 ml	inquire
1.06028.0005	Glass ampoule	10x 0.5 ml	inquire
1.06028.0009	Glass ampoule	10x0.75 ml	inquire
1.06028.0010	Septum ampoule	10 ml	inquire
1.06028.0025	Glass bottle	25 ml	inquire
1.06028.0100	Glass bottle	100 ml	inquire

Methenamine → Hexamethylenetetramine page 951

**104343 Methenamine GR** for analysis Reag. Ph EurC<sub>6</sub>H<sub>12</sub>N<sub>4</sub>*Hexamethylenetetramine, Hexamine, Formin®, Urotropin®*

- CAS-No. 100-97-0 ■ EC-No. 202-905-8
- Vapour pressure < 0.01 hPa (20 °C) (External MSDS) ■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C) ■ Flash point 250 °C ■ Solub. in H<sub>2</sub>O 895 g/l (20 °C) soluble ■ M = 140.19 g/mol
- pH value 7.0 - 9.0 (100 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 600 kg/m<sup>3</sup> ■ Ignition temp. 390 °C
- WGK 1

- GHS: Warning, Flammable solid, Category 2, H228; Skin sensitisation, Category 1, H317, P210, P280, P302 + P352
  - LD50 oral rat 9200 mg/kg
  - EC-Index-No. 612-101-00-2 ■ LGK 4.1B
  - HS-No. 2933 69 40 ■ Disposal 3
  - ADR-RID UN 1328 Hexamethylenetetramin, 4.1, III ■ IMDG-Code UN 1328 HEXAMETHYLENETETRAMINE, 4.1, III
  - IATA-DGR UN 1328 HEXAMETHYLENETETRAMINE, 4.1, III
- For the detection of metals in inorganic analysis corrosion inhibitor.

Identity (IR-spectrum)..... passes test  
 Appearance..... colorless or white to almost white crystalline powder  
 pH (100 g/l, water)..... 7.0 - 9.0  
 Chloride (Cl)..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Heavy metals (as Pb)..... ≤ 0.0001 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %  
 Sulfated ash (800 °C)..... ≤ 0.05 %

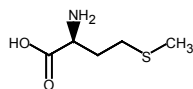
Ord.No.	Packaging	Quantity	Price
1.04343.0100	Plastic bottle	100 g	inquire
1.04343.0500	Plastic bottle	500 g	inquire

Methenamine silver plating kit acc. to Gomori → page 202

Methional → 3-(Methylthio)-propionaldehyde page 1183

# Methio

## L-Methionine



C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>S

### Met

- CAS-No. 63-68-3 ■ EC-No. 200-562-9
- Solub. in H<sub>2</sub>O 48 g/l (20 °C) ■ M = 149.2 g/mol
- pH value 5 - 7 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 280 - 285 °C
- Bulk density 550 kg/m<sup>3</sup>

- WGK 1
  - LD50 oral rat 36000 mg/kg
  - LGK 10 - 13
  - HS-No. 2930 40 10 ■ Disposal 3
- Soluble in water and mineral acids; insoluble in organic solvents.

## 816010 L-Methionine for synthesis

### Specification

Assay (HClO<sub>4</sub>)..... ≥ 99.0 % (m)  
 Spec. rotation [α]<sub>D</sub> (c=2 in HCl 6 mol/l)..... 22,5 - 24,0 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16010.0025	Plastic bottle	25 g	inquire
8.16010.0100	Plastic bottle	100 g	inquire

## 105707 L-Methionine for biochemistry

### Specification

Assay (perchloric acid titration, calculated on dried substance)..... ≥ 99.0 %  
 Identity (IR-spectrum)..... passes test  
 Appearance..... white or almost white, crystalline powder or colorless crystals  
 Appearance of solution (0.5 mol/l, hydrochloric acid 1 mol/l)..... clear and colorless  
 Spec. rotation (α)<sub>D</sub> (c=2 in HCl 6 mol/l, calc. on dried substance)..... +22.5 to +23.5 °  
 UV-Absorption (260 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l)..... ≤ 0.50

UV-Absorption (280 nm, 0.5 mol/l, 1 cm, hydrochloric acid 1 mol/l)..... ≤ 0.20  
 Chloride (Cl)..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 As (Arsenic)..... ≤ 0.0005 %  
 Ca (Calcium)..... ≤ 0.001 %  
 Co (Cobalt)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.0005 %  
 Mg (Magnesium)..... ≤ 0.0005 %  
 Na (Sodium)..... ≤ 0.005 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %

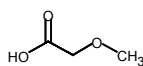
Zn (Zinc)..... ≤ 0.0005 %  
 Foreign amino acids..... ≤ 0.3 %  
 Other ninhydrine positive substances..... ≤ 0.1 %  
 Loss on drying (105 °C; 3 h)..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.05707.0025	Plastic bottle	25 g	inquire
1.05707.0100	Plastic bottle	100 g	inquire
1.05707.1000	Plastic bottle	1 kg	inquire
1.05707.9010	Plastic drum	10 kg	inquire

L-Methionine → page 1114

Methone → Dimedone page 768

## 821532 Methoxyacetic acid for synthesis



C<sub>3</sub>H<sub>6</sub>O<sub>3</sub>

CH<sub>3</sub>OCH<sub>2</sub>COOH

- CAS-No. 625-45-6 ■ EC-No. 210-894-6
- Refractive index 1.4158 (20 °C, 589 nm)
- Vapour pressure 1.8 hPa (20 °C)
- Spec. density 1.18 g/cm<sup>3</sup> (20 °C)
- Flash point 121 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 90.08 g/mol
- pH value 1.6 (100 g/l, H<sub>2</sub>O) ■ Melting point 7 °C
- Boiling point 202 - 204 °C (1013 hPa)

- Ignition temp. 300 °C
- WGK 1
- GHS: Danger, Reproductive toxicity, Category 1B, H360FD; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P201, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1000 mg/kg
- EC-Index-No. 607-312-00-1 ■ LGK 6.1 C
- HS-No. 2918 99 90 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(METHOXYESSIGSAEURE), 8, II
- IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(METHOXYACETIC ACID),

8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(METHOXYACETIC ACID), 8, II

### Specification

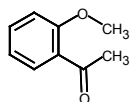
Assay (acidimetric)..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C)..... 1.174 - 1.178  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21532.0005	Glass bottle	5 ml	inquire
8.21532.0250	Glass bottle	250 ml	inquire

Methoxyacetic acid chloride → Methoxyacetyl chloride page 1115

Methoxyacetic acid methyl ester → Methyl methoxyacetate page 1160

## 841349 2'-Methoxyacetophenone for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>

2-Acetanisole

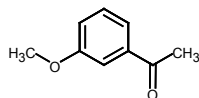
- CAS-No. 579-74-8 ■ EC-No. 209-446-2
- Spec. density 1.09 g/cm<sup>3</sup> (20 °C)
- Flash point 108 °C ■ M = 150.18 g/mol
- Boiling point 119 - 120 °C (13.3 hPa)
- WGK 3
- LGK 10
- HS-No. 2914 50 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.086 - 1.091  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41349.0025	Glass bottle	25 ml	inquire

## 818441 3'-Methoxyacetophenone for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>

3-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>COCH<sub>3</sub>

3-Acetylanisole

- CAS-No. 586-37-8 ■ EC-No. 209-573-3

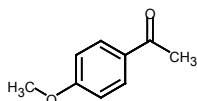
- Refractive index 1.5408 (20 °C, 589 nm)
- Spec. density 1.09 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 150.18 g/mol
- Melting point -8 °C ■ Boiling point 125 - 126 °C (16 hPa)
- WGK 2
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 1

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.093 - 1.095  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18441.0050	Glass bottle	50 ml	inquire

## 805795 4'-Methoxyacetophenone for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>COCH<sub>3</sub>

4-Acetylanisole

■ CAS-No. 100-06-1 ■ EC-No. 202-815-9

■ Vapour pressure &lt; 0.1 hPa (20 °C)

- Spec. density 1.08 g/cm<sup>3</sup> (42 °C)
- Flash point 138 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 150.18 g/mol
- Melting point 36 - 38 °C
- Boiling point 256 - 258 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
- LD50 oral rat 1720 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13

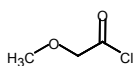
■ HS-No. 2914 50 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 36 °C  
 Melting range (upper value) ..... ≤ 38 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05795.0005	Glass bottle	5 g	inquire
8.05795.0250	Plastic bottle	250 g	inquire

## 841375 Methoxyacetyl chloride (stabilised) for synthesis

C<sub>3</sub>H<sub>5</sub>ClO<sub>2</sub>

Methoxyacetic acid chloride

■ CAS-No. 38870-89-2 ■ EC-No. 254-169-2

■ Vapour pressure 17 hPa (20 °C)

■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C)

■ Flash point 28 °C ■ Solub. in

H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 108.52 g/mol■ pH value (H<sub>2</sub>O, 20 °C) strongly acid, Hydrolysis

■ Melting point &lt; -40 °C

■ Boiling point 112 - 113 °C (1013 hPa)

■ Ignition temp. 410 °C

- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 4.1 mg/l
- LD50 oral rat 2465 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 3
- HS-No. 2918 99 90 ■ Disposal 11
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(METHOXYACETYLCHLORID), 8



(3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(METHOXYACETYL CHLORIDE), 8 (3), II

■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(METHOXYACETYL CHLORIDE), 8 (3), II

## Specification

Assay (morpholine method) ..... ≥ 98,0 %  
 Density (d 20 °C/ 4 °C) ..... 1.187 - 1.191  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41375.0005	Glass bottle	5 ml	inquire
8.41375.0250	Glass bottle	250 ml	inquire

4-Methoxyallylbenzene → 4-Allylanisole page 364

Methoxyamine hydrochloride → page 1155

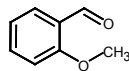
2-Methoxyaniline → o-Anisidine page 419

3-Methoxyaniline → m-Anisidine page 419

4-Methoxyaniline → page 419

4-Methoxyanilinium chloride → p-Anisidinium chloride page 419

## 820102 2-Methoxybenzaldehyde for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>2</sub>2-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CHO

o-Anisaldehyde

■ CAS-No. 135-02-4 ■ EC-No. 205-171-7

■ Spec. density 1.127 g/cm<sup>3</sup> (25 °C)

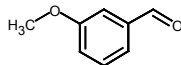
- Flash point 118 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 136.15 g/mol
- Melting point 34 - 37 °C
- WGK 1
- LD50 oral rat 2500 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 34 °C  
 Melting range (upper value) ..... ≤ 38 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20102.0100	Glass bottle	100 g	inquire

## 805796 3-Methoxybenzaldehyde for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>2</sub>3-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CHO

m-Anisaldehyde

■ CAS-No. 591-31-1 ■ EC-No. 209-712-8

■ Refractive index 1.5523 (20 °C, 589 nm)

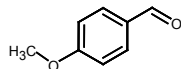
- Vapour pressure 1.3 hPa (73 °C)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 136.15 g/mol
- Boiling point 230 - 233 °C (1013 hPa)
- Ignition temp. 225 °C
- WGK 1
- LGK 10
- HS-No. 2912 49 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,116 - 1,120  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05796.0025	Glass bottle	25 ml	inquire
8.05796.0100	Glass bottle	100 ml	inquire

## 822314 4-Methoxybenzaldehyde for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>2</sub>4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CHO

Anisaldehyde

■ CAS-No. 123-11-5 ■ EC-No. 204-602-6

■ Refractive index 1.57 (20 °C) ■ Vapour pressure < 1 hPa (20 °C) ■ Spec. density 1.12 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 1.4 - 5.3 % (V)

- Flash point 116 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C)
- M = 136.15 g/mol ■ pH value 7 (2 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point 247 - 249 °C (1013 hPa)
- Ignition temp. 220 °C
- WGK 1
- LD50 oral rat 3200 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

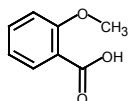
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.121 - 1.124  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22314.0250	Glass bottle	250 ml	inquire
8.22314.1000	Glass bottle	1 l	inquire

Methoxybenzene → Anisole page 299

## 820107 2-Methoxybenzoic acid for synthesis



$C_8H_8O_3$   
2- $CH_3OC_6H_4COOH$   
*o*-Anisic acid, *O*-Methylsalicylic acid

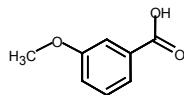
- CAS-No. 579-75-9 ■ EC-No. 209-447-8
- Solub. in  $H_2O$  5 g/l (30 °C) ■  $M = 152.15$  g/mol
- Melting point 98 - 101 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 4

**Specification**  
Assay (HPLC, area%) .....  $\geq 98.0$  % (a/a)

Melting range (lower value).....  $\geq 98$  °C  
Melting range (upper value) .....  $\leq 102$  °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20107.0100	Plastic bottle	100 g	inquire

## 818805 3-Methoxybenzoic acid for synthesis



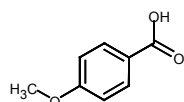
$C_8H_8O_3$   
3-( $CH_3O$ ) $C_6H_4COOH$   
*m*-Anisic acid

- CAS-No. 586-38-9 ■ EC-No. 209-574-9
- Solub. in  $H_2O$  5 g/l (30 °C) ■  $M = 152.15$  g/mol
- Melting point 103 - 106 °C
- Boiling point 170 - 172 °C (13 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 4

**Specification**  
Assay (acidimetric).....  $\geq 96.0$  % (m)  
Melting range (lower value).....  $\geq 103$  °C  
Melting range (upper value) .....  $\leq 106$  °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18805.0100	Plastic bottle	100 g	inquire

## 805971 4-Methoxybenzoic acid for synthesis



$C_8H_8O_3$   
*p*-Anisic acid  
■ CAS-No. 100-09-4 ■ EC-No. 202-818-5  
■ Solub. in  $H_2O$  0.3 g/l (20 °C) ■  $M = 152.15$  g/mol

- pH value 3 - 4 (0.3 g/l,  $H_2O$ , 20 °C)
- Melting point 182 - 185 °C
- Bulk density 380 kg/m<sup>3</sup> ■ Boiling point 277 °C (1013 hPa) ■ Ignition temp. 185 °C
- WGK 1
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 4

**Specification**  
Assay (HPLC, area%) .....  $\geq 98.0$  Area %  
Melting range (lower value).....  $\geq 182$  °C  
Melting range (upper value) .....  $\leq 185$  °C  
Identity (IR)..... conforms

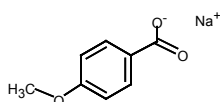
Ord.No.	Packaging	Quantity	Price
8.05971.0250	Plastic bottle	250 g	inquire
8.05971.1000	Plastic bottle	1 kg	inquire

2-Methoxybenzoic acid chloride → 2-Methoxybenzoyl chloride page 1117

4-Methoxybenzoic acid chloride → 4-Methoxybenzoyl chloride page 1117

2-Methoxybenzoic acid methyl ester → Methyl 2-methoxybenzoate page 1160

## 814622 4-Methoxybenzoic acid sodium salt for synthesis



$C_8H_7NaO_3$   
*p*-Anisic acid sodium salt, Sodium *p*-anisate

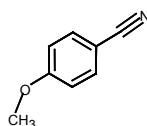
- CAS-No. 536-45-8 ■ EC-No. 208-634-1
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in  $H_2O$  (20 °C) soluble ■  $M = 174.13$  g/mol
- WGK 1
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

**Specification**  
Assay (Perchloric acid titration, calc. on anhydrous

substance) .....  $\geq 98\%$   
Purity (HPLC, area%).....  $\geq 98\%$  (a/a)  
Identity (IR)..... passes test  
Water (K. F.).....  $\leq 2\%$

Ord.No.	Packaging	Quantity	Price
8.14622.0050	Plastic bottle	50 g	inquire

## 820105 4-Methoxybenzonitrile for synthesis



$C_8H_7NO$   
4-( $CH_3O$ ) $C_6H_4CN$   
*p*-Anisic acid nitrile  
■ CAS-No. 874-90-8 ■ EC-No. 212-871-6  
■ Solub. in  $H_2O$  (20 °C) slightly soluble

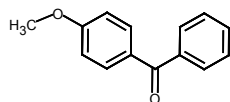
- $M = 133.15$  g/mol ■ Melting point 57 - 60 °C
- Boiling point 256 - 257 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(4-METHOXYBENZONITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(4-

METHOXYBENZONITRILE), 6.1, III  
■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(4-METHOXYBENZONITRILE), 6.1, III

**Specification**  
Assay (GC, area%).....  $\geq 98.0$  % (a/a)  
Melting range (lower value).....  $\geq 57$  °C  
Melting range (upper value) .....  $\leq 60$  °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20105.0010	Glass bottle	10 g	inquire

## 818277 4-Methoxybenzophenone for synthesis



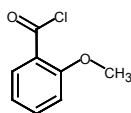
$C_{14}H_{12}O_2$   
4-( $CH_3O$ ) $C_6H_4COC_6H_5$   
4-Benzoylanisole

- CAS-No. 611-94-9 ■ EC-No. 210-285-5
- Solub. in  $H_2O$  (20 °C) insoluble ■  $M = 212.25$  g/mol ■ Melting point 59 - 62 °C
- Boiling point 201 - 203 °C (19 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

**Specification**  
Assay (GC, area%).....  $\geq 97.0$  % (a/a)  
Melting range (lower value).....  $\geq 59$  °C  
Melting range (upper value) .....  $\leq 62$  °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18277.0025	Plastic bottle	25 g	inquire

## 841332 2-Methoxybenzoyl chloride for synthesis

C<sub>8</sub>H<sub>7</sub>ClO<sub>2</sub>*o*-Anisoyl chloride, 2-Methoxybenzoic acid chloride■ CAS-No. 21615-34-9 ■ EC-No. 244-477-5  
■ Spec. density 1.146 g/cm<sup>3</sup> (20 °C)

- Flash point 84 °C ■ M = 170.59 g/mol
- Boiling point 128 - 129 °C (10.7 hPa)
- WGK 1
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2918 99 90 ■ Disposal 11
- ADR-RID UN 1729 Anisoylchlorid, 8, II ■ IMDG-Code UN 1729 ANISOYL CHLORIDE, 8, II,

Segregation Group: 1 (Acids)

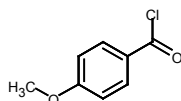
■ IATA-DGR UN 1729 ANISOYL CHLORIDE, 8, II

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.264 - 1.270  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41332.0005	Glass bottle	5 ml	inquire

## 820106 4-Methoxybenzoyl chloride for synthesis

C<sub>8</sub>H<sub>7</sub>ClO<sub>2</sub>4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>COCl*p*-Anisoyl chloride, 4-Methoxybenzoic acid chloride■ CAS-No. 100-07-2 ■ EC-No. 202-816-4  
■ Refractive index 1.5802 (20 °C, 589 nm)  
■ Spec. density 1.26 g/cm<sup>3</sup> (20 °C)

- Flash point 87 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 170.6 g/mol
- Melting point 24 °C ■ Boiling point 262 - 263 °C (1013 hPa)
- WGK 1
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2918 99 90 ■ Disposal 11
- ADR-RID UN 1729 Anisoylchlorid, 8, II ■ IMDG-

Code UN 1729 ANISOYL CHLORIDE, 8, II,  
Segregation Group: 1 (Acids)

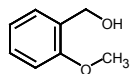
■ IATA-DGR UN 1729 ANISOYL CHLORIDE, 8, II

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.259 - 1.264  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20106.0050	Glass bottle	50 ml	inquire

## 821226 2-Methoxybenzyl alcohol for synthesis

C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>2-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH*o*-Anise alcohol

■ CAS-No. 612-16-8 ■ EC-No. 210-296-5

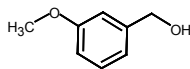
- Refractive index 1.546 (20 °C, 589 nm)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 138.17 g/mol
- Boiling point 248 - 250 °C
- WGK 1
- LGK 10
- HS-No. 2909 49 80 ■ Disposal 1

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.122 - 1.123  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21226.0025	Glass bottle	25 ml	inquire

## 821227 3-Methoxybenzyl alcohol for synthesis

C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>3-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH*m*-Anise alcohol

■ CAS-No. 6971-51-3 ■ EC-No. 230-200-5

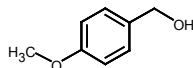
- Refractive index 1.5541 (28 °C, 589 nm)
- Spec. density 1.11 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 138.17 g/mol
- Boiling point 105 - 110 °C (4 hPa)
- WGK 1
- LGK 10
- HS-No. 2909 49 80 ■ Disposal 1

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.114 - 1.115  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21227.0025	Glass bottle	25 ml	inquire

## 800460 4-Methoxybenzyl alcohol for synthesis

C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH*Anise alcohol*

■ CAS-No. 105-13-5 ■ EC-No. 203-273-6  
■ Refractive index 1.5442 (20 °C, 589 nm)  
■ Vapour pressure 0.45 hPa (20 °C)  
■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 7.3 % (V) ■ Flash point 113 °C

- Kin. viscosity 15 mm<sup>2</sup>/s (23 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 138.17 g/mol
- pH value 6.3 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 20 - 24 °C ■ Boiling point 259 °C (1013 hPa) ■ Ignition temp. 410 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338
- LD50 oral rat 1200 mg/kg ■ LD50 dermal rabbit 3000 mg/kg
- LGK 10 - 13

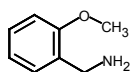
■ HS-No. 2909 49 80 ■ Disposal 1

**Specification**

Assay (GC, area%) ..... ≥ 98.0 Area %  
Melting range (lower value) ..... ≥ 23 °C  
Melting range (upper value) ..... ≤ 26 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00460.0005	Glass bottle	5 ml	inquire
8.00460.0250	Glass bottle	250 ml	inquire

## 818871 2-Methoxybenzylamine for synthesis

C<sub>8</sub>H<sub>11</sub>NO2-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>NH<sub>2</sub>

■ CAS-No. 6850-57-3 ■ EC-No. 229-941-7

■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 137.18 g/mol  
■ pH value >7 (H<sub>2</sub>O) ■ Boiling point 224 - 226 °C (940 hPa)

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-METHOXYBENZYLAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-METHOXYBENZYLAMINE), 8, III, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-METHOXYBENZYLAMINE), 8, III

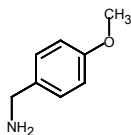
**Specification**

Assay (GC, area%) ..... ≥ 98.0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,061 - 1,063  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18871.0025	Glass bottle	25 ml	inquire



## 841885 4-Methoxybenzylamine for synthesis



$C_8H_{11}NO$   
 $NH_2CH_2C_6H_4OCH_3$   
 ■ CAS-No. 2393-23-9 ■ EC-No. 219-247-2  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ M = 137.18 g/mol

■ Boiling point 236 - 237 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2922 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(4-METHOXYBENZYLAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(4-METHOXYBENZYLAMINE), 8, III, Segregation Group: 18 (Alkalis)

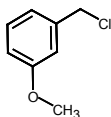
■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(4-METHOXYBENZYLAMINE), 8, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,057 - 1,060  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41885.0025	Glass bottle	25 ml	inquire

## 841540 3-Methoxybenzyl chloride for synthesis



$C_8H_9ClO$   
 3-Chloromethylanisole  
 ■ CAS-No. 824-98-6 ■ EC-No. 212-541-1  
 ■ Spec. density 1.078 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 101 °C ■ M = 156.61 g/mol

■ Boiling point 122 - 123 °C (16 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A ■ Store below +15°C.  
 ■ HS-No. 2909 30 90 ■ Disposal 3  
 ■ ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(3-METHOXYBENZYLCHLORID), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(3-METHOXYBENZYL CHLORIDE), 8, II

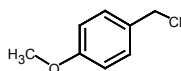
■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(3-METHOXYBENZYL CHLORIDE), 8, II

**Specification**

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.154 - 1.158  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41540.0005	Glass bottle	5 ml	inquire

## 841583 4-Methoxybenzyl chloride (stabilised) for synthesis



$C_8H_9ClO$   
 4-Chloromethylanisole,  $\alpha$ -Chloro-4-methoxytoluene  
 ■ CAS-No. 824-94-2 ■ EC-No. 212-540-6  
 ■ Spec. density 1.154 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 109 °C ■ M = 156.61 g/mol  
 ■ Melting point -1 °C ■ Boiling point 117 - 118 °C

(18.7 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A ■ Store below +15°C.  
 ■ HS-No. 2909 30 90 ■ Disposal 3  
 ■ ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(4-METHOXYBENZYLCHLORID), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(4-METHOXYBENZYL CHLORIDE), 8, II

■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(4-METHOXYBENZYL CHLORIDE), 8, II

**Specification**

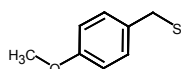
Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.153 - 1.157  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41583.0005	Glass bottle	5 ml	inquire

2-Methoxybenzyl cyanide → (2-Methoxyphenyl) acetonitrile page 1124

4-Methoxybenzyl cyanide → (4-Methoxyphenyl) acetonitrile page 1124

## 841304 4-Methoxybenzyl mercaptan for synthesis



$C_8H_{10}OS$   
 4-Methoxy- $\alpha$ -toluethiol  
 ■ CAS-No. 6258-60-2 ■ EC-No. 228-393-6  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ M = 154.23 g/mol

■ Boiling point 90 - 95 °C (0.67 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(4-METHOXYBENZYL MERCAPTANE), 9, III

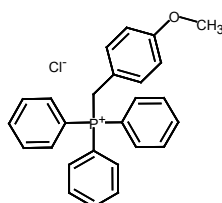
**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.110 - 1.115  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41304.0005	Glass bottle	5 ml	inquire

4-Methoxybenzyl methyl ketone → (4-Methoxyphenyl) acetone page 1123

## 840161 4-Methoxybenzyltriphenylphosphonium chloride for synthesis



$C_{26}H_{24}ClOP$   
 ■ CAS-No. 3462-97-3  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ M = 418.9 g/mol  
 ■ Melting point 236 - 238 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**

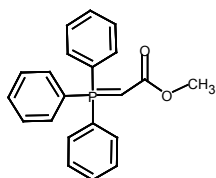
Assay (argentometric) ..... ≥ 97,0 %  
 Melting range (lower value) ..... ≥ 235 °C  
 Melting range (upper value) ..... ≤ 238 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40161.0010	Glass bottle	10 g	inquire

Methoxycarbonyl chloride → Methyl chloroformate page 1142

Methoxycarbonylmethanephosphonic acid diethyl ester → Diethyl methoxycarbonylmethanephosphonate page 748

## 841314 Methoxycarbonylmethylene-triphenylphosphorane for synthesis

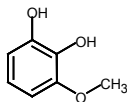


C<sub>21</sub>H<sub>19</sub>O<sub>2</sub>P  
(Triphenylphosphoranyliden)acetic acid methyl ester  
 ■ CAS-No. 2605-67-6 ■ EC-No. 220-018-4  
 ■ M = 334.36 g/mol ■ Melting point 165 - 169 °C  
 ■ WGK 3  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 165 °C  
 Melting range (upper value) ..... ≤ 169 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41314.0025	Glass bottle	25 g	inquire

## 841752 3-Methoxycatechol for synthesis



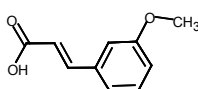
C<sub>7</sub>H<sub>8</sub>O<sub>3</sub>  
 ■ CAS-No. 934-00-9 ■ EC-No. 213-276-4  
 ■ Flash point >110 °C ■ M = 140.14 g/mol  
 ■ Melting point 39 - 40 °C

■ Boiling point 146 - 147 °C (20 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 50 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 38 °C  
 Melting range (upper value) ..... ≤ 41 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41752.0005	Glass bottle	5 g	inquire

## 841295 3-Methoxycinnamic acid for synthesis



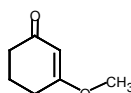
C<sub>10</sub>H<sub>10</sub>O<sub>3</sub>  
*trans-3-(3-Methoxyphenyl)acrylic acid*  
 ■ CAS-No. 6099-04-3 ■ EC-No. 228-049-5

■ M = 178.19 g/mol ■ Melting point 118 - 121 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 99 90 ■ Disposal 3

**Specification**  
 Assay (acidimetric) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 118 °C  
 Melting range (upper value) ..... ≤ 121 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41295.0010	Plastic bottle	10 g	inquire

## 814561 3-Methoxy-2-cyclohexen-1-one for synthesis



C<sub>7</sub>H<sub>10</sub>O<sub>2</sub>  
 ■ CAS-No. 16807-60-6 ■ EC-No. 240-837-0

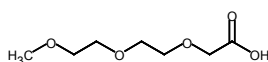
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 126.16 g/mol ■ Melting point 32 - 35 °C  
 ■ Boiling point 114 °C (19 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 50 00 ■ Disposal 1

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 32 °C  
 Melting range (upper value) ..... ≤ 35 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14561.0010	Glass bottle	10 g	inquire

2-Methoxyethanol → page 318

## 843910 [2-(2-Methoxyethoxy)methoxy] acetic acid for synthesis



C<sub>7</sub>H<sub>14</sub>O<sub>5</sub>  
 ■ CAS-No. 16024-58-1 ■ EC-No. 240-162-1  
 ■ Spec. density 1.157 g/cm<sup>3</sup> ■ Flash point >160 °C  
 ■ M = 178.18 g/mol ■ pH value 1.8 (100 g/l, H<sub>2</sub>O)  
 ■ Boiling point 140 °C (2 mbar)

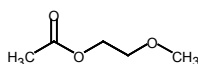
■ WGK 1  
 ■ GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 99 90 ■ Disposal 4

**Specification**  
 Colour (visual) ..... colourless to yellowish  
 Appearance of substance (visual) ..... liquid  
 Assay (GC, area%) ..... ≥ 95,0 Area %

Water (K. F.) ..... ≤ 0,60 % (m)  
 pH-value ..... 1,80 - 2,20  
 Refractive index (n<sub>20</sub>/D) ..... 1,4447 - 1,4459  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43910.0050	Glass bottle	50 ml	inquire
8.43910.0250	Glass bottle	250 ml	inquire

## 806061 2-Methoxyethyl acetate for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>3</sub>  
 CH<sub>3</sub>COOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>  
*Ethylene glycol monomethyl ether acetate, O-Methyl glycol acetate, 3-Oxabutyl acetate, Acetic acid 2-methoxyethyl ester*  
 ■ CAS-No. 110-49-6 ■ EC-No. 203-772-9  
 ■ Refractive index 1.4019 (20 °C, 589 nm)  
 ■ Vapour pressure 4.7 hPa (20 °C)  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 7.7 (20 °C) ■ El. dipole moment 2.13 (20 °C) ■ Explosive limit 1.7 - 8.8 % (V)  
 ■ Flash point 46 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 118.13 g/mol ■ Melting point -65 °C

■ Boiling point 144 - 145 °C (1013 hPa)  
 ■ Evaporation number 30  
 ■ Ignition temp. 380 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Reproductive toxicity, Category 1B, H360FD; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P201, P210, P302 + P352, P308 + P313  
 ■ LD50 oral rat 2900 mg/kg ■ LD50 dermal rabbit 5303 mg/kg  
 ■ EC-Index-No. 607-036-00-1 ■ LGK 3  
 ■ HS-No. 2915 39 00 ■ Disposal 9  
 ■ ADR-RID UN 1189

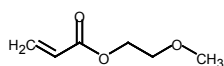
Ethylenglycolmonomethyletheracetat, 3, III  
 ■ IMDG-Code UN 1189 ETHYLENE GLYCOL

MONOMETHYL ETHER ACETATE, 3, III  
 ■ IATA-DGR UN 1189 ETHYLENE GLYCOL  
 MONOMETHYL ETHER ACETATE, 3, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d<sub>20</sub> / 4 °C) ..... 1,004 - 1,005  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06061.0100	Glass bottle	100 ml	inquire
8.06061.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.06061.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

A  
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V  
W  
X  
Y  
Z

## 840086 (2-Methoxyethyl) acrylate (stabilised with hydroquinone monomethyl ether) for synthesis



C<sub>6</sub>H<sub>10</sub>O<sub>3</sub>  
**Acrylic acid 2-methoxyethyl ester**  
 ■ CAS-No. 3121-61-7 ■ EC-No. 221-499-3  
 ■ Vapour pressure 3 hPa (20 °C)  
 ■ Spec. density 1.008 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 % (V) ■ Flash point 56 °C ■ Solub. in H<sub>2</sub>O 116 g/l (20 °C) ■ M = 130.14 g/mol  
 ■ pH value (H<sub>2</sub>O) not applicable  
 ■ Melting point < -30 °C ■ Boiling point 156 °C (23 hPa) ■ Ignition temp. 402 °C  
 ■ WGK 1

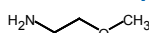
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Reproductive toxicity, Category 1B, H360FD, P201, P210, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LC50 rat 2.71 mg/l  
 ■ LD50 oral rat 397 mg/kg ■ LD50 dermal rabbit 248 mg/kg  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2916 12 00 ■ Disposal 9  
 ■ ADR-RID UN 2929 Giftiger organischer flüssiger

Stoff, entzündbar, n.a.g. ((2-METHYLOXYETHYL)-ACRYLAT), 6.1 (3), II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. ((2-METHYLOXYETHYL)-ACRYLATE), 6.1 (3), II  
 ■ IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. ((2-METHYLOXYETHYL)-ACRYLATE), 6.1 (3), II

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,009 - 1,013  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40086.0025	Glass bottle	25 ml	inquire

## 818872 2-Methoxyethylamine for synthesis



C<sub>3</sub>H<sub>9</sub>NO  
 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>  
**2-Aminoethyl methyl ether**  
 ■ CAS-No. 109-85-3 ■ EC-No. 203-712-1  
 ■ Refractive index 1.4594 (20 °C, 589 nm)  
 ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3 - 16.10 % (V) ■ Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 75.11 g/mol  
 ■ pH value 12 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -82 °C ■ Boiling point 95 °C (1013 hPa) ■ Ignition temp. 285 °C  
 ■ WGK 1

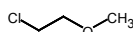
■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P233, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat > 2.79 mg/l  
 ■ LD50 oral rat 1570 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 ■ ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g. (2-METHOXYETHYLAMIN), 3 (8), II ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S. (2-METHOXYETHYLAMINE), 3 (8), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S. (2-METHOXYETHYLAMINE), 3 (8), II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.872 - 0.874  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18872.0025	Glass bottle	25 ml	inquire
8.18872.0100	Glass bottle	100 ml	inquire
8.18872.0500	Glass bottle	500 ml	inquire

## 806099 2-Methoxyethyl chloride for synthesis



C<sub>3</sub>H<sub>7</sub>ClO  
 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>Cl  
**Chloroethyl methyl ether**  
 ■ CAS-No. 627-42-9 ■ EC-No. 210-999-7  
 ■ Vapour pressure 67.3 hPa (23 °C)  
 ■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 8 °C ■ Solub. in H<sub>2</sub>O 80 g/l (25 °C)  
 ■ M = 94.54 g/mol ■ Melting point < -70 °C  
 ■ Boiling point 92 - 93 °C ■ Ignition temp. 210 °C

■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P210, P223, P260, P302 + P352  
 ■ LC50 rat > 5.5 mg/l  
 ■ LD50 oral rat 1290 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2909 19 90 ■ Disposal 2  
 ■ ADR-RID UN 3271 Ether, n.a.g. (2-METHOXYETHYLCHLORID), 3, II ■ IMDG-Code UN 3271 ETHERS, N.O.S. (2-METHOXYETHYL

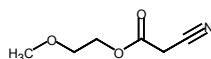
CHLORIDE), 3, II  
 ■ IATA-DGR UN 3271 ETHERS, N.O.S. (2-METHOXYETHYL CHLORIDE), 3, II

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,037 - 1,042  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06099.0025	Glass bottle	25 ml	inquire
8.06099.0250	Glass bottle	250 ml	inquire

2-Methoxyethyl cyanide → 3-Methoxypropionitrile page 1126

## 842570 2-Methoxyethyl cyanoacetate for synthesis



C<sub>6</sub>H<sub>9</sub>NO<sub>3</sub>  
 ■ CAS-No. 10258-54-5 ■ EC-No. 233-597-3  
 ■ Vapour pressure 0.27 hPa (25 °C) (calculated)  
 ■ Spec. density 1.125 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O 745 g/l

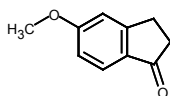
(25 °C) ■ M = 143.14 g/mol ■ Melting point -12.5 °C ■ Boiling point 110 °C (1.1 hPa)  
 ■ Ignition temp. 374 °C  
 ■ WGK 1  
 ■ LD50 oral rat 4300 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 1.125 - 1.130  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42570.0025	Glass bottle	25 ml	inquire
8.42570.0100	Glass bottle	100 ml	inquire

3-Methoxy-4-formylphenol → page 279

## 841697 5-Methoxy-1-indanone for synthesis



C<sub>10</sub>H<sub>10</sub>O<sub>2</sub>  
 ■ CAS-No. 5111-70-6 ■ EC-No. 225-838-6

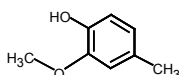
■ M = 162.19 g/mol ■ Melting point 107 - 108 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 50 00 ■ Disposal 3  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 108 °C

Melting range (upper value) ..... ≤ 110 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41697.0005	Plastic bottle	5 g	inquire

N-Methoxymethanamine hydrochloride → N,O-Dimethylhydroxylamine hydrochloride page 792

## 814163 2-Methoxy-4-methylphenol for synthesis

C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>2-(CH<sub>3</sub>O)-4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>OH

2-Hydroxy-5-methylanisole, 4-Methylguajacol

■ CAS-No. 93-51-6 ■ EC-No. 202-252-9

■ Refractive index 1.5354 (20 °C, 589 nm)

■ Vapour pressure 0.032 hPa (25 °C) (Lit.)

- Spec. density 1.09 g/cm<sup>3</sup> ■ Flash point 85 °C
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 138.17 g/mol ■ Melting point 5 - 6 °C
- Boiling point 219 - 222 °C (1013 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 740 mg/kg

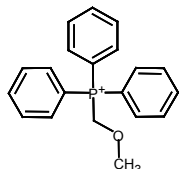
- LGK 10 - 13
- HS-No. 2909 50 00 ■ Disposal 1

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,093 - 1,095  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14163.0010	Glass bottle	10 ml	inquire

## 818580 Methoxymethyl-triphenylphosphonium chloride for synthesis

Cl<sup>-</sup>C<sub>20</sub>H<sub>20</sub>ClOPCH<sub>3</sub>OCH<sub>2</sub>P(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>Cl

■ CAS-No. 4009-98-7 ■ EC-No. 223-664-5

■ Vapour pressure &lt; 1 hPa (20 °C)

■ Flash point &gt;250 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble,(decomposition)

- M = 342.8 g/mol ■ Melting point 202 °C
- Bulk density 450 - 500 kg/m<sup>3</sup>
- Boiling point 413 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 1440 mg/kg
- LGK 10 - 13
- HS-No. 2931 90 90
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(METHOXYMETHYLTRIPHENYLPHOSPHONIUM CHLORID), 9, III ■ IMDG-Code UN 3077

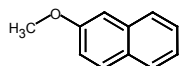
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(METHOXYMETHYL-TRIPHENYLPHOSPHONIUM CHLORIDE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(METHOXYMETHYL-TRIPHENYLPHOSPHONIUM CHLORIDE), 9, III

## Specification

Assay (argentometric) ..... ≥ 98,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18580.0050	Glass bottle	50 g	inquire

## 821231 2-Methoxynaphthalene for synthesis

C<sub>11</sub>H<sub>10</sub>O

Methyl 2-naphthyl ether, 2-Naphthyl methyl ether

■ CAS-No. 93-04-9 ■ EC-No. 202-213-6

■ Flash point 139 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 158.2 g/mol

■ Melting point 70 - 73 °C

■ Boiling point 272 - 274 °C

■ WGK 2

■ LGK 10 - 13

■ HS-No. 2909 30 90 ■ Disposal 3

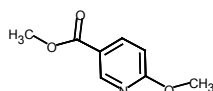
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 70 °C  
 Melting range (upper value) ..... ≤ 73 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21231.0100	Plastic bottle	100 g	inquire
8.21231.0500	Plastic bottle	500 g	inquire

## 843923 6-Methoxynicotinic acid methylester for synthesis

C<sub>8</sub>H<sub>8</sub>NO<sub>3</sub>

■ CAS-No. 26218-80-4

■ M = 167.16 g/mol ■ Melting point &lt; 40 °C

■ WGK 3

- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

## Specification

Colour (visual) ..... white to offwhite

Appearance of substance (visual) ..... powder

Assay (GC, area%) ..... ≥ 98,0 Area %

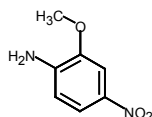
Melting range (lower value) ..... ≥ 50 °C

Melting range (upper value) ..... ≤ 54 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43923.0005	Glass bottle	5 g	inquire
8.43923.0025	Glass bottle	25 g	inquire

## 806226 2-Methoxy-4-nitroaniline for synthesis

C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>2-(CH<sub>3</sub>O)-4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>

5-Nitro-2-aminoanisole, 2-Amino-5-nitroanisole, 4-Nitro-o-anisidine

- CAS-No. 97-52-9 ■ EC-No. 202-588-6
- Solub. in H<sub>2</sub>O 0.2 g/l (20 °C) ■ M = 168.15 g/mol
- pH value 6.2 (0.2 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 138 - 141 °C
- Ignition temp. >360 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 997 mg/kg
- LGK 10 - 13

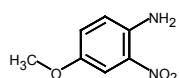
- HS-No. 2922 29 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 138 °C  
 Melting range (upper value) ..... ≤ 141 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06226.0250	Glass bottle	250 g	inquire

## 806225 4-Methoxy-2-nitroaniline for synthesis

C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>4-(CH<sub>3</sub>O)-2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>

3-Nitro-4-aminoanisole, 2-Nitro-p-anisidine, 4-Amino-3-nitroanisole

■ CAS-No. 96-96-8 ■ EC-No. 202-547-2

■ Flash point 480 °C ■ Solub. in H<sub>2</sub>O 0.12 g/l

(25 °C) ■ M = 168.15 g/mol

■ Melting point 122 - 125 °C

■ Bulk density 560 kg/m<sup>3</sup> ■ Ignition temp. >400 °C

■ WGK 3

- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 14100 mg/kg
- EC-Index-No. 612-038-00-0 ■ LGK 6.1A
- HS-No. 2922 29 00 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-METHOXY-2-NITROANILIN), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-METHOXY-2-NITROANILINE), 6.1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-METHOXY-2-NITROANILINE), 6.1, II

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 122 °C  
 Melting range (upper value) ..... ≤ 125 °C  
 Identity (IR) ..... conforms

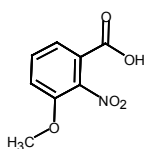
Ord.No.	Packaging	Quantity	Price
8.06225.0005	Glass bottle	5 g	inquire
8.06225.0250	Glass bottle	250 g	inquire

# Methox

1-Methoxy-2-nitrobenzene → 2-Nitroanisole page 1216

3-Methoxynitrobenzene → 3-Nitroanisole page 1216

## 841153 3-Methoxy-2-nitrobenzoic acid for synthesis



2-Nitro-*m*-anisic acid

- CAS-No. 4920-80-3 ■ EC-No. 225-549-5
- M = 197.15 g/mol ■ Melting point 259 - 262 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

### Specification

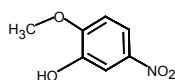
Assay (acidimetric)..... ≥ 98,0 %

Melting range (lower value)..... ≥ 256 °C  
Melting range (upper value)..... ≤ 260 °C  
Identity (IR)..... passes test

C<sub>8</sub>H<sub>7</sub>NO<sub>5</sub>

Ord.No.	Packaging	Quantity	Price
8.41153.0005	Plastic bottle	5 g	inquire

## 814582 2-Methoxy-5-nitrophenol for synthesis



- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2909 50 00 ■ Disposal 3

### Specification

Assay (HPLC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 103 °C

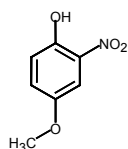
Melting range (upper value)..... ≤ 106 °C  
Identity (IR)..... conforms

C<sub>7</sub>H<sub>7</sub>NO<sub>4</sub>

- CAS-No. 636-93-1 ■ EC-No. 211-269-0
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 169.14 g/mol ■ Melting point 103 - 106 °C
- Bulk density 245 kg/m<sup>3</sup>
- Boiling point 110 - 112 °C (1 hPa)

Ord.No.	Packaging	Quantity	Price
8.14582.0005	Glass bottle	5 g	inquire
8.14582.0025	Glass bottle	25 g	inquire

## 840003 4-Methoxy-2-nitrophenol for synthesis



- Solub. in H<sub>2</sub>O 0.24 g/l (20 °C) ■ M = 169.13 g/mol ■ Melting point 75 - 78 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2909 50 00 ■ Disposal 3

### Specification

Assay (HPLC, area%)..... ≥ 95,0 % (a/a)  
Melting range (lower value)..... ≥ 75 °C  
Melting range (upper value)..... ≤ 78 °C  
Identity (IR)..... passes test

Assay (HPLC, area%)..... ≥ 95,0 % (a/a)  
Melting range (lower value)..... ≥ 75 °C  
Melting range (upper value)..... ≤ 78 °C  
Identity (IR)..... passes test

C<sub>7</sub>H<sub>7</sub>NO<sub>4</sub>

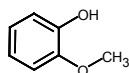
- 4-Hydroxy-3-nitroanisole
- CAS-No. 1568-70-3

Ord.No.	Packaging	Quantity	Price
8.40003.0010	Glass bottle	10 g	inquire

4-Methoxyphenacyl bromide → 2-Bromo-4'-methoxyacetophenone page 504

4-Methoxyphenethyl alcohol → 2-(4-Methoxyphenyl)ethanol page 1124

## 818339 2-Methoxyphenol for synthesis



- M = 124.14 g/mol ■ pH value 5.4 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 28 - 32 °C
- Boiling point 205 °C ■ Ignition temp. 750 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P305 + P351 + P338
- LD50 oral rat 520 mg/kg ■ LD50 dermal rabbit 4600 mg/kg
- EC-Index-No. 604-031-00-6 ■ LGK 10 - 13

- HS-No. 2909 50 00 ■ Disposal 3

### Specification

Identity (IR)..... passes test  
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C / 4 °C)..... 1.132 - 1.134

C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>

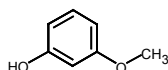
CH<sub>3</sub>OC<sub>6</sub>H<sub>4</sub>OH

2-Methoxyphenol

- CAS-No. 90-05-1 ■ EC-No. 201-964-7
- Vapour pressure 0.1 hPa (25 °C)
- Spec. density 1.13 g/cm<sup>3</sup> (21 °C)
- Flash point 82 °C ■ Solub. in H<sub>2</sub>O 10 g/l (30 °C)

Ord.No.	Packaging	Quantity	Price
8.18339.0005	Glass bottle	5 ml	inquire
8.18339.0250	Glass bottle	250 ml	inquire
8.18339.1000	Glass bottle	1 l	inquire

## 821232 3-Methoxyphenol for synthesis



- Melting point -18 - -16 °C
- Boiling point 113 - 115 °C (7 hPa)
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 11.5 mg/l
- LD50 oral rat 597 mg/kg ■ LD50 dermal rat 682 mg/kg
- LGK 10
- HS-No. 2909 50 00 ■ Disposal 1

- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(3-METHOXYPHENOL), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-METHOXYPHENOL), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-METHOXYPHENOL), 6.1, III

### Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
Density (d 20 °C / 4 °C)..... 1.145 - 1.147  
Identity (IR)..... passes test

C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>

3-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>OH

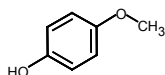
1-Hydroxy-3-methoxybenzene, 3-Hydroxyanisole, 97%, Resorcinol monomethyl ether

- CAS-No. 150-19-6 ■ EC-No. 205-754-6
- Refractive index 1.552 (20 °C, 589 nm)
- Spec. density 1.15 g/cm<sup>3</sup> (20 °C)
- Flash point 124 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 124.14 g/mol

Ord.No.	Packaging	Quantity	Price
8.21232.0050	Glass bottle	50 ml	inquire



## 821233 4-Methoxyphenol for synthesis

C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>

1-Hydroxy-4-methoxybenzene, Hydroquinone monomethyl ether, MEHQ

- CAS-No. 150-76-5 ■ EC-No. 205-769-8
- Vapour pressure 0.13 hPa (60 °C)
- Spec. density 1.25 g/cm<sup>3</sup> (20 °C)
- Flash point 133 °C ■ Solub. in H<sub>2</sub>O 40 g/l (25 °C)
- M = 124.14 g/mol ■ pH value 5.1 (30 g/l, H<sub>2</sub>O,

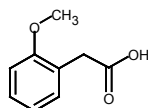
- 20 °C) ■ Melting point 54 - 57 °C
- Boiling point 243 °C (1013 hPa)
- Ignition temp. 421 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338
- LD50 oral rat 1600 mg/kg
- EC-Index-No. 604-044-00-7 ■ LGK 10 - 13
- HS-No. 2909 50 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 54 °C  
 Melting range (upper value)..... ≤ 57 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21233.0005	Glass bottle	5 g	inquire
8.21233.0025	Glass bottle	25 g	inquire
8.21233.0250	Plastic bottle	250 g	inquire
8.21233.1000	Plastic bottle	1 kg	inquire

## 818671 2-Methoxyphenylacetic acid for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>2-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>COOH

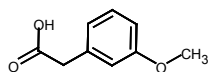
- CAS-No. 93-25-4 ■ EC-No. 202-231-4
- Solub. in H<sub>2</sub>O 9.2 g/l (20 °C) ■ M = 166.18 g/mol
- Melting point 120 - 123 °C
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P260, P280, P305 + P351 + P338, P313
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 4

## Specification

Assay (acidimetric)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 120 °C  
 Melting range (upper value)..... ≤ 123 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18671.0025	Plastic bottle	25 g	inquire

## 841039 3-Methoxyphenylacetic acid for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>

- CAS-No. 1798-09-0 ■ EC-No. 217-282-8
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 166.18 g/mol ■ Melting point 71 - 73 °C

- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P260, P280, P305 + P351 + P338, P313
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

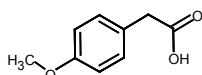
## Specification

Assay (acidimetric)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 70 °C

Melting range (upper value)..... ≤ 73 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41039.0010	Glass bottle	10 g	inquire

## 821240 4-Methoxyphenylacetic acid for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>

- CAS-No. 104-01-8 ■ EC-No. 203-166-4
- Flash point 193 °C ■ Solub. in H<sub>2</sub>O 6 g/l (20 °C)
- M = 166.18 g/mol ■ Melting point 86 - 88 °C
- Bulk density 440 kg/m<sup>3</sup>

- Boiling point 138 - 140 °C (4 hPa)
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P260, P280, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

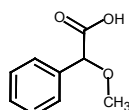
## Specification

Assay (acidimetric)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 83 °C

Melting range (upper value)..... ≤ 86 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21240.0100	Plastic bottle	100 g	inquire
8.21240.0250	Plastic bottle	250 g	inquire

## 159712 Methoxyphenylacetic acid Reag. Ph Eur

C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>

- CAS-No. 7021-09-2 ■ EC-No. 230-300-9
- M = 166.18 g/mol
- WGK 1
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

## Specification

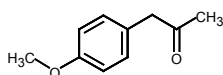
Identity (IR-spectrum)..... conforms

Appearance..... White to almost white crystals or crystalline powder.

Melting point..... 68 - 72 °C

Ord.No.	Packaging	Quantity	Price
1.59712.0010	Glass bottle	10 g	inquire

## 818558 (4-Methoxyphenyl) acetone for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>COCH<sub>3</sub>  
1-(4-Methoxyphenyl)-2-propanone, 4-Methoxybenzyl methyl ketone

- CAS-No. 122-84-9 ■ EC-No. 204-578-7
- Refractive index 1.5251 (20 °C, 589 nm)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point 135 °C ■ M = 164.21 g/mol
- Boiling point 134 - 136 °C (13 hPa)
- WGK 2
- LD50 oral rat 3330 mg/kg
- LGK 10

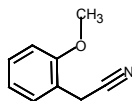
- HS-No. 2914 50 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.064 - 1.067  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18558.0050	Glass bottle	50 ml	inquire

## 818670 (2-Methoxyphenyl)acetonitrile for synthesis



C<sub>9</sub>H<sub>9</sub>NO  
 2-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CN  
 2-Methoxybenzyl cyanide  
 ■ CAS-No. 7035-03-2 ■ EC-No. 230-314-5  
 ■ Flash point 129 °C DIN 51758 ■ Solub. in  
 H<sub>2</sub>O 0.01 g/l (20 °C) ■ M = 147.18 g/mol  
 ■ pH value 4.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 63 - 66 °C

■ Boiling point 141 - 143 °C (20 hPa)  
 ■ Ignition temp. 460 °C DIN 51794  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity -  
 single exposure, Category 3, H335; Eye irritation,  
 Category 2, H319, P262, P304 + P340, P305 +  
 P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.((2-  
 METHOXYPHENYL)-ACETONITRIL), 6.1, III ■ IMDG-  
 Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.((2-  
 METHOXYPHENYL)-ACETONITRILE), 6.1, III

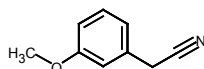
■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,  
 N.O.S.((2-METHOXYPHENYL)-ACETONITRILE), 6.1,  
 III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 66 °C  
 Melting range (upper value) ..... ≤ 70 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18670.0100	Plastic bottle	100 g	inquire

## 814636 (3-Methoxyphenyl)acetonitrile for synthesis



C<sub>9</sub>H<sub>9</sub>NO  
 ■ CAS-No. 19924-43-7 ■ EC-No. 243-428-5  
 ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 98 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 147.18 g/mol  
 ■ Boiling point 160 - 165 °C (27 hPa)

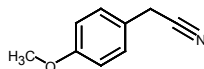
■ WGK 3  
 ■ LGK 6.1A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig,  
 n.a.g.((3-METHOXYPHENYL)-ACETONITRIL), 6.1, I  
 ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID,  
 N.O.S.((3-METHOXYPHENYL)-ACETONITRILE), 6.1, I  
 ■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC,  
 N.O.S.((3-METHOXYPHENYL)-ACETONITRILE), 6.1, I

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,080 - 1,085  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14636.0005	Glass bottle	5 ml	inquire
8.14636.0025	Glass bottle	25 ml	inquire

## 821234 (4-Methoxyphenyl)acetonitrile for synthesis



C<sub>9</sub>H<sub>9</sub>NO  
 4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CN  
 4-Methoxybenzyl cyanide  
 ■ CAS-No. 104-47-2 ■ EC-No. 203-206-0  
 ■ Refractive index 1.5285 (25 °C, 589 nm)  
 ■ Spec. density 1.085 g/cm<sup>3</sup> (20 °C) ■ Explosive  
 limit 1.2 - 9.4 % (V) ■ Flash point 117 °C ■ Solub.  
 in H<sub>2</sub>O 0.01 g/l (20 °C) ■ M = 147.18 g/mol  
 ■ pH value 4.5 (100 g/l, H<sub>2</sub>O, 20 °C) suspension

■ Melting point 8 °C ■ Boiling point 286 - 287 °C  
 (1013 hPa) ■ Ignition temp. 460 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral,  
 H301; Chronic aquatic toxicity, Category 3, H412,  
 P260, P273, P309 + P310  
 ■ LD50 oral rat 100 - 215 mg/kg  
 ■ LGK 6.1 C  
 ■ HS-No. 2926 90 95 ■ Disposal 9  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig,  
 n.a.g.(4-METHOXYPHENYLACETONITRIL), 6.1, III  
 ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID,  
 N.O.S.(4-METHOXYPHENYLACETONITRILE), 6.1, III

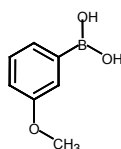
■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC,  
 N.O.S.(4-METHOXYPHENYLACETONITRILE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.081 - 1.084  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21234.0025	Glass bottle	25 ml	inquire
8.21234.0100	Glass bottle	100 ml	inquire

## 814932 3-Methoxyphenylboronic acid for synthesis



C<sub>7</sub>H<sub>9</sub>BO<sub>3</sub>  
 ■ CAS-No. 10365-98-7

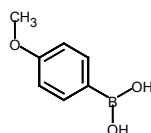
■ M = 151.96 g/mol ■ Melting point 158 - 161 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity -  
 single exposure, Category 3, H335; Skin irritation,  
 Category 2, H315; Eye irritation, Category 2, H319,  
 P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 96,0 % (a/a)  
 Melting range (lower value) ..... ≥ 158 °C  
 Melting range (upper value) ..... ≤ 161 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14932.0005	Glass bottle	5 g	inquire

## 814933 4-Methoxyphenylboronic acid for synthesis



C<sub>7</sub>H<sub>9</sub>BO<sub>3</sub>  
 ■ CAS-No. 5720-07-0

■ M = 151.96 g/mol ■ Melting point 205 - 209 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity -  
 single exposure, Category 3, H335; Skin irritation,  
 Category 2, H315; Eye irritation, Category 2, H319,  
 P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3

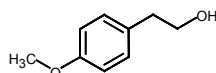
## Specification

Assay (HPLC, area%) ..... ≥ 96,0 % (a/a)  
 Melting range (lower value) ..... ≥ 207 °C  
 Melting range (upper value) ..... ≤ 214 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14933.0005	Glass bottle	5 g	inquire

(4-Methoxyphenyl)diisopropylsilylpropyl polystyrene → page 271

## 841504 2-(4-Methoxyphenyl)ethanol for synthesis



C<sub>9</sub>H<sub>12</sub>O<sub>2</sub>  
 4-Methoxyphenethyl alcohol, Anisylethanol  
 ■ CAS-No. 702-23-8 ■ EC-No. 211-866-6

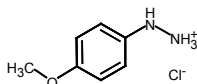
■ Flash point >112 °C ■ M = 152.19 g/mol  
 ■ Melting point 29 °C ■ Boiling point 334 - 336 °C  
 (1013 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 49 80 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41504.0010	Glass bottle	10 g	inquire
8.41504.0050	Glass bottle	50 g	inquire

## 814077 4-Methoxyphenylhydrazinium chloride for synthesis

C<sub>7</sub>H<sub>11</sub>ClN<sub>2</sub>O4-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>NHNH<sub>2</sub>HCl

- CAS-No. 19501-58-7 ■ EC-No. 243-115-3
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 174.63 g/mol
- Melting point 158 - 161 °C decomposes
- WGK 3

- GHS: Warning, Skin irritation, Category 2, H315, P262, P302 + P352
- LGK 6.1A
- HS-No. 2928 00 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-METHOXYPHENYLHYDRAZINIUMCHLORID), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-METHOXYPHENYLHYDRAZINIUMCHLORIDE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

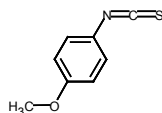
N.O.S.(4-METHOXYPHENYLHYDRAZINIUMCHLORIDE), 6.1, II

## Specification

Assay (argentometric)..... ≥ 99,0 % (m)  
 Melting range (lower value)..... ≥ 158 °C  
 Melting range (upper value)..... ≤ 161 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14077.0010	Glass bottle	10 g	inquire

## 818745 4-Methoxyphenyl isothiocyanate for synthesis

C<sub>8</sub>H<sub>7</sub>NOS4(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>NCS

1-isothiocyanato-4-methoxy-benzene

- CAS-No. 2284-20-0 ■ EC-No. 218-921-3
- Refractive index 1.6489 (20 °C, 589 nm)
- Spec. density 1.18 g/cm<sup>3</sup> (20 °C)
- Flash point 109 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 165.22 g/mol

- Melting point 17 - 19 °C
- Boiling point 279 - 281 °C (1013 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334, P260, P280, P301 + P330 + P331, P304 + P341, P305 + P351 + P338, P309 + P310, P342 + P311
- LGK 8A
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(4-METHOXYPHENYLISOTHIOCYANAT), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(4-

METHOXYPHENYLISOTHIOCYANATE), 8 (6.1), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(4-METHOXYPHENYLISOTHIOCYANATE), 8 (6.1), II

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 1,182 - 1,184  
 Identity (IR)..... passes test

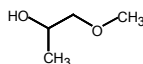
Ord.No.	Packaging	Quantity	Price
8.18745.0005	Glass bottle	5 ml	inquire

3-Methoxyphenylmercaptan → 3-Methoxythiophenol page 1127

p-Methoxyphenylthiophosphine sulfide (dimer) → 2,4-Bis(4-methoxyphenyl)-2,4-dithio-1,3,2,4-dithiadiphosphetane page 473

3-Methoxy-1-propanamine → 3-Methoxypropylamine page 1126

## 1-Methoxy-2-propanol

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>CH<sub>3</sub>OCH<sub>2</sub>CH(OH)CH<sub>3</sub>

Propylene glycol monomethyl ether

- CAS-No. 107-98-2 ■ EC-No. 203-539-1
- Refractive index 1.4034 (20 °C, 589 nm)
- Vapour pressure 11.5 hPa (20 °C)

- Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 11.5 % (V) ■ Flash point 31 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 90.12 g/mol
- pH value 4 - 7 (200 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -97 °C ■ Boiling point 120 °C (1013 mbar) ■ Ignition temp. 287 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H336, P210, P304 + P340

- LC50 rat > 6 mg/l
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit 11000 mg/kg
- EC-Index-No. 603-064-00-3 ■ LGK 3
- HS-No. 2909 49 80 ■ Disposal 3
- ADR-RID UN 3092 1-Methoxy-2-propanol, 3, III
- IMDG-Code UN 3092 1-METHOXY-2-PROPANOL, 3, III
- IATA-DGR UN 3092 1-METHOXY-2-PROPANOL, 3, III

## 818886 1-Methoxy-2-propanol for synthesis

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C / 4 °C)..... 0,920 - 0,922  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0,005 % (m)  
 2-Methoxypropan-1-ol (GC, area%).. ≤ 0,5 Area %

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18886.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.18886.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.18886.9190	Steel barrel	190 l	inquire

## 116738 1-Methoxy-2-propanol EEMPLURA®

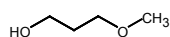
## Specification

Purity (GC)..... ≥ 99,5 % (a/a)  
 2-Methoxypropan-1-ol (GC)..... ≤ 0.49 % (a/a)  
 Identity (IR)..... passes test  
 Free acid (as C<sub>2</sub>H<sub>5</sub>COOH)..... ≤ 0.002 %  
 Al (Aluminium)..... ≤ 20 ppb  
 Ca (Calcium)..... ≤ 50 ppb  
 Cu (Copper)..... ≤ 20 ppb

Fe (Iron)..... ≤ 100 ppb  
 K (Potassium)..... ≤ 50 ppb  
 Na (Sodium)..... ≤ 1000 ppb  
 Ni (Nickel)..... ≤ 20 ppb  
 Zn (Zinc)..... ≤ 20 ppb  
 Water..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.16738.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.16738.6025	Drum stainl. st.	25 l	inquire
1.16738.9190	Steel barrel	190 l	inquire

## 843813 3-Methoxy-1-propanol for synthesis

C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>

CAS-No. 1589-49-7 ■ EC-No. 433-230-9

- Spec. density 0.94 g/cm<sup>3</sup> (20 °C)
- Flash point 38 °C ■ M = 90.12 g/mol
- Boiling point 149 - 150 °C (1013 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3,

H226, P210, P262

- LD50 oral rat 5710 mg/kg ■ LD50 dermal rabbit 5320 mg/kg
- LGK 3
- HS-No. 2909 49 80 ■ Disposal 1
- ADR-RID UN 1987 Alkohole, n.a.g.(3-METHOXY-1-PROPANOL), 3, III ■ IMDG-Code UN 1987 ALCOHOLS, N.O.S.(3-METHOXY-1-PROPANOL), 3, III
- IATA-DGR UN 1987 ALCOHOLS, N.O.S.(3-

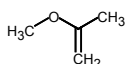
METHOXY-1-PROPANOL), 3, III

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 0.916 - 0.920  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43813.0010	Glass bottle	10 ml	inquire
8.43813.0050	Glass bottle	50 ml	inquire

## 842576 2-Methoxy-1-propene for synthesis

C<sub>4</sub>H<sub>8</sub>O

- CAS-No. 116-11-0 ■ EC-No. 204-125-3
- Vapour pressure 689 hPa (25 °C)
- Spec. density 0.767 g/ml (20 °C) ■ Flash point -29 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 72.11 g/mol
- pH value 7 (H<sub>2</sub>O) ■ Boiling point 35 - 36 °C
- Ignition temp. 180 °C DIN 51794

- WGK 1
- GHS: Danger, Flammable liquid, Category 1, H224; Acute toxicity, Category 4, Oral, H302, P210, P223, P240
- LC50 rat < 191 mg/l
- LD50 oral rat 1400 mg/kg ■ LD50 dermal rabbit > 15000 mg/kg
- LGK 3
- HS-No. 2909 19 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-METHOXY-1-PROPEN), 3, I ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-

METHOXY-1-PROPENE), 3, I

- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHOXY-1-PROPENE), 3, I

**Specification**

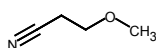
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.765 - 0.769  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42576.0050	Glass bottle	50 ml	inquire
8.42576.0250	Glass bottle	250 ml	inquire

1-Methoxy-4-propenylbenzene → trans-Anethole page 417

2-Methoxy-4-propenylphenol → Isoeugenol page 1046

## 805891 3-Methoxypropionitrile for synthesis

C<sub>4</sub>H<sub>7</sub>NOCH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>CN

2-Methoxyethyl cyanide

- CAS-No. 110-67-8 ■ EC-No. 203-790-7
- Refractive index 1.4035 (20 °C, 589 nm)
- Vapour pressure 2.3 hPa (30 °C)
- Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 15.3 % (V) ■ Flash point 66 °C ■ Solub.

- in H<sub>2</sub>O 335 g/l (20 °C) ■ M = 85.11 g/mol
- pH value 6.8 (111 g/l, H<sub>2</sub>O, 25 °C)
- Melting point -63 °C
- Boiling point 164 - 165 °C (1013 hPa)
- Ignition temp. 390 °C DIN 51794
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 4130 mg/kg ■ LD50 dermal rabbit > 9400 mg/kg
- LGK 10

- HS-No. 2926 90 95

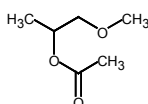
**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,938 - 0,940  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.05891.0100	Glass bottle	100 ml	inquire
8.05891.0500	Glass bottle	500 ml	inquire

Methoxypropoxypropanol → Dipropylene glycol monomethyl ether page 302

## 818532 (1-Methoxy-2-propyl) acetate (stabilised with 2,6-di-tert-butyl-4-methyl-phenol) for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>CH<sub>3</sub>COOCH(CH<sub>2</sub>)CH<sub>2</sub>OCH<sub>3</sub>

Acetic acid 2-methoxypropyl ester

- CAS-No. 108-65-6 ■ EC-No. 203-603-9
- Refractive index 1.4078 (20 °C, 589 nm)
- Vapour pressure 3.1 hPa (20 °C)
- Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 % (V) ■ Flash point 45 °C ■ Solub. in H<sub>2</sub>O 209.3 g/l (20 °C) ■ M = 132.16 g/mol

- pH value 4 (200 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -67 °C
- Boiling point 145 - 147 °C (1013 hPa)
- Water absorption 320 g/kg (20 °C)
- Ignition temp. 315 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LD50 oral rat 8532 mg/kg ■ LD50 dermal rabbit 7500 mg/kg
- EC-Index-No. 607-195-00-7 ■ LGK 3
- HS-No. 2915 39 00 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(1-METHOXY-2-PROPYLACETAT), 3, III ■ IMDG-Code UN 3272

ESTERS, N.O.S.(1-METHOXY-2-PROPYLACETATE), 3, III  
■ IATA-DGR UN 3272 ESTERS, N.O.S.(1-METHOXY-2-PROPYLACETATE), 3, III

**Specification**

Assay (GC, area%)..... ≥ 96,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,966 - 0,969 (2-Methoxy-1-propyl) acetate (GC, area%)..... ≤ 3,0 Area %  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18532.1000	Glass bottle	1 l	inquire
8.18532.2500	Glass bottle	2.5 l	inquire

## 814839 3-Methoxypropylamine for synthesis

C<sub>4</sub>H<sub>11</sub>NO

3-Methoxy-1-propanamine

- CAS-No. 5332-73-0 ■ EC-No. 226-241-3
- Vapour pressure 16 hPa (20 °C)
- Spec. density 0.874 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.3 - 12.3 % (V) ■ Flash point 27 °C ■ Solub. in H<sub>2</sub>O (20 °C) miscible in all proportions
- M = 89.13 g/mol ■ pH value 11.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -70 °C
- Boiling point 118 °C ■ Ignition temp. 270 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin

- corrosion, Category 1A, H314; Skin sensitisation, Category 1, H317; Corrosive to metals, Category 1, H290, P210, P280, P260, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 690 mg/kg
- LGK 3
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(3-METHOXYPROPYLAMIN), 8 (3), I ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(3-METHOXYPROPYLAMINE), 8 (3), I, Segregation Group: 18 (Alkalis)

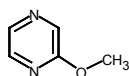
■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(3-METHOXYPROPYLAMINE), 8 (3), I

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0,870 - 0,873  
Water (K. F.)..... ≤ 0,50 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14839.0250	Glass bottle	250 ml	inquire

## 814617 2-Methoxypyrazine for synthesis

C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>O

- CAS-No. 3149-28-8 ■ EC-No. 221-579-8
- Vapour pressure 6.5 hPa (20 °C)
- Spec. density 1.13 g/cm<sup>3</sup> (20 °C)
- Flash point 45 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 110.12 g/mol ■ pH value (H<sub>2</sub>O) neutral

- Boiling point 147 - 149 °C (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-METHOXYPYRAZIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHOXY PYRAZINE), 3, III

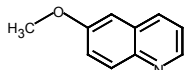
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHOXY PYRAZINE), 3, III

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,126 - 1,128  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14617.0005	Glass bottle	5 ml	inquire

## 841406 6-Methoxyquinoline for synthesis

C<sub>10</sub>H<sub>9</sub>NO

- CAS-No. 5263-87-6 ■ EC-No. 226-077-2
- Spec. density 1.152 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 159.19 g/mol

- Melting point 17 - 20 °C
- Boiling point 279 - 284 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 49 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.145 - 1.153  
Identity (IR)..... passes test

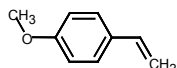
Ord.No.	Packaging	Quantity	Price
8.41406.0005	Glass bottle	5 ml	inquire

4-Methoxysalicylaldehyde → 2-Hydroxy-4-methoxybenzaldehyde page 986

5-Methoxysalicylaldehyde → 2-Hydroxy-5-methoxybenzaldehyde page 986

5-Methoxysalicylic acid → 2-Hydroxy-5-methoxybenzoic acid page 986

## 841398 4-Methoxystyrene for synthesis

C<sub>9</sub>H<sub>10</sub>O

4-Vinylanisole

- CAS-No. 637-69-4 ■ EC-No. 211-298-9
- Spec. density 1.002 g/cm<sup>3</sup> (20 °C)

- Flash point 76 °C ■ M = 134.18 g/mol
- Boiling point 204 - 205 °C
- WGK 3
- LGK 10 ■ Store below +15°C.
- HS-No. 2909 30 90 ■ Disposal 3

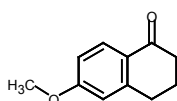
## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.995 - 1.001

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41398.0005	Glass bottle	5 ml	inquire
8.41398.0025	Glass bottle	25 ml	inquire

## 805801 6-Methoxy-1,2,3,4-tetrahydro-1-naphthalenone for synthesis

C<sub>11</sub>H<sub>12</sub>O<sub>2</sub>

6-Methoxy-1-tetralone

- CAS-No. 1078-19-9 ■ EC-No. 214-078-0

- Refractive index 1.5645 (20 °C, 589 nm)
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 176.21 g/mol
- Melting point 76 - 79 °C
- Boiling point 122 - 124 °C (1 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

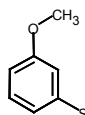
## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 76 °C  
Melting range (upper value)..... ≤ 79 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.05801.0025	Plastic bottle	25 g	inquire

6-Methoxy-1-tetralone → 6-Methoxy-1,2,3,4-tetrahydro-1-naphthalenone page 1127

## 841054 3-Methoxythiophenol for synthesis

C<sub>7</sub>H<sub>6</sub>O<sub>2</sub>S

3-Mercaptoanisole, 3-Methoxyphenylmercaptan

- CAS-No. 15570-12-4 ■ EC-No. 239-617-7
- Spec. density 1.136 g/cm<sup>3</sup> (20 °C)
- Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 140.21 g/mol

- Boiling point 225 - 227 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(3-METHOXYTHIOPHENOL), 6,1, III
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-METHOXYTHIOPHENOL), 6,1, III

IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-METHOXYTHIOPHENOL), 6,1, III

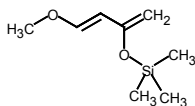
## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.141 - 1.145  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41054.0005	Glass bottle	5 ml	inquire

4-Methoxy-α-toluenethiol → 4-Methoxybenzyl mercaptan page 1118

## 841761 trans-1-Methoxy-3-trimethylsilyloxy-1,3-butadiene for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>Si

- CAS-No. 54125-02-9
- Spec. density 0.902 g/cm<sup>3</sup> (20 °C)
- Flash point 59 °C ■ M = 172.3 g/mol
- Boiling point 68 - 69 °C (18.7 hPa)

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3 ■ Store below +15°C.
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TRANS-1-METHOXY-3-TRIMETHYLSILOXY-1,3-BUTADIEN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TRANS-1-METHOXY-3-TRIMETHYLSILOXY)-1,3-BUTADIENE), 3, III

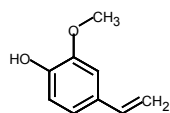
IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TRANS-1-METHOXY-3-TRIMETHYLSILOXY)-1,3-BUTADIENE), 3, III

## Specification

Assay (GC, area%)..... ≥ 95,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,900 - 0,904  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41761.0001	Glass bottle	1 ml	inquire

## 843803 2-Methoxy-4-vinylphenol for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>

- CAS-No. 7786-61-0 ■ EC-No. 232-101-2
- Spec. density 1.11 g/cm<sup>3</sup> (14 °C)

- M = 150.18 g/mol ■ Melting point 9 - 10 °C
- Boiling point 224 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2909 50 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 96.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.106 - 1.110  
Identity (IR)..... passes test

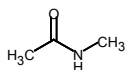
Ord.No.	Packaging	Quantity	Price
8.43803.0025	Glass bottle	25 ml	inquire

6-Methoxy-α-(5-vinyl-2-quinolidinyl)-4-quinolinemethanol → (-)-Quinine page 1397



# Methyl

## 822319 N-Methylacetamide for synthesis



C<sub>3</sub>H<sub>7</sub>NO  
 CH<sub>3</sub>CONHCH<sub>3</sub>  
*Acetic acid methylamide*  
 ■ CAS-No. 79-16-3 ■ EC-No. 201-182-6  
 ■ Refractive index 1.4277 (20 °C, 589 nm)  
 ■ Vapour pressure 1.1 hPa (50 °C)  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive

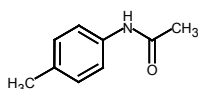
limit 3.2 - 18.1 % (V) ■ Flash point 116 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 73.09 g/mol  
 ■ pH value 7 (H<sub>2</sub>O) ■ Melting point 27 - 30 °C  
 ■ Boiling point 206 - 208 °C  
 ■ Ignition temp. 490 °C  
 ■ WGK 1  
 ■ GHS: Danger, Reproductive toxicity, Category 1B, H360D, P281, P308 + P313  
 ■ LD50 oral rat 4000 mg/kg  
 ■ EC-Index-No. 616-053-00-3 ■ LGK 6.1A  
 ■ HS-No. 2924 19 00 ■ Disposal 9

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 27 °C  
 Melting range (upper value) ..... ≤ 30 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22319.0100	Glass bottle	100 ml	inquire
8.22319.0500	Glass bottle	500 ml	inquire

## 800077 4'-Methylacetanilide for synthesis



C<sub>9</sub>H<sub>11</sub>NO  
 CH<sub>3</sub>CONHC<sub>6</sub>H<sub>4</sub>-4-(CH<sub>3</sub>)  
*N-p-Tolylacetamide, Acetic acid p-toluidide, 4-Acetamidotoluene*

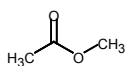
■ CAS-No. 103-89-9 ■ EC-No. 203-155-4  
 ■ Flash point 168 °C ■ Solub. in H<sub>2</sub>O 1.2 g/l (25 °C) (experimental) ■ M = 149.19 g/mol  
 ■ Melting point 147 - 150 °C  
 ■ Boiling point 306 - 308 °C (1013 hPa)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 29 98 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 147 °C  
 Melting range (upper value) ..... ≤ 150 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00077.0250	Glass bottle	250 g	inquire

## 809711 Methyl acetate for synthesis



C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>  
 CH<sub>3</sub>COOCH<sub>3</sub>  
*Methyl acetate*  
 ■ CAS-No. 79-20-9 ■ EC-No. 201-185-2  
 ■ Refractive index 1.3614 (20 °C, 589 nm)  
 ■ Vapour pressure 217 hPa (20 °C)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 6.6 (25 °C) ■ Explosive  
 limit 3.1 - 16 % (V) ■ Flash point -13 °C ■ Solub. in H<sub>2</sub>O 319 g/l (20 °C) ■ M = 74.08 g/mol  
 ■ pH value (H<sub>2</sub>O) neutral ■ Saturation conc. 665 g/l

m<sup>3</sup> (20 °C) Air ■ Melting point -98 °C  
 ■ Boiling point 56 - 58 °C (1013 hPa)  
 ■ Evaporation number 2.2 ■ Ignition temp. 455 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336, P210, P305 + P351 + P338  
 ■ LC50 rat > 49.28 mg/l  
 ■ LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ EC-Index-No. 607-021-00-X ■ LGK 3  
 ■ HS-No. 2915 39 00  
 ■ ADR-RID UN 1231 Methylacetat, 3, II ■ IMDG-Code UN 1231 METHYL ACETATE, 3, II

■ IATA-DGR UN 1231 METHYL ACETATE, 3, II

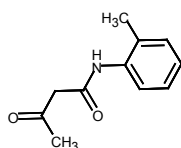
### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,932 - 0,934  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.09711.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.09711.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

Methyl acetic acid → Propionic acid page 1373

## 843847 2'-Methylacetoacetanilide for synthesis



C<sub>11</sub>H<sub>13</sub>NO<sub>2</sub>  
 ■ CAS-No. 93-68-5 ■ EC-No. 202-267-0

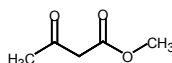
■ Vapour pressure 0.01 hPa (20 °C)  
 ■ Spec. density 1.30 g/cm<sup>3</sup> ■ Flash point 143 °C  
 ■ M = 191.23 g/mol ■ Melting point 103 - 106 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1600 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 29 98 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98 %  
 Melting range  
 - (lower value) ..... ≥ 103 °C  
 - (upper value) ..... ≤ 106 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43847.0100	Glass bottle	100 g	inquire

## 800107 Methyl acetoacetate for synthesis



C<sub>5</sub>H<sub>8</sub>O<sub>3</sub>  
 CH<sub>3</sub>COCH<sub>2</sub>COOCH<sub>3</sub>  
*Methyl 3-oxobutanoate, Methyl 3-oxobutyrate, Acetoacetic acid methyl ester*  
 ■ CAS-No. 105-45-3 ■ EC-No. 203-299-8  
 ■ Refractive index 1.4185 (20 °C, 589 nm)  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.3 - 14.2 % (V) ■ Flash point 67 °C ■ Solub. in H<sub>2</sub>O 863 g/l (20 °C) ■ M = 116.12 g/mol  
 ■ pH value 3.8 (863 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -39 °C ■ Boiling point 170 °C (1013 hPa) ■ Ignition temp. 260 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LC50 rat > 6.6 mg/l  
 ■ LD50 oral rat 3228 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ EC-Index-No. 607-137-00-0 ■ LGK 10 - 13

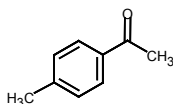
■ HS-No. 2918 30 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,076 - 1,077  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00107.0100	Glass bottle	100 ml	inquire
8.00107.1000	Glass bottle	1 l	inquire

## 821243 4'-Methylacetophenone for synthesis

C<sub>9</sub>H<sub>10</sub>OMethyl *p*-tolyl ketone

- CAS-No. 122-00-9 ■ EC-No. 204-514-8
- Refractive index 1.5313 (25 °C, 589 nm)
- Vapour pressure 0.14 hPa (20 °C)

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.00 %(V) ■ Flash point 92 °C ■ Solub. in H<sub>2</sub>O 2.07 g/l (20 °C) ■ M = 134.18 g/mol
- Melting point 28 °C ■ Boiling point 226 °C (1013 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
- LD50 oral rat 1400 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13

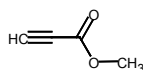
- HS-No. 2914 39 00 ■ Disposal 1

## Specification

Assay (GC, area%)..... ≥ 95.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.004 - 1.005  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21243.0250	Glass bottle	250 ml	inquire
8.21243.1000	Glass bottle	1 l	inquire

## 841712 Methyl acetylenecarboxylate for synthesis

C<sub>4</sub>H<sub>4</sub>O<sub>2</sub>

- CAS-No. 922-67-8 ■ EC-No. 213-083-5
- Spec. density 1.006 g/cm<sup>3</sup> (20 °C)
- Flash point 10 °C ■ M = 84.07 g/mol
- Boiling point 98 - 101 °C (1013 hPa)
- WGK 3
- GHS: Danger, Flammable liquid, Category 2,

- H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P262, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2916 19 95 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(METHYLACETYLENACARBOXYLAT), 3, II
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(METHYL ACETYLENACARBOXYLATE), 3, II

- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(METHYL ACETYLENACARBOXYLATE), 3, II

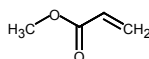
## Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
Density (d 20 °C/ 4 °C)..... 1,006 - 1,010  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41712.0005	Glass bottle	5 ml	inquire
8.41712.0025	Glass bottle	25 ml	inquire

β-Methylacrolein → Crotonaldehyde page 659

## 800841 Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>2</sub>CH<sub>2</sub>=CHCOOCH<sub>3</sub>

Methyl propenoate, Acrylic acid methyl ester

- CAS-No. 96-33-3 ■ EC-No. 202-500-6
- Refractive index 1.4021 (20 °C, 589 nm)
- Vapour pressure 93 hPa (20 °C)
- Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.8 %(V) ■ Flash point -2.7 °C ■ Solub. in H<sub>2</sub>O 52 g/l (25 °C) ■ M = 86.09 g/mol
- Melting point -74 °C ■ Boiling point 79 - 81 °C (1013 hPa) ■ Water absorption 250 g/kg (20 °C)

- Ignition temp. 415 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Specific target organ toxicity - single exposure, Category 3, H335, P210, P280, P302 + P352, P304 + P340, P309 + P310
- LC50 rat 2.0 - 4.8 mg/l
- LD50 oral rat 277 mg/kg ■ LD50 dermal rabbit 126 - 252 mg/kg
- EC-Index-No. 607-034-00-0 ■ LGK 3

- HS-No. 2916 12 00 ■ Disposal 3
- ADR-RID UN 1919 Methylacrylat, stabilisiert, 3, II ■ IMDG-Code UN 1919 METHYL ACRYLATE, STABILIZED, 3, II
- IATA-DGR UN 1919 METHYL ACRYLATE, STABILIZED, 3, II

## Specification

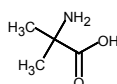
Assay (GC, area%)..... ≥ 99.0 Area %  
Density (d 20 °C/ 4 °C)..... 0,954 - 0,958  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00841.0100	Glass bottle	100 ml	inquire
8.00841.1000	Glass bottle	1 l	inquire

β-Methylacrylic acid → Crotonic acid page 659

Methylal → page 910

## 821244 2-Methylalanine for synthesis

C<sub>4</sub>H<sub>9</sub>NO<sub>2</sub>H<sub>2</sub>NC(CH<sub>3</sub>)<sub>2</sub>COOH

α-Aminoisobutyric acid

- CAS-No. 62-57-7 ■ EC-No. 200-544-0
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 103.12 g/mol ■ Melting point >300 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99.0 %  
Identity (IR)..... passes test

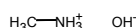
Ord.No.	Packaging	Quantity	Price
8.21244.0050	Plastic bottle	50 g	inquire

Methyl alcohol → page 293

Methyl aldehyde solution → page 185

Methylaldehyde solution → page 911

## 822091 Methylamine (40% solution in water) for synthesis



- Vapour pressure 370 hPa (25 °C)
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.2 - 26.4 %(V) ■ Flash point -18 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- Melting point -40 °C ■ Boiling point 48 °C
- Ignition temp. 425 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302;

- Acute toxicity, Category 3, Inhalation, H331; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P233, P240, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 3.43 mg/l
- LD50 oral rat 698 mg/kg
- LGK 3
- HS-No. 2921 11 00
- ADR-RID UN 1235 Methylamin, wässrige Lösung, 3 (8), II ■ IMDG-Code UN 1235 METHYLAMINE, AQUEOUS SOLUTION, 3 (8), II,

Segregation Group: 18 (Alkalis)

- IATA-DGR UN 1235 METHYLAMINE, AQUEOUS SOLUTION, 3 (8), II

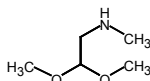
## Specification

Assay (acidimetric)..... 38,0 - 42,0 %(m)  
Density (d 20 °C/ 4 °C)..... 0,897 - 0,902

Ord.No.	Packaging	Quantity	Price
8.22091.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.22091.2500	Glass bottle	2.5 l	inquire

Methylamine hydrochloride → Methylammonium chloride page 1131

## 814289 (Methylamino)acetaldehyde dimethyl acetal for synthesis



C<sub>5</sub>H<sub>13</sub>NO<sub>2</sub>  
 CH<sub>3</sub>NHCH<sub>2</sub>CH(OCH<sub>3</sub>)<sub>2</sub>  
 2,2-Dimethoxy-N-methylethylamine  
 ■ CAS-No. 122-07-6 ■ EC-No. 204-520-0  
 ■ Refractive index 1.4115 (20 °C, 589 nm)  
 ■ Vapour pressure 8 hPa (20 °C)  
 ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 29 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

■ M = 119.16 g/mol ■ pH value 10.9 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -73 °C  
 ■ Boiling point 140 °C (65 hPa)  
 ■ Ignition temp. 260 °C  
 ■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P210, P262, P304 + P340, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2922 50 00 ■ Disposal 3  
 ■ ADR-RID UN 3271 Ether, n.a.g.((METHYLAMINO))

-ACETALDEHYDDIMETHYLACETAL, 3, III ■ IMDG-Code UN 3271 ETHERS, N.O.S.((METHYLAMINO)-ACETALDEHYDDIMETHYLACETALE), 3, III  
 ■ IATA-DGR UN 3271 ETHERS, N.O.S.((METHYLAMINO)-ACETALDEHYDDIMETHYLACETALE), 3, III

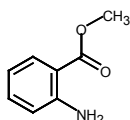
## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,926 - 0,930  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14289.0050	Glass bottle	50 ml	inquire

Methylaminoacetic acid → Sarcosine page 1412

## 800466 Methyl 2-aminobenzoate for synthesis



C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>  
 2-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COOCH<sub>3</sub>  
 Methyl anthranilate, 2-Aminobenzoic acid methyl ester, Anthranilic acid methyl ester  
 ■ CAS-No. 134-20-3 ■ EC-No. 205-132-4  
 ■ Refractive index 1.5824 (20 °C, 589 nm)

■ Vapour pressure < 300 hPa (50 °C)  
 ■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 7.8 % (V) ■ Flash point 123 °C ■ Solub. in H<sub>2</sub>O 2.9 g/l (20 °C) ■ M = 151.16 g/mol  
 ■ pH value 7.5 - 8 (H<sub>2</sub>O, 20 °C) Aqueous solution  
 ■ Melting point 24 °C ■ Boiling point 260 °C (1013 hPa) ■ Ignition temp. 530 °C  
 ■ WGK 1  
 ■ GHS: P262  
 ■ LD50 oral rat 2910 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13

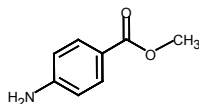
■ HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 23 °C  
 Melting range (upper value) ..... ≤ 26 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00466.0005	Glass bottle	5 g	inquire
8.00466.0251	Glass bottle	250 g	inquire

## 841464 Methyl 4-aminobenzoate for synthesis



C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>  
 4-Aminobenzoic acid methyl ester

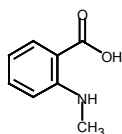
■ CAS-No. 619-45-4 ■ EC-No. 210-598-7  
 ■ Solub. in H<sub>2</sub>O 3.82 g/l (37 °C) ■ M = 151.16 g/mol  
 ■ Melting point 109 - 111 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

Melting range (lower value) ..... ≥ 110 °C  
 Melting range (upper value) ..... ≤ 113 °C  
 Identity (IR) ..... passes test

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.41464.0025	Plastic bottle	25 g	inquire

## 841325 2-Methylaminobenzoic acid for synthesis



C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>  
 N-Methylantranilic acid

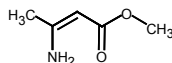
■ CAS-No. 119-68-6 ■ EC-No. 204-343-9  
 ■ Solub. in H<sub>2</sub>O 0.20 g/l (20 °C) ■ M = 151.16 g/mol  
 ■ Melting point 170 - 175 °C  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315, P262, P302 + P352  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 97.0 %  
 Melting range (lower value) ..... ≥ 170 °C  
 Melting range (upper value) ..... ≤ 175 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41325.0100	Plastic bottle	100 g	inquire

## 818590 Methyl 3-aminocrotonate for synthesis



C<sub>5</sub>H<sub>9</sub>NO<sub>2</sub>  
 CH<sub>3</sub>C(NH<sub>2</sub>)=CHCOOCH<sub>3</sub>  
 3-Aminocrotonic acid methyl ester  
 ■ CAS-No. 14205-39-1 ■ EC-No. 238-056-5  
 ■ Flash point 91 °C ■ Solub. in H<sub>2</sub>O 18 g/l (20 °C)  
 ■ M = 115.13 g/mol ■ pH value 8 - 9 (18 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point 81 - 84 °C  
 ■ Bulk density 610 kg/m<sup>3</sup> ■ Boiling point 112 °C (55 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2922 49 85 ■ Disposal 3

## Specification

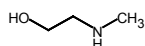
Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 81 °C  
 Melting range (upper value) ..... ≤ 84 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18590.0250	Plastic bottle	250 g	inquire

Methylaminocyclohexane → N-Methylcyclohexylamine page 1145

2-Methylamino-1-ethanesulfonic acid → N-Methyltaurine page 1180

## 805802 2-(Methylamino)ethanol for synthesis

C<sub>3</sub>H<sub>9</sub>NOCH<sub>3</sub>NHCH<sub>2</sub>CH<sub>2</sub>OH*N*-Methylethanolamine

- CAS-No. 109-83-1 ■ EC-No. 203-710-0
- Refractive index 1.4387 (20 °C, 589 nm)
- Vapour pressure 1 hPa (20 °C)
- Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 17.7 % (V) ■ Flash point 74 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 75.11 g/mol
- pH value 13.6 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -3 °C ■ Boiling point 159 °C

(1013 hPa) ■ Ignition temp. 350 °C

- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P302 + P352, P309 + P310
- LD50 oral rat 1391 mg/kg ■ LD50 dermal rabbit 1006 mg/kg
- EC-Index-No. 603-080-00-0 ■ LGK 8A
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-METHYLAMINOETHANOL), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE,

N.O.S.(2-METHYLAMINOETHANOL), 8, III, Segregation Group: 18 (Alkalis)

- IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-METHYLAMINOETHANOL), 8, III

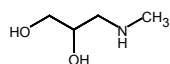
**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,938 - 0,940  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05802.0100	Glass bottle	100 ml	inquire
8.05802.1000	Glass bottle	1 l	inquire

N-Methyl-N'-aminopiperazine → 1-Amino-4-methylpiperazine page 393

## 814507 3-Methylamino-1,2-propanediol for synthesis

C<sub>4</sub>H<sub>11</sub>NO<sub>2</sub>CH<sub>2</sub>(OH)CH(OH)CH<sub>2</sub>NHCH<sub>3</sub>

- CAS-No. 40137-22-2 ■ EC-No. 254-809-0
- Spec. density 1.09 g/cm<sup>3</sup> (20 °C)
- Flash point 152 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 105.14 g/mol
- pH value 11.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Boiling point 139 - 241 °C (995 hPa)

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat > 2000 mg/kg
- LGK 8A
- HS-No. 2922 19 85 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(3-METHYLAMINO-1,2-PROPANDIOL), 8, III
- IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-METHYLAMINO-1,2-PROPANDIOL), 8, III, Segregation Group: 18

(Alkalis)

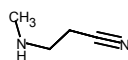
- IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-METHYLAMINO-1,2-PROPANDIOL), 8, III

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,092 - 1,095  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14507.0025	Glass bottle	25 ml	inquire

## 814871 3-Methylaminopropionitrile for synthesis

C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>CH<sub>3</sub>NHCH<sub>2</sub>CH<sub>2</sub>CN

- CAS-No. 693-05-0 ■ EC-No. 211-740-0

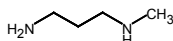
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ M = 84.12 g/mol ■ Boiling point 101 - 104 °C (6532.78 Pa)
- WGK 2
- LD50 oral rat 2260 mg/kg
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>) ..... ≥ 97,0 %  
Density (d 20 °C/ 4 °C) ..... 0,909 - 0,914  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14871.0010	Glass bottle	10 ml	inquire

## 843609 3-Methylamino propylamine for synthesis

C<sub>4</sub>H<sub>12</sub>N<sub>2</sub>

- CAS-No. 6291-84-5 ■ EC-No. 228-544-6
- Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 12.8 % (V) ■ Flash point 42 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 88.15 g/mol ■ pH value 13.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -72 °C
- Boiling point 140 - 141 °C
- Ignition temp. 305 °C DIN 51794
- WGK 1
- GHS: Danger, Flammable liquid, Category 3,

- H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1A, H314, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1063 mg/kg
- LGK 3
- HS-No. 2921 29 00
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(3-(METHYLAMINO)PROPYLAMINE), 8 (3), II ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(3-METHYLAMINO PROPYLAMINE), 8 (3), II, Segregation Group: 18 (Alkalis)

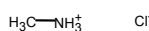
- IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(3-METHYLAMINO PROPYLAMINE), 8 (3), II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.848 - 0.852  
Water (K. F.) ..... ≤ 0.50 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43609.0025	Glass bottle	25 ml	inquire

## 806020 Methylammonium chloride for synthesis

CH<sub>6</sub>ClNCH<sub>3</sub>NH<sub>3</sub>Cl

- CAS-No. 593-51-1 ■ EC-No. 209-795-0
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 67.52 g/mol
- pH value 5 - 7 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 228 - 233 °C
- Bulk density 1100 kg/m<sup>3</sup>

- Boiling point 225 - 230 °C (20 hPa)
  - WGK 1
  - GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
  - LD50 oral rat 1600 mg/kg
  - LGK 10 - 13
  - HS-No. 2921 11 00 ■ Disposal 3
- Specification**  
Assay (argentometric) ..... ≥ 99,0 % (m)  
Melting range (lower value) ..... ≥ 228 °C

Melting range (upper value) ..... ≤ 233 °C  
Identity (IR) ..... conforms

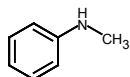
Ord.No.	Packaging	Quantity	Price
8.06020.0005	Glass bottle	5 g	inquire
8.06020.0250	Plastic bottle	250 g	inquire
8.06020.1000	Plastic bottle	1 kg	inquire

Methyl amyl carbinol → 2-Heptanol page 938

Methyl amyl ketone → 2-Heptanone page 939

# Methyl

## 806096 N-Methylaniline for synthesis



C<sub>7</sub>H<sub>9</sub>N  
C<sub>6</sub>H<sub>5</sub>NHCH<sub>3</sub>  
**Monomethylaniline**  
■ CAS-No. 100-61-8 ■ EC-No. 202-870-9  
■ Refractive index 1.5704 (20 °C, 589 nm)  
■ Vapour pressure 0.5 hPa (20 °C)  
■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C)  
■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O 5.62 g/l (25 °C) ■ M = 107.16 g/mol ■ pH value 7.6 (1 g/l,

H<sub>2</sub>O, 20 °C) ■ Melting point -57 °C  
■ Boiling point 196 °C (1013 hPa)  
■ Ignition temp. 500 °C  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
■ LD50 oral rat 360 mg/kg  
■ EC-Index-No. 612-015-00-5 ■ LGK 6.1A

■ HS-No. 2921 42 00 ■ Disposal 9  
■ ADR-RID UN 2294 n-Methylanilin, 6.1, III  
■ IMDG-Code UN 2294 N-METHYLANILINE, 6.1, III  
■ IATA-DGR UN 2294 N-METHYLANILINE, 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,985 - 0,986  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06096.0100	Glass bottle	100 ml	inquire
8.06096.1000	Glass bottle	1 l	inquire

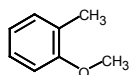
2-Methylaniline → page 1568

4-Methylaniline → page 1569

3-Methylaniline → m-Toluidine page 1568

Methyl o-anisate → Methyl 2-methoxybenzoate page 1160

## 821248 2-Methylanisole for synthesis



C<sub>8</sub>H<sub>10</sub>O  
2-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>OCH<sub>3</sub>  
**o-Cresol methyl ether**  
■ CAS-No. 578-58-5 ■ EC-No. 209-426-3  
■ Refractive index 1.5161 (25 °C, 589 nm)  
■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)  
■ Flash point 52 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 122.17 g/mol  
■ Melting point -34.1 °C  
■ Boiling point 170 - 172 °C (1013 hPa)  
■ WGK 1  
■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315, P210, P302 + P352  
■ LGK 3  
■ HS-No. 2909 30 90 ■ Disposal 1  
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-METHYLANISOL), 3, III ■ IMDG-Code UN

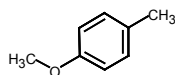
1993 FLAMMABLE LIQUID, N.O.S.(2-METHYLANISOLE), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHYLANISOLE), 3, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.979 - 0.981  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21248.0050	Glass bottle	50 ml	inquire

## 818456 4-Methylanisole for synthesis



C<sub>8</sub>H<sub>10</sub>O  
4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>OCH<sub>3</sub>  
**p-Cresol methyl ether**  
■ CAS-No. 104-93-8 ■ EC-No. 203-253-7  
■ Refractive index 1.5094 (25 °C, 589 nm)  
■ Vapour pressure 2 hPa (20 °C)  
■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 8.3 % (V) ■ Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 122.17 g/

mol ■ Melting point -50 °C  
■ Boiling point 174 - 177 °C (1013 hPa)  
■ Ignition temp. 485 °C  
■ WGK 1  
■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P302 + P352  
■ LC50 rat > 6.1 mg/l  
■ LD50 oral rat 1920 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
■ LGK 3  
■ HS-No. 2909 30 90 ■ Disposal 1  
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

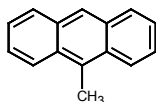
n.a.g.(4-METHYLANISOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4-METHYLANISOLE), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(4-METHYLANISOLE), 3, III

### Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.968 - 0.970  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18456.0250	Glass bottle	250 ml	inquire

## 821249 9-Methylanthracene for synthesis



C<sub>15</sub>H<sub>12</sub>  
■ CAS-No. 779-02-2 ■ EC-No. 212-299-7  
■ Refractive index 1.6959 (99 °C, 589 nm)  
■ Spec. density 1.06 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 0.0003 mg/l (25 °C) ■ M = 192.26 g/mol  
■ Melting point 76 - 79 °C  
■ Boiling point 196 - 197 °C (16 hPa)

■ WGK 3  
■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273  
■ LGK 10 - 13  
■ HS-No. 2902 90 00 ■ Disposal 3  
■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(9-METHYLANTHRACEN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(9-METHYLANTHRACENE), 9, III, Marine Pollutant: P  
■ IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(9-METHYLANTHRACENE), 9, III

### Specification

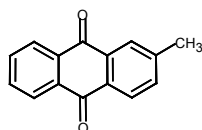
Assay (GC, area%) ..... ≥ 97,0 Area %  
Melting range (lower value) ..... ≥ 76 °C  
Melting range (upper value) ..... ≤ 79 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21249.0001	Glass bottle	1 g	inquire
8.21249.0005	Glass bottle	5 g	inquire

Methyl anthranilate → Methyl 2-aminobenzoate page 1130

N-Methylanthranilic acid → 2-Methylaminobenzoic acid page 1130

## 841724 2-Methylantraquinone for synthesis



C<sub>15</sub>H<sub>10</sub>O<sub>2</sub>

■ CAS-No. 84-54-8 ■ EC-No. 201-539-6  
■ M = 222.24 g/mol ■ Melting point 171 - 173 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2914 69 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 96,0 Area %  
Melting range (lower value) ..... ≥ 167 °C

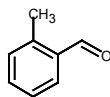
Melting range (upper value) ..... ≤ 172 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41724.0100	Plastic bottle	100 g	inquire
8.41724.0500	Plastic bottle	500 g	inquire

8-Methyl-8-azabicyclo[3.2.1]octan-3-one → Tropinone page 1619

4-(Methylazoamino)phenoxyethyl polystyrene → page 282



**814030 2-Methylbenzaldehyde** (stabilised with hydroquinone) for synthesis

$C_8H_8O$   
2-( $CH_3$ ) $C_6H_4CHO$   
*o*-Tolualdehyde, *o*-Toluyaldehyde  
■ CAS-No. 529-20-4 ■ EC-No. 208-452-2

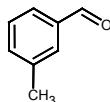
- Refractive index 1.5462 (20 °C, 589 nm)
- Vapour pressure 3 hPa (50 °C)
- Spec. density 1.035 g/cm<sup>3</sup> (20 °C)
- Flash point 67 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 120.15 g/mol
- Melting point -35 °C
- Boiling point 198 - 200 °C (1013 hPa)
- Ignition temp. 375 °C
- WGK 1

- LGK 10
- HS-No. 2912 29 00 ■ Disposal 1

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,034 - 1,037  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14030.0025	Glass bottle	25 ml	inquire

**814031 3-Methylbenzaldehyde** (stabilised with hydroquinone) for synthesis

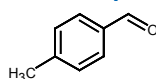
$C_8H_8O$   
*m*-Tolualdehyde, *m*-Toluyaldehyde  
■ CAS-No. 620-23-5 ■ EC-No. 210-632-0

- Refractive index 1.541 (20 °C, 589 nm)
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point 78 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 120.15 g/mol
- Boiling point 198 - 200 °C (1013 hPa)
- WGK 1
- LGK 10
- HS-No. 2912 29 00 ■ Disposal 1

**Specification**

Assay (GC, area%) ..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,020 - 1,025  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14031.0025	Glass bottle	25 ml	inquire

**806179 4-Methylbenzaldehyde** for synthesis

$C_8H_8O$   
4-( $CH_3$ ) $C_6H_4CHO$   
*p*-Tolualdehyde, *p*-Toluyaldehyde  
■ CAS-No. 104-87-0 ■ EC-No. 203-246-9  
■ Refractive index 1.5447 (20 °C, 589 nm)  
■ Vapour pressure 0.33 hPa (25 °C)

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 5.6 % (V) ■ Flash point 71.5 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 0.25 g/l (25 °C)
- M = 120.15 g/mol ■ Melting point -6 °C
- Boiling point 204 °C (1013 hPa)
- Ignition temp. 395 °C DIN 51794
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
- LD50 oral rat 1600 mg/kg

- LGK 10 - 13
- HS-No. 2912 29 00 ■ Disposal 1

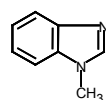
**Specification**

Assay (GC, area%) ..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,016 - 1,018  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06179.0250	Glass bottle	250 ml	inquire

Methylbenzene deuterated → Toluene-D8 page 296

4-Methyl-benzenesulfonic acid hydrazide → 4-Toluenesulfonohydrazide page 1567

**843829 1-Methylbenzimidazole** for synthesis

$C_8H_8N_2$   
■ CAS-No. 1632-83-3  
■ M = 132.17 g/mol ■ Melting point 98.1 °C

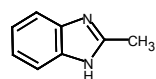
- Boiling point 154 °C (16 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

Identity (IR) ..... passes test

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Melting range (lower value) ..... ≥ 50 °C  
Melting range (upper value) ..... ≤ 55 °C

Ord.No.	Packaging	Quantity	Price
8.43829.0005	Glass bottle	5 g	inquire
8.43829.0025	Glass bottle	25 g	inquire

**818596 2-Methylbenzimidazole** for synthesis

$C_8H_8N_2$   
■ CAS-No. 615-15-6 ■ EC-No. 210-411-9  
■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

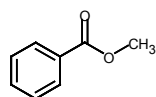
- M = 132.17 g/mol ■ Melting point 174 - 177 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

Melting range (upper value) ..... ≤ 177 °C  
Identity (IR) ..... passes test

**Specification**

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
Melting range (lower value) ..... ≥ 174 °C

Ord.No.	Packaging	Quantity	Price
8.18596.0025	Plastic bottle	25 g	inquire
8.18596.0100	Plastic bottle	100 g	inquire

**Methyl benzoate**

$C_8H_8O_2$   
 $C_6H_5COOCH_3$   
■ CAS-No. 93-58-3 ■ EC-No. 202-259-7

- Vapour pressure 0.36 hPa (20 °C)
- Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 8.6 - 20 % (V) ■ Flash point 82 °C ■ Solub. in H<sub>2</sub>O 0.157 g/l (30 °C) ■ M = 136.15 g/mol
- pH value (H<sub>2</sub>O) not applicable ■ Melting point -12 °C ■ Boiling point 199 °C (1013 hPa)
- Ignition temp. 510 °C
- WGK 1

- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P260, P262
- LD50 oral rat 1177 mg/kg ■ LD50 dermal rabbit 2170 mg/kg
- LGK 10 - 13
- HS-No. 2916 31 00 ■ Disposal 3

**822330 Methyl benzoate** for synthesis**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,086 - 1,088  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22330.0100	Glass bottle	100 ml	inquire
8.22330.1000	Glass bottle	1 l	inquire
8.22330.2500	Glass bottle	2.5 l	inquire

# Methyl

## 106059 Methyl benzoate EEMPLURA®

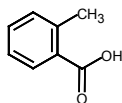
### Specification

Purity (GC).....	≥ 99.0 %
Identity (IR).....	conforms
Free acid (as benzoic acid).....	≤ 0.2 %
Density (d 20 °C/ 4 °C).....	1.086 - 1.088
Sulfated ash.....	≤ 0.05 %

Water..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.06059.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.06059.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.06059.6025	Drum stainl. st.	25 l	inquire

## 821901 2-Methylbenzoic acid for synthesis



(25 °C) ■ M = 136.15 g/mol ■ pH value 3.1 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution)  
 ■ Melting point 101 - 104 °C  
 ■ Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 260 °C  
 ■ Ignition temp. 495 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 4

C<sub>8</sub>H<sub>8</sub>O<sub>2</sub>  
 2-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>COOH  
*o-Toluic acid*

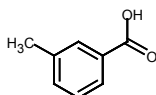
■ CAS-No. 118-90-1 ■ EC-No. 204-284-9  
 ■ Flash point 148 °C ■ Solub. in H<sub>2</sub>O 1.2 g/l

### Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 101 °C  
 Melting range (upper value)..... ≤ 104 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21901.0100	Plastic bottle	100 g	inquire
8.21901.1000	Plastic bottle	1 kg	inquire

## 821902 3-Methylbenzoic acid for synthesis



■ M = 136.15 g/mol ■ pH value 3.4 (H<sub>2</sub>O, 20 °C) (saturated solution)  
 ■ Melting point 108 - 111 °C  
 ■ Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 263 °C (1013 hPa) ■ Ignition temp. 500 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 7000 mg/kg  
 ■ LGK 10 - 13

C<sub>8</sub>H<sub>8</sub>O<sub>2</sub>  
 3-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>COOH  
*m-Toluic acid*

■ CAS-No. 99-04-7 ■ EC-No. 202-723-9  
 ■ Flash point 150 °C ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C)

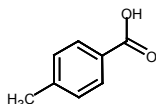
■ HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 110 °C  
 Melting range (upper value)..... ≤ 113 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21902.0250	Plastic bottle	250 g	inquire
8.21902.1000	Plastic bottle	1 kg	inquire

## 821903 4-Methylbenzoic acid for synthesis



■ Flash point 181 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (20 °C) ■ M = 136.15 g/mol  
 ■ Melting point 179 - 181 °C  
 ■ Bulk density 700 kg/m<sup>3</sup> ■ Boiling point 274 °C (1013 hPa) ■ Ignition temp. 570 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 400 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 4

C<sub>8</sub>H<sub>8</sub>O<sub>2</sub>  
 4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>COOH  
*p-Toluic acid*

■ CAS-No. 99-94-5 ■ EC-No. 202-803-3  
 ■ Vapour pressure 0.02 hPa (70 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C)

### Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 179 °C  
 Melting range (upper value)..... ≤ 182 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21903.0005	Glass bottle	5 g	inquire
8.21903.0250	Plastic bottle	250 g	inquire
8.21903.1000	Plastic bottle	1 kg	inquire

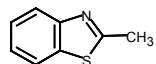
4-Methylbenzoic acid ethyl ester → Ethyl 4-methylbenzoate page 875

2-Methylbenzonitrile → o-Tolunitrile page 1569

4-Methylbenzonitrile → p-Tolunitrile page 1570

4-Methylbenzoic acid methyl ester → Methyl 4-methylbenzoate page 1161

## 841709 2-Methylbenzothiazole for synthesis



■ Flash point 102 °C ■ M = 149.22 g/mol  
 ■ Melting point 12 °C ■ Boiling point 237 - 238 °C  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2934 20 80 ■ Disposal 3

C<sub>8</sub>H<sub>7</sub>NS

■ CAS-No. 120-75-2 ■ EC-No. 204-423-3  
 ■ Spec. density 1.173 g/cm<sup>3</sup> (20 °C)

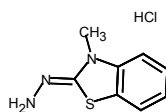
Density (d 20 °C/ 4 °C)..... 1,173 - 1,177  
 Identity (IR)..... passes test

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %

Ord.No.	Packaging	Quantity	Price
8.41709.0025	Glass bottle	25 ml	inquire

## 104527 3-Methyl-2-benzothiazolinone-hydrazonehydrochloride GR for analysis Reag. Ph Eur



H301, P309 + P310  
 ■ LD50 oral rat 149 mg/kg ■ LD50 dermal rabbit 12300 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2934 20 80 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(3-METHYL-2-BENZOTHAZOLINONHYDRAZONHYDROCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3-METHYL-2-BENZOTHAZOLINONEHYDRAZONE HYDROCHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3-METHYL-2-

C<sub>8</sub>H<sub>10</sub>ClN<sub>3</sub>S

*MBTH*  
 ■ CAS-No. 4338-98-1 ■ EC-No. 224-393-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 215.71 g/mol ■ pH value 3 - 4 (4 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 748 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral,

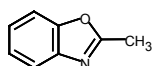
BENZOTHAZOLINONEHYDRAZONE HYDROCHLORIDE), 6.1, III

### Specification

Assay (argentometric)..... ≥ 99%  
 Identity (IR-spectrum)..... passes test  
 pH-value (0.4 %, water)..... 3 - 4  
 Melting point..... about 270 °C  
 Sulfated ash..... ≤ 0.1 %  
 Loss on drying (105 °C)..... ≤ 1.0 %  
 Suitability for determination of aldehydes..... passes test

Ord.No.	Packaging	Quantity	Price
1.04527.0010	Glass bottle	10 g	inquire

## 821254 2-Methylbenzoxazole for synthesis

C<sub>8</sub>H<sub>7</sub>NO

- CAS-No. 95-21-6 ■ EC-No. 202-399-9
- Refractive index 1.5497 (20 °C, 589 nm)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C)
- Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 133.15 g/mol

- Melting point 2 - 4 °C
- Boiling point 200 - 201 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

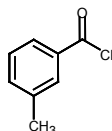
- HS-No. 2934 99 90 ■ Disposal 1

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.120 - 1.121  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21254.0025	Glass bottle	25 ml	inquire
8.21254.0100	Glass bottle	100 ml	inquire

## 814855 3-Methylbenzoyl chloride for synthesis

C<sub>8</sub>H<sub>7</sub>ClO*m*-Toluoyl chloride, *m*-Toluenecarbonyl chloride

- CAS-No. 1711-06-4 ■ EC-No. 216-976-8
- Spec. density 1.173 g/cm<sup>3</sup> (20 °C)
- Flash point 76 °C ■ M = 154.59 g/mol

- Boiling point 86 °C (6.67 hPa)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 3440 mg/kg
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(3-METHYLBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3-METHYLBENZOYL

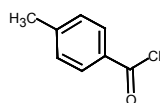
CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3-METHYLBENZOYL CHLORIDE), 8, II

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.170 - 1.175  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14855.0025	Glass bottle	25 ml	inquire

## 821131 4-Methylbenzoyl chloride for synthesis

C<sub>8</sub>H<sub>7</sub>ClO4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>COCl*p*-Toluoyl chloride, *o*-Toluenecarbonyl chloride

- CAS-No. 874-60-2 ■ EC-No. 212-864-8
- Refractive index 1.5535 (20 °C, 589 nm)
- Vapour pressure 0.1 hPa (20 °C)
- Spec. density 1.17 g/cm<sup>3</sup> (20 °C)
- Flash point 82 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 154.6 g/mol

- pH value 1 (H<sub>2</sub>O, 20 °C) ■ Melting point -2 °C
- Boiling point 225 - 227 °C (1013 hPa)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(4-METHYLBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID,

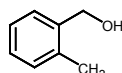
ACIDIC, ORGANIC, N.O.S.(4-METHYLBENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-METHYLBENZOYL CHLORIDE), 8, II

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.167 - 1.169  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21131.0005	Glass bottle	5 ml	inquire
8.21131.0250	Glass bottle	250 ml	inquire

## 841530 2-Methylbenzyl alcohol for synthesis

C<sub>8</sub>H<sub>10</sub>O*o*-Hydroxy-*o*-Xylene

- CAS-No. 89-95-2 ■ EC-No. 201-954-2
- Flash point 104 °C ■ M = 122.17 g/mol

- Melting point 31 - 35 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

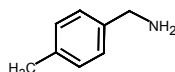
**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 31 °C  
 Melting range (upper value)..... ≤ 35 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41530.0010	Glass bottle	10 g	inquire
8.41530.0100	Glass bottle	100 g	inquire

## 841614 4-Methylbenzylamine for synthesis

C<sub>8</sub>H<sub>11</sub>N

- CAS-No. 104-84-7 ■ EC-No. 203-243-2
- Spec. density 0.95 g/cm<sup>3</sup> (20 °C)
- Flash point 75 °C ■ M = 121.18 g/mol
- Melting point 12 - 13 °C
- Boiling point 196 - 197 °C (1013 hPa)
- WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(4-METHYLBENZYLAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(4-METHYLBENZYLAMINE), 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(4-METHYLBENZYLAMINE), 8, III

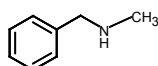
**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.957 - 0.961  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41614.0025	Glass bottle	25 ml	inquire
8.41614.0100	Glass bottle	100 ml	inquire

# Methyl

## 801681 N-Methylbenzylamine for synthesis



$C_8H_{11}N$   
 $C_6H_5CH_2NHCH_3$   
*N-Benzylmethylamine*  
 ■ CAS-No. 103-67-3 ■ EC-No. 203-133-4  
 ■ Refractive index 1.5235 (20 °C, 589 nm)  
 ■ Vapour pressure 2.1 hPa (20 °C)  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 7.7 % (V) ■ Flash point 61 °C ■ Solub. in H<sub>2</sub>O 65 g/l (20 °C) ■ M = 121.18 g/mol  
 ■ pH value 10 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point -55 °C  
 ■ Boiling point 184 - 190 °C (1013 hPa)  
 ■ Ignition temp. 380 °C  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 8A  
 ■ HS-No. 2921 49 00 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(N-METHYLBENZYLAMIN), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE,

N.O.S.(N-METHYLBENZYLAMINE), 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(N-METHYLBENZYLAMINE), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,941 - 0,943  
 Identity (IR) ..... conforms

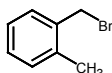
Ord.No.	Packaging	Quantity	Price
8.01681.0250	Glass bottle	250 ml	inquire
8.01681.1000	Glass bottle	1 l	inquire

D- $\alpha$ -Methylbenzylamine → (R)-(-)-1-Phenylethylamine page 1303

DL- $\alpha$ -Methylbenzylamine → DL-1-Phenylethylamine page 1303

L- $\alpha$ -Methylbenzylamine → (S)-(-)-1-Phenylethylamine page 1303

## 841581 2-Methylbenzyl bromide for synthesis



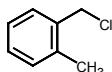
$C_8H_9Br$   
 $CH_2(C_6H_4)CH_2Br$   
 *$\alpha$ -Bromo-o-xylene*  
 ■ CAS-No. 89-92-9 ■ EC-No. 201-951-6  
 ■ Vapour pressure 0.08 hPa (20 °C)  
 ■ Spec. density 1.381 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 82 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble,(slow

decomposition) ■ M = 185.06 g/mol  
 ■ Melting point 18 - 20 °C  
 ■ Boiling point 223 - 224 °C (1014 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1701 Xylylbromid, flüssig, 6.1, II  
 ■ IMDG-Code UN 1701 XYLYL BROMIDE, LIQUID, 6.1, II, Segregation Group: 10 (Liquid halogenated

hydrocarbons)  
 ■ IATA-DGR UN 1701 XYLYL BROMIDE, LIQUID, 6.1, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.373 - 1.383  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41581.0010	Glass bottle	10 ml	inquire

## 840162 2-Methylbenzyl chloride (stabilised with propylene oxide) for synthesis



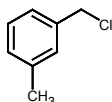
$C_8H_9Cl$   
 *$\alpha$ -Chloro-o-xylene, o-Xylyl chloride*  
 ■ CAS-No. 552-45-4 ■ EC-No. 209-013-8  
 ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 73 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 140.61 g/mol  
 ■ Melting point -2 °C ■ Boiling point 197 - 199 °C (1013 hPa)  
 ■ WGK 3

■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H335; Acute toxicity, Category 4, Oral, H302, P201, P302 + P352, P304 + P340, P305 + P351 + P338, P307 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2903 99 90 ■ Disposal 9  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2-METHYLBENZYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-

METHYLBENZYLCHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-METHYLBENZYLCHLORIDE), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,078 - 1,082  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40162.0025	Glass bottle	25 ml	inquire

## 814038 3-Methylbenzyl chloride for synthesis



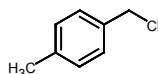
$C_8H_9Cl$   
 $3-(CH_3)-C_6H_4CH_2Cl$   
 *$\alpha$ -Chloro-m-xylene*  
 ■ CAS-No. 620-19-9 ■ EC-No. 210-628-9  
 ■ Refractive index 1.5345 (20 °C, 589 nm)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 75 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 140.61 g/mol

■ Boiling point 195 - 196 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 8A  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(3-METHYLBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3-METHYLBENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3-METHYLBENZOYL CHLORIDE), 8, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,067 - 1,069  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14038.0050	Glass bottle	50 ml	inquire

## 820347 4-Methylbenzyl chloride for synthesis



$C_8H_9Cl$   
 $4-(CH_3)C_6H_4CH_2Cl$   
 *$\alpha$ -Chloro-p-xylene*  
 ■ CAS-No. 104-82-5 ■ EC-No. 203-241-1  
 ■ Vapour pressure 0.2 hPa (20 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 74 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 140.61 g/mol  
 ■ Melting point 5 °C ■ Boiling point 200 - 202 °C

(1013 hPa) ■ Ignition temp. >600 °C  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338  
 ■ LGK 8A  
 ■ HS-No. 2903 99 90  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(4-METHYLBENZYLCHLORID), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-METHYLBENZYL

CHLORIDE), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-METHYLBENZYL CHLORIDE), 8, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.063 - 1.064  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20347.0100	Glass bottle	100 ml	inquire

p-Methylbenzyl cyanide → p-Toluylacetonitrile  
page 1570

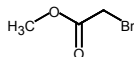
(R)-(+)-α-Methylbenzyl isocyanate → (R)-(+)-1-  
Phenylethyl isocyanate page 1304

Methyl blue (C.I. 42780) → page 191

Methyl blue for microscopy and microbiology →  
page 191

Methyl borate → Trimethyl borate page 1603

## 820196 METHYL BROMOACETATE FOR SYNTHESIS



C<sub>3</sub>H<sub>5</sub>BrO<sub>2</sub>

BrCH<sub>2</sub>COOCH<sub>3</sub>

*Bromoacetic acid methyl ester*

- CAS-No. 96-32-2 ■ EC-No. 202-499-2
- Refractive index 1.4586 (20 °C, 589 nm)
- Vapour pressure 18 hPa (50 °C)
- Spec. density 1.65 g/cm<sup>3</sup> (20 °C)
- Flash point 64 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble

- M = 152.98 g/mol ■ Boiling point 144 - 146 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 70 mg/kg
- LGK 6.1A
- HS-No. 2915 90 70 ■ Disposal 9
- ADR-RID UN 2643 Methylbromacetat, 6.1, II
- IMDG-Code UN 2643 METHYL BROMOACETATE,

6.1, II

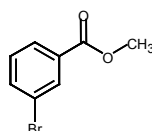
■ IATA-DGR UN 2643 METHYL BROMOACETATE,  
6.1, II

### Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.653 - 1.658  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20196.0100	Glass bottle	100 ml	inquire
8.20196.0250	Glass bottle	250 ml	inquire

## 816119 Methyl 3-bromobenzoate for synthesis



C<sub>8</sub>H<sub>7</sub>BrO<sub>2</sub>

*3-Bromobenzoic acid methyl ester*

- CAS-No. 618-89-3 ■ EC-No. 210-569-9
- M = 215.05 g/mol ■ Melting point 30 - 32 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

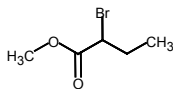
### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 30 °C  
Melting range (upper value) ..... ≤ 34 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16119.0025	Glass bottle	25 g	inquire

## 842446 Methyl 2-bromobutyrate (mixtures of racemates) for synthesis



C<sub>5</sub>H<sub>9</sub>BrO<sub>2</sub>

- CAS-No. 3196-15-4 ■ EC-No. 221-699-0
- Spec. density 1.411 g/cm<sup>3</sup> (20 °C)
- Flash point 68 °C ■ M = 181.03 g/mol
- Boiling point 137 - 138 °C (67 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314,

- P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 2
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(METHYL-2-BROMBUTYRAT), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(METHYL 2-BROMOBUTYRATE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(METHYL 2-BROMOBUTYRATE),

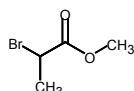
8, II

### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.409 - 1.413  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42446.0025	Glass bottle	25 ml	inquire
8.42446.0100	Glass bottle	100 ml	inquire

## 820222 Methyl 2-bromopropionate for synthesis



C<sub>4</sub>H<sub>7</sub>BrO<sub>2</sub>

CH<sub>3</sub>CHBrCOOCH<sub>3</sub>

*2-Bromopropionic acid methyl ester*

- CAS-No. 5445-17-0 ■ EC-No. 226-642-3
- Refractive index 1.4968 (20 °C, 589 nm)
- Spec. density 1.50 g/cm<sup>3</sup> (20 °C)
- Flash point 51 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 167 g/mol

- Boiling point 55 - 57 °C (23 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(METHYL-2-BROMPROPIONAT), 3, III

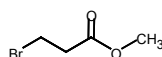
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(METHYL-2-BROMOPROPIONATE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(METHYL-2-BROMOPROPIONATE), 3, III

### Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.495 - 1.500  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20222.0100	Glass bottle	100 ml	inquire

## 814628 Methyl 3-bromopropionate for synthesis



C<sub>4</sub>H<sub>7</sub>BrO<sub>2</sub>

BrCH<sub>2</sub>CH<sub>2</sub>COOCH<sub>3</sub>

■ CAS-No. 3395-91-3 ■ EC-No. 222-247-5

- Spec. density 1.53 g/cm<sup>3</sup> (20 °C)
- Flash point 75 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 167 g/mol

- Melting point 160 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 1600 mg/kg
- LGK 10 - 13
- HS-No. 2915 90 70 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,525 - 1,530  
Identity (IR) ..... passes test

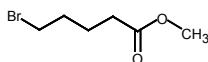
Ord.No.	Packaging	Quantity	Price
8.14628.0010	Glass bottle	10 ml	inquire





# Methyl

## 841444 Methyl 5-bromovalerate for synthesis



C<sub>6</sub>H<sub>11</sub>BrO<sub>2</sub>  
5-Bromovaleric acid methyl ester, 5-Bromopentanoic acid methyl ester

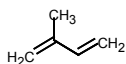
- CAS-No. 5454-83-1 ■ EC-No. 226-709-7
- Spec. density 1.363 g/cm<sup>3</sup> (20 °C)
- Flash point 99 °C ■ M = 195.06 g/mol
- Boiling point 79 - 80 °C (5.33 hPa)
- WGK 3
- LGK 10
- HS-No. 2915 90 70 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.365 - 1.371  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41444.0005	Glass bottle	5 ml	inquire

## 821258 2-Methyl-1,3-butadiene (stabilised) for synthesis



C<sub>5</sub>H<sub>8</sub>  
CH<sub>2</sub>=CHC(CH<sub>3</sub>)=CH<sub>2</sub>  
Isoprene

- CAS-No. 78-79-5 ■ EC-No. 201-143-3
- Refractive index 1.4217 (20 °C, 589 nm)
- Vapour pressure 605 hPa (20 °C)
- Spec. density 0.68 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 9.7 % (V) ■ Flash point -54 °C ■ Solub. in H<sub>2</sub>O 0.7 g/l (20 °C) ■ M = 68.12 g/mol
- Saturation conc. 1690 g/m<sup>3</sup> ■ Melting point -

- 146 °C ■ Boiling point 34 °C (1013 hPa)
- Ignition temp. 220 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 1, H224; Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Chronic aquatic toxicity, Category 3, H412, P210, P201, P281, P273, P308 + P313
- LC50 rat 180 mg/l
- LD50 oral rat > 2000 mg/kg
- EC-Index-No. 601-014-00-5 ■ LGK 3 ■ Store below +15 °C.
- HS-No. 2901 24 00 ■ Disposal 9
- ADR-RID UN 1218 Isopren, stabilisiert, 3, I

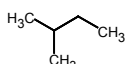
- IMDG-Code UN 1218 ISOPRENE, STABILIZED, 3, I
- IATA-DGR UN 1218 ISOPRENE, STABILIZED, 3, I

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,681 - 0,683  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21258.0100	Glass bottle	100 ml	inquire
8.21258.1000	Glass bottle	1 l	inquire

## 2-Methylbutane



C<sub>5</sub>H<sub>12</sub>  
iso-Pentane, Isopentane  
■ CAS-No. 78-78-4 ■ EC-No. 201-142-8

- Vapour pressure 800 hPa (20 °C)
- Spec. density 0.62 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 7.6 % (V) ■ Flash point -57 °C ■ Solub.

- in H<sub>2</sub>O 0.048 g/l (20 °C) ■ M = 72.15 g/mol
- pH value (H<sub>2</sub>O) no data available
- Melting point -160 °C ■ Boiling point 28 °C (1013 hPa) ■ Evaporation number 1
- Ignition temp. 420 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 1, H224; Aspiration hazard, Category 1, H304; Specific target organ toxicity - single exposure, Category 3, H336; Chronic aquatic toxicity,

- Category 2, H411, P210, P233, P240, P273, P301 + P310, P331
- LC50 rat 1280 mg/l
- EC-Index-No. 601-006-00-1 ■ LGK 3 ■ Store below +15 °C.
- HS-No. 2901 10 00 ■ Disposal 1
- ADR-RID UN 1265 Pentane, 3, I ■ IMDG-Code UN 1265 PENTANES, 3, I
- IATA-DGR UN 1265 PENTANES, 3, I

## 106056 2-Methylbutane for spectroscopy Uvasol®

### Specification

Purity (GC)..... ≥ 99.8 %  
Evaporation residue..... ≤ 0.0005 %  
Water..... ≤ 0.005 %  
Colour..... ≤ 10 Hazen  
Acidity..... ≤ 0.0002 meq/g  
Alkalinity..... ≤ 0.0002 meq/g  
Fluorescence (as quinine at 254 nm)..... ≤ 1.0 ppb  
Fluorescence (as quinine at 365 nm)..... ≤ 1.0 ppb

Transmission (at 190 nm)..... ≥ 50 %  
Transmission (at 200 nm)..... ≥ 65 %  
Transmission (at 210 nm)..... ≥ 85 %  
Transmission (at 215 nm)..... ≥ 90 %  
Transmission (from 240 nm)..... ≥ 98 %  
Absorbance (at 190 nm)..... ≤ 0.30  
Absorbance (at 200 nm)..... ≤ 0.19  
Absorbance (at 210 nm)..... ≤ 0.07

Absorbance (at 215 nm)..... ≤ 0.05  
Absorbance (from 240 nm)..... ≤ 0.01  
Meet the requirements of "Specific use spectroscopy" according Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06056.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 109643 2-Methylbutane reference substance for gas chromatography

### Specification

Purity (GC)..... ≥ 99.7% (a/a)  
Identity (IR-spectrum)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09643.0005	Glass bottle	5 ml	inquire

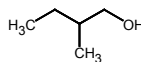
1-Methyl butane -2-ol → page 292

Methyl butanoate → Methyl butyrate page 1141

2-Methyl butane -2-ol → page 2

Methyl-butanol → Isoamyl alcohol page 304

## 806031 2-Methyl-1-butanol for synthesis



C<sub>5</sub>H<sub>12</sub>O  
CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)CH<sub>2</sub>OH  
2-Methylbutyl alcohol, sec-Butyl carbinol

- CAS-No. 137-32-6 ■ EC-No. 205-289-9
- Refractive index 1.4107 (20 °C, 589 nm)
- Vapour pressure 4.3 hPa (20 °C)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 10.3 % (V) ■ Flash point 42.5 °C
- Solub. in H<sub>2</sub>O 36 g/l (20 °C) ■ M = 88.15 g/mol
- pH value 7 (H<sub>2</sub>O) ■ Melting point -70 °C

- Boiling point 127 - 129 °C
- Ignition temp. 340 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335, P210, P304 + P340
- LD50 oral rat 4170 mg/kg ■ LD50 dermal rabbit 2900 mg/kg
- EC-Index-No. 603-006-00-7 ■ LGK 3
- HS-No. 2905 19 00 ■ Disposal 1
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-METHYL-1-BUTANOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-

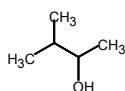
METHYL-1-BUTANOL), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHYL-1-BUTANOL), 3, III

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,817 - 0,819  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06031.0100	Plastic bottle	100 ml	inquire
8.06031.0500	Plastic bottle	500 ml	inquire
8.06031.1000	Plastic bottle	1 l	inquire

## 841399 3-Methyl-2-butanol for synthesis

C<sub>5</sub>H<sub>12</sub>O*Isopropyl methyl carbinol*

■ CAS-No. 598-75-4 ■ EC-No. 209-950-2  
 ■ Vapour pressure 3 hPa (20 °C)  
 ■ Spec. density 0.818 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 10.5 % (V) ■ Flash point 26 °C ■ Solub. in H<sub>2</sub>O 56 g/l (25 °C) ■ M = 88.15 g/mol

■ Melting point -117 °C  
 ■ Boiling point 111 - 112 °C (1013 hPa)  
 ■ Ignition temp. 347 °C  
 ■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335, P210, P304 + P340  
 ■ EC-Index-No. 603-006-00-7 ■ LGK 3  
 ■ HS-No. 2905 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1105 Pentanole(3-METHYL-2-BUTANOL), 3, III ■ IMDG-Code UN 1105

PENTANOLS(3-METHYL-2-BUTANOL), 3, III  
 ■ IATA-DGR UN 1105 PENTANOLS(3-METHYL-2-BUTANOL), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.815 - 0.821  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41399.0025	Glass bottle	25 ml	inquire

2-Methyl-2-butanol → tert-Amyl alcohol page 299

3-Methyl-2-butanone → Isopropyl methyl ketone page 305

## 814874 2-Methyl-2-butene (mixture of isomers) for synthesis

C<sub>5</sub>H<sub>10</sub>*Isoamylene, Trimethylethylene*

■ CAS-No. 26760-64-5 ■ EC-No. 247-975-0  
 ■ Vapour pressure 513 hPa (20 °C)  
 ■ Spec. density 0.66 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 9 % (V) ■ Flash point -45 °C  
 ■ Kin. viscosity 0.29 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.19 g/l (25 °C) ■ M = 70.13 g/mol  
 ■ Melting point -134 °C ■ Ignition temp. 290 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 1, H224; Acute toxicity, Category 4, Oral, H302; Skin

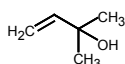
irritation, Category 2, H315; Aspiration hazard, Category 1, H304, P210, P233, P240, P301 + P310, P302 + P352, P331  
 ■ LC50 rat 175 mg/l  
 ■ LD50 oral rat 1000 - 1700 mg/kg  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2710 12 25 ■ Disposal 3  
 ■ ADR-RID UN 3295 Kohlenwasserstoffe, flüssig, n.a.g., 3, I ■ IMDG-Code UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, I  
 ■ IATA-DGR UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, I

**Specification**

Assay (GC, area%) ..... 83.0 - 88.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.658 - 0.663  
 2-Methyl-1-buten (GC, area%) 12.0 - 17.0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14874.0025	Glass bottle	25 ml	inquire
8.14874.0250	Glass bottle	250 ml	inquire
8.14874.1000	Glass bottle	1 l	inquire

## 841089 2-Methyl-3-buten-2-ol for synthesis

C<sub>5</sub>H<sub>10</sub>O*Dimethyl vinyl carbinol*

■ CAS-No. 115-18-4 ■ EC-No. 204-068-4  
 ■ Vapour pressure 137 hPa (50 °C)  
 ■ Spec. density 0.824 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 9.4 % (V) ■ Flash point 11 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 86.13 g/mol  
 ■ pH value 9 - 10 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -28 °C ■ Boiling point 98 - 99 °C

(1013 hPa) ■ Ignition temp. 380 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P210, P223, P260, P305 + P351 + P338  
 ■ LC50 rat > 21.2 mg/l  
 ■ LD50 oral rat 1800 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2905 29 90 ■ Disposal 3  
 ■ ADR-RID UN 1987 Alkohole, n.a.g.(2-METHYL-3-BUTEN-2-OL), 3, II ■ IMDG-Code UN 1987 ALCOHOLS, N.O.S.(2-METHYL-3-BUTENE-2-OL),

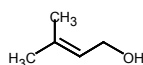
3, II  
 ■ IATA-DGR UN 1987 ALCOHOLS, N.O.S.(2-METHYL-3-BUTENE-2-OL), 3, II

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.822 - 0.826  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41089.0250	Glass bottle	250 ml	inquire
8.41089.1000	Glass bottle	1 l	inquire

## 818425 3-Methyl-2-buten-1-ol for synthesis

C<sub>5</sub>H<sub>10</sub>OCH<sub>3</sub>C(CH<sub>3</sub>)=CHCH<sub>2</sub>OH*Isobutenylcarbinol, 1-Hydroxy-3-methyl-2-butene*

■ CAS-No. 556-82-1 ■ EC-No. 209-141-4  
 ■ Refractive index 1.4434 (20 °C, 589 nm)  
 ■ Vapour pressure 1.4 hPa (20 °C)  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.7 - 16.3 % (V) ■ Flash point 50 °C ■ Solub.

in H<sub>2</sub>O 170 g/l (20 °C) ■ M = 86.13 g/mol  
 ■ Boiling point 139 - 141 °C  
 ■ Ignition temp. 305 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210, P262  
 ■ LD50 oral rat 810 mg/kg ■ LD50 dermal rabbit 3900 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2905 29 90 ■ Disposal 1  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

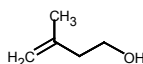
n.a.g.(3-METHYL-2-BUTEN-1-OL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-METHYL-2-BUTENE-1-OL), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-METHYL-2-BUTENE-1-OL), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.860 - 0.862  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18425.0250	Glass bottle	250 ml	inquire

## 818426 3-Methyl-3-buten-1-ol for synthesis

C<sub>5</sub>H<sub>10</sub>OCH<sub>2</sub>=C(CH<sub>3</sub>)CH<sub>2</sub>CH<sub>2</sub>OH*1-Hydroxy-3-methyl-3-butene*

■ CAS-No. 763-32-6 ■ EC-No. 212-110-8  
 ■ Refractive index 1.4326 (20 °C, 589 nm)  
 ■ Vapour pressure 26.7 hPa (20 °C)  
 ■ Spec. density 0.853 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.0 - 9.3 % (V) ■ Flash point 42 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O 170 g/l (20 °C)

■ M = 86.13 g/mol ■ Melting point < -20 °C  
 ■ Boiling point 132 °C (1013 hPa)  
 ■ Ignition temp. 345 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Serious eye damage, Category 1, H318, P210, P280, P305 + P351 + P338, P313  
 ■ LGK 3  
 ■ HS-No. 2905 29 90 ■ Disposal 1  
 ■ ADR-RID UN 1987 Alkohole, n.a.g.(3-METHYL-3-BUTEN-1-OL), 3, III ■ IMDG-Code UN 1987 ALCOHOLS, N.O.S.(3-METHYL-3-BUTENE-1-OL), 3, III

■ IATA-DGR UN 1987 ALCOHOLS, N.O.S.(3-METHYL-3-BUTENE-1-OL), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.853 - 0.857  
 Identity (IR) ..... passes test

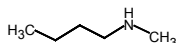
Ord.No.	Packaging	Quantity	Price
8.18426.0250	Glass bottle	250 ml	inquire
8.18426.1000	Glass bottle	1 l	inquire

3-Methyl-1-butene-3-ol → 2-Methyl-3-butyn-3-ol page 1140

2-Methylbutyl alcohol → 2-Methyl-1-butanol page 305

# Methyl

## 818639 N-Methylbutylamine for synthesis



C<sub>5</sub>H<sub>13</sub>N  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>NHCH<sub>3</sub>  
*N-Butylmethylamine*  
 ■ CAS-No. 110-68-9 ■ EC-No. 203-791-2  
 ■ Refractive index 1.4011 (20 °C, 589 nm)  
 ■ Spec. density 0.74 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 % (V) ■ Flash point -4 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 87.17 g/mol  
 ■ Melting point -75 °C ■ Boiling point 90 - 92 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P223, P260, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 420 mg/kg ■ LD50 dermal rabbit 932 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2921 19 99 ■ Disposal 3  
 ■ ADR-RID UN 2945 n-Methylbutylamin, 3 (8), II  
 ■ IMDG-Code UN 2945 N-METHYLBUTYLAMINE, 3

(8), II  
 ■ IATA-DGR UN 2945 N-METHYLBUTYLAMINE, 3 (8), II

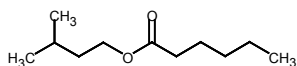
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.734 - 0.736  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18639.0100	Glass bottle	100 ml	inquire
8.18639.0500	Glass bottle	500 ml	inquire

Methylbutyl caproate → 3-Methylbutyl hexanoate  
 page 1140

Methyl tert-butyl ether → page 299

## 814994 3-Methylbutyl hexanoate for synthesis



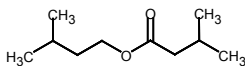
C<sub>11</sub>H<sub>22</sub>O<sub>2</sub>  
*Methylbutyl caproate, Caproic acid methylbutyl ester, Hexanoic acid methylbutyl ester*  
 ■ CAS-No. 2198-61-0 ■ EC-No. 218-600-8  
 ■ Spec. density 0.861 g/cm<sup>3</sup> (20 °C)

■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 186.3 g/mol ■ Boiling point 222 °C (1013 hPa)  
 ■ WGK 2  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2915 90 70 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,859 - 0,862  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14994.0250	Glass bottle	250 ml	inquire

## 814993 3-Methylbutyl isovalerate for synthesis



C<sub>10</sub>H<sub>20</sub>O<sub>2</sub>  
*Isopentyl isopentanoate, Isoamyl isovalerate*  
 ■ CAS-No. 659-70-1 ■ EC-No. 211-536-1  
 ■ Vapour pressure 0.8 hPa (20 °C)  
 ■ Spec. density 0.855 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 80 °C ■ Solub. in H<sub>2</sub>O 0.016 g/l (20 °C) ■ M = 172.27 g/mol ■ Boiling point 195 °C (1013 hPa)

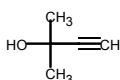
■ WGK 2  
 ■ GHS: Chronic aquatic toxicity, Category 2, H411, P273  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 60 90 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(3-METHYLBUTYLISOVALERAT), 9, III  
 ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3-METHYL ISOVALERATE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3-METHYL ISOVALERATE), 9, III

**Specification**  
 Assay isomers (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,852 - 0,857  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14993.0250	Glass bottle	250 ml	inquire

## 820781 2-Methyl-3-butyne-ol for synthesis



C<sub>5</sub>H<sub>8</sub>O  
*3-Methyl-1-butyne-3-ol*  
 ■ CAS-No. 115-19-5 ■ EC-No. 204-070-5  
 ■ Vapour pressure 20 hPa (20 °C)  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 16 % (V) ■ Flash point 22 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 84.12 g/mol  
 ■ pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point 3 °C  
 ■ Boiling point 102 - 105 °C

■ Ignition temp. 350 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P210, P233, P260, P280, P305 + P351 + P338  
 ■ LC50 rat > 21.3 mg/l  
 ■ LD50 oral rat 1420 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2905 29 90 ■ Disposal 1  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-METHYL-3-BUTIN-2-OL), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-

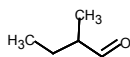
METHYL-3-BUTYN-2-OL), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHYL-3-BUTYN-2-OL), 3, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.860 - 0.862  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20781.0100	Glass bottle	100 ml	inquire
8.20781.0500	Glass bottle	500 ml	inquire

3-Methyl-1-butyne-3-ol → 2-Methyl-3-butyne-ol page 1140

## 818879 2-Methylbutylaldehyde for synthesis



C<sub>5</sub>H<sub>10</sub>O  
 ■ CAS-No. 96-17-3 ■ EC-No. 202-485-6  
 ■ Refractive index 1.3896 (20 °C, 589 nm)  
 ■ Vapour pressure 50 hPa (20 °C)  
 ■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 13 % (V) ■ Flash point -4 °C  
 ■ M = 86.13 g/mol ■ Melting point < -60 °C  
 ■ Boiling point 91 - 93 °C (1013 hPa)  
 ■ Ignition temp. 190 °C

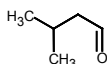
■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319, P210, P305 + P351 + P338  
 ■ LC50 rat 50 mg/l  
 ■ LD50 oral rat 6400 mg/kg ■ LD50 dermal rabbit 4641 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2912 19 00  
 ■ ADR-RID UN 1989 Aldehyde, n.a.g.(2-METHYLBUTYRALDEHYD), 3, II ■ IMDG-Code UN 1989 ALDEHYDES, N.O.S.(2-METHYLBUTYRALDEHYDE), 3, II

■ IATA-DGR UN 1989 ALDEHYDES, N.O.S.(2-METHYLBUTYRALDEHYDE), 3, II

**Specification**  
 Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,800 - 0,810  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18879.0010	Glass bottle	10 ml	inquire
8.18879.0100	Glass bottle	100 ml	inquire

## 820721 3-Methylbutyraldehyde for synthesis

C<sub>5</sub>H<sub>10</sub>O*Isopentanal, Isovaleraldehyde*

- CAS-No. 590-86-3 ■ EC-No. 209-691-5
- Refractive index 1.3882 (20 °C, 589 nm)
- Vapour pressure 61 hPa (20 °C)
- Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 6.8 % (V) ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C)
- M = 86.13 g/mol ■ pH value (H<sub>2</sub>O) neutral

- Melting point -51 °C ■ Boiling point 91 - 93 °C (1013 hPa) ■ Ignition temp. 210 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P302 + P352, P305 + P351 + P338
- LC50 rat 42.7 mg/l
- LD50 oral rat 5165 mg/kg ■ LD50 dermal rabbit 2544 mg/kg
- LGK 3 ■ Store below +15 °C.

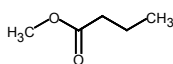
- HS-No. 2912 19 00
- ADR-RID UN 2058 Valeraldehyd, 3, II ■ IMDG-Code UN 2058 VALERALDEHYDE, 3, II
- IATA-DGR UN 2058 VALERALDEHYDE, 3, II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,797 - 0,799  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20721.0250	Glass bottle	250 ml	inquire

## 820232 Methyl butyrate for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>COOCH<sub>3</sub>*Butyric acid methyl ester, Butanoic acid methyl ester*

- CAS-No. 623-42-7 ■ EC-No. 210-792-1
- Vapour pressure 32 hPa (20 °C)
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 % (V) ■ Flash point 14 °C ■ Solub. in

- H<sub>2</sub>O 16 g/l (20 °C) ■ M = 102.13 g/mol
- pH value (H<sub>2</sub>O) neutral ■ Melting point -84 °C
- Boiling point 103 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P260
- LD50 oral rat 3800 mg/kg ■ LD50 dermal rabbit 3560 mg/kg
- LGK 3
- HS-No. 2915 60 19
- ADR-RID UN 1237 Methylbutyrat, 3, II ■ IMDG-Code UN 1237 METHYL BUTYRATE, 3, II

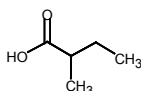
- IATA-DGR UN 1237 METHYL BUTYRATE, 3, II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.896 - 0.899  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20232.0100	Glass bottle	100 ml	inquire
8.20232.0500	Glass bottle	500 ml	inquire

## 820782 2-Methylbutyric acid for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)COOH*2-Ethylpropionic acid*

- CAS-No. 116-53-0 ■ EC-No. 204-145-2
- Refractive index 1.406 (20 °C, 589 nm) ■ Vapour pressure 1 hPa (20 °C) ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 7.3 % (V)
- Flash point 74 °C ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C)
- M = 102.13 g/mol ■ Melting point < -70 °C

- Boiling point 176 - 177 °C (1013 hPa)
- Ignition temp. 420 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1739 mg/kg ■ LD50 dermal rabbit 1372 mg/kg
- LGK 8A
- HS-No. 2915 60 90 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer

flüssiger Stoff, n.a.g.(2-METHYLBUTTERSÄURE), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-METHYLBUTYRIC ACID), 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-METHYLBUTYRIC ACID), 8, II

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.935 - 0.936  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20782.0100	Glass bottle	100 ml	inquire
8.20782.0250	Glass bottle	250 ml	inquire

3-Methylbutyric acid → Isopentanoic acid page 1049

2-Methylbutyric acid ethyl ester → Ethyl 2-methylbutyrate page 875

3-Methylbutyric anhydrid → Isopentanoic anhydride page 1049

3-Methyl butyric ethyl ester → Ethyl isopentanoate page 873

2-Methyl cadaverine → 1,5-Diamino-2-methylpentane page 696

Methyl caprate → Methyl decanoate page 44

## 843846 Methyl caprate for synthesis

C<sub>11</sub>H<sub>22</sub>O<sub>2</sub>*Methyl caprate, Capric acid methyl ester, Decanoic acid methyl ester*

- CAS-No. 110-42-9 ■ EC-No. 203-766-6
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 % (V) ■ Flash point 90 °C ■ Solub. in H<sub>2</sub>O 0.0038 g/l (25 °C) ■ M = 186.29 g/mol
- Melting point -18 - -10 °C

- Boiling point >176.7 °C (1013 hPa)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315, P262, P302 + P352
- LGK 10
- HS-No. 2915 90 70 ■ Disposal 3

**Specification**

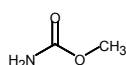
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.868 - 0.873  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43846.0025	Glass bottle	25 ml	inquire
8.43846.0100	Glass bottle	100 ml	inquire

Methyl caproate → Methyl hexanoate page 1154

Methyl caprylate → page 44

## 802874 Methyl carbamate for synthesis

C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub>NH<sub>2</sub>COOCH<sub>3</sub>*Carbamic acid methyl ester*

- CAS-No. 598-55-0 ■ EC-No. 209-939-2
- Spec. density 1.14 g/cm<sup>3</sup> (56 °C)

- Flash point >100 °C ■ Solub. in H<sub>2</sub>O 700 g/l (20 °C) ■ M = 75.07 g/mol ■ pH value 6 - 8 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 54 - 56 °C
- Bulk density 500 kg/m<sup>3</sup>
- Boiling point 176 - 178 °C
- WGK 1
- LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

**Specification**

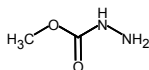
Assay (ex N) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 54 °C  
 Melting range (upper value) ..... ≤ 57 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02874.0005	Glass bottle	5 g	inquire
8.02874.0250	Glass bottle	250 g	inquire



# Methyl

## 843536 Methyl carbazate for synthesis



C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>  
 ■ CAS-No. 6294-89-9 ■ EC-No. 228-560-3  
 ■ Vapour pressure 3 hPa (25 °C) ■ Solub. in H<sub>2</sub>O 578 g/l (25 °C) ■ M = 90.08 g/mol  
 ■ Melting point 70 - 74 °C ■ Boiling point 108 °C (12 hPa)

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 70 °C

Melting range (upper value)..... ≤ 74 °C  
 Identity (IR)..... passes test

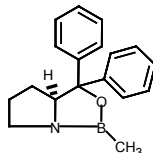
Ord.No.	Packaging	Quantity	Price
8.43536.0010	Glass bottle	10 g	inquire
8.43536.0100	Glass bottle	100 g	inquire

Methylcarbinol → page 841

Methyl carbonate → Dimethyl carbonate page 302

4-Methylcatechol → 4-Methylpyrocatechol page 1177

## 843840 (S)-2-Methyl-CBS-oxazaborolidine (1M in toluene) for synthesis



■ Vapour pressure 29 hPa (20 °C) toluene  
 ■ Spec. density 0.92 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 1 - 8 % (V) toluene ■ Flash point 4 °C toluene  
 ■ Boiling point 110 - 111 °C (1013 hPa) toluene

- Ignition temp. 535 °C toluene
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304, P210, P233, P240, P280, P281, P301 + P310, P302 + P352, P305 + P351 + P338, P308 + P313, P331

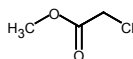
- LGK 3
- HS-No. 3824 90 97 ■ Disposal 3
- ADR-RID UN 1294 Toluene, Lösung, 3, II ■ IMDG-Code UN 1294 TOLUENE SOLUTION, 3, II
- IATA-DGR UN 1294 TOLUENE SOLUTION, 3, II

**Specification**  
 concentration (~1 molar)..... ~1

Ord.No.	Packaging	Quantity	Price
8.43840.0005	Glass bottle	5 ml	inquire
8.43840.0025	Glass bottle	25 ml	inquire

Methyl cellosolve → page 318

## 802413 Methyl chloroacetate for synthesis



C<sub>3</sub>H<sub>5</sub>ClO<sub>2</sub>  
 ClCH<sub>2</sub>COOCH<sub>3</sub>  
*Chloroacetic acid methyl ester*  
 ■ CAS-No. 96-34-4 ■ EC-No. 202-501-1  
 ■ Refractive index 1.422 (20 °C, 589 nm) ■ Vapour pressure 6.9 hPa (20 °C) ■ Spec. density 1.24 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4.6 - 18.5 % (V)  
 ■ Flash point 52 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 51.6 g/l (20 °C) (slow decomposition)  
 ■ M = 108.53 g/mol ■ pH value 4.6 (28 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -33 °C  
 ■ Boiling point 130 - 132 °C (1013 hPa)

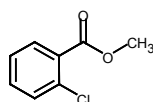
- Evaporation number 0.35
- Ignition temp. 465 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P304 + P340, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 0.21 - 0.315 mg/l
- LD50 oral rat 107 mg/kg ■ LD50 dermal rat 137 mg/kg
- EC-Index-No. 607-205-00-X ■ LGK 3 ■ Store below +15 °C.

- HS-No. 2915 40 00 ■ Disposal 9
- ADR-RID UN 2295 Methylchloroacetat, 6.1 (3), I
- IMDG-Code UN 2295 METHYL CHLOROACETATE, 6.1 (3), I
- IATA-DGR UN 2295 METHYL CHLOROACETATE, 6.1 (3), I

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 Area %  
 Density (d 20 °C / 4 °C)..... 1,234 - 1,236  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02413.0100	Glass bottle	100 ml	inquire
8.02413.1000	Glass bottle	1 l	inquire

## 816120 Methyl 2-chlorobenzoate for synthesis



C<sub>8</sub>H<sub>7</sub>ClO<sub>2</sub>  
 2-Chlorobenzoic acid methyl ester

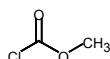
- CAS-No. 610-96-8 ■ EC-No. 210-242-0
- Spec. density 1.247 g/cm<sup>3</sup> (20 °C)
- M = 170.6 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C / 4 °C)..... 1,244 - 1,250  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16120.0025	Glass bottle	25 ml	inquire

Methyl chlorocarbonate → Methyl chloroformate page 1142

## 802357 Methyl chloroformate for synthesis



C<sub>2</sub>H<sub>3</sub>ClO<sub>2</sub>  
 ClCOOCH<sub>3</sub>  
*Chloroformic acid methyl ester, Methoxycarbonyl chloride, Methyl chlorocarbonate*  
 ■ CAS-No. 79-22-1 ■ EC-No. 201-187-3  
 ■ Refractive index 1.3865 (20 °C, 589 nm)  
 ■ Vapour pressure 137 hPa (20 °C)  
 ■ Spec. density 1.23 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 7.8 - 23.3 % (V) ■ Flash point 4.5 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition) ■ M = 94.5 g/mol  
 ■ pH value (H<sub>2</sub>O) acidic ■ Melting point -61 °C

- Boiling point 71 - 72 °C
- Ignition temp. 485 °C DIN 51794
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.06 mg/l
- LD50 oral rat 60 mg/kg ■ LD50 dermal rabbit 890 mg/kg
- EC-Index-No. 607-019-00-9 ■ LGK 3
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 1238 Methylchlorformiat, 6.1 (3, 8)

, I ■ IMDG-Code UN 1238 METHYL CHLOROFORMATE, 6.1 (3, 8), I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1238 METHYL CHLOROFORMATE, 6.1 (3, 8), I

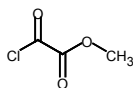
**Specification**  
 Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C / 4 °C)..... 1,227 - 1,229  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02357.0100	Glass bottle	100 ml	inquire
8.02357.0500	Glass bottle	500 ml	inquire

Methyl chloroformylformate → Methyl chloroglyoxylate page 1143



## 820304 Methyl chloroglyoxylate for synthesis

C<sub>3</sub>H<sub>3</sub>ClO<sub>3</sub>ClCOCOOCH<sub>3</sub>

Methyl chloroformylformate, Chloroglyoxylic acid methyl ester

■ CAS-No. 5781-53-3 ■ EC-No. 227-307-4

■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C)

■ Flash point 46 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 122.51 g/mol

- Boiling point 119 °C (1013 hPa)
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3 ■ Store below +15°C.
- HS-No. 2917 19 90 ■ Disposal 3
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(METHYLCHLORFORMYLFORMIAT), 8 (3), II
- IMDG-Code UN 2920 CORROSIVE LIQUID,

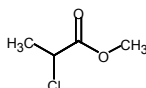
FLAMMABLE, N.O.S.(METHYL CHLOROFORMYLFORMATE), 8 (3), II  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(METHYL CHLOROFORMYLFORMATE), 8 (3), II

## Specification

Assay (argentometric)..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C)..... 1.326 - 1.332  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20304.0010	Glass bottle	10 ml	inquire

## 820331 Methyl 2-chloropropionate for synthesis

C<sub>4</sub>H<sub>7</sub>ClO<sub>2</sub>CH<sub>3</sub>CHClCOOCH<sub>3</sub>

2-Chloropropionic acid methyl ester

■ CAS-No. 17639-93-9 ■ EC-No. 241-624-5

■ Vapour pressure 30 hPa (20 °C)

■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 2.8 - 13.9 % (V) ■ Flash point 36 °C DIN

51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) practically

insoluble ■ M = 122.55 g/mol ■ pH value 6 - 7 (H<sub>2</sub>O, 20 °C) ■ Melting point < -10 °C

■ Boiling point 127 - 129 °C

■ Ignition temp. 430 °C DIN 51794

■ WGK 1

■ GHS: Warning, Flammable liquid, Category 3,

H226; Specific target organ toxicity - single

exposure, Category 3, H335; Skin irritation,

Category 2, H315; Eye irritation, Category 2, H319,

P210, P302 + P352, P305 + P351 + P338

■ LGK 3

■ HS-No. 2915 90 70 ■ Disposal 3

■ ADR-RID UN 2933 Methyl-2-chlorpropionat, 3,

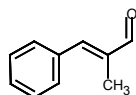
III ■ IMDG-Code UN 2933 METHYL 2-CHLOROPROPIONATE, 3, III  
 ■ IATA-DGR UN 2933 METHYL 2-CHLOROPROPIONATE, 3, III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.136 - 1.139  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20331.0250	Glass bottle	250 ml	inquire
8.20331.1000	Glass bottle	1 l	inquire

## 814481 α-Methylcinnamaldehyde for synthesis

C<sub>10</sub>H<sub>10</sub>O

2-Methyl-3-phenyl-2-propenal

■ CAS-No. 101-39-3 ■ EC-No. 202-938-8

■ Refractive index 1.6081 (20 °C, 589 nm)

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 79 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 146.19 g/mol

■ Boiling point 148 °C (35 hPa)

■ WGK 1

■ LD50 oral rat 2050 mg/kg

■ LGK 10

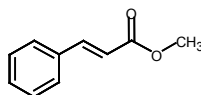
■ HS-No. 2912 29 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,035 - 1,037  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14481.0050	Glass bottle	50 ml	inquire
8.14481.0250	Glass bottle	250 ml	inquire

## 800240 Methyl cinnamate for synthesis

C<sub>10</sub>H<sub>10</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>CH=CHCOOCH<sub>3</sub>

Methyl trans-3-phenylpropenoate, Cinnamic acid methyl ester

■ CAS-No. 1754-62-7  
 ■ Spec. density 1.042 g/cm<sup>3</sup> ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 162.19 g/mol

■ Melting point 32 - 35 °C

■ Boiling point 262 - 264 °C

■ WGK 3

■ LD50 oral rat 2610 mg/kg

■ LGK 10 - 13

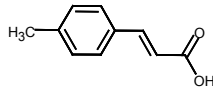
■ HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 33 °C  
 Melting range (upper value)..... ≤ 36 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00240.0250	Glass bottle	250 g	inquire

## 841098 4-Methylcinnamic acid for synthesis

C<sub>10</sub>H<sub>10</sub>O<sub>2</sub>

3-(4-Tolyl)acrylic acid

■ CAS-No. 1866-39-3 ■ EC-No. 217-479-9

■ M = 162.19 g/mol ■ Melting point 196 - 198 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)

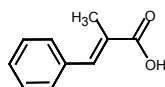
Melting range (lower value)..... ≥ 196 °C

Melting range (upper value)..... ≤ 200 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41098.0010	Glass bottle	10 g	inquire

## 841014 α-Methylcinnamic acid for synthesis

C<sub>10</sub>H<sub>10</sub>O<sub>2</sub>

2-Methyl-3-phenylacrylic acid

■ CAS-No. 1199-77-5 ■ EC-No. 214-847-0

■ M = 162.19 g/mol ■ Melting point 78 - 80 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99.0 %

Melting range (lower value)..... ≥ 79 °C

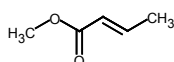
Melting range (upper value)..... ≤ 82 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41014.0025	Plastic bottle	25 g	inquire

# Methyl

## 820352 Methyl crotonate for synthesis



C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>  
 CH<sub>3</sub>CH=CHCOOCH<sub>3</sub>  
*Crotonic acid methyl ester, trans-2-Butenoic acid methyl ester*  
 ■ CAS-No. 623-43-8 ■ EC-No. 210-793-7  
 ■ Refractive index 1.4233 (20 °C, 589 nm)  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Flash point -1 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble

■ M = 100.12 g/mol ■ Melting point -42 °C  
 ■ Boiling point 118 - 120 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319, P210, P305 + P351 + P338  
 ■ LD50 oral rat > 3200 mg/kg  
 ■ LD50 dermal rabbit >= 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2916 19 95 ■ Disposal 3  
 ■ ADR-RID UN 3272 Ester, n.a.g.(METHYLCROTONAT), 3, II ■ IMDG-Code UN

3272 ESTERS, N.O.S.(METHYL CROTONATE), 3, II  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(METHYL CROTONATE), 3, II

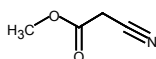
**Specification**  
 Assay (GC, area%)..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.946 - 0.949  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20352.0250	Glass bottle	250 ml	inquire

trans-2-Methylcrotonic acid → Tiglic acid page 1556

Methyl cyanide → page 315

## 820356 Methyl cyanoacetate for synthesis



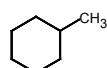
C<sub>4</sub>H<sub>5</sub>NO<sub>2</sub>  
 NCCH<sub>2</sub>COOCH<sub>3</sub>  
*Cyanoacetic acid methyl ester*  
 ■ CAS-No. 105-34-0 ■ EC-No. 203-288-8  
 ■ Refractive index 1.4174 (20 °C, 589 nm)  
 ■ Vapour pressure 0.13 hPa (20 °C)  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)

■ Flash point 110 °C ■ Solub. in H<sub>2</sub>O 54 g/l (20 °C)  
 ■ M = 99.09 g/mol ■ Melting point -22.5 °C  
 ■ Boiling point 203 °C (1013 hPa)  
 ■ Ignition temp. 478 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.127 - 1.130  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20356.0250	Glass bottle	250 ml	inquire
8.20356.1000	Glass bottle	1 l	inquire

## 806147 Methylcyclohexane for synthesis



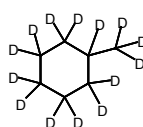
C<sub>7</sub>H<sub>14</sub>  
 C<sub>6</sub>H<sub>11</sub>CH<sub>3</sub>  
 ■ CAS-No. 108-87-2 ■ EC-No. 203-624-3  
 ■ Vapour pressure 48 hPa (20 °C)  
 ■ Spec. density 0.77 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 6.7 % (V) ■ Flash point -4 °C ■ Solub. in H<sub>2</sub>O 0.014 g/l (20 °C) ■ M = 98.19 g/mol  
 ■ Melting point -126 °C ■ Boiling point 100.9 °C (1013 hPa) ■ Ignition temp. 260 °C  
 ■ WGK 2

■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P273, P301 + P310, P331, P302 + P352  
 ■ LD50 dermal rabbit > 86000 mg/kg  
 ■ EC-Index-No. 601-018-00-7 ■ LGK 3  
 ■ HS-No. 2902 19 00  
 ■ ADR-RID UN 2296 Methylcyclohexan, 3, II  
 ■ IMDG-Code UN 2296 METHYLCYCLOHEXANE, 3, II  
 ■ IATA-DGR UN 2296 METHYLCYCLOHEXANE, 3, II

**Specification**  
 Assay (GC, area%)..... ≥ 99 %  
 Density (d 20 °C/ 4 °C)..... 0.769 - 0.770  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.06147.0100	Glass bottle	100 ml	inquire
8.06147.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.06147.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.06147.6010	Drum stainl. st.	10 l	inquire

## 815053 Methylcyclohexane-D14 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™



C<sub>7</sub>D<sub>14</sub>  
*Hexahydrotoluene*  
 ■ CAS-No. 10120-28-2 ■ EC-No. 233-325-3  
 ■ Vapour pressure 48 hPa (20 °C)  
 ■ Spec. density 0.880 g/cm<sup>3</sup> ■ Explosive limit 1.1 - 6.7 % (V) ■ Flash point -4 °C ■ Solub. in

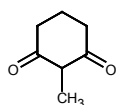
H<sub>2</sub>O 0.1 g/l (20 °C) ■ M = 112.27 g/mol  
 ■ Melting point -126 °C ■ Boiling point 101 °C  
 ■ Ignition temp. 260 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Specific target organ toxicity - single exposure, Category 3, H336; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P210, P223, P262, P301 + P310, P302 + P352, P331  
 ■ LD50 dermal rabbit > 86000 mg/kg

■ LGK 3  
 ■ HS-No. 2845 90 10 ■ Disposal 3  
 ■ ADR-RID UN 2296 Methylcyclohexan, 3, II  
 ■ IMDG-Code UN 2296 METHYLCYCLOHEXANE, 3, II  
 ■ IATA-DGR UN 2296 METHYLCYCLOHEXANE, 3, II

**Specification**  
 Deuteration degree..... ≥ 99.5 %

Ord.No.	Packaging	Quantity	Price
8.15053.0005	Glass ampoule	5 ml	inquire

## 820784 2-Methyl-1,3-cyclohexanedione for synthesis



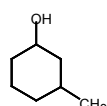
C<sub>7</sub>H<sub>10</sub>O<sub>2</sub>

■ CAS-No. 1193-55-1 ■ EC-No. 214-773-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 126.15 g/mol ■ Melting point 206 - 209 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 29 00 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 97.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20784.0010	Glass bottle	10 g	inquire

## 805807 3-Methylcyclohexanol (mixture of cis- and trans isomers) for synthesis



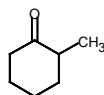
C<sub>7</sub>H<sub>14</sub>O  
 ■ CAS-No. 591-23-1 ■ EC-No. 209-709-1  
 ■ Refractive index 1.4578 (20 °C, 589 nm)

■ Vapour pressure 1.7 hPa (25 °C)  
 ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 % (V) ■ Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 114.19 g/mol ■ Melting point -41 °C  
 ■ Boiling point 171 - 173 °C  
 ■ Ignition temp. 295 °C  
 ■ WGK 1  
 ■ LGK 10

■ HS-No. 2906 12 00 ■ Disposal 1  
**Specification**  
 Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C)..... 0.916 - 0.918  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.05807.0100	Plastic bottle	100 ml	inquire

## 820787 2-Methylcyclohexanone for synthesis



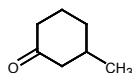
C<sub>7</sub>H<sub>12</sub>O  
2-(CH<sub>3</sub>)C<sub>6</sub>H<sub>9</sub>(=O)  
*Tetrahydro-o-cresol*  
■ CAS-No. 583-60-8 ■ EC-No. 209-513-6  
■ Refractive index 1.4478 (20 °C, 589 nm)  
■ Vapour pressure 1.33 hPa (20 °C)  
■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 % (V) ■ Flash point 48 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 112.17 g/mol  
■ Melting point -14 °C  
■ Boiling point 162 - 164 °C (1013 hPa)  
■ Evaporation number 50  
■ WGK 1  
■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332, P210  
■ LD50 oral rat 1990 mg/kg ■ LD50 dermal rabbit 1646 mg/kg  
■ EC-Index-No. 606-011-00-2 ■ LGK 3  
■ HS-No. 2914 22 00 ■ Disposal 1  
■ ADR-RID UN 2297 Methylcyclohexanon, 3, III

■ IMDG-Code UN 2297 METHYLCYCLOHEXANONES, 3, III  
■ IATA-DGR UN 2297 METHYLCYCLOHEXANONE, 3, III  
**Specification**  
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.926 - 0.928  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20787.0250	Glass bottle	250 ml	inquire

## 818807 3-Methylcyclohexanone for synthesis



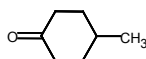
C<sub>7</sub>H<sub>12</sub>O  
3-(CH<sub>3</sub>)C<sub>6</sub>H<sub>9</sub>(=O)  
*Tetrahydro-m-cresol*  
■ CAS-No. 591-24-2 ■ EC-No. 209-710-7  
■ Refractive index 1.4477 (20 °C, 589 nm)  
■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C)  
■ Flash point 48 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 112.17 g/mol  
■ Melting point -73 °C  
■ Boiling point 169 - 170 °C (1013 hPa)  
■ WGK 1  
■ GHS: Warning, Flammable liquid, Category 3, H226, P210, P260, P262  
■ LGK 3  
■ HS-No. 2914 22 00 ■ Disposal 1  
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-METHYLCYCLOHEXANON), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-

METHYLCYCLOHEXANONE), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-METHYLCYCLOHEXANONE), 3, III  
**Specification**  
Assay (GC, area%) ..... ≥ 98.0 Area %  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18807.0050	Glass bottle	50 ml	inquire

## 820788 4-Methylcyclohexanone for synthesis



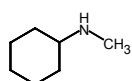
C<sub>7</sub>H<sub>12</sub>O  
4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>9</sub>(=O)  
*Tetrahydro-p-cresol*  
■ CAS-No. 589-92-4 ■ EC-No. 209-665-3  
■ Vapour pressure 20 hPa (65 °C)  
■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C)  
■ Flash point 48 °C ■ Solub. in  
H<sub>2</sub>O (20 °C) practically insoluble ■ M = 112.17 g/

mol ■ Melting point -41 °C  
■ Boiling point 169 - 171 °C (1013 hPa)  
■ WGK 1  
■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210, P260, P262  
■ LD50 oral rat 800 mg/kg  
■ LGK 3  
■ HS-No. 2914 22 00 ■ Disposal 3  
■ ADR-RID UN 2297 Methylcyclohexanon, 3, III  
■ IMDG-Code UN 2297 METHYLCYCLOHEXANONES, 3, III

■ IATA-DGR UN 2297 METHYLCYCLOHEXANONE, 3, III  
**Specification**  
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.915 - 0.917  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20788.0100	Glass bottle	100 ml	inquire
8.20788.0500	Glass bottle	500 ml	inquire

## 805850 N-Methylcyclohexylamine for synthesis



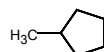
C<sub>7</sub>H<sub>15</sub>N  
C<sub>6</sub>H<sub>11</sub>NHCH<sub>3</sub>  
*Methylaminocyclohexane, N-Cyclohexylmethylamine*  
■ CAS-No. 100-60-7 ■ EC-No. 202-869-3  
■ Refractive index 1.456 (20 °C, 589 nm) ■ Vapour pressure 5 hPa (20 °C) ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 - 10.5 % (V)  
■ Flash point 35 °C ■ Solub. in H<sub>2</sub>O 54 g/l (20 °C)  
■ M = 113.2 g/mol ■ pH value 12 (10 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point -8 °C  
■ Boiling point 148 - 150 °C  
■ Ignition temp. 255 °C  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P210, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 400 mg/kg  
■ LGK 3  
■ HS-No. 2921 30 99 ■ Disposal 3  
■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(N-METHYLCYCLOHEXYLAMIN), 8 (3), II ■ IMDG-Code UN 2734 AMINES, LIQUID,

CORROSIVE, FLAMMABLE, N.O.S.(N-METHYLCYCLOHEXYLAMINE), 8 (3), II, Segregation Group: 18 (Alkalis)  
■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(N-METHYLCYCLOHEXYLAMINE), 8 (3), II  
**Specification**  
Assay (GC, area%) ..... ≥ 98.0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,856 - 0,859  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05850.0100	Glass bottle	100 ml	inquire
8.05850.0500	Glass bottle	500 ml	inquire

## 820789 Methylcyclopentane for synthesis



C<sub>6</sub>H<sub>12</sub>  
■ CAS-No. 96-37-7 ■ EC-No. 202-503-2  
■ Refractive index 1.4087 (20 °C, 589 nm)  
■ Vapour pressure 150 hPa (20 °C)  
■ Spec. density 0.74 g/cm<sup>3</sup> (20 °C) ■ Flash point -17 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
■ M = 84.16 g/mol ■ Melting point -142 °C  
■ Boiling point 72 °C (1013 mbar)

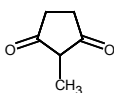
■ Ignition temp. 315 °C  
■ WGK 3  
■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304, P210, P260, P262, P301 + P310, P331  
■ LGK 3  
■ HS-No. 2902 19 00 ■ Disposal 3  
■ ADR-RID UN 2298 Methylcyclopentan, 3, II  
■ IMDG-Code UN 2298 METHYLCYCLOPENTANE, 3, II  
■ IATA-DGR UN 2298 METHYLCYCLOPENTANE,

3, II  
**Specification**  
Assay (GC, area%) ..... ≥ 96.0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,746 - 0,749  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20789.0005	Glass bottle	5 ml	inquire
8.20789.0250	Glass bottle	250 ml	inquire

# Methyl

## 810504 2-Methyl-1,3-cyclopentanedione for synthesis



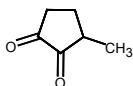
C<sub>6</sub>H<sub>8</sub>O<sub>2</sub>  
 ■ CAS-No. 765-69-5 ■ EC-No. 212-153-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 112.13 g/mol

mol ■ Melting point 213 - 216 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 29 00 ■ Disposal 3  
**Specification**  
 Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 208 °C  
 Melting range (upper value)..... ≤ 213 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.10504.0010	Glass bottle	10 g	inquire
8.10504.0050	Glass bottle	50 g	inquire

## 841651 3-Methyl-1,2-cyclopentanedione for synthesis



C<sub>6</sub>H<sub>8</sub>O<sub>2</sub>  
 ■ CAS-No. 765-70-8 ■ EC-No. 212-154-8

■ M = 112.13 g/mol ■ Melting point 104 - 105 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 29 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 101 °C

Melting range (upper value)..... ≤ 105 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41651.0010	Plastic bottle	10 g	inquire

## 841781 1-Methyl-1-cyclopentene for synthesis



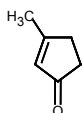
C<sub>6</sub>H<sub>10</sub>  
 ■ CAS-No. 693-89-0 ■ EC-No. 211-762-0  
 ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Flash point -17 °C ■ M = 82.15 g/mol ■ Boiling point 72 °C (1005 hPa)  
 ■ WGK 3

■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
 ■ LGK 3  
 ■ HS-No. 2902 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-METHYL-1-CYCLOPENTEN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-METHYL-1-CYCLOPENTENE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-METHYL-1-CYCLOPENTENE), 3, II

**Specification**  
 Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.779 - 0.783  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41781.0005	Glass bottle	5 ml	inquire
8.41781.0025	Glass bottle	25 ml	inquire

## 818493 3-Methyl-2-cyclopenten-1-one for synthesis



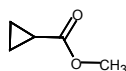
C<sub>6</sub>H<sub>8</sub>O  
 ■ CAS-No. 2758-18-1 ■ EC-No. 220-421-5  
 ■ Refractive index 1.4893 (20 °C, 589 nm)

■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 65 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 96.13 g/mol ■ pH value 4.9 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 2 °C  
 ■ Boiling point 74 - 76 °C (20 hPa)  
 ■ Ignition temp. 480 °C  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2914 29 00 ■ Disposal 1

**Specification**  
 Purity (GC)..... ≥ 97% (a/a)  
 Identity (IR-spectrum)..... passes test  
 Density (d 20 °C/ 4 °C)..... 0.979 - 0.981

Ord.No.	Packaging	Quantity	Price
8.18493.0050	Glass bottle	50 ml	inquire

## 841225 Methyl cyclopropanecarboxylate for synthesis



C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>  
*Cyclopropanecarboxylic acid methyl ester*  
 ■ CAS-No. 2868-37-3 ■ EC-No. 220-690-9  
 ■ Spec. density 0.983 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 17 °C ■ M = 100.12 g/mol  
 ■ Boiling point 118 - 119 °C  
 ■ Ignition temp. 435 °C

■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P262  
 ■ LGK 3  
 ■ HS-No. 2916 20 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(METHYLCYCLOPROPANECARBOXYLAT), 3, II  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(METHYL CYCLOPROPANECARBOXYLATE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

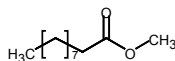
N.O.S.(METHYL CYCLOPROPANECARBOXYLATE), 3, II

**Specification**  
 Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.995 - 0.999  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41225.0025	Glass bottle	25 ml	inquire

1-Methylcyclopropanemethanol → 1-Cyclopropylethanol page 680

## 109637 Methyl decanoate reference substance for gas chromatography



C<sub>11</sub>H<sub>22</sub>O<sub>2</sub>  
*Methyl caprate, Capric acid methyl ester, Decanoic acid methyl ester*  
 ■ CAS-No. 110-42-9 ■ EC-No. 203-766-6  
 ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive

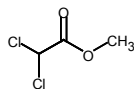
limit 0.7 % (V) ■ Flash point 90 °C ■ Solub. in H<sub>2</sub>O 0.0038 g/l (25 °C) ■ M = 186.29 g/mol  
 ■ Melting point -18 - -10 °C  
 ■ Boiling point >176.7 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315, P262, P302 + P352  
 ■ LGK 10  
 ■ HS-No. 2915 90 70 ■ Disposal 3

**Specification**  
 Purity (GC)..... ≥ 99.5% (a/a)  
 Identity (IR-spectrum)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09637.0005	Glass bottle	5 ml	inquire

Methyl-3,6-dibenzoyl-2-deoxy-α-D-glycero-hex-2-enopyranosid-4-ulose → (2R,6S)-(+)-4-Benzoyloxy-2-benzoyloxymethyl-6-methoxy-2H-pyran-3(6H)-one page 444

## 820440 Methyl dichloroacetate for synthesis

C<sub>3</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub>Cl<sub>2</sub>CHCOOCH<sub>3</sub>*Dichloroacetic acid methyl ester*

- CAS-No. 116-54-1 ■ EC-No. 204-146-8
- Refractive index 1.4421 (20 °C, 589 nm)
- Vapour pressure 4.7 hPa (20 °C)
- Spec. density 1.38 g/cm<sup>3</sup> (20 °C)
- Flash point 70 °C ■ Solub. in H<sub>2</sub>O 4 g/l (20 °C)

- M = 142.97 g/mol ■ pH value 3.8 (4 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -52 °C
- Boiling point 142 - 145 °C
- Ignition temp. 484 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10
- HS-No. 2915 40 00 ■ Disposal 3
- ADR-RID UN 2299 Methylchloroacetat, 6.1, III
- IMDG-Code UN 2299 METHYL

DICHLOROACETATE, 6.1, III

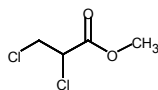
■ IATA-DGR UN 2299 METHYL DICHLOROACETATE, 6.1, III

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.378 - 1.382  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20440.0100	Glass bottle	100 ml	inquire
8.20440.0500	Glass bottle	500 ml	inquire

## 818319 Methyl 2,3-dichloropropionate for synthesis

C<sub>4</sub>H<sub>6</sub>Cl<sub>2</sub>O<sub>2</sub>ClCH<sub>2</sub>CH(Cl)COOCH<sub>3</sub>*2,3-Dichloropropionic acid methyl ester*

- CAS-No. 3674-09-7 ■ EC-No. 222-940-2
- Refractive index 1.4511 (25 °C, 589 nm)
- Spec. density 1.33 g/cm<sup>3</sup> (20 °C)
- Flash point 80 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 157 g/mol
- Boiling point 63 °C (13 hPa)
- WGK 3
- LGK 10

■ HS-No. 2915 90 70 ■ Disposal 3

**Specification**

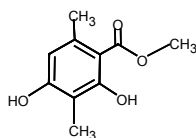
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.325 - 1.328  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18319.0010	Glass bottle	10 ml	inquire

N-Methyldiethanolamine → N-Methyl-2,2'-iminodiethanol page 1157

Methyl diglycol → Diethylene glycol monomethyl ether page 301

## 814704 Methyl 2,4-dihydroxy-3,6-dimethylbenzoate for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>4</sub>*3,6-Dimethyl-β-resorcylic acid methyl ester*

- CAS-No. 4707-47-5 ■ EC-No. 225-193-0
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 196.2 g/mol
- Melting point 144 - 146 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

**Specification**

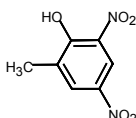
Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 143 °C  
 Melting range (upper value) ..... ≤ 146 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14704.0005	Glass bottle	5 g	inquire

1-Methyl-2,4-dinitrobenzene → 2,4-Dinitrotoluene page 810

1-Methyl-2,4-dinitrobenzole → 2,4-Dinitrotoluene page 810

## 822042 2-Methyl-4,6-dinitrophenol (stabilised with approx.10% water) for synthesis

C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>O<sub>5</sub>*4,6-Dinitro-o-cresol, DNOC*

- CAS-No. 534-52-1 ■ EC-No. 208-601-1
- Vapour pressure 10 hPa (20 °C) ■ Solub. in H<sub>2</sub>O 1.3 g/l ■ M = 198.13 g/mol
- Melting point 82 - 85 °C ■ Boiling point 312 °C (1013 hPa)
- WGK 3

- GHS: Danger, Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 7 mg/kg ■ LD50 dermal rat 200 mg/kg
- EC-Index-No. 609-020-00-X ■ LGK 6.1A
- HS-No. 2908 99 00 ■ Disposal 9

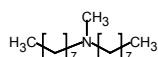
■ ADR-RID UN 1598 Dinitro-o-Cresol, 6.1, II  
 ■ IMDG-Code UN 1598 DINITRO-O-CRESOL, 6.1, II, Marine Pollutant: P  
 ■ IATA-DGR UN 1598 DINITRO-O-CRESOL, 6.1, II

**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 82 °C  
 Melting range (upper value) ..... ≤ 85 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22042.0025	Glass bottle	25 g	inquire

## 820790 N-Methyldioctylamine for synthesis

C<sub>17</sub>H<sub>37</sub>NCH<sub>3</sub>N[(CH<sub>2</sub>)<sub>7</sub>CH<sub>3</sub>]<sub>2</sub>*N,N-Di-n-octylmethylamine*

- CAS-No. 4455-26-9 ■ EC-No. 224-703-9
- Refractive index 1.4424 (20 °C, 589 nm)
- Spec. density 0.79 g/cm<sup>3</sup> (20 °C)
- Flash point 118 °C ■ M = 255.49 g/mol
- Melting point -30 °C

- Boiling point 162 - 165 °C (20 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338
- LGK 8A
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(METHYLDIOCTYLAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE,

N.O.S.(METHYLDIOCTYLAMINE), 8, III, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(METHYLDIOCTYLAMINE), 8, III

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.797 - 0.800  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20790.0100	Glass bottle	100 ml	inquire

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z



## 841872 2-Methyl-1,3-dioxolane for synthesis



C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>  
*Acetaldehyde ethylene acetal*  
 ■ CAS-No. 497-26-7 ■ EC-No. 207-841-4  
 ■ Vapour pressure 57.3 hPa (20 °C)  
 ■ Spec. density 0.982 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 % (V) ■ Flash point -2 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 88.11 g/mol  
 ■ Boiling point 81 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P262  
 ■ LD50 oral rat 2900 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2932 99 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-METHYL-1,3-DIOXOLAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-

METHYL-1,3-DIOXOLANE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHYL-1,3-DIOXOLANE), 3, II

**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,980 - 0,984  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41872.0010	Glass bottle	10 ml	inquire

Methyl disulfide → Dimethyl disulfide page 787

## 112148 Methyl dodecylbenzene sulfonate for surfactant tests

C<sub>19</sub>H<sub>32</sub>O<sub>3</sub>S  
*Dodecylbenzenesulfonic acid methyl ester*  
 ■ CAS-No. 52319-06-9 ■ EC-No. 257-847-6  
 ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 340.53 g/mol  
 ■ WGK 2

■ LGK 10 - 13  
 ■ HS-No. 2905 19 00 ■ Disposal 3

**Specification**

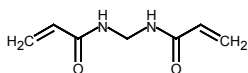
Assay (two-phase titration) ..... ≥ 99%  
 Identity (IR-spectrum) ..... passes test

Free acid (as Dodecyl benzene sulfonic acid) .....  
 ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.12148.0010	Glass bottle	10 ml	inquire

Methyl enanthate → Methyl heptanoate page 1153

## N,N'-Methylenebisacrylamide



C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>  
 (CH<sub>2</sub>CHCONH)<sub>2</sub>CH<sub>2</sub>  
*BIS, Bisacrylamide solution*  
 ■ CAS-No. 110-26-9 ■ EC-No. 203-750-9  
 ■ Spec. density 1.235 g/cm<sup>3</sup> (30 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) slightly soluble ■ M = 154.17 g/mol  
 ■ pH value ≥ 5.0 (25 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 185 °C (decomposition)  
 ■ Bulk density 200 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 390 mg/kg  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.

■ HS-No. 2924 19 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Highly purified reagent, that is additionally tested to ensure suitability for use in molecular biology experiments.

## 101546 N,N'-Methylenebisacrylamide for electrophoresis, special grade for molecular biology

**Specification**  
 Appearance (colour) ..... almost white  
 Appearance (description) ..... crystalline powder  
 Free acid (as acrylic acid) ..... ≤ 0.02 %  
 Water ..... ≤ 0.5 %

Assay (by acidimetry following saponification) .....  
 ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 DNases (Exo- and endonucleases) .... not detectable  
 RNases ..... not detectable

Proteases ..... not detectable

Ord.No.	Packaging	Quantity	Price
1.01546.0100	Plastic bottle	100 g	inquire

## 106062 N,N'-Methylenebisacrylamide ready-to-use solution "BIS" 2% for electrophoresis

**Specification**  
 Assay (by acidimetry following saponification) .....  
 ..... 1,80 - 2,20 % (m)

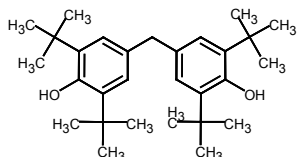
Absorbance A (290 nm; 2.0 %; 1 cm) ..... ≤ 0,4

Ord.No.	Packaging	Quantity	Price
1.06062.1000	Glass btl. pl.coat.	1 l	inquire

N,N'-Methylenebis(acrylamide) → page 1150

2,2'-Methylenebis-(6-tert-butyl-4-methylphenol) → 2,2'-Methylenebis(4-methyl-6-tert-butylphenol) page 1149

## 842857 4,4'-Methylenebis(2,6-di-tert-butylphenol) for synthesis



C<sub>29</sub>H<sub>44</sub>O<sub>2</sub>  
 ■ CAS-No. 118-82-1 ■ EC-No. 204-279-1  
 ■ Vapour pressure < 0.1 hPa (25 °C)

■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 222 °C ■ Solub. in H<sub>2</sub>O < 0.0001 g/l (20 °C) ■ M = 424.67 g/mol  
 ■ Melting point 153 - 156 °C  
 ■ Boiling point 217 °C (1 hPa)  
 ■ WGK 1  
 ■ GHS: Chronic aquatic toxicity, Category 4, H413, P273  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13

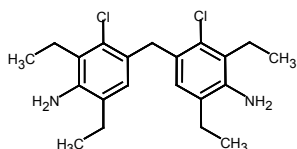
■ HS-No. 2907 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 153 °C  
 Melting range (upper value) ..... ≤ 156 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42857.0010	Glass bottle	10 g	inquire
8.42857.0100	Glass bottle	100 g	inquire

## 814676 4,4'-Methylenebis(3-chloro-2,6-diethylaniline) for synthesis



C<sub>21</sub>H<sub>28</sub>Cl<sub>2</sub>N<sub>2</sub>  
*Bis-(4-amino-2-chloro-3,5-diethylphenyl)-methane*

■ CAS-No. 106246-33-7 ■ EC-No. 402-130-7  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 379.37 g/mol  
 ■ Melting point 88 - 90 °C  
 ■ Bulk density 610 - 650 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 59 90 ■ Disposal 3

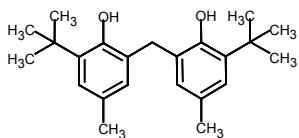
**Specification**

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 88 °C  
 Melting range (upper value) ..... ≤ 90 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14676.0025	Glass bottle	25 g	inquire

Methylenebis(diphenylphosphine) → Bis(diphenylphosphino)-methane page 469

## 818447 2,2'-Methylenebis(4-methyl-6-tert-butylphenol) for synthesis

C<sub>23</sub>H<sub>32</sub>O<sub>2</sub>(2-(OH)-3-(CH<sub>3</sub>)<sub>3</sub>C-5-(CH<sub>3</sub>)C<sub>6</sub>H<sub>2</sub>)<sub>2</sub>CH<sub>2</sub>2,2'-Methylenebis-(6-tert-butyl-4-methyl-phenol)  
, Bis(3-tert-butyl-2-hydroxy-5-methylphenyl)-  
methan

- CAS-No. 119-47-1 ■ EC-No. 204-327-1
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point 195 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 340.5 g/mol ■ pH value 4 - 7 (H<sub>2</sub>O, 20 °C) (aqueous suspension) ■ Melting point 125 - 128 °C
- Bulk density 300 kg/m<sup>3</sup> ■ Boiling point 187 °C (0.7 hPa) ■ Ignition temp. 350 °C
- WGK 1
- GHS: Chronic aquatic toxicity, Category 3, H412, P273
- LD50 oral rat 4880 mg/kg ■ LD50 dermal rabbit

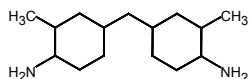
- > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
Melting range (lower value)..... ≥ 125 °C  
Melting range (upper value)..... ≤ 130 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18447.0100	Glass bottle	100 g	inquire
8.18447.0500	Glass bottle	500 g	inquire

## 840093 4,4'-Methylenebis(2-methylcyclohexylamine) (mixture of isomers) for synthesis

C<sub>15</sub>H<sub>30</sub>N<sub>2</sub>

2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)

- CAS-No. 6864-37-5 ■ EC-No. 229-962-1
- Vapour pressure 0.0003 hPa (30 °C)
- Spec. density 0.944 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.5 - 2.8 % (V) ■ Flash point 173 °C ■ Solub. in H<sub>2</sub>O 3.6 g/l (20 °C) ■ M = 238.42 g/mol
- pH value 11 (3.6 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -7 - -1 °C ■ Boiling point 347 °C (1013 hPa) ■ Ignition temp. 275 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314; Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.42 mg/l
- LD50 oral rat 320 - 460 mg/kg
- LD50 dermal rabbit 200 - 400 mg/kg
- EC-Index-No. 612-110-00-1 ■ LGK 6.1A
- HS-No. 2921 30 99 ■ Disposal 9
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(4,4'-METHYLENBIS(2-METHYLCYCLOHEXYLAMIN), 8 (6.1), II ■ IMDG-

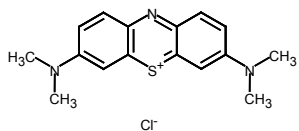
Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(4,4'-METHYLENBIS(2-METHYLCYCLOHEXYLAMINE), 8 (6.1), II, Segregation Group: 18 (Alkalis)  
■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(4,4'-METHYLENBIS(2-METHYLCYCLOHEXYLAMINE), 8 (6.1), II

## Specification

Assay isomers (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C / 4 °C)..... 0,942 - 0,945  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40093.0025	Glass bottle	25 ml	inquire

## Methylene blue (C.I. 52015)

C<sub>16</sub>H<sub>18</sub>ClN<sub>3</sub>S \* x H<sub>2</sub>OC<sub>16</sub>H<sub>18</sub>ClN<sub>3</sub>S \* x H<sub>2</sub>O (x=2-3)

Methylthionium chloride, 3,7-Bis(dimethylamino)phenothiazinium chloride, Tetramethylthionine chloride

- EC-No. 200-515-2
- Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 319.86 g/mol (anhydrous) ■ pH value 3 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 180 °C (decomposition)

- Bulk density 400 - 600 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1180 mg/kg
- LGK 10 - 13
- HS-No. 3204 13 00 ■ Disposal 3

## 159270 Methylene blue (C.I. 52015) Reag. Ph Eur

## Specification

Appearance..... Dark green powder, eventually with granular and bright parts.  
Identity (UV/VIS-Spectrum)..... passes test  
Absorption maximum λ<sub>max</sub> (ethanol 50 %)..... 660 - 665 nm

Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.003 g/l; ethanol 50 %)..... 2250 - 2750  
Absorption ratio (635 nm / 665 nm; 0.003 g/l; ethanol 50 %)..... 0.56 - 0.62  
Sulfated ash (600 °C)..... ≤ 1.0 %  
Loss on drying (105 °C, 18 h)..... 10 - 15 %

Ord.No.	Packaging	Quantity	Price
1.59270.0010	Glass bottle	10 g	inquire
1.59270.0100	Glass bottle	100 g	inquire

## 115943 Methylene blue (C.I. 52015) for microscopy Certistain®

## Specification

Dye content (spectrophotometrically)..... ≥ 82 %  
Identity (Chloride)..... passes test  
Identity (UV/VIS-Spectrum)..... passes test  
Absorption maximum λ<sub>max</sub> (ethanol 50 %) 660 - 665 nm

Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.003 g/l; ethanol 50 %)..... 2250 - 2750  
TLC-Test..... passes test  
Loss on drying (110 °C)..... 10 - 15 %  
Suitability for microscopy..... passes test

Ord.No.	Packaging	Quantity	Price
1.15943.0025	Glass bottle	25 g	inquire
1.15943.0100	Glass bottle	100 g	inquire

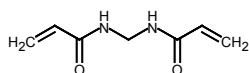
Methylene blue solution acc. to Löffler → page 194

Methylene chloride → page 2

Methylene chloride-d2 → page 294

Methylene bromide → Dibromomethane page 300

## N,N'-Methylenediacrylamide

C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>(CH<sub>2</sub>CHCONH)<sub>2</sub>CH<sub>2</sub>

BIS, Bisacrylamide solution

- CAS-No. 110-26-9 ■ EC-No. 203-750-9
- Spec. density 1.235 g/cm<sup>3</sup> (30 °C) ■ Solub. in

- H<sub>2</sub>O (20 °C) slightly soluble ■ M = 154.17 g/mol
- pH value >=5.0 (25 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 185 °C (decomposition)
- Bulk density 200 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 390 mg/kg
- LGK 10 - 13 ■ Store at +2°C to +8°C.

- HS-No. 2924 19 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good
- Cross-linker for the preparation of polyacrylamide gels, separation, analysis and characterization of proteins, nucleic acids and other charged species.

## 805968 N,N'-Methylenediacrylamide for synthesis

## Specification

Assay (ex N)..... ≥ 98,0 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.05968.0250	Plastic bottle	250 g	inquire

# Methyl

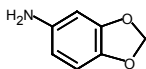
## 110897 N,N'-Methylenediacylamide for electrophoresis

### Specification

Appearance (colour).....	white	Assay (by acidimetry following saponification).....	≥ 99.0 %
Appearance (description).....	crystalline powder	Identity (IR-spectrum).....	passes test
Spec. Absorptivity A 1%/1cm (290 nm; 1 %; 1 cm; water).....	≤ 0.200	Heavy metals (as Pb).....	≤ 0.001 %
pH-value (2.5 % , water).....	≥ 5.0	Free acid (as acrylic acid).....	≤ 0.02 %
		Water.....	≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.10897.0050	Plastic bottle	50 g	inquire
1.10897.0100	Plastic bottle	100 g	inquire

## 818489 3,4-Methylenedioxyaniline (stabilised with hydrazine hydrate) for synthesis



C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>

1,3-Benzodioxol-5-amine

- CAS-No. 14268-66-7 ■ EC-No. 238-161-6
- Flash point 143 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 137.14 g/mol
- Melting point 42 - 44 °C
- Boiling point 143 - 145 °C (21 hPa)
- WGK 3

- GHS: Danger, Carcinogenicity, Category 1B, H350; Chronic aquatic toxicity, Category 3, H412; Skin sensitisation, Category 1, H317, P201, P260, P262, P273, P280, P302 + P352, P307 + P310
- LGK 6.1A
- HS-No. 2932 99 00 ■ Disposal 9
- ADR-RID UN 3143 Farbstoffzwischenprodukt, fest, giftig, n.a.g.(3,4-METHYLEN-DIOXYANILIN), 6.1, III ■ IMDG-Code UN 3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.(3,4-METHYLEN-DIOXYANILINE), 6.1, III
- IATA-DGR UN 3143 DYE INTERMEDIATE, SOLID,

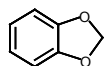
TOXIC, N.O.S.(3,4-METHYLEN-DIOXYANILINE), 6.1, III

### Specification

Assay (GC, area%).....	≥ 99.0 % (a/a)
Melting range (lower value).....	≥ 42 °C
Melting range (upper value).....	≤ 44 °C
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.18489.0025	Glass bottle	25 g	inquire

## 818519 1,2-Methylenedioxybenzene for synthesis



C<sub>7</sub>H<sub>6</sub>O<sub>2</sub>

1,3-Benzodioxol

- CAS-No. 274-09-9 ■ EC-No. 205-992-0
- Refractive index 1.5382 (20 °C, 589 nm)
- Vapour pressure 16 hPa (25 °C)

- Spec. density 1.18 g/cm<sup>3</sup> (20 °C)
- Flash point 61 °C ■ Solub. in H<sub>2</sub>O 2 g/l (25 °C)
- M = 122.12 g/mol ■ Melting point -18 °C
- Boiling point 172 - 175 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 580 mg/kg
- LGK 10 - 13

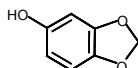
- HS-No. 2932 99 00 ■ Disposal 3

### Specification

Assay (GC, area%).....	≥ 99.0 % (a/a)
Density (d 20 °C/ 4 °C).....	1.184 - 1.186
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.18519.0050	Glass bottle	50 ml	inquire

## 806195 3,4-Methylenedioxyphenol for synthesis



C<sub>7</sub>H<sub>6</sub>O<sub>3</sub>

Sesamol

- CAS-No. 533-31-3 ■ EC-No. 208-561-5
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 138.12 g/mol ■ Melting point 61 - 64 °C

- WGK 1
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2932 99 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

Melting range (upper value)..... ≤ 64 °C  
Identity (IR)..... conforms

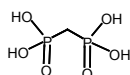
### Specification

Assay (GC, area%).....	≥ 99.0 Area %
Melting range (lower value).....	≥ 61 °C

Ord.No.	Packaging	Quantity	Price
8.06195.0010	Glass bottle	10 g	inquire
8.06195.0025	Glass bottle	25 g	inquire

Methylenediphenylene diisocyanate → Diphenylmethane 4,4'-diisocyanate page 818

## 841124 Methylenediphosphonic acid for synthesis



CH<sub>6</sub>O<sub>6</sub>P<sub>2</sub>

Methanediphosphonic acid, Medronic acid

- CAS-No. 1984-15-2 ■ EC-No. 217-851-0
- M = 176 g/mol ■ Melting point 200 - 205 °C
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

- P309 + P310
- LGK 8A
- HS-No. 2931 90 90 ■ Disposal 25
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(METHYLEN-DIPHOSPHONSAEURE), 8, II
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(METHYLEN-DIPHOSPHONIC ACID), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(METHYLEN-DIPHOSPHONIC

ACID), 8, II

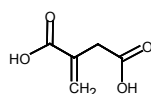
### Specification

Assay (acidimetric).....	≥ 97.0 % (m)
Melting range (lower value).....	≥ 198 °C
Melting range (upper value).....	≤ 204 °C
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
8.41124.0001	Glass bottle	1 g	inquire

Methylene iodide → page 764

## 804812 Methylensuccinic acid for synthesis



C<sub>5</sub>H<sub>6</sub>O<sub>4</sub>

HOOCC<sub>2</sub>H<sub>2</sub>C(=CH<sub>2</sub>)COOH

Itaconic acid

- CAS-No. 97-65-4 ■ EC-No. 202-599-6
- Spec. density 1.632 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 83 g/l (20 °C) ■ M = 130.1 g/mol

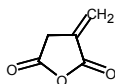
- pH value 2 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 162 - 167 °C
- Boiling point 268 °C (decomposition)
- Ignition temp. 430 °C
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P260, P280, P305 + P351 + P338, P313
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

### Specification

Assay (HPLC, area%).....	≥ 99.0 % (a/a)
Melting range (lower value).....	≥ 163 °C
Melting range (upper value).....	≤ 167 °C
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.04812.0100	Plastic bottle	100 g	inquire
8.04812.0500	Plastic bottle	500 g	inquire
8.04812.9050	Fibre carton	50 kg	inquire

## 841075 Methylsuccinic anhydride for synthesis

C<sub>5</sub>H<sub>8</sub>O<sub>3</sub>

Itaconic anhydride

- CAS-No. 2170-03-8 ■ EC-No. 218-518-2
- Flash point >100 °C ■ M = 112.08 g/mol
- Melting point 67 - 71 °C

- Boiling point 114 - 115 °C (12 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

## Specification

Assay (morpholine method) ..... ≥ 96.0 %

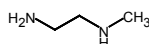
Melting range (lower value) ..... ≥ 67 °C  
 Melting range (upper value) ..... ≤ 71 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41075.0025	Glass bottle	25 g	inquire
8.41075.0100	Glass bottle	100 g	inquire

2-Methylene-1,3,3-trimethylindoline → 1,3,3-Trimethyl-2-methyleneindoline page 1604

N-Methylethanolamine → 2-(Methylamino)ethanol page 1131

## 841791 N-Methylethylenediamine for synthesis

C<sub>3</sub>H<sub>10</sub>N<sub>2</sub>

- CAS-No. 109-81-9 ■ EC-No. 203-707-4
- Spec. density 0.841 g/cm<sup>3</sup> ■ Flash point 41 °C
- M = 74.13 g/mol ■ Boiling point 114 - 116 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210,

- P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3 ■ Store below +15°C.
- HS-No. 2921 29 00 ■ Disposal 3
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(N-METHYLETHYLENEDIAMIN), 8 (3), II ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(N-METHYLETHYLENEDIAMINE), 8 (3), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(N-METHYLETHYLENEDIAMINE), 8 (3), II

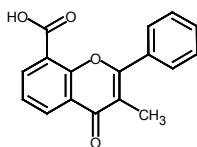
## Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41791.0005	Glass bottle	5 ml	inquire

Methyl ethyl ketone → page 303

## 841878 3-Methylflavone-8-carboxylic acid for synthesis

C<sub>17</sub>H<sub>12</sub>O<sub>4</sub>

- CAS-No. 3468-01-7 ■ EC-No. 222-425-2

- M = 280.28 g/mol ■ Melting point 235 - 240 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

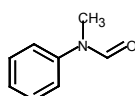
## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 235 °C  
 Melting range (upper value) ..... ≤ 240 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41878.0005	Glass bottle	5 g	inquire

2-Methyl-5-fluoroaniline → 5-Fluoro-2-methylaniline page 902

## 806169 N-Methylformanilide for synthesis

C<sub>8</sub>H<sub>9</sub>NOHCON(CH<sub>3</sub>)C<sub>6</sub>H<sub>5</sub>

Formic acid N-methylanilide

- CAS-No. 93-61-8 ■ EC-No. 202-262-3
- Refractive index 1.5593 (20 °C, 589 nm)

- Vapour pressure 2.66 Pa (25 °C)
- Spec. density 1.095 g/cm<sup>3</sup> (20 °C)
- Flash point 126 °C ■ Solub. in H<sub>2</sub>O 10.3 g/l (25 °C) ■ M = 135.17 g/mol ■ pH value 3.5 - 5.5 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution)
- Melting point 8 - 13 °C
- Boiling point 243 - 244 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315, P262, P302 + P352

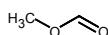
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,094 - 1,096  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06169.0250	Glass bottle	250 ml	inquire

## 800889 Methyl formate for synthesis

C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>

Formic acid methyl ester

- CAS-No. 107-31-3 ■ EC-No. 203-481-7
- Refractive index 1.3433 (20 °C, 589 nm)
- Vapour pressure 644 hPa (20 °C)
- Spec. density 0.968 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 8.5 (20 °C) ■ Explosive limit 5 - 23 % (V)
- Flash point -32 °C ■ Solub. in H<sub>2</sub>O 300 g/l (20 °C) ■ M = 60.05 g/mol ■ pH value 4 - 5 (200 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 1569 g/m<sup>3</sup> (20 °C) Air ■ Melting point -100.4 °C
- Boiling point 31.5 °C (1013 hPa)

- Ignition temp. 450 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 1, H224; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P233, P305 + P351 + P338
- LC50 rat > 5.2 mg/l
- LD50 oral rat 1500 mg/kg ■ LD50 dermal rat > 4000 mg/kg
- EC-Index-No. 607-014-00-1 ■ LGK 3
- HS-No. 2915 13 00 ■ Disposal 3
- ADR-RID UN 1243 Methylformiat, 3, I ■ IMDG-Code UN 1243 METHYL FORMATE, 3, I

■ IATA-DGR UN 1243 METHYL FORMATE, 3, I

## Specification

Assay (GC, area%) ..... 95.0 - 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,967 - 0,971  
 Methanol (GC, area%) ..... 3,0 - 5,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00889.0100	Glass bottle	100 ml	inquire
8.00889.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00889.2500	Glass bottle	2.5 l	inquire

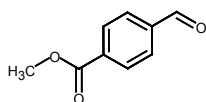
Methylformic acid → Acetic acid 99-100% page 335

Methylformic acid solution → Acetic acid page 168



# Methyl

## 818490 Methyl 4-formylbenzoate for synthesis



C<sub>9</sub>H<sub>8</sub>O<sub>3</sub>  
4-(OHC)C<sub>6</sub>H<sub>4</sub>COOCH<sub>3</sub>  
4-Formylbenzoic acid methyl ester, Terephthalaldehydic acid methyl ester

■ CAS-No. 1571-08-0 ■ EC-No. 216-385-5  
■ Spec. density 1.2 g/cm<sup>3</sup> (20 °C)  
■ Flash point 128 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 164.16 g/mol  
■ Melting point 56 - 59 °C ■ Bulk density 528 kg/m<sup>3</sup> ■ Boiling point 264 - 266 °C (1013 hPa)  
■ Ignition temp. 240 °C  
■ WGK 2  
■ LGK 10 - 13

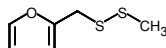
■ HS-No. 2918 30 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
Melting range (lower value) ..... ≥ 60 °C  
Melting range (upper value) ..... ≤ 63 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18490.0100	Plastic bottle	100 g	inquire

## 843860 Methyl fufuryl disulfide for synthesis



C<sub>6</sub>H<sub>8</sub>O<sub>5</sub>  
■ CAS-No. 57500-00-2 ■ EC-No. 260-773-7  
■ Spec. density 1.183 g/cm<sup>3</sup> ■ Flash point 90 °C  
■ M = 160.26 g/mol ■ Boiling point 60 - 61 °C (0.8 hPa)  
■ WGK 2

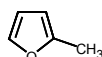
■ GHS: Warning, Eye irritation, Category 2, H319, P260, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2932 19 00 ■ Disposal 3  
■ ADR-RID Kein Gefahrgut ■ IMDG-Code Non Dangerous Good  
■ IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(METHYL FUFURYL DISULFIDE), 9, III

### Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.180 - 1.190  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43860.0005	Glass bottle	5 ml	inquire
8.43860.0025	Glass bottle	25 ml	inquire

## 820798 2-Methylfuran (stabilised) for synthesis



C<sub>5</sub>H<sub>6</sub>O  
*Silvan*  
■ CAS-No. 534-22-5 ■ EC-No. 208-594-5  
■ Refractive index 1.4332 (20 °C, 589 nm)  
■ Vapour pressure 139 hPa (20 °C)  
■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Flash point - 27 °C ■ Solub. in H<sub>2</sub>O 3000 mg/l (20 °C)  
■ M = 82.10 g/mol ■ Melting point -89 °C

■ Boiling point 63 - 66 °C (1013 hPa)  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 2, Inhalation, H330, P210, P233, P240, P304 + P340, P309 + P310  
■ LC50 rat 1.7 mg/l  
■ LD50 oral rat 167 mg/kg  
■ LGK 3  
■ HS-No. 2932 19 00 ■ Disposal 9  
■ ADR-RID UN 2301 2-Methylfuran, 3, II ■ IMDG-Code UN 2301 2-METHYLFURAN, 3, II

■ IATA-DGR UN 2301 2-METHYLFURAN, 3, II

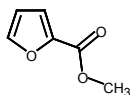
### Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,913 - 0,916  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20798.0250	Glass bottle	250 ml	inquire
8.20798.1000	Glass bottle	1 l	inquire

5-Methyl-2-furancarbaldehyde → 5-Methylfurfural page 1152

## 818327 Methyl 2-furancarboxylate for synthesis



C<sub>6</sub>H<sub>6</sub>O<sub>3</sub>  
2-Furancarboxylic acid methyl ester, Pyromucic acid methyl ester  
■ CAS-No. 611-13-2 ■ EC-No. 210-254-6  
■ Refractive index 1.482 (20 °C, 589 nm) ■ Vapour pressure 3.7 hPa ■ Spec. density 1.18 g/cm<sup>3</sup> (20 °C) ■ Flash point 73 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 126.11 g/mol  
■ Boiling point 81 - 82 °C (27 hPa)  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
■ LD50 oral rat 300 mg/kg  
■ LGK 6.1 C  
■ HS-No. 2932 19 00 ■ Disposal 3  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(METHYL-2-FURANCARBOXYLAT), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(METHYL-2-

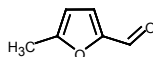
FURANCARBOXYLATE), 6.1, III  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(METHYL-2-FURANCARBOXYLATE), 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.180 - 1.182  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18327.0050	Glass bottle	50 ml	inquire

## 821522 5-Methylfurfural for synthesis



C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>  
5-Methyl-2-furancarbaldehyde, 5-Methylfurfural  
■ CAS-No. 620-02-0 ■ EC-No. 210-622-6  
■ Refractive index 1.5993 (20 °C, 589 nm)  
■ Vapour pressure 1 hPa (20 °C)

■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)  
■ Flash point 72 °C ■ Solub. in H<sub>2</sub>O 33 g/l (20 °C)  
■ M = 110.11 g/mol ■ Boiling point 187 °C  
■ WGK 2  
■ LD50 oral rat 2200 mg/kg  
■ LGK 10  
■ HS-No. 2932 19 00

Density (d 20 °C/ 4 °C) ..... 1.103 - 1.106  
Identity (IR) ..... passes test

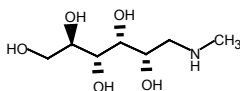
### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.21522.0025	Glass bottle	25 ml	inquire
8.21522.0100	Glass bottle	100 ml	inquire

5-Methylfurfural → 5-Methylfurfural page 1152

## 818318 D(-)-N-Methylglucamine for resolution of racemates for synthesis



C<sub>7</sub>H<sub>17</sub>NO<sub>5</sub>  
CH<sub>3</sub>NHCH<sub>2</sub>(CHOH)<sub>4</sub>CH<sub>2</sub>OH  
1-Deoxy-1-methylaminosorbitol  
■ CAS-No. 6284-40-8 ■ EC-No. 228-506-9  
■ Solub. in H<sub>2</sub>O 1000 g/l (25 °C) ■ M = 195.21 g/mol

mol ■ pH value 11 (10 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 128 - 131 °C  
■ Bulk density 300 kg/m<sup>3</sup> ■ Boiling point 210 °C (1013 hPa) decomposes  
■ WGK 1  
■ LD50 oral rat > 5000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2922 19 85 ■ Disposal 3

Melting range (lower value) ..... ≥ 128 °C  
Melting range (upper value) ..... ≤ 131 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=10 in water) .....  
..... -17.0 - -15.0 °  
Identity (IR) ..... passes test

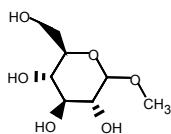
### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
8.18318.0250	Plastic bottle	250 g	inquire



## 840024 Methyl-D-glucopyranoside for synthesis

C<sub>7</sub>H<sub>14</sub>O<sub>6</sub>

Methyl-D-glucoside

- CAS-No. 3149-68-6 ■ EC-No. 221-581-9
- Solub. in H<sub>2</sub>O 600 g/l (25 °C) ■ M = 194.18 g/mol
- Melting point 155 - 165 °C
- Bulk density 400 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat 24000 mg/kg
- LGK 10 - 13
- HS-No. 2940 00 00 ■ Disposal 3

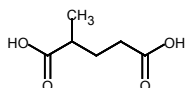
## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 165 °C  
 Melting range (upper value) ..... ≤ 168 °C

Ord.No.	Packaging	Quantity	Price
8.40024.0005	Plastic bottle	5 g	inquire
8.40024.0100	Glass bottle	100 g	inquire

Methyl-D-glucoside → Methyl-D-glucopyranoside page 1153

## 841328 2-Methylglutaric acid for synthesis

C<sub>6</sub>H<sub>10</sub>O<sub>4</sub>

2-Methylpentanedioic acid

- CAS-No. 617-62-9 ■ EC-No. 210-521-7
- M = 146.14 g/mol ■ Melting point 74 - 76 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

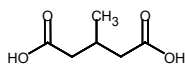
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 74 °C  
 Melting range (upper value) ..... ≤ 77 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41328.0005	Plastic bottle	5 g	inquire

## 841393 3-Methylglutaric acid for synthesis

C<sub>6</sub>H<sub>10</sub>O<sub>4</sub>

3-Methylpentanedioic acid

■ CAS-No. 626-51-7 ■ EC-No. 210-951-5

- M = 146.14 g/mol ■ Melting point 84 - 85 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

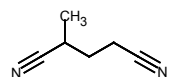
## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 83 °C

Melting range (upper value) ..... ≤ 85 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41393.0005	Plastic bottle	5 g	inquire

## 840066 2-Methylglutarodinitrile for synthesis

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>

1,3-Dicyanobutane, 2-Methylpentanedinitrile

- CAS-No. 4553-62-2 ■ EC-No. 224-923-5
- Vapour pressure 0.007 hPa (25 °C)
- Spec. density 0.953 g/cm<sup>3</sup> ■ Explosive limit 0.3 - 3.25 % (V) ■ Flash point 115 °C ■ Solub. in H<sub>2</sub>O 40 g/l (20 °C) ■ M = 108.14 g/mol
- pH value 6.1 (H<sub>2</sub>O) ■ Melting point -45 °C

- Boiling point 266 - 270 °C
- Ignition temp. 538 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301, P302 + P352, P309 + P310
- LD50 oral rat 205 mg/kg ■ LD50 dermal rat 1154 mg/kg
- LGK 6.1 C ■ Store at +2°C to +8°C.
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(2-METHYLGLUTARSAEUREDINITRIL), 6.1, III

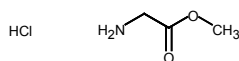
- IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(2-METHYLGLUTARODINITRILE), 6.1, III
- IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(2-METHYLGLUTARODINITRILE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,950 - 0,954  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40066.0050	Glass bottle	50 ml	inquire

## 814706 Methyl glycinate hydrochloride for synthesis

C<sub>3</sub>H<sub>8</sub>ClNO<sub>2</sub>NH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>CH<sub>3</sub>\*HCl

Glycine methyl ester monohydrochloride

■ CAS-No. 5680-79-5 ■ EC-No. 227-139-1

- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 125.55 g/mol
- Melting point 174 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (argentometric) ..... ≥ 99,0 %

Melting range (lower value) ..... ≥ 170 °C  
 Melting range (upper value) ..... ≤ 174 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14706.0100	Plastic bottle	100 g	inquire
8.14706.0500	Plastic bottle	500 g	inquire

N-Methylglycine → Sarcosine page 1412

Methyl glycol → page 318

O-Methyl glycol acetate → 2-Methoxyethyl acetate page 305

Methylglyoxal 1,1-dimethyl acetal →

Pyruvaldehyde 1,1-dimethyl acetal page 1395

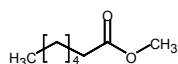
2-Methylglyoxaline → 2-Methylimidazole page 1156

Methyl green zinc chloride double salt (C.I. 42590) → page 190

4-Methylguajacol → 2-Methoxy-4-methylphenol page 1121

Methyl heptadecanate → Methyl margarate page 44

## 814926 Methyl heptanoate for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>

Methyl enanthate, Heptanoic acid methyl ester

- CAS-No. 106-73-0 ■ EC-No. 203-428-8
- Spec. density 0.880 g/cm<sup>3</sup> (20 °C)
- Flash point 57 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 144.21 g/mol
- Melting point -56 °C ■ Boiling point 173 °C (1013 hPa)

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(METHYLOENANTHAT), 3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(METHYL HEPTANOATE), 3, III
- IATA-DGR UN 3272 ESTERS, N.O.S.(METHYL

HEPTANOATE), 3, III

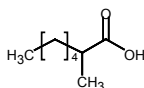
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,878 - 0,882  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14926.0100	Glass bottle	100 ml	inquire
8.14926.0500	Glass bottle	500 ml	inquire

# Methyl

## 843786 2-Methylheptanoic acid for synthesis



$C_8H_{16}O_2$   
 ■ CAS-No. 1188-02-9 ■ EC-No. 214-704-2  
 ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ M = 144.22 g/mol

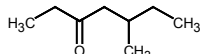
■ Boiling point 140 °C (40 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 90 70 ■ Disposal 4

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0.906 - 0.908  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43786.0005	Glass bottle	5 ml	inquire
8.43786.0025	Glass bottle	25 ml	inquire

## 818663 5-Methyl-3-heptanone for synthesis



$C_8H_{16}O$   
 CH<sub>3</sub>CH<sub>2</sub>COCH<sub>2</sub>CH(CH<sub>3</sub>)CH<sub>2</sub>CH<sub>3</sub>  
*Ethyl amyl ketone, Ethyl isoamyl ketone, Isoamyl ethyl ketone*  
 ■ CAS-No. 541-85-5 ■ EC-No. 208-793-7  
 ■ Refractive index 1.4209 (20 °C, 589 nm)  
 ■ Vapour pressure 2.7 hPa (25 °C)  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 48 % (V) ■ Flash point 43 °C ■ Solub. in

H<sub>2</sub>O 3 g/l (20 °C) ■ M = 128.22 g/mol  
 ■ Saturation conc. 25 g/m<sup>3</sup> (25 °C)  
 ■ Melting point -57 °C  
 ■ Boiling point 157 - 162 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 3500 mg/kg ■ LD50 dermal rabbit > 16000 mg/kg  
 ■ EC-Index-No. 606-020-00-1 ■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 1

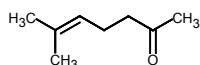
■ ADR-RID UN 2271 Ethylamylketon, 3, III  
 ■ IMDG-Code UN 2271 ETHYL AMYL KETONES, 3, III  
 ■ IATA-DGR UN 2271 ETHYL AMYL KETONE, 3, III

### Specification

Assay (GC, area%)..... ≥ 94.0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0.820 - 0.823  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18663.0100	Glass bottle	100 ml	inquire
8.18663.1000	Glass bottle	1 l	inquire

## 818626 6-Methyl-5-hepten-2-one for synthesis



$C_8H_{14}O$   
 CH<sub>3</sub>C(CH<sub>3</sub>)=CH(CH<sub>2</sub>)<sub>2</sub>COCH<sub>3</sub>  
*Methyl isohexenyl ketone*  
 ■ CAS-No. 110-93-0 ■ EC-No. 203-816-7  
 ■ Refractive index 1.4412 (20 °C, 589 nm)  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 7.3 % (V) ■ Flash point 56 °C ■ Solub. in H<sub>2</sub>O 3.02 g/l (20 °C) ■ M = 126.2 g/mol

■ pH value 6.6 (3 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point -67 °C  
 ■ Boiling point 172 - 174 °C  
 ■ Ignition temp. 250 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LD50 oral rat 3500 mg/kg ■ LD50 dermal rat > 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 1  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(6-METHYL-5-HEPTEN-2-ON), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(6-METHYL-5-HEPTEN-ONE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(6-METHYL-5-HEPTEN-ONE), 3, III

### Specification

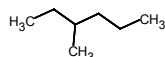
Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0.850 - 0.860  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18626.0250	Glass bottle	250 ml	inquire

1-Methylheptylamine → 2-Amino-octane page 397

Methyl heptyl ketone → 2-Nonanone page 1234

## 109703 3-Methylhexane reference substance for gas chromatography



$C_7H_{16}$   
*iso-Heptane, 1,2-Dimethylpentane*  
 ■ CAS-No. 589-34-4 ■ EC-No. 209-643-3  
 ■ Spec. density 0.68 g/cm<sup>3</sup> (20 °C) ■ Flash point -15 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ M = 100.21 g/mol ■ Melting point -126 °C  
 ■ Boiling point 92 °C (1013 hPa)  
 ■ WGK 2

■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P233, P240, P273, P301 + P310, P302 + P352, P304 + P340, P331  
 ■ EC-Index-No. 601-008-00-2 ■ LGK 3  
 ■ HS-No. 2901 10 00 ■ Disposal 1  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-METHYLHEXAN), 3, II ■ IMDG-Code UN

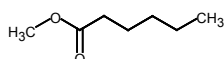
1993 FLAMMABLE LIQUID, N.O.S.(3-METHYLHEXANE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-METHYLHEXANE), 3, II

### Specification

Purity (GC)..... ≥ 99.0% (a/a)  
 Identity (IR-spectrum)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09703.0005	Glass bottle	5 ml	inquire

## 820638 Methyl hexanoate for synthesis



$C_7H_{14}O_2$   
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>COOCH<sub>3</sub>  
*Methyl caproate, Caproic acid methyl ester, Hexanoic acid methyl ester*  
 ■ CAS-No. 106-70-7 ■ EC-No. 203-425-1  
 ■ Refractive index 1.396 (20 °C, 589 nm) ■ Vapour pressure 3.7 hPa (20 °C) ■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Flash point 41 °C ■ Solub. in

H<sub>2</sub>O 1.33 g/l (20 °C) ■ M = 130.19 g/mol  
 ■ Melting point -71 °C ■ Boiling point 151 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2915 90 70 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(HEXANSÄUREMETHYLESTER), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

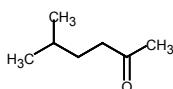
N.O.S.(METHYLHEXANOATE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(METHYLHEXANOATE), 3, III

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0.884 - 0.885  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20638.0005	Glass bottle	5 ml	inquire
8.20638.0250	Glass bottle	250 ml	inquire

## 822093 5-Methyl-2-hexanone for synthesis

C<sub>7</sub>H<sub>14</sub>O

Methyl isoamyl ketone, Isoamyl methyl ketone

■ CAS-No. 110-12-3 ■ EC-No. 203-737-8  
 ■ Refractive index 1.4078 (20 °C, 589 nm)  
 ■ Vapour pressure 5.3 hPa (20 °C)  
 ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 % (V) ■ Flash point 43 °C ■ Solub. in H<sub>2</sub>O 5.4 g/l (20 °C) ■ M = 114.19 g/mol

■ Melting point -74 °C ■ Boiling point 144 °C (1013 hPa) ■ Ignition temp. 455 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332  
 ■ LC50 rat 27.1 mg/l  
 ■ LD50 oral rat 3200 mg/kg ■ LD50 dermal rabbit 8100 mg/kg  
 ■ EC-Index-No. 606-026-00-4 ■ LGK 3  
 ■ HS-No. 2914 19 10 ■ Disposal 1  
 ■ ADR-RID UN 2302 5-Methylhexan-2-on, 3, III  
 ■ IMDG-Code UN 2302 5-METHYLHEXAN-2-ONE, 3, III

■ IATA-DGR UN 2302 5-METHYLHEXAN-2-ONE, 3, III

## Specification

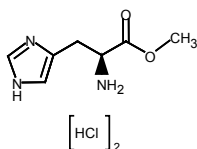
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,811 - 0,813  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22093.0100	Glass bottle	100 ml	inquire
8.22093.1000	Glass bottle	1 l	inquire

1-Methylhexylamine → 2-Aminoheptane page 389

Methyl hexyl ketone → 2-Octanone page 1242

## 841680 L-Methyl histidinate dihydrochloride for synthesis

C<sub>7</sub>H<sub>13</sub>Cl<sub>2</sub>N<sub>3</sub>O<sub>2</sub>C<sub>7</sub>H<sub>11</sub>N<sub>3</sub>O<sub>2</sub>·2HCl

L-Histidine methyl ester dihydrochloride

■ CAS-No. 7389-87-9 ■ EC-No. 230-973-9  
 ■ Solub. in H<sub>2</sub>O 100 g/l ■ M = 242.11 g/mol  
 ■ Melting point 201 °C (decomposition)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 29 90 ■ Disposal 3

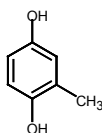
## Specification

Assay (argentometric) ..... ≥ 99,0 %

Melting range (lower value) ..... ≥ 191 °C  
 Melting range (upper value) ..... ≤ 198 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=2 in water) ..... 9,0 - 11,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41680.0010	Glass bottle	10 g	inquire

## 820801 2-Methylhydroquinone for synthesis

C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>2-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>-1,4-(OH)<sub>2</sub>

2,5-Dihydroxytoluene, Toluhydroquinone

■ CAS-No. 95-71-6 ■ EC-No. 202-443-7  
 ■ Flash point 172 °C ■ Solub. in H<sub>2</sub>O 77 g/l (25 °C)

■ M = 124.14 g/mol ■ Melting point 124 - 127 °C  
 ■ Boiling point 285 °C ■ Ignition temp. 468 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 200 - 400 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2907 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-METHYLHYDROCHINON), 6.1, III

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-METHYLHYDROQUINONE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-METHYLHYDROQUINONE), 6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 125 °C  
 Melting range (upper value) ..... ≤ 128 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20801.0100	Glass bottle	100 g	inquire

## 822069 Methylhydroxyethylcellulose for synthesis

■ CAS-No. 9032-42-2  
 ■ Spec. density 1.28 - 1.30 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (10 g/l, H<sub>2</sub>O, 20 °C) neutral ■ Bulk density 350 kg/m<sup>3</sup>  
 ■ Ignition temp. >360 °C  
 ■ WGK 1  
 ■ LD50 oral rat > 2000 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 3912 39 85 ■ Disposal 3

## Specification

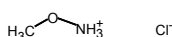
Active assay ..... ≥ 92,0 % (m)  
 Loss on drying ..... lot specific result  
 Assay (NaCl) ..... lot specific result

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22069.0100	Plastic bottle	100 g	inquire
8.22069.0500	Plastic bottle	500 g	inquire

Methylhydroxylamine hydrochloride → page 1155

## O-Methylhydroxylammonium chloride

CH<sub>6</sub>ClNOCH<sub>3</sub>ONH<sub>2</sub> · HCl

Methylhydroxylamine

hydrochloride, Methoxyamine hydrochloride

■ CAS-No. 593-56-6 ■ EC-No. 209-798-7  
 ■ Vapour pressure 117 hPa (50 °C)  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 83.52 g/mol

■ Melting point 148 - 151 °C  
 ■ Boiling point 105 - 110 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2928 00 90 ■ Disposal 28  
 ■ ADR-RID UN 3265 Ätzender saurer organischer

flüssiger Stoff, n.a.g.(O-METHYLHYDROXYLAMMONIUMCHLORID UND ENTH. SALZSAEURE), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(O-METHYLHYDROXYLAMMONIUM CHLORIDE AND CONT. HYDROCHLORIC ACID), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(O-METHYLHYDROXYLAMMONIUM CHLORIDE AND CONT. HYDROCHLORIC ACID), 8, II

## 814540 O-Methylhydroxylammonium chloride (25% solution in diluted HCl) for synthesis

## Specification

Assay (acidimetric) ..... 24,0 - 26,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,100 - 1,110

Free HCl (acidimetric) ..... 17,0 - 19,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.14540.0025	Glass bottle	25 ml	inquire

## 814911 O-Methylhydroxylammonium chloride for synthesis

## Specification

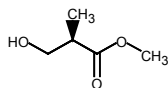
Assay (argentometric) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 148 °C  
 Melting range (upper value) ..... ≤ 151 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14911.0025	Glass bottle	25 g	inquire

# Methyl

## 818429 (R)-(-)-Methyl 3-hydroxy-2-methylpropionate for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>3</sub>  
HOCH<sub>2</sub>CH(CH<sub>3</sub>)COOCH<sub>3</sub>  
*D*(-)-*B*-Hydroxyisobutyric acid methyl ester, (*R*)-  
(-)-3-Hydroxy-2-methylpropionic acid methyl ester

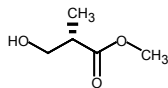
- CAS-No. 72657-23-9
- Refractive index 1.4243 (25 °C, 589 nm)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point 81 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 118.13 g/mol
- Boiling point 73 - 75 °C (13 hPa)
- WGK 3
- LGK 10
- HS-No. 2918 19 98 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.065 - 1.067  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=4 in methanol)..... -27.0 - -25.0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18429.0001	Glass bottle	1 ml	inquire

## 818428 (S)-(+)-Methyl 3-hydroxy-2-methylpropionate for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>3</sub>  
HOCH<sub>2</sub>CH(CH<sub>3</sub>)COOCH<sub>3</sub>  
*L*(+)-*B*-Hydroxyisobutyric acid methyl ester, (*S*)-  
(+)-3-Hydroxy-2-methylpropionic acid methyl ester

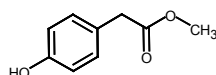
- CAS-No. 80657-57-4
- Refractive index 1.4243 (25 °C, 589 nm)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point 81 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 118.13 g/mol
- Boiling point 73 - 75 °C (13 hPa)
- WGK 3
- LGK 10
- HS-No. 2918 19 98 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.065 - 1.067  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=4 in methanol)..... 25.0 - 27.0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18428.0001	Glass bottle	1 ml	inquire

## 841861 Methyl 4-hydroxyphenylacetate for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>  
■ CAS-No. 14199-15-6 ■ EC-No. 238-050-2  
■ M = 166.17 g/mol ■ Melting point 57 - 60 °C  
■ Boiling point 310 °C (1013 hPa)

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 95.0 % (a/a)  
Water (K. F.)..... ≤ 4.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41861.0010	Glass bottle	10 g	inquire

## 805852 1-Methylimidazole for synthesis



C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>  
*N*-Methylimidazole  
■ CAS-No. 616-47-7 ■ EC-No. 210-484-7  
■ Vapour pressure 0.4 hPa (20 °C)  
■ Spec. density 1.035 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.7 - 15.7 % (V) ■ Flash point 92 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 82.10 g/mol  
■ pH value 9.5 - 10.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point -2 °C ■ Boiling point 198 °C

- (1013 hPa) ■ Ignition temp. 525 °C
- WGK 1
  - GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
  - LD50 oral rat 1144 mg/kg ■ LD50 dermal rabbit > 400 - < 640 mg/kg
  - EC-Index-No. 613-035-00-7 ■ LGK 6.1A
  - HS-No. 2933 29 90 ■ Disposal 3
  - ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(1-METHYLIMIDAZOL), 8 (6.1), II
  - IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC,

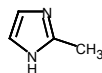
N.O.S.(1-METHYLIMIDAZOLE), 8 (6.1), II, Segregation Group: 18 (Alkalis)  
■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1-METHYLIMIDAZOLE), 8 (6.1), II

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.034 - 1.036  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.05852.0100	Glass bottle	100 ml	inquire
8.05852.1000	Glass bottle	1 l	inquire

## 818964 2-Methylimidazole for synthesis



C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>  
*N*-Methylglyoxaline  
■ CAS-No. 693-98-1 ■ EC-No. 211-765-7  
■ Vapour pressure < 1 hPa (20 °C)  
■ Flash point 155 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 780 g/l (20 °C) ■ M = 82.11 g/mol  
■ pH value 10.5 - 11.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 144 - 147 °C  
■ Bulk density 550 kg/m<sup>3</sup> ■ Boiling point 270 °C

- (1013 hPa) ■ Ignition temp. >600 °C DIN 51794
- WGK 1
  - GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
  - LD50 oral rat 1500 mg/kg
  - LGK 8A
  - HS-No. 2933 29 90 ■ Disposal 3
  - ADR-RID UN 3259 Amine, fest, ätzend, n.a.g.(2-METHYLIMIDAZOL), 8, III ■ IMDG-Code UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.(2-METHYLIMIDAZOLE), 8, III, Segregation Group: 18

(Alkalis)  
■ IATA-DGR UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.(2-METHYLIMIDAZOLE), 8, III

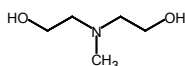
### Specification

Assay (GC, area%)..... ≥ 99.0 Area %  
Melting range (lower value)..... ≥ 142 °C  
Melting range (upper value)..... ≤ 145 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18964.0005	Glass bottle	5 g	inquire
8.18964.0250	Plastic bottle	250 g	inquire

N-Methyl-2,2'-iminobis(ethanol) → N-Methyl-2,2'-iminodiethanol page 1157

## 805851 N-Methyl-2,2'-iminodiethanol for synthesis

C<sub>5</sub>H<sub>13</sub>NO<sub>2</sub>CH<sub>3</sub>N(CH<sub>2</sub>CH<sub>2</sub>OH)<sub>2</sub>*N*-Methyldiethanolamine, *N*-Methyl-2,2'-iminobis(ethanol)

- CAS-No. 105-59-9 ■ EC-No. 203-312-7
- Refractive index 1.4685 (20 °C, 589 nm)
- Vapour pressure 0.026 hPa (40 °C)

- Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 8.4 % (V) ■ Flash point 137 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 119.16 g/mol
- pH value 11.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -21 °C ■ Boiling point 243 °C (1013 hPa) ■ Ignition temp. 265 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 4680 mg/kg
- EC-Index-No. 603-079-00-5 ■ LGK 10

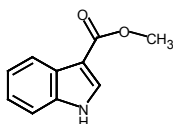
- HS-No. 2922 19 20 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.039 - 1.041  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.05851.0100	Glass bottle	100 ml	inquire
8.05851.1000	Glass bottle	1 l	inquire

## 814823 Methyl-(3-indolcarboxylate) for synthesis

C<sub>10</sub>H<sub>9</sub>NO<sub>2</sub>*Indole-3-carboxylic acid methyl ester*

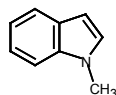
- CAS-No. 942-24-5
- M = 175.19 g/mol ■ Melting point 149 - 152 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 149 °C  
 Melting range (upper value) ..... ≤ 152 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14823.0025	Glass bottle	25 g	inquire

## 841298 1-Methylindole for synthesis

C<sub>9</sub>H<sub>9</sub>N

- CAS-No. 603-76-9 ■ EC-No. 210-057-5
- Spec. density 1.048 g/cm<sup>3</sup> (20 °C)

- Flash point >110 °C ■ M = 131.18 g/mol
- Boiling point 101 - 103 °C (6.67 hPa)
- WGK 3
- LGK 10
- HS-No. 2933 99 80 ■ Disposal 3

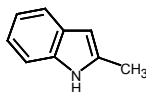
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.048 - 1.053

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41298.0005	Glass bottle	5 ml	inquire
8.41298.0025	Glass bottle	25 ml	inquire

## 805897 2-Methylindole for synthesis

C<sub>9</sub>H<sub>9</sub>N

- CAS-No. 95-20-5 ■ EC-No. 202-398-3
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point 141 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 131.17 g/mol

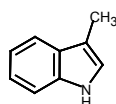
- Melting point 56 - 59 °C ■ Bulk density 300 kg/m<sup>3</sup> ■ Boiling point 272 °C (1013 hPa)
- Ignition temp. 510 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1400 mg/kg
- LGK 10 - 13 ■ Store below +15 °C
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Melting range (lower value) ..... ≥ 56 °C  
 Melting range (upper value) ..... ≤ 59 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05897.0100	Glass bottle	100 g	inquire

## 820803 3-Methylindole for synthesis

C<sub>9</sub>H<sub>9</sub>N*Skatole*

- CAS-No. 83-34-1 ■ EC-No. 201-471-7

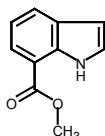
- Flash point 132 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 131.17 g/mol
- Melting point 95 - 97 °C ■ Boiling point 266 °C
- WGK 2
- LD50 oral rat 3450 mg/kg
- LGK 10 - 13
- HS-No. 2933 99 20 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 95 °C  
 Melting range (upper value) ..... ≤ 97 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20803.0025	Glass bottle	25 g	inquire

## 843864 Methyl(7-indolecarboxylate) for synthesis

C<sub>10</sub>H<sub>9</sub>NO<sub>2</sub>

- CAS-No. 93247-78-0

- M = 175.19 g/mol ■ Melting point 122 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 99 80

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 48 °C  
 Melting range (upper value) ..... ≤ 52 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43864.0001	Glass bottle	1 g	inquire

Methyl iodide → page 1011

N-Methylisatoic anhydride polystyrene HL → page 282

Methyl isoamyl ketone → 5-Methyl-2-hexanone page 1155

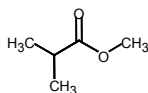
Methyl isobutyl carbinol → 4-Methyl-2-pentanol page 1168

Methyl isobutyl ketone → page 319



# Methyl

## 820710 Methyl isobutyrate for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>  
 (CH<sub>3</sub>)<sub>2</sub>CHCOOCH<sub>3</sub>  
*Isobutyric acid methyl ester*  
 ■ CAS-No. 547-63-7 ■ EC-No. 208-929-5  
 ■ Refractive index 1.383 (20 °C, 589 nm) ■ Vapour pressure 49 hPa (20 °C) ■ Spec. density 0.89 g/cm<sup>3</sup>

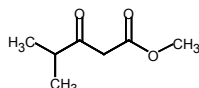
(20 °C) ■ Flash point 4 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 102.13 g/mol ■ Saturation conc. 205 g/m<sup>3</sup> (20 °C)  
 ■ Melting point -85 °C ■ Boiling point 92 - 94 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P223, P260  
 ■ LD50 oral rat 16000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2915 60 19 ■ Disposal 3

■ ADR-RID UN 1237 Methylbutyrat, 3, II ■ IMDG-Code UN 1237 METHYL BUTYRATE, 3, II  
 ■ IATA-DGR UN 1237 METHYL BUTYRATE, 3, II

**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.888 - 0.891  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20710.0005	Glass bottle	5 ml	inquire
8.20710.0250	Glass bottle	250 ml	inquire

## 814190 Methyl isobutyrylacetate for synthesis



C<sub>7</sub>H<sub>12</sub>O<sub>3</sub>  
 CH<sub>3</sub>CH(CH<sub>3</sub>)COCH<sub>2</sub>COOCH<sub>3</sub>  
*Isobutyrylacetic acid methyl ester, Methyl 4-methyl-3-oxopentanoate*  
 ■ CAS-No. 42558-54-3 ■ EC-No. 418-900-0

■ Vapour pressure 1.3 hPa (20 °C)  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.29 % (V) ■ Flash point 79 °C ■ Solub. in H<sub>2</sub>O 43.6 g/l (20 °C) ■ M = 144.17 g/mol  
 ■ pH value 4.8 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -75 °C ■ Boiling point 192 °C (1013 hPa) ■ Ignition temp. 280 °C  
 ■ WGK 1  
 ■ GHS: Warning  
 ■ LD50 oral rat > 2000 mg/kg

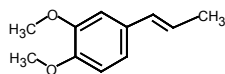
■ LGK 10  
 ■ HS-No. 2918 30 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 96.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,009 - 1,011  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14190.0050	Glass bottle	50 ml	inquire

Methylisocyanate polystyrene HL → page 282

## 814649 Methylisoeugenol for synthesis



C<sub>11</sub>H<sub>14</sub>O<sub>2</sub>  
 1,2-Dimethoxy-4-(1-propenyl) benzene  
 ■ CAS-No. 93-16-3 ■ EC-No. 202-224-6  
 ■ Refractive index 1.569 (20 °C)

■ Spec. density 1.06 g/cm<sup>3</sup> ■ Flash point 113 °C  
 ■ M = 178.23 g/mol ■ Melting point -4 °C  
 ■ Boiling point 262 - 264 °C (1013 hPa)  
 ■ WGK 2  
 ■ LD50 oral rat 2500 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2909 30 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,050 - 1,060  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14649.0050	Glass bottle	50 ml	inquire

Methyl isohexenyl ketone → 6-Methyl-5-hepten-2-one page 1154

Methyl isopropyl ketone → Isopropyl methyl ketone page 305

(R)-(+)-5-Methyl-2-isopropylidencyclohexanone → (R)-(+)-Pulegone page 1379

2-Methyl-5-isopropylphenol → 5-Isopropyl-2-methylphenol page 1055

## 841453 Methyl isothiocyanate for synthesis



C<sub>2</sub>H<sub>3</sub>NS  
 ■ CAS-No. 556-61-6 ■ EC-No. 209-132-5  
 ■ Vapour pressure 25 hPa (20 °C)  
 ■ Spec. density 1.069 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 32 °C ■ Solub. in H<sub>2</sub>O 7.6 g/l (20 °C)  
 ■ M = 73.11 g/mol ■ Melting point 31 - 37 °C  
 ■ Boiling point 117 - 118 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral,

H301; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 72 mg/kg ■ LD50 dermal rat 2780 mg/kg  
 ■ EC-Index-No. 615-002-00-2 ■ LGK 6.1A ■ Store below +15 °C.  
 ■ HS-No. 2930 90 99 ■ Disposal 9  
 ■ ADR-RID UN 2477 Methylisothiocyanat, 6.1 (3), I ■ IMDG-Code UN 2477 METHYL

ISOTHIOCYANATE, 6.1 (3), I  
 ■ IATA-DGR UN 2477 METHYL ISOTHIOCYANATE, 6.1 (3),

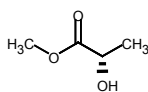
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 33 °C  
 Melting range (upper value) ..... ≤ 36 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41453.0050	Glass bottle	50 ml	inquire

Methylisothiocyanate polystyrene HL → page 282

S-Methylisothiouraea sulfate → S-Methylthiouronium sulfate page 1183

## 818726 (S)-(-)-Methyl lactate for synthesis



C<sub>4</sub>H<sub>8</sub>O<sub>3</sub>  
 CH<sub>3</sub>CH(OH)COOCH<sub>3</sub>  
*Methyl L-lactate, L-Lactic acid methyl ester*  
 ■ CAS-No. 27871-49-4 ■ EC-No. 248-704-9  
 ■ Refractive index 1.413 (20 °C, 589 nm) ■ Vapour pressure 3.4 hPa (20 °C) ■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 % (V)  
 ■ Flash point 55 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble, Hydrolysis ■ M = 104.11 g/mol  
 ■ Melting point -44 °C ■ Boiling point 55 - 58 °C (27 hPa) ■ Ignition temp. 385 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P262, P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ EC-Index-No. 607-092-00-7 ■ LGK 3  
 ■ HS-No. 2918 11 00 ■ Disposal 3  
 ■ ADR-RID UN 3272 Ester, n.a.g.(METHYLLACTAT), 3, III ■ IMDG-Code UN 3272 ESTERS,

N.O.S.(METHYLLACTAT), 3, III  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(METHYLLACTAT), 3, III

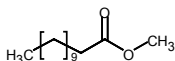
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.089 - 1.094  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (undiluted)] ..... -9.0 - -8.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18726.0250	Glass bottle	250 ml	inquire

Methyl L-lactate → (S)-(-)-Methyl lactate page 1158

2-Methylactic acid ethyl ester → Ethyl 2-methylactate page 877

## 109693 Methyl laurate reference substance for gas chromatography

C<sub>13</sub>H<sub>26</sub>O<sub>2</sub>

- CAS-No. 111-82-0 ■ EC-No. 203-911-3
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C)

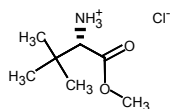
- Flash point 115.6 °C ■ M = 214.34 g/mol
- Melting point 5 °C ■ Boiling point >204 °C
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LGK 10
- HS-No. 2915 90 30 ■ Disposal 3

## Specification

Assay (GC) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09693.0005	Glass bottle	5 ml	inquire

## 824464 L-(+)-Methyl-tert-leucinate hydrochloride for synthesis

C<sub>7</sub>H<sub>16</sub>ClNO<sub>2</sub>

(CH<sub>3</sub>)<sub>3</sub>CCH(NH<sub>2</sub>)COOCH<sub>3</sub> \* HCl  
 L-(+)-tert-Leucine methyl ester hydrochloride

- CAS-No. 63038-27-7
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 181.66 g/mol
- Melting point 179 - 182 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

Assay (argentometric) ..... ≥ 99.0 %  
 Melting range (lower value) ..... ≥ 179 °C

Melting range (upper value) ..... ≤ 182 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in methanol) .....  
 ..... 16.0 - 18.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24464.0500	Glass bottle	500 mg	inquire

## 820805 Methylithium (5% solution in diethylether) for synthesis



Lithium methyl, MeLi

- Spec. density 0.7 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 36 % (V) Information refers to the main component. ■ Flash point -40 °C Information refers to the main component. ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)
- Boiling point 34.6 °C Information refers to the main component.
- Ignition temp. 180 °C Information refers to the main component.
- WGK 1

- GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases, Category 1, H260; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H336; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 4.2 ■ Store at +2 °C to +8 °C.
- HS-No. 3824 90 97 ■ Disposal 8
- ADR-RID UN 3399 Mit Wasser reagierender metallorganischer flüssiger Stoff, entzündbar (METHYLLITHIUM), 4.3 (3), I ■ IMDG-Code UN 3399 ORGANOMETALLIC SUBSTANCE,

LIQUID, WATER-REACTIVE, FLAMMABLE (METHYLLITHIUM), 4.3 (3), I  
 ■ IATA-DGR UN 3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (METHYLLITHIUM), 4.3 (3), I

## Specification

Assay (total alkalinity) ..... 4.5 - 5.5 %

Ord.No.	Packaging	Quantity	Price
8.20805.0100	Glass bottle	100 ml	inquire

## 820310 Methylmagnesium chloride (20% solution in tetrahydrofuran) for synthesis



Chloromethylmagnesium

- Vapour pressure 200 hPa (20 °C)
- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 12 % (V) ■ Flash point -20 °C (THF)
- Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)
- pH value >7 (H<sub>2</sub>O, 20 °C)
- Boiling point 66 °C (THF)
- Ignition temp. 212 °C (THF)
- WGK 1
- GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases,

- Category 1, H260; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 4.3
- HS-No. 3824 90 97 ■ Disposal 8
- ADR-RID UN 3399 Mit Wasser reagierender metallorganischer flüssiger Stoff, entzündbar (TETRAHYDROFURAN UND ENTH. METHYLMAGNESIUMCHLORID), 4.3 (3), I ■ IMDG-Code UN 3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (TETRAHYDROFURANE AND CONT.

METHYLMAGNESIUM CHLORIDE, 4.3 (3), I  
 ■ IATA-DGR UN 3399 ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (TETRAHYDROFURANE AND CONT. METHYLMAGNESIUM CHLORIDE), 4.3 (3), I

## Specification

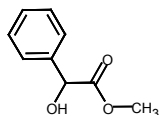
Assay (ex Mg) ..... 22.0 - 24.0 % (m)  
 Assay (acidimetric) ..... 22.0 - 24.0 % (m)  
 Assay (argentometric) ..... 22.0 - 24.0 % (m)

Ord.No.	Packaging	Quantity	Price
8.20310.0250	Glass bottle	250 ml	inquire

Methylmaleic anhydride → Citraconic anhydride  
 page 645

Methylmalonic acid diethyl ester → Diethyl  
 methylmalonate page 748

## 841838 DL-Methyl mandelate for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>

- CAS-No. 4358-87-6 ■ EC-No. 224-434-7
- M = 166.18 g/mol ■ Melting point 54 - 56 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2918 19 98 ■ Disposal 3

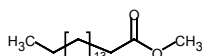
## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)

Melting range (lower value) ..... ≥ 54 °C  
 Melting range (upper value) ..... ≤ 57 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41838.0100	Glass bottle	100 g	inquire

## 109754 Methyl margarate reference substance for gas chromatography

C<sub>18</sub>H<sub>36</sub>O<sub>2</sub>

Methyl heptadecanate

- CAS-No. 1731-92-6 ■ EC-No. 217-055-3
- Spec. density 0.78 g/cm<sup>3</sup> (20 °C)

- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 284.48 g/mol
- Melting point 28 - 30 °C ■ Boiling point 184 °C (13.3 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2915 90 70 ■ Disposal 3

## Specification

Purity (GC) ..... ≥ 99.0% (a/a)  
 Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09754.0005	Glass bottle	5 ml	inquire

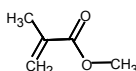
Methyl mercaptoacetate → Methyl thioglycolate  
 page 1182

4-(Methylmercapto)benzaldehyde → 4-(Methylthio)benzaldehyde page 1181

2-(Methylmercapto)ethanol → 2-(Methylthio)ethanol page 1181

# Methyl

## 800590 Methyl methacrylate (stabilised) for synthesis



C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>  
 CH<sub>2</sub>=C(CH<sub>3</sub>)COOCH<sub>3</sub>  
*Methyl 2-methylpropenoate, Methacrylic acid methyl ester, MMA*  
 ■ CAS-No. 80-62-6 ■ EC-No. 201-297-1  
 ■ Refractive index 1.414 (20 °C, 589 nm) ■ Vapour pressure 53 hPa (20 °C) ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 - 12.5 % (V)  
 ■ Flash point 10 °C ■ Solub. in H<sub>2</sub>O 15 g/l (20 °C)  
 ■ M = 100.12 g/mol ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -48 °C  
 ■ Boiling point 101 °C ■ Ignition temp. 430 °C

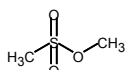
■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P210, P233, P280, P302 + P352, P304 + P340  
 ■ LC50 rat 78000 mg/m<sup>3</sup>  
 ■ LD50 oral rat 7872 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ EC-Index-No. 607-035-00-6 ■ LGK 3  
 ■ HS-No. 2916 14 00 ■ Disposal 3  
 ■ ADR-RID UN 1247 Methylmethacrylat, monomer, stabilisiert, 3, II ■ IMDG-Code UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II

■ IATA-DGR UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II

**Specification**  
 Assay (GC, area%) ..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 0.942 - 0.944  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00590.0100	Glass bottle	100 ml	inquire
8.00590.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00590.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 820775 Methyl methanesulfonate for synthesis



C<sub>2</sub>H<sub>6</sub>O<sub>3</sub>S  
*Methanesulfonic acid methyl ester, MMS*  
 ■ CAS-No. 66-27-3 ■ EC-No. 200-625-0  
 ■ Refractive index 1.414 (20 °C, 589 nm) ■ Vapour pressure 0.8 hPa (59 °C) ■ Spec. density 1.30 g/cm<sup>3</sup> (20 °C) ■ Flash point 104 °C ■ Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 110.13 g/mol  
 ■ Melting point 20 °C ■ Boiling point 203 °C (1013 hPa)

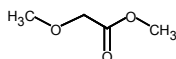
■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 3, Oral, H301, P201, P280, P281, P309 + P310  
 ■ LD50 oral rat 225 mg/kg  
 ■ LGK 6.1 C  
 ■ HS-No. 2905 19 00 ■ Disposal 9  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(METHYLMETHANSULFONAT), 6.1, III  
 ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(METHYL METHANESULFONATE), 6.1, III

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(METHYL METHANESULFONATE), 6.1, III

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.298 - 1.299  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20775.0005	Glass bottle	5 ml	inquire
8.20775.0025	Glass bottle	25 ml	inquire

## 818404 Methyl methoxyacetate for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>3</sub>  
*Methoxyacetic acid methyl ester*  
 ■ CAS-No. 6290-49-9 ■ EC-No. 228-539-9  
 ■ Refractive index 1.396 (20 °C, 589 nm)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 35 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

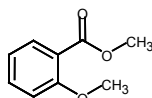
■ M = 104.11 g/mol ■ Boiling point 129 - 131 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LGK 3  
 ■ HS-No. 2918 99 90 ■ Disposal 3  
 ■ ADR-RID UN 3272 Ester, n.a.g.(METHYL-METHOXYACETAT), 3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(METHYL-METHOXYACETATE), 3, III

■ IATA-DGR UN 3272 ESTERS, N.O.S.(METHYL-METHOXYACETATE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.049 - 1.051  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18404.0100	Glass bottle	100 ml	inquire

## 821311 Methyl 2-methoxybenzoate for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>  
 2-(CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub>COOCH<sub>3</sub>  
*2-Methoxybenzoic acid methyl ester, Methyl o-*

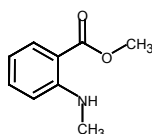
*anisate*  
 ■ CAS-No. 606-45-1 ■ EC-No. 210-118-6  
 ■ Refractive index 1.534 (20 °C, 589 nm)  
 ■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C)  
 ■ M = 166.18 g/mol ■ Boiling point 132 - 133 °C (20 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13

■ HS-No. 2918 99 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (20/4 °C) ..... 1.155 - 1.157  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21311.0025	Glass bottle	25 ml	inquire

## 815105 Methyl-N-methyl anthranilate for synthesis



C<sub>9</sub>H<sub>11</sub>NO<sub>2</sub>  
 ■ CAS-No. 85-91-6 ■ EC-No. 201-642-6  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (15 °C)

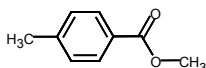
■ Flash point 133 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 165.19 g/mol  
 ■ pH value 7 - 8 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point 17 - 19 °C  
 ■ Boiling point 255 - 258 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13

■ HS-No. 2922 49 85 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 96.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,123 - 1,128  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.15105.0100	Glass bottle	100 ml	inquire

## 841700 Methyl 4-methylbenzoate for synthesis

C<sub>9</sub>H<sub>10</sub>O<sub>2</sub>4-Methylbenzoic acid methyl ester, *p*-Toluic acid methyl ester, Methyl *p*-toluate

■ CAS-No. 99-75-2 ■ EC-No. 202-784-1

■ Vapour pressure 1.3 hPa (39 °C)

■ Spec. density 1.058 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 1 - 9.5 % (V) ■ Flash point 89 °C

- M = 150.18 g/mol ■ Melting point 33 - 34 °C
- Boiling point 220 - 223 °C (1013 mbar)
- Ignition temp. 499 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 3300 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13

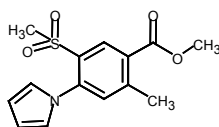
■ HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 32 °C  
 Melting range (upper value) ..... ≤ 35 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41700.0100	Glass bottle	100 g	inquire

## 814899 Methyl-2-methyl-5-methylsulfonyl-4-(1-pyrrolyl)benzoate for synthesis

C<sub>14</sub>H<sub>15</sub>NO<sub>4</sub>S

■ CAS-No. 176644-45-4

■ M = 293.34 g/mol

■ WGK 3

- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(METHYL-2-METHYL-5-METHYLSULFONYL-4-(1-PYRROLYL)-BENZOAT), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(METHYL-2-METHYL-5-METHYLSULFONYL-4-(1-PYRROLYL)-BENZOATE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(METHYL-2-METHYL-5-METHYLSULFONYL-4-(1-PYRROLYL)-BENZOATE), 6.1, II

## Specification

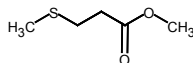
Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14899.0001	Glass bottle	1 g	inquire
8.14899.0005	Glass bottle	5 g	inquire

Methyl 4-methyl-3-oxopentanoate → Methyl isobutyrylacetate page 1158

Methyl 2-methylpropenoate → Methyl methacrylate page 1160

## 814360 Methyl 3-methylthiopropionate for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>SCH<sub>3</sub>-S-CH<sub>2</sub>-CH<sub>2</sub>-COOCH<sub>3</sub>

■ CAS-No. 13532-18-8 ■ EC-No. 236-883-6

■ Refractive index 1.4646 (20 °C, 589 nm)

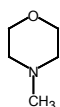
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point 72 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 134.2 g/mol
- Boiling point 69 °C (15 hPa)
- WGK 3
- LGK 10
- HS-No. 2930 90 99 ■ Disposal 6

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,071 - 1,073  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14360.0025	Glass bottle	25 ml	inquire

## 805894 4-Methylmorpholine for synthesis

C<sub>5</sub>H<sub>11</sub>NONMM, *N*-Methylmorpholine

■ CAS-No. 109-02-4 ■ EC-No. 203-640-0

■ Refractive index 1.4349 (20 °C, 589 nm)

■ Vapour pressure 30 hPa (20 °C)

■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 - 11.8 % (V) ■ Flash point 12 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) soluble■ M = 101.15 g/mol ■ pH value 10.6 (50 g/l, H<sub>2</sub>O),

- 20 °C) ■ Melting point -65 °C
- Boiling point 112 - 114 °C
- Ignition temp. 165 °C DIN 51794
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1960 mg/kg ■ LD50 dermal rabbit 1240 mg/kg
- LGK 3
- HS-No. 2934 99 90 ■ Disposal 1
- ADR-RID UN 2535 4-Methylmorpholin, 3 (8), II

■ IMDG-Code UN 2535 4-METHYLMORPHOLINE, 3 (8), II  
 ■ IATA-DGR UN 2535 4-METHYLMORPHOLINE, 3 (8), II

## Specification

Assay (GC, area%) ..... ≥ 98 %  
 Density (d 20 °C/ 4 °C) ..... 0.917 - 0.918  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.05894.0005	Glass bottle	5 ml	inquire
8.05894.0250	Glass bottle	250 ml	inquire
8.05894.1000	Glass bottle	1 l	inquire
8.05894.2500	Glass bottle	2.5 l	inquire

N-Methylmorpholine → 4-Methylmorpholine page 1161

## 814779 4-Methylmorpholine 4-oxide (50% solution in water) for synthesis



■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) miscible ■ Melting point -70 °C

- Boiling point 100 °C
- WGK 1
- LD50 oral rat > 9200 mg/kg
- LD50 dermal rabbit > 8000 mg/kg
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 28

## Specification

Assay (ex N) ..... 49,0 - 51,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,105 - 1,115  
 Water (K. F.) ..... 49,0 - 51,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.14779.0250	Glass bottle	250 ml	inquire
8.14779.1000	Glass bottle	1 l	inquire

## 818170 4-Methylmorpholine-4-oxide monohydrate for synthesis

C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub> \* H<sub>2</sub>O

NMO

- CAS-No. 70187-32-5 ■ EC-No. 231-391-8
- M = 135.16 g/mol ■ Melting point 70 - 76 °C
- Bulk density 500 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

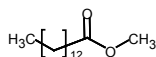
## Specification

Assay (HClO<sub>4</sub>, calc. on anhydrous substance) .....  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18170.0025	Glass bottle	25 g	inquire
8.18170.0100	Glass bottle	100 g	inquire

# Methyl

## Methyl myristate



C<sub>15</sub>H<sub>30</sub>O<sub>2</sub>  
CH<sub>3</sub>(CH<sub>2</sub>)<sub>12</sub>COOCH<sub>3</sub>

*Myristic acid methyl ester, Methyl tetradecanoate*  
 ■ CAS-No. 124-10-7 ■ EC-No. 204-680-1  
 ■ Vapour pressure 0.065 Pa (25 °C)  
 ■ Spec. density 0.867 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 242.4 g/mol

■ Melting point 18 °C ■ Boiling point 162 °C (17.3 hPa)  
 ■ WGK 1  
 ■ LGK 10  
 ■ HS-No. 2915 90 70 ■ Disposal 3

### 818613 Methyl myristate for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.866 - 0.868

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18613.0250	Glass bottle	250 ml	inquire

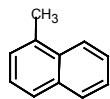
### 109736 Methyl myristate reference substance for gas chromatography

#### Specification

Purity (GC) ..... ≥ 99.5% (a/a)  
 Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09736.0005	Glass bottle	5 ml	inquire

### 820809 1-Methylnaphthalene for synthesis



C<sub>11</sub>H<sub>10</sub>  
 ■ CAS-No. 90-12-0 ■ EC-No. 201-966-8  
 ■ Vapour pressure 2 hPa (25 °C)  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 6.5 % (V) ■ Flash point 82 °C ■ Solub. in H<sub>2</sub>O 0.026 g/l (25 °C) ■ M = 142.20 g/mol  
 ■ Melting point < -30 °C  
 ■ Boiling point 244 - 245 °C (1013 mbar)

■ Ignition temp. 529 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1840 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1-METHYLNAPHTHALIN), 9, III  
 ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-METHYLNAPHTHALENE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY

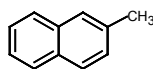
HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-METHYLNAPHTHALENE), 9, III

#### Specification

Assay (GC, area%) ..... ≥ 94,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,018 - 1,025  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20809.0005	Glass bottle	5 ml	inquire
8.20809.0250	Glass bottle	250 ml	inquire
8.20809.1000	Glass bottle	1 l	inquire

### 806074 2-Methylnaphthalene for synthesis



C<sub>11</sub>H<sub>10</sub>  
 ■ CAS-No. 91-57-6 ■ EC-No. 202-078-3  
 ■ Vapour pressure 0.07 hPa (25 °C)  
 ■ Spec. density 1.006 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 98 °C ■ Solub. in H<sub>2</sub>O 0.025 g/l (25 °C) ■ M = 142.20 g/mol  
 ■ Melting point 32 - 35 °C ■ Boiling point 242 °C (1013 hPa) ■ Ignition temp. 488 °C  
 ■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273  
 ■ LD50 oral rat 1630 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2-METHYLNAPHTHALIN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-METHYLNAPHTHALENE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-

METHYLNAPHTHALENE), 9, III

#### Specification

Assay (GC, area%) ..... ≥ 95,0 Area %  
 Melting range (lower value) ..... ≥ 32 °C  
 Melting range (upper value) ..... ≤ 35 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06074.0100	Glass bottle	100 g	inquire
8.06074.0500	Glass bottle	500 g	inquire

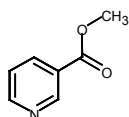
Methyl 2-naphthyl ether → 2-Methoxynaphthalene page 1121

Methyl 2-naphthyl ketone → 2-Acetylnaphthalene page 348

Methyl 1-naphthyl ketone → 1-Acetylnaphthalene page 348

Methyl nicotinate → page 1162

### 818713 Methyl nicotinate for synthesis



C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>  
 CH<sub>3</sub>OOC-C<sub>5</sub>H<sub>4</sub>N  
 ■ CAS-No. 93-60-7 ■ EC-No. 202-261-8  
 ■ Vapour pressure 0.4 hPa (25 °C)  
 ■ Flash point 95 °C ■ Solub. in H<sub>2</sub>O 48 g/l (20 °C)

■ M = 137.14 g/mol ■ Melting point 39 °C  
 ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 209 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P341, P305 + P351 + P338, P342 + P311  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2933 39 99

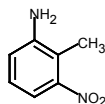
#### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 39 °C  
 Melting range (upper value) ..... ≤ 42 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18713.0100	Glass bottle	100 g	inquire
8.18713.0500	Glass bottle	500 g	inquire



## 818478 2-Methyl-3-nitroaniline for synthesis

C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>2-(CH<sub>3</sub>)-3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>3-Nitro-*o*-toluidine, 2-Amino-6-nitrotoluene

■ CAS-No. 603-83-8 ■ EC-No. 210-059-6

■ Spec. density 0.33 g/cm<sup>3</sup> (20 °C) ■ Solub. inH<sub>2</sub>O < 1 mg/l (23 °C) ■ M = 152.15 g/mol

■ Melting point 87 - 89 °C ■ Bulk density 450 kg/

m<sup>3</sup> ■ Boiling point 305 °C  
(1013 hPa) (decomposition)

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310

■ EC-Index-No. 612-025-00-X ■ LGK 6.1A

■ HS-No. 2921 43 00 ■ Disposal 9

■ ADR-RID UN 2660 Nitrotoluidine (Mono), 6.1, III

■ IMDG-Code UN 2660 NITROTOLUIDINES  
(MONO), 6.1, III■ IATA-DGR UN 2660 NITROTOLUIDINES (MONO),  
6.1, III**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

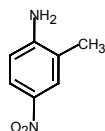
Melting range (lower value) ..... ≥ 87 °C

Melting range (upper value) ..... ≤ 89 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18478.0025	Plastic bottle	25 g	inquire

## 806297 2-Methyl-4-nitroaniline for synthesis

C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>2-(CH<sub>3</sub>)-4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>4-Nitro-*o*-toluidine, MNPT, PNOT, 2-Amino-5-nitrotoluene

■ CAS-No. 99-52-5 ■ EC-No. 202-762-1

■ Flash point 157 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 152.15 g/mol ■ pH value 7 (H<sub>2</sub>O) (aqueous suspension)

■ Melting point 129 - 132 °C

■ Bulk density 220 kg/m<sup>3</sup>

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310

■ EC-Index-No. 612-025-00-X ■ LGK 6.1A

■ HS-No. 2921 43 00 ■ Disposal 9

■ ADR-RID UN 2660 Nitrotoluidine (Mono), 6.1, III

■ IMDG-Code UN 2660 NITROTOLUIDINES  
(MONO), 6.1, III■ IATA-DGR UN 2660 NITROTOLUIDINES (MONO),  
6.1, III**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 Area %

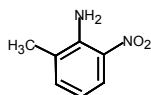
Melting range (lower value) ..... ≥ 129 °C

Melting range (upper value) ..... ≤ 132 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06297.0250	Glass bottle	250 g	inquire

## 820811 2-Methyl-6-nitroaniline for synthesis

C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>2-(CH<sub>3</sub>)-6-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>2-Amino-3-nitrotoluene, 6-Nitro-*o*-toluidine

■ CAS-No. 570-24-1 ■ EC-No. 209-329-6

■ Spec. density 1.19 g/cm<sup>3</sup> ■ Flash point 110 °C■ Solub. in H<sub>2</sub>O < 1 mg/l (23 °C) ■ M = 152.15 g/

mol ■ Melting point 92 - 94 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P304 + P340, P302 + P352, P309 + P310

■ EC-Index-No. 612-025-00-X ■ LGK 6.1C

■ HS-No. 2921 43 00 ■ Disposal 9

■ ADR-RID UN 2660 Nitrotoluidine (Mono), 6.1, III

■ IMDG-Code UN 2660 NITROTOLUIDINES

(MONO), 6.1, III

■ IATA-DGR UN 2660 NITROTOLUIDINES (MONO),  
6.1, III**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

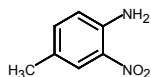
Melting range (lower value) ..... ≥ 92 °C

Melting range (upper value) ..... ≤ 95 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20811.0025	Glass bottle	25 g	inquire

## 841549 4-Methyl-2-nitroaniline for synthesis

C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>4-Amino-3-nitrotoluene, 2-Nitro-*p*-toluidine

■ CAS-No. 89-62-3 ■ EC-No. 201-924-9

■ Spec. density 1.164 g/cm<sup>3</sup> (121 °C)■ Flash point 157 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l

(20 °C) ■ M = 152.15 g/mol

■ Melting point 113 - 116 °C

■ Boiling point 169 °C (28 hPa)

■ Ignition temp. &gt;250 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310

■ EC-Index-No. 612-025-00-X ■ LGK 6.1A

■ HS-No. 2921 43 00 ■ Disposal 9

■ ADR-RID UN 2660 Nitrotoluidine (Mono)(4-

METHYL-2-NITROANILIN), 6.1, III ■ IMDG-

Code UN 2660 NITROTOLUIDINES (MONO)(4-

METHYL-2-NITROANILINE), 6.1, III

■ IATA-DGR UN 2660 NITROTOLUIDINES (MONO)  
(4-METHYL-2-NITROANILINE), 6.1, III**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

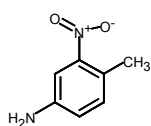
Melting range (lower value) ..... ≥ 113 °C

Melting range (upper value) ..... ≤ 116 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41549.0100	Plastic bottle	100 g	inquire
8.41549.0500	Plastic bottle	500 g	inquire

## 843049 4-Methyl-3-nitroaniline for synthesis

C<sub>7</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>

■ CAS-No. 119-32-4 ■ EC-No. 204-314-0

■ Spec. density 1.312 g/cm<sup>3</sup> (20 °C)■ Flash point 157 °C ■ Solub. in H<sub>2</sub>O < 1 g/l

(22 °C) ■ M = 152.15 g/mol

■ Melting point 76 - 78 °C

■ WGK 1

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310

■ LD50 oral rat 6860 mg/kg

■ EC-Index-No. 612-025-00-X ■ LGK 6.1A

■ HS-No. 2921 43 00 ■ Disposal 3

■ ADR-RID UN 2811 Giftiger organischer fester

Stoff, n.a.g.(3-NITRO-P-TOLUIDIN), 6.1, III

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(3-NITRO-P-TOLUIDINE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(3-NITRO-P-TOLUIDINE), 6.1, III

**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 76 °C

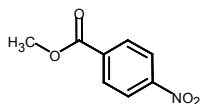
Melting range (upper value) ..... ≤ 80 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43049.0025	Glass bottle	25 g	inquire

# Methyl

## 841599 Methyl 4-nitrobenzoate for synthesis



- CAS-No. 619-50-1 ■ EC-No. 210-599-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 181.15 g/mol
- Melting point 94 - 96 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

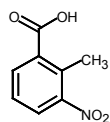
Melting range (lower value)..... ≥ 95 °C  
 Melting range (upper value)..... ≤ 97 °C  
 Identity (IR)..... passes test

C<sub>8</sub>H<sub>7</sub>NO<sub>4</sub>  
 4-Nitrobenzoic acid methyl ester

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.41599.0050	Plastic bottle	50 g	inquire

## 818485 2-Methyl-3-nitrobenzoic acid for synthesis



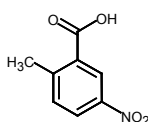
- 3-Nitro-*o*-toluic acid*
- CAS-No. 1975-50-4 ■ EC-No. 217-826-4
  - Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 181.15 g/mol
  - Melting point 181 - 184 °C
  - Bulk density 425 kg/m<sup>3</sup>
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2916 39 90 ■ Disposal 4

**Specification**  
 Assay (HPLC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 181 °C  
 Melting range (upper value)..... ≤ 184 °C  
 Identity (IR)..... passes test

C<sub>8</sub>H<sub>7</sub>NO<sub>4</sub>  
 2-(CH<sub>3</sub>)-3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>COOH

Ord.No.	Packaging	Quantity	Price
8.18485.0050	Plastic bottle	50 g	inquire

## 841114 2-Methyl-5-nitrobenzoic acid for synthesis



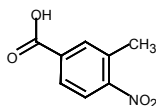
- 5-Nitro-*o*-toluic acid*
- CAS-No. 1975-52-6 ■ EC-No. 217-829-0
  - M = 181.15 g/mol ■ Melting point 176 - 180 °C
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 176 °C  
 Melting range (upper value)..... ≤ 180 °C  
 Identity (IR)..... passes test

C<sub>8</sub>H<sub>7</sub>NO<sub>4</sub>

Ord.No.	Packaging	Quantity	Price
8.41114.0005	Glass bottle	5 g	inquire

## 814860 3-Methyl-4-nitrobenzoic acid for synthesis



- Flash point 217 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 181.15 g/mol
- Melting point 216 - 218 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

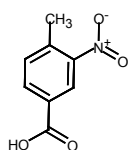
Melting range (lower value)..... ≥ 215 °C  
 Melting range (upper value)..... ≤ 218 °C  
 Identity (IR)..... passes test

C<sub>8</sub>H<sub>7</sub>NO<sub>4</sub>  
 ■ CAS-No. 3113-71-1 ■ EC-No. 221-479-4

**Specification**  
 Assay (HPLC, area%)..... ≥ 98,0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.14860.0025	Glass bottle	25 g	inquire

## 843050 4-Methyl-3-nitrobenzoic acid for synthesis



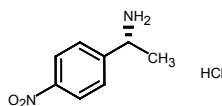
- C<sub>8</sub>H<sub>7</sub>NO<sub>4</sub>
- CAS-No. 96-98-0 ■ EC-No. 202-549-3
  - M = 181.15 g/mol ■ Melting point 188 - 192 °C
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2916 39 90 ■ Disposal 3

Melting range (lower value)..... ≥ 188 °C  
 Melting range (upper value)..... ≤ 192 °C  
 Identity (IR)..... passes test

**Specification**  
 Assay (acidimetric)..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
8.43050.0025	Glass bottle	25 g	inquire
8.43050.0100	Glass bottle	100 g	inquire

## 824467 (R)-(+)-α-Methyl-4-nitrobenzylamine hydrochloride for synthesis



- CAS-No. 57233-86-0
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 202.64 g/mol
- Melting point 242 - 245 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2921 49 00 ■ Disposal 3

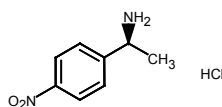
Melting range (lower value)..... ≥ 242 °C  
 Melting range (upper value)..... ≤ 245 °C  
 Spec. rotation [α]<sub>D</sub><sup>20</sup> (c=5 in water)..... -0,5 - 1,5 °  
 Identity (IR)..... passes test

C<sub>8</sub>H<sub>11</sub>ClN<sub>2</sub>O<sub>2</sub>  
 (R)-4-Nitrophenyl-1-ethylamine hydrochloride

**Specification**  
 Assay (argentometric)..... ≥ 99,0 %

Ord.No.	Packaging	Quantity	Price
8.24467.0500	Glass bottle	500 mg	inquire

## 824466 (S)-(-)-α-Methyl-4-nitrobenzylamine hydrochloride for synthesis



- CAS-No. 132873-57-5
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 202.64 g/mol
- Melting point 242 - 245 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2921 49 00 ■ Disposal 3

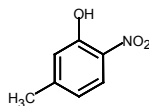
Melting range (upper value)..... ≤ 245 °C  
 Spez. rotation [α]<sub>D</sub><sup>20</sup> (c=5 in water)..... -2,0 - 0,0 °  
 Identity (IR)..... passes test

C<sub>8</sub>H<sub>11</sub>ClN<sub>2</sub>O<sub>2</sub>  
 C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>·HCl  
 (S)-1-(4-Nitrophenyl)-methylamin hydrochloride

**Specification**  
 Assay (argentometric)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 242 °C

Ord.No.	Packaging	Quantity	Price
8.24466.0500	Glass bottle	500 mg	inquire

## 841806 5-Methyl-2-nitrophenol for synthesis

C<sub>7</sub>H<sub>7</sub>NO<sub>3</sub>

- CAS-No. 700-38-9 ■ EC-No. 211-843-0
- Flash point 109 °C ■ M = 153.14 g/mol
- Melting point 53 - 56 °C

- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 A
- HS-No. 2908 99 00 ■ Disposal 3
- ADR-RID UN 2446 Nitroresole, fest, 6.1, III
- IMDG-Code UN 2446 NITROCREOLS, SOLID, 6.1, III
- IATA-DGR UN 2446 NITROCREOLS, SOLID,

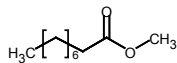
6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 52 °C  
 Melting range (upper value) ..... ≤ 55 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41806.0025	Glass bottle	25 g	inquire

## 822111 Methyl nonanoate for synthesis

C<sub>10</sub>H<sub>20</sub>O<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>COOCH<sub>3</sub>

- Methyl pelargonate, Pelargonic acid methyl ester, Nonanoic acid methyl ester*
- CAS-No. 1731-84-6 ■ EC-No. 217-052-7

- Refractive index 1.4205 (20 °C, 589 nm)
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C)
- Flash point 87 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 172.27 g/mol
- Melting point -30 °C
- Boiling point 213 - 214 °C
- WGK 1
- LGK 10
- HS-No. 2915 90 70 ■ Disposal 3

## Specification

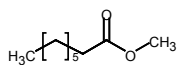
Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,874 - 0,876  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22111.0250	Glass bottle	250 ml	inquire

Methyl nonyl ketone → 2-Undecanone page 1624

(R)-(-)-10-Methyl-1(9)-octal-2-one → (R)-(-)-4,4a,5,6,7,8-Hexahydro-4a-methyl-2(3H)-naphthalenone page 949

## Methyl octanoate

C<sub>9</sub>H<sub>18</sub>O<sub>2</sub>*Methyl caprylate*

- CAS-No. 111-11-5 ■ EC-No. 203-835-0
- Vapour pressure 1.33 hPa (34.2 °C)
- Spec. density 0.877 g/cm<sup>3</sup> (20 °C)
- Flash point 68 °C ■ Solub. in H<sub>2</sub>O 0.064 g/l (20 °C) ■ M = 158.24 g/mol ■ Melting point -40 °C ■ Boiling point 193 °C (1013 hPa)

- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315, P262, P302 + P352
- LD50 oral rat > 2000 mg/kg
- LGK 10
- HS-No. 2915 90 70 ■ Disposal 3

## 814927 Methyl octanoate for synthesis

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,874 - 0,878  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14927.0025	Glass bottle	25 ml	inquire
8.14927.0100	Glass bottle	100 ml	inquire

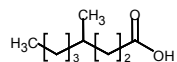
## 109633 Methyl octanoate reference substance for gas chromatography

## Specification

Purity (GC) ..... ≥ 99.5% (a/a)  
 Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09633.0005	Glass bottle	5 ml	inquire

## 816104 (R,S)-(+,-)-4-Methyloctanoic acid for synthesis

C<sub>9</sub>H<sub>18</sub>O<sub>2</sub>

- CAS-No. 54947-74-9 ■ EC-No. 259-404-2
- Spec. density 0.904 - 0.914 g/cm<sup>3</sup> (20 °C)
- Flash point >99 °C ■ M = 158.24 g/mol
- Boiling point 292 - 293 °C
- WGK 1

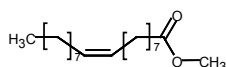
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 A
- HS-No. 2915 90 70 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(4-METHYLOCTANSÄURE), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-METHYLOCTANOIC ACID), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-METHYLOCTANOIC ACID), 8, III
- Specification**  
 Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,904 - 0,914  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16104.0025	Glass bottle	25 ml	inquire

Methyl octyl ketone → 2-Decanone page 686

## 109743 Methyl oleate reference substance for gas chromatography

C<sub>19</sub>H<sub>36</sub>O<sub>2</sub>

- CAS-No. 112-62-9 ■ EC-No. 203-992-5
- Spec. density 0.87 g/cm<sup>3</sup> (20 °C)
- Flash point 113 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 296.49 g/mol

- Melting point -20 °C
- Boiling point 202 - 210 °C (20 hPa)
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10
- HS-No. 2916 15 00 ■ Disposal 3

## Specification

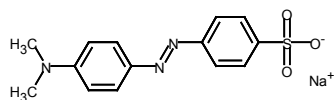
Purity (GC) ..... ≥ 96.0% (a/a)

Identity (IR-spectrum) ..... conforms  
 methyl elaidate (GC) ..... ≤ 1.0% (a/a)  
 Methyl linoleate (GC) ..... ≤ 1.0% (a/a)  
 Methyl stearate (GC) ..... ≤ 1.0% (a/a)

Ord.No.	Packaging	Quantity	Price
1.09743.0005	Glass bottle	5 ml	inquire

# Methyl

## 101322 Methyl orange (C.I. 13025) indicator ACS, Reag. Ph Eur



C<sub>14</sub>H<sub>14</sub>N<sub>3</sub>NaO<sub>3</sub>S

4-Dimethylaminoazobenzene-4'-sulfonic acid sodium salt, Gold orange, Helianthine, Orange III

- CAS-No. 547-58-0 ■ EC-No. 208-925-3
- Solub. in H<sub>2</sub>O 5 g/l (20 °C) ■ M = 327.34 g/mol
- pH value 6.5 (5 g/l, H<sub>2</sub>O, 20 °C)
- Melting point >300 °C
- Bulk density 200 - 400 kg/m<sup>3</sup>
- WGK 3

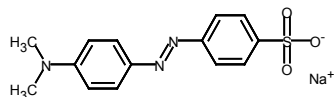
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310
  - LD50 oral rat 60 mg/kg
  - LGK 6.1C
  - HS-No. 2927 00 00 ■ Disposal 9
  - ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(METHYLORANGE), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(METHYL ORANGE), 6.1, III
  - IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(METHYL ORANGE), 6.1, III
- Use as pH indicator: 0.04 g in 100 ml ethanol (20%) or 0.04 g in 100 ml water

### Specification

Transition range..... pH 3.1 - pH 4.4  
 pink - orange yellow  
 Appearance of solution..... passes test  
 Loss on drying (110 °C)..... ≤ 5%  
 Transition range (according to ACS)..... passes test  
 Sensitivity test..... passes test

Ord.No.	Packaging	Quantity	Price
1.01322.0025	Glass bottle	25 g	inquire
1.01322.0100	Glass bottle	100 g	inquire
1.01322.1000	Metal can	1 kg	inquire

## 101323 Methyl orange solution 0.1% indicator pH 3.1-4.4 (red yellow-orange)



- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ pH value 6 (H<sub>2</sub>O, 20 °C)

- WGK nwg
- LGK 10 - 13
- HS-No. 2927 00 00 ■ Disposal 28

### Specification

Application test..... conforms

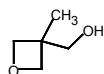
Ord.No.	Packaging	Quantity	Price
1.01323.0250	Plastic bottle	250 ml	inquire
1.01323.1000	Plastic bottle	1 l	inquire

3-Methylorsellinic acid → 2,4-Dihydroxy-3,6-dimethylbenzoic acid page 762

Methyl orthoformate → Trimethyl orthoformate page 1605

Methyl oxalate → Dimethyl oxalate page 796

## 814175 3-Methyl-3-oxethanemethanol for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>

- CAS-No. 3143-02-0
- Refractive index 1.4449 (25 °C, 589 nm)

- Spec. density 1.03 g/cm<sup>3</sup> (20 °C)
- Flash point 98 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 102.13 g/mol
- Boiling point 80 °C (5 hPa)
- WGK 3
- LGK 10
- HS-No. 2932 99 00 ■ Disposal 1

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,033 - 1,035  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14175.0010	Glass bottle	10 ml	inquire

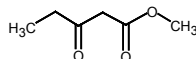
Methyloxirane → 1,2-Propylene oxide page 1376  
 (R)-(+)-Methyloxirane → (R)-(+)-1,2-Propylene oxide page 1376

(S)-(-)-Methyloxirane → (S)-(-)-1,2-Propylene oxide page 1376

Methyl 3-oxobutanoate → Methyl acetoacetate page 305

Methyl 3-oxobutyrate → Methyl acetoacetate page 305

## 818492 Methyl 3-oxopentanoate for synthesis



C<sub>6</sub>H<sub>10</sub>O<sub>3</sub>

CH<sub>3</sub>CH<sub>2</sub>COCH<sub>2</sub>COOCH<sub>3</sub>  
 3-Oxopentanoic acid methyl ester

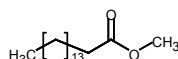
- CAS-No. 30414-53-0 ■ EC-No. 250-184-3
- Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 130.14 g/mol
- Boiling point 73 - 75 °C (20 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2918 30 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.043 - 1.044  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18492.0010	Glass bottle	10 ml	inquire

## 843546 Methyl palmitate for synthesis



C<sub>17</sub>H<sub>34</sub>O<sub>2</sub>

- CAS-No. 112-39-0 ■ EC-No. 203-966-3
- Vapour pressure < 0.01 hPa (20 °C)
- Flash point 113 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) practically insoluble ■ M = 270.46 g/mol
- Melting point 30 °C
- Boiling point 415 - 418 °C (996 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2915 70 40 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)

Melting range (lower value)..... ≥ 29 °C  
 Melting range (upper value)..... ≤ 31 °C  
 Identity (IR)..... passes test

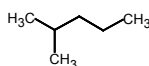
Ord.No.	Packaging	Quantity	Price
8.43546.0100	Glass bottle	100 g	inquire
8.43546.0500	Glass bottle	500 g	inquire

2-Methyl paradiazine → 2-Methylpyrazine page 1174

Methyl pelargonate → Methyl nonanoate page 1165

2-Methylpentamethylenediamine → 1,5-Diamino-2-methylpentane page 696

## 820818 2-Methylpentane for synthesis



C<sub>6</sub>H<sub>14</sub>

- CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>  
*iso-Hexane, 1-Dimethylbutane*
- CAS-No. 107-83-5 ■ EC-No. 203-523-4
- Refractive index 1.3715 (20 °C, 589 nm)
- Vapour pressure 227 hPa (20 °C)
- Spec. density 0.65 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 7.4 % (V) ■ Flash point -40 °C ■ Solub. in H<sub>2</sub>O 0.14 g/l (25 °C) ■ M = 86.18 g/mol

- Saturation conc. 810 g/m<sup>3</sup> (20 °C)
- Melting point -154 °C ■ Boiling point 60 °C (1013 hPa) ■ Ignition temp. 300 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336; Chronic aquatic toxicity, Category 2, H411, P233, P273, P301 + P310, P331, P302 + P352
- EC-Index-No. 601-007-00-7 ■ LGK 3
- HS-No. 2901 10 00 ■ Disposal 1
- ADR-RID UN 1208 Hexane, 3, II ■ IMDG-

Code UN 1208 HEXANES, 3, II  
 ■ IATA-DGR UN 1208 HEXANES, 3, II

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,652 - 0,653  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20818.0100	Glass bottle	100 ml	inquire
8.20818.0500	Glass bottle	500 ml	inquire

1-Methyl pentane → page 293

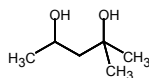
2-Methyl pentane → page 319

2-Methylpentanedinitrile → 2-

Methylglutarodinitrile page 1153

2-Methylpentanedioic acid → 2-Methylglutaric acid page 1153

3-Methylpentanedioic acid → 3-Methylglutaric acid page 1153

**820819 2-Methyl-2,4-pentanediol for synthesis**C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>*Hexylene glycol*

■ CAS-No. 107-41-5 ■ EC-No. 203-489-0

■ Refractive index 1.427 (20 °C, 589 nm) ■ Vapour pressure 0.07 hPa (20 °C) ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 9.9 % (V) ■ Flash point 93 °C DIN 51758 ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 118.17 g/mol

■ Melting point -40 °C ■ Boiling point 196 °C

■ Ignition temp. 425 °C DIN 51794

■ WGK 1

■ GHS: Warning, Eye irritation, Category 2, H319;

Skin irritation, Category 2, H315, P302 + P352,

P305 + P351 + P338

■ LD50 oral rat 3692 mg/kg ■ LD50 dermal rabbit 8000 mg/kg

■ EC-Index-No. 603-053-00-3 ■ LGK 10 - 13

■ HS-No. 2905 39 95 ■ Disposal 1

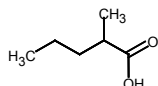
**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 0,921 - 0,923

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20819.0100	Plastic bottle	100 ml	inquire
8.20819.1000	Plastic bottle	1 l	inquire
8.20819.2500	Plastic bottle	2.5 l	inquire
8.20819.9025	Plastic container	25 l	inquire

**818774 2-Methylpentanoic acid for synthesis**C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>2</sub>CH(CH<sub>3</sub>)COOH*2-Methylvaleric acid*

■ CAS-No. 97-61-0 ■ EC-No. 202-594-9

■ Refractive index 1.417 (20 °C, 589 nm) ■ Vapour

pressure 0.03 hPa (20 °C) ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 63 % (V)■ Flash point 87 °C ■ Solub. in H<sub>2</sub>O 13 g/l (20 °C)

■ M = 116.16 g/mol ■ Melting point -85 °C

■ Boiling point 194 - 196 °C (1013 hPa)

■ Ignition temp. 378 °C

■ WGK 2

■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310

■ LD50 oral rat 2040 mg/kg ■ LD50 dermal rabbit 2500 mg/kg

■ LGK 8A

■ HS-No. 2915 90 70 ■ Disposal 4

■ ADR-RID UN 3265 Ätzender saurer organischer

flüssiger Stoff, n.a.g.(2-METHYLVALERIANSAEURE)

, 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-METHYLPENTANOIC ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-METHYLPENTANOIC ACID), 8, III

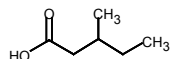
**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 0,922 - 0,923

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18774.0100	Glass bottle	100 ml	inquire

**814229 3-Methylpentanoic acid for synthesis**C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)CH<sub>2</sub>COOH*sec-Butyl acetic acid*

■ CAS-No. 105-43-1 ■ EC-No. 203-297-7

■ Refractive index 1.4139 (25 °C, 589 nm)

■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C)

■ Flash point 85 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 116.16 g/mol

■ Melting point -41 °C

■ Boiling point 196 - 198 °C (1013 hPa)

■ WGK 2

■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310

■ LGK 8A

■ HS-No. 2915 90 70 ■ Disposal 4

■ ADR-RID UN 3265 Ätzender saurer organischer

flüssiger Stoff, n.a.g.(3-METHYLVALERIANSAEURE)

, 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID,

ACIDIC, ORGANIC, N.O.S.(3-METHYLVALERIAN

ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3-METHYLVALERIAN ACID), 8, III

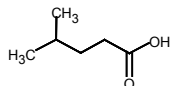
**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C)..... 0,926 - 0,927

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14229.0010	Glass bottle	10 ml	inquire

**806088 4-Methyl pentanoic acid for synthesis**C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>CH<sub>2</sub>COOH*4-Methylvaleric acid*

■ CAS-No. 646-07-1 ■ EC-No. 211-464-0

■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C)

■ Flash point 97 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 116.16 g/mol

■ Melting point -35 °C

■ Boiling point 200 - 201 °C (1013 hPa)

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Dermal,

H311; Skin corrosion, Category 1B, H314, P280,

P301 + P330 + P331, P302 + P352, P305 + P351

+ P338, P309 + P310

■ LD50 oral rat 2050 mg/kg ■ LD50 dermal rabbit 966 mg/kg

■ LGK 6.1 C

■ HS-No. 2915 90 70 ■ Disposal 4

■ ADR-RID UN 2922 Ätzender flüssiger Stoff,

giftig, n.a.g.(4-METHYLVALERIANSAEURE), 8 (6.1),

III ■ IMDG-Code UN 2922 CORROSIVE LIQUID,

TOXIC, N.O.S.(4-METHYLVALERIAN ACID), 8 (6.1),

III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC,

N.O.S.(4-METHYLVALERIAN ACID), 8 (6.1), III

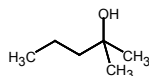
**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C)..... 0,920 - 0,922

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06088.0010	Glass bottle	10 ml	inquire
8.06088.0050	Glass bottle	50 ml	inquire

**841668 2-Methyl-2-pentanol for synthesis**C<sub>6</sub>H<sub>14</sub>O

■ CAS-No. 590-36-3 ■ EC-No. 209-681-0

■ Vapour pressure 8 hPa (25 °C)

■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.1 - 7 % (V) ■ Flash point 21 °C ■ Solub. in

H<sub>2</sub>O 32.4 g/l (25 °C) ■ M = 102.18 g/mol

■ Melting point -107 °C

■ Boiling point 120 - 122 °C

■ Ignition temp. 415 °C

■ WGK 3

■ GHS: Danger, Flammable liquid, Category 2,

H225; Specific target organ toxicity - single

exposure, Category 3, H335, P210, P223, P262,

P304 + P340

■ LGK 3

■ HS-No. 2905 19 00 ■ Disposal 3

■ ADR-RID UN 2560 2-Methylpentan-2-ol, 3, III

■ IMDG-Code UN 2560 2-METHYLPENTAN-2-OL,

3, III

■ IATA-DGR UN 2560 2-METHYLPENTAN-2-OL, 3,

III

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %

Density (d 20 °C/ 4 °C)..... 0,807 - 0,811

Identity (IR)..... conforms

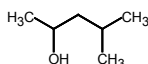
Ord.No.	Packaging	Quantity	Price
8.41668.0005	Glass bottle	5 ml	inquire





# Methyl

## 805804 4-Methyl-2-pentanol for synthesis



$C_6H_{14}O$   
 $(CH_3)_2CHCH_2CH(OH)CH_3$   
**Methyl isobutyl carbinol, Isobutyl methyl carbinol**  
 ■ CAS-No. 108-11-2 ■ EC-No. 203-551-7  
 ■ Vapour pressure 7.06 hPa (25 °C)  
 ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 5.5 % (V) ■ Flash point 41 °C ■ Solub. in H<sub>2</sub>O 16.4 g/l (20 °C) ■ M = 102.18 g/mol  
 ■ Melting point -60 °C

■ Boiling point 130 - 133 °C (1013 hPa)  
 ■ Ignition temp. 305 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335, P210, P262, P304 + P340  
 ■ LD50 oral rat 2590 mg/kg ■ LD50 dermal rabbit 2884 mg/kg  
 ■ EC-Index-No. 603-008-00-8 ■ LGK 3  
 ■ HS-No. 2905 19 00 ■ Disposal 1  
 ■ ADR-RID UN 2053 Methylisobutylcarbinol, 3, III  
 ■ IMDG-Code UN 2053 METHYL ISOBUTYL

CARBINOL, 3, III  
 ■ IATA-DGR UN 2053 METHYL ISOBUTYL CARBINOL, 3, III

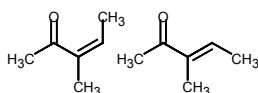
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,806 - 0,808  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05804.0100	Plastic bottle	100 ml	inquire
8.05804.1000	Glass bottle	1 l	inquire

2-Methyl-2-pentanol-4-one → 4-Hydroxy-4-methyl-2-pentanone page 304

4-Methyl-2-pentanone → page 319

## 814630 3-Methyl-3-penten-2-one for synthesis



$C_6H_{10}O$   
 ■ CAS-No. 565-62-8 ■ EC-No. 209-283-7  
 ■ Vapour pressure 23.2 hPa (38 °C)  
 ■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 34 °C ■ Solub. in H<sub>2</sub>O 29.1 g/l (20 °C) ■ M = 98.15 g/mol ■ pH value 3.9 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -70 °C

■ Boiling point 138 °C ■ Ignition temp. 325 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P302 + P352  
 ■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-METHYL-3-PENTEN-2-ON), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-

METHYL-3-PENTEN-2-ONE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(3-METHYL-3-PENTEN-2-ONE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 88,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,870 - 0,880  
 Identity (IR) ..... passes test

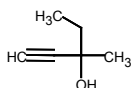
Ord.No.	Packaging	Quantity	Price
8.14630.0025	Glass bottle	25 ml	inquire

4-Methyl-3-penten-2-one → Mesityl oxide page 1107

Methyl pentyl carbinol → 2-Heptanol page 938

Methyl pentyl ketone → 2-Heptanone page 939

## 805857 3-Methyl-1-pentyn-3-ol for synthesis



$C_6H_{10}O$   
 ■ CAS-No. 77-75-8 ■ EC-No. 201-055-5  
 ■ Refractive index 1.4311 (20 °C, 589 nm)  
 ■ Vapour pressure 7 hPa (20 °C)  
 ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 16.0 % (V) ■ Flash point 29 °C DIN 51755 Part 1 ■ Kin. viscosity 4.6 mm<sup>2</sup>/s (23 °C)  
 ■ Solub. in H<sub>2</sub>O 112 g/l (20 °C) ■ M = 98.15 g/mol

■ Melting point -30 °C  
 ■ Boiling point 120 - 121 °C (1013 hPa)  
 ■ Ignition temp. 350 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 2, H411, P210, P262, P309 + P310  
 ■ LD50 oral rat 300 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2905 29 90 ■ Disposal 1  
 ■ ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(3-METHYL-1-PENTIN-3-OL), 3 (6.1),

III ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(3-METHYL-1-PENTYN-3-OL), 3 (6.1), III  
 ■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(3-METHYL-1-PENTYN-3-OL), 3 (6.1), III

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,868 - 0,869  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05857.0250	Glass bottle	250 ml	inquire

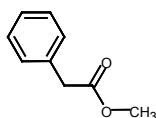
β-Methylphenethyl alcohol → 2-Phenyl-1-propanol page 1310

3-Methylphenol → m-Cresol page 658

4-Methylphenol → p-Cresol page 658

2-Methylphenol → o-Cresol page 658

## 841008 Methyl phenylacetate for synthesis



$C_9H_{10}O_2$   
**Phenylacetic acid methyl ester**  
 ■ CAS-No. 101-41-7 ■ EC-No. 202-940-9

■ Vapour pressure 0.17 hPa (20 °C)  
 ■ Spec. density 1.067 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 150.18 g/mol  
 ■ Boiling point 93 - 95 °C (13.3 hPa)  
 ■ WGK 2  
 ■ LD50 oral rat 2550 mg/kg ■ LD50 dermal rabbit 2400 mg/kg  
 ■ LGK 10

■ HS-No. 2916 39 10 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,065 - 1,070  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41008.0250	Glass bottle	250 ml	inquire

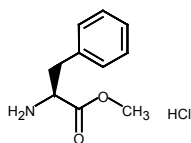
2-Methylphenylacetic acid → o-Tolylacetic acid page 1570

(p-Methylphenyl)acetonitrile → p-Tolylacetonitrile page 1570

4-Methylphenylacetic acid ethyl ester → Ethyl p-tolylacetate page 885

2-Methyl-3-phenylacrylic acid → α-Methylcinnamic acid page 1143

## 841679 L-Methyl phenylalanate hydrochloride for synthesis

C<sub>10</sub>H<sub>14</sub>ClNO<sub>2</sub>C<sub>10</sub>H<sub>13</sub>NO<sub>2</sub>\*HCl

- CAS-No. 7524-50-7 ■ EC-No. 231-383-4
- M = 215.68 g/mol ■ Melting point 158 - 160 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 49 85

**Specification**

Assay (argentometric)..... ≥ 99,0 %(m)

Melting range (lower value)..... ≥ 154 °C  
 Melting range (upper value)..... ≤ 160 °C  
 Spec. rotation [α<sup>20</sup>/D (c=2 in ethanol) 37,0 - 39,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41679.0005	Glass bottle	5 g	inquire

3-Methyl-1-phenylbutane → Isopentylbenzene  
page 1049

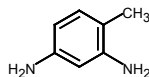
(R)-(+)-Methyl phenyl carbinol → (R)-(+)-1-Phenylethanol page 1302

(S)-(-)-Methyl phenyl carbinol → (S)-(-)-1-Phenylethanol page 1302

Methylphenyldichlorosilane →

Dichloromethylphenylsilane page 725

## 803269 4-Methyl-1,3-phenylenediamine for synthesis

C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>-1,3-(NH<sub>2</sub>)<sub>2</sub>

2,4-Diaminotoluene, 2,4-Toluylenediamine

- CAS-No. 95-80-7 ■ EC-No. 202-453-1
- Vapour pressure 1 hPa (106 °C)
- Flash point 169 °C ■ Solub. in H<sub>2</sub>O 35 g/l (20 °C)
- M = 122.17 g/mol ■ Melting point 96 - 99 °C
- Bulk density 500 kg/m<sup>3</sup>
- Boiling point 284 - 286 °C (1013 hPa)
- Ignition temp. 520 °C
- WGK 3

- GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P201, P260, P273, P280, P281, P302 + P352, P309 + P310
- LD50 oral rat 73 mg/kg ■ LD50 dermal rabbit 650 mg/kg
- EC-Index-No. 612-099-00-3 ■ LGK 6.1C
- HS-No. 2921 51 19 ■ Disposal 9
- ADR-RID UN 1709 2,4-Toluylenediamin, fest, 6.1, III ■ IMDG-Code UN 1709 2,4-

TOLUYLENEDIAMINE, SOLID, 6.1, III

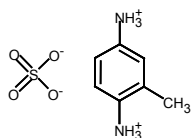
■ IATA-DGR UN 1709 2,4-TOLUYLENEDIAMINE, SOLID, 6.1, III

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98,0 %(m)  
 Melting range (lower value)..... ≥ 96 °C  
 Melting range (upper value)..... ≤ 99 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03269.0005	Glass bottle	5 g	inquire
8.03269.0250	Glass bottle	250 g	inquire
8.03269.1000	Glass bottle	1 kg	inquire

## 818985 2-Methyl-1,4-phenylenediammonium sulfate for synthesis

C<sub>7</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>SC<sub>7</sub>H<sub>10</sub>N<sub>2</sub> \* H<sub>2</sub>SO<sub>4</sub>

2,5-Toluylenediamine sulfate, 2,5-Diaminotoluene sulfate, p-Toluylenediamine sulfate

- CAS-No. 615-50-9 ■ EC-No. 210-431-8
- Flash point >250 °C ■ Solub. in H<sub>2</sub>O 9.6 g/l (20 °C) ■ M = 220.25 g/mol ■ pH value 1.8 (9.6 g/l)

I, H<sub>2</sub>O, 20 °C) ■ Bulk density 450 kg/m<sup>3</sup>

- Ignition temp. >600 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P309 + P310
- LD50 oral rat 98 mg/kg
- EC-Index-No. 612-030-00-7 ■ LGK 6.1C
- HS-No. 2921 51 19 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-METHYL-1,4-

PHENYLEDIAMMONIUMSULFAT, 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-METHYL-1,4-PHENYLENE-DIAMMONIUMSULFATE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-METHYL-1,4-PHENYLENE-DIAMMONIUMSULFATE), 6.1, III

**Specification**

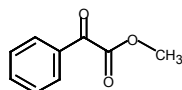
Assay (HPLC, area%)..... ≥ 98,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18985.0250	Glass bottle	250 g	inquire

4-Methyl-m-phenylene diisocyanate → Toluene diisocyanate page 1570

Methyl phenyl ether → Anisole page 299

## 814269 Methylphenyl glyoxylate for synthesis

C<sub>9</sub>H<sub>8</sub>O<sub>3</sub>C<sub>6</sub>H<sub>5</sub>COCOOCH<sub>3</sub>

Phenylglyoxylic acid methyl ester, Benzoyl formic acid methyl ester

- CAS-No. 15206-55-0 ■ EC-No. 239-263-3

- Refractive index 1.585 (20 °C, 589 nm) ■ Vapour pressure < 1 hPa (20 °C) ■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Flash point 77 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 164.16 g/mol
- Melting point 16 °C ■ Boiling point 137 °C (19 hPa) ■ Ignition temp. >500 °C
- WGK 1
- LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 5000 mg/kg
- LGK 10 - 13

■ HS-No. 2918 30 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,160 - 1,161  
 Identity (IR)..... conforms

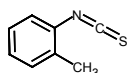
Ord.No.	Packaging	Quantity	Price
8.14269.0025	Glass bottle	25 ml	inquire

2-Methylphenylhydrazine hydrochloride → o-Tolylhydrazine hydrochloride page 1571

4-Methylphenylhydrazine hydrochloride → p-Tolylhydrazine hydrochloride page 1571

# Methyl

## 818738 2-Methylphenyl isothiocyanate for synthesis



$C_8H_7NS$   
 $2(CH_3)C_6H_4NCS$   
 3-Tolyl isothiocyanate, Isothiocyanic acid 2-methylphenyl ester  
 ■ CAS-No. 614-69-7 ■ EC-No. 210-390-6  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 108 °C ■ M = 149.22 g/mol  
 ■ Boiling point 140 - 143 °C (27 hPa)

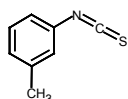
■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
 ■ ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(2-METHYLPHENYLISOTHIOCYANAT), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(2-METHYLPHENYLISOTHIOCYANATE), 8 (6.1), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(2-METHYLPHENYLISOTHIOCYANATE), 8 (6.1), II

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,108 - 1,110  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18738.0005	Glass bottle	5 ml	inquire

## 818739 3-Methylphenyl isothiocyanate for synthesis



$C_8H_7NS$   
 $3-(CH_3)C_6H_4NCS$   
 3-Tolyl isothiocyanate, Isothiocyanic acid 3-methylphenyl ester  
 ■ CAS-No. 621-30-7 ■ EC-No. 210-677-6  
 ■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)

■ Flash point 106 °C ■ M = 149.22 g/mol  
 ■ Boiling point 243 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
 ■ ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(3-METHYLPHENYLISOTHIOCYANAT), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(3-

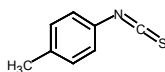
METHYLPHENYLISOTHIOCYANATE), 8 (6.1), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(3-METHYLPHENYLISOTHIOCYANATE), 8 (6.1), II

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,100 - 1,105  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18739.0005	Glass bottle	5 ml	inquire

## 818740 4-Methylphenyl isothiocyanate for synthesis



$C_8H_7NS$   
 $4-(CH_3)C_6H_4NCS$   
 4-Tolyl isothiocyanate, Isothiocyanic acid 4-methylphenyl ester  
 ■ CAS-No. 622-59-3 ■ EC-No. 210-745-5  
 ■ Flash point 107 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 149.22 g/mol  
 ■ Melting point 27 - 30 °C

■ Boiling point 124 - 126 °C (27 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-METHYLPHENYLISOTHIOCYANAT), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID,

ORGANIC, N.O.S.(4-METHYLPHENYLISOTHIOCYANATE), 6.1, III

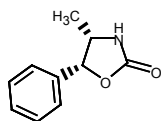
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-METHYLPHENYLISOTHIOCYANATE), 6.1, III

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 26 °C  
 Melting range (upper value) ..... ≤ 30 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18740.0005	Glass bottle	5 g	inquire

Methyl phenyl ketone → Acetophenone page 298

## 814144 (4S,5R)-(-)-4-Methyl-5-phenyloxazolidin-2-one for synthesis



$C_{10}H_{11}NO_2$   
 ■ CAS-No. 16251-45-9

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 177.2 g/mol  
 ■ Melting point 118 - 121 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

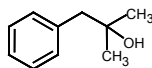
**Specification**  
 Assay (HPLC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 118 °C

Melting range (upper value) ..... ≤ 121 °C  
 Spec. rotation [ $\alpha$ '<sub>D</sub> (c=1 in chloroform) ] ..... -170,0 - -165,0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14144.0001	Plastic bottle	1 g	inquire

2-Methyl-2-phenylpropane → tert-Butylbenzene page 541

## 840096 2-Methyl-1-phenyl-2-propanol for synthesis



$C_{10}H_{14}O$   
 $\alpha,\alpha$ -Dimethyl phenethyl alcohol, Dimethyl benzyl carbinol  
 ■ CAS-No. 100-86-7 ■ EC-No. 202-896-0  
 ■ Spec. density 0.974 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 82 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly

soluble ■ M = 150.22 g/mol  
 ■ Melting point 23 - 25 °C ■ Boiling point 215 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1280 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,972 - 0,976  
 Identity (IR) ..... passes test

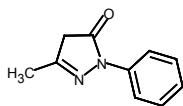
Ord.No.	Packaging	Quantity	Price
8.40096.0025	Glass bottle	25 ml	inquire
8.40096.0100	Glass bottle	100 ml	inquire
8.40096.0500	Glass bottle	500 ml	inquire

2-Methyl-3-phenyl-2-propenal →  $\alpha$ -Methylcinnamaldehyde page 1143

Methyl trans-3-phenylpropenoate → Methyl cinnamate page 1143

1-Methyl-3-phenylpropylamine → 3-Amino-1-phenyl-butane page 399

## 807080 3-Methyl-1-phenyl-2-pyrazolin-5-one for synthesis

C<sub>10</sub>H<sub>10</sub>N<sub>2</sub>O

1-Phenyl-3-methyl-5-pyrazolone

■ CAS-No. 89-25-8 ■ EC-No. 201-891-0  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Solub. in

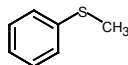
H<sub>2</sub>O 3.30 g/l (23 °C) ■ M = 174.2 g/mol  
 ■ pH value 4.0 - 4.4 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution)  
 ■ Melting point 127.5 - 129.5 °C  
 ■ Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 191 °C (9.33 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat 3500 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 19 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 125 °C  
 Melting range (upper value) ..... ≤ 129 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07080.0100	Glass bottle	100 g	inquire
8.07080.0500	Glass bottle	500 g	inquire

## 820825 Methyl phenyl sulfide for synthesis

C<sub>7</sub>H<sub>8</sub>SCH<sub>3</sub>SC<sub>6</sub>H<sub>5</sub>

Thioanisole

■ CAS-No. 100-68-5 ■ EC-No. 202-878-2  
 ■ Refractive index 1.5842 (25 °C, 589 nm)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 57 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l (25 °C)  
 ■ M = 124.21 g/mol ■ Melting point -15 °C

■ Boiling point 188 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210  
 ■ LD50 oral rat 891 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(METHYLPHENYLSULFID), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(METHYL PHENYL SULFIDE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

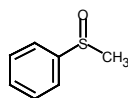
N.O.S.(METHYL PHENYL SULFIDE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,057 - 1,058  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20825.0100	Glass bottle	100 ml	inquire
8.20825.0500	Glass bottle	500 ml	inquire

## 814234 Methyl phenyl sulfoxide for synthesis

C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>SOCH<sub>3</sub>

■ CAS-No. 1193-82-4 ■ EC-No. 214-781-2

■ Refractive index 1.588 (25 °C, 589 nm)  
 ■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 140.21 g/mol  
 ■ Melting point 24 - 27 °C  
 ■ Boiling point 263 - 264 °C (1013 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 24 °C  
 Melting range (upper value) ..... ≤ 27 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14234.0005	Glass bottle	5 g	inquire

## 843821 Methylphosphonic acid for synthesis

CH<sub>5</sub>O<sub>3</sub>P

■ CAS-No. 993-13-5 ■ EC-No. 213-607-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 96.02 g/mol  
 ■ Melting point 105 °C  
 ■ Boiling point (1013 hPa) not applicable, (decomposition)  
 ■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(METHANPHOSPHONSAEURE), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(METHANEPHOSPHONIC ACID), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID,

N.O.S.(METHANEPHOSPHONIC ACID), 8, II

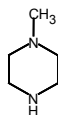
## Specification

Assay (acidimetric) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 103 °C  
 Melting range (upper value) ..... ≤ 106 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43821.0005	Glass bottle	5 g	inquire
8.43821.0025	Glass bottle	25 g	inquire

Methyl phthalate → Monomethyl phthalate page 1192

## 805859 1-Methylpiperazine for synthesis

C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>

N-Methylpiperazine

■ CAS-No. 109-01-3 ■ EC-No. 203-639-5  
 ■ Refractive index 1.4655 (20 °C, 589 nm)  
 ■ Vapour pressure 12 hPa (20 °C)  
 ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 9.9 % (V) ■ Flash point 34 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 100.16 g/mol  
 ■ pH value 11 - 12 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -6 °C ■ Boiling point 136 - 138 °C

(1013 hPa) ■ Ignition temp. 320 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 2547 mg/kg ■ LD50 dermal rabbit 1341 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2933 59 95 ■ Disposal 3  
 ■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(1-METHYLPYPERAZIN), 8 (3), II  
 ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(1-METHYL

PIPERAZINE), 8 (3), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(1-METHYL PIPERAZINE), 8 (3), II

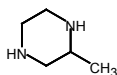
## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.901 - 0.903  
 Water (K. F.) ..... ≤ 0.30 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.05859.0005	Glass bottle	5 ml	inquire
8.05859.0250	Glass bottle	250 ml	inquire

# Methyl

## 842002 2-Methylpiperazine for synthesis



C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>

- CAS-No. 109-07-9 ■ EC-No. 203-644-2
- Flash point 65 °C ■ Solub. in H<sub>2</sub>O 435 g/l (20 °C)
- M = 100.17 g/mol ■ pH value 11 - 12 (50 g/l, H<sub>2</sub>O) ■ Melting point 63 °C ■ Boiling point 155 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable solid, Category 1,

- H228; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2030 mg/kg
- LGK 4.1B
- HS-No. 2933 59 95 ■ Disposal 3
- ADR-RID UN 2925 Entzündbarer organischer fester Stoff, ätzend, n.a.g.(2-METHYLPYPERAZIN), 4.1 (8), II ■ IMDG-Code UN 2925 FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.(2-METHYLPYPERAZINE), 4.1 (8), II, Segregation Group: 18 (Alkalis)

- IATA-DGR UN 2925 FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.(2-METHYLPYPERAZINE), 4.1 (8), II

### Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42002.0025	Glass bottle	25 g	inquire
8.42002.0100	Glass bottle	100 g	inquire

N-Methylpiperazine → 1-Methylpiperazine page 1171

## 806085 1-Methylpiperidine for synthesis

C<sub>6</sub>H<sub>13</sub>N

### N-Methylpiperidine

- CAS-No. 626-67-5 ■ EC-No. 210-959-9
- Refractive index 1.4378 (20 °C, 589 nm)
- Vapour pressure 41 hPa (20 °C)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 9.9 % (V) ■ Flash point 3 °C ■ Solub. in H<sub>2</sub>O 167 g/l (48 °C) ■ M = 99.17 g/mol
- pH value 12 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point < -50 °C
- Boiling point 105 - 108 °C
- Ignition temp. 205 °C
- WGK 3

- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute toxicity, Category 3, Inhalation, H331, P210, P223, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 3.85 mg/l
- LD50 oral rat 490 - 600 mg/kg
- LGK 3
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 2399 1-Methylpiperidin, 3 (8), II
- IMDG-Code UN 2399 1-METHYLPYPERIDINE, 3

(8), II, Segregation Group: 18 (Alkalis)

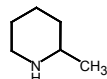
- IATA-DGR UN 2399 1-METHYLPYPERIDINE, 3 (8), II

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,816 - 0,818  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06085.0250	Glass bottle	250 ml	inquire

## 841020 2-Methylpiperidine for synthesis



C<sub>6</sub>H<sub>13</sub>N

### 2-Pipecoline

- CAS-No. 109-05-7 ■ EC-No. 203-642-1
- Spec. density 0.842 g/cm<sup>3</sup> (20 °C)
- Flash point 10 °C ■ M = 99.18 g/mol
- pH value 12 - 13 (111 g/l, H<sub>2</sub>O)
- Melting point -4.6 °C

- Boiling point 118 - 119 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P223, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(2-METHYLPYPERIDIN), 3 (8), II ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(2-METHYLPYPERIDINE), 3 (8), II, Segregation

Group: 18 (Alkalis)

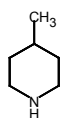
- IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(2-METHYLPYPERIDINE), 3 (8), II

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.840 - 0.844  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41020.0100	Glass bottle	100 ml	inquire

## 806187 4-Methylpiperidine for synthesis



C<sub>6</sub>H<sub>13</sub>N

### 4-Pipecoline

- CAS-No. 626-58-4 ■ EC-No. 210-954-1
- Refractive index 1.4487 (20 °C, 589 nm)
- Vapour pressure 16 hPa (20 °C)
- Spec. density 0.84 g/cm<sup>3</sup> (20 °C)
- Flash point 13 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

- M = 99.18 g/mol ■ pH value 13 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 4 - 5 °C
- Boiling point 121 - 127 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P223, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2933 39 99
- ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(4-METHYLPYPERIDIN), 3 (8), II ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE,

N.O.S.(4-METHYLPYPERIDINE), 3 (8), II, Segregation Group: 18 (Alkalis)

- IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(4-METHYLPYPERIDINE), 3 (8), II

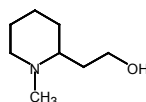
### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,838 - 0,843  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06187.0100	Glass bottle	100 ml	inquire
8.06187.0500	Glass bottle	500 ml	inquire

N-Methylpiperidine → 1-Methylpiperidine page 1172

## 814739 N-Methylpiperidine-2-ethanol for synthesis



C<sub>8</sub>H<sub>17</sub>NO

### 2-(2-Hydroxyethyl) 1-methylpiperidine

- CAS-No. 533-15-3 ■ EC-No. 208-554-7
- Refractive index 1.48 (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)

- Flash point 106 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 143.23 g/mol
- pH value 11.2 (50 g/l, H<sub>2</sub>O, 20 °C)
- Boiling point 175 - 178 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352
- LD50 oral rat 1800 mg/kg
- LGK 10 - 13

- HS-No. 2933 39 99 ■ Disposal 3

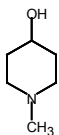
### Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0,972 - 0,977  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14739.0025	Glass bottle	25 ml	inquire



## 820827 1-Methyl-4-piperidinol for synthesis

C<sub>6</sub>H<sub>13</sub>NO

4-Hydroxy-1-methylpiperidine

■ CAS-No. 106-52-5 ■ EC-No. 203-406-8

- Refractive index 1.475 (30 °C, 589 nm)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 87 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 115.17 g/mol ■ Melting point 29 - 31 °C
- Boiling point 200 °C (1013 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

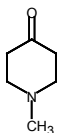
■ HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 25 °C  
 Melting range (upper value) ..... ≤ 28 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20827.0100	Glass bottle	100 g	inquire

## 820828 1-Methyl-4-piperidinone for synthesis

C<sub>6</sub>H<sub>11</sub>NO

N-Methyl-γ-piperidone

■ CAS-No. 1445-73-4 ■ EC-No. 215-895-5

■ Refractive index 1.4605 (20 °C, 589 nm)

- Spec. density 0.97 g/cm<sup>3</sup> (20 °C)
- Flash point 58 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 113.16 g/mol ■ pH value 12 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point 60 - 62 °C (19 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-METHYL-4-PIPERIDINON), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-METHYL-4-PIPERIDINONE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-METHYL-4-PIPERIDINONE), 3, III

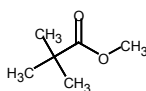
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,972 - 0,978  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20828.0100	Glass bottle	100 ml	inquire

N-Methyl-γ-piperidone → 1-Methyl-4-piperidinone page 1173

## 818736 Methyl pivalate for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>(CH<sub>3</sub>)<sub>3</sub>CCOOCH<sub>3</sub>

Pivalic acid methyl ester

■ CAS-No. 598-98-1 ■ EC-No. 209-959-1

■ Refractive index 1.3891 (20 °C, 589 nm)

■ Vapour pressure 65 hPa (20 °C)

■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C)■ Flash point 6 °C ■ Solub. in H<sub>2</sub>O 15.0 g/l (20 °C)

- M = 116.16 g/mol ■ Melting point < -70 °C
- Boiling point 100 - 102 °C (1013 hPa)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302, P210, P233
- LD50 oral rat 1563 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 3
- HS-No. 2915 60 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(METHYLPIVALAT), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(METHYLPIVALATE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(METHYLPIVALATE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,872 - 0,875  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18736.0100	Glass bottle	100 ml	inquire
8.18736.0500	Glass bottle	500 ml	inquire

N-Methylprolinol → (S)-(-)-2-Hydroxymethyl-1-methylpyrrolidine page 988

1-Methyl propane → page 42

1-Methylpropane → page 3

## 821837 2-Methyl-2-propanethiol for synthesis

C<sub>4</sub>H<sub>10</sub>S(CH<sub>3</sub>)<sub>3</sub>CSH

tert-Butyl mercaptan

■ CAS-No. 75-66-1 ■ EC-No. 200-890-2

■ Refractive index 1.4232 (20 °C, 589 nm)

■ Vapour pressure 241 hPa (25 °C)

■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Flash point - 26 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

- M = 90.19 g/mol ■ Melting point -1 - 0 °C
- Boiling point 65 - 67 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315, P210, P302 + P352
- LC50 rat 83.25 mg/l
- LD50 oral rat 4729 mg/kg
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 2347 Butylmercaptan, 3, II
- IMDG-Code UN 2347 BUTYL MERCAPTANS, 3, II

■ IATA-DGR UN 2347 BUTYL MERCAPTAN, 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,799 - 0,800  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21837.0100	Glass bottle	100 ml	inquire
8.21837.0500	Glass bottle	500 ml	inquire

2-Methyl-1-propanol → page 319

2-Methyl-2-propanol → page 316

1-Methyl-1-propanthiol → 2-Butanethiol page 535

2-Methyl-2-propenamide → Methacrylamide page 1108

Methyl propenoate → Methyl acrylate page 1129

2-Methylpropenoic acid → Methacrylic acid page 1109

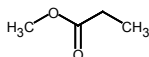
2-Methylpropenoic acid amide → Methacrylamide page 1108

2-Methyl-2-propenoic acid-2-ethylhexyl ester → 2-Ethylhexyl methacrylate page 870

2-Methylpropionaldehyde → Isobutyraldehyde page 1045

# Methyl

## 821047 Methyl propionate for synthesis



C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>  
 CH<sub>3</sub>CH<sub>2</sub>COOCH<sub>3</sub>  
**Propionic acid methyl ester**  
 ■ CAS-No. 554-12-1 ■ EC-No. 209-060-4  
 ■ Vapour pressure 90 hPa (20 °C)  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.5 - 13 % (V) ■ Flash point -2 °C ■ Solub. in H<sub>2</sub>O 5 g/l (20 °C) ■ M = 88.11 g/mol

■ Melting point -87 °C ■ Boiling point 80 °C  
 ■ Ignition temp. 465 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332, P210, P233, P262  
 ■ LD50 oral rat 5000 mg/kg  
 ■ EC-Index-No. 607-027-00-2 ■ LGK 3  
 ■ HS-No. 2915 50 00  
 ■ ADR-RID UN 1248 Methylpropionat, 3, II  
 ■ IMDG-Code UN 1248 METHYL PROPIONATE, 3, II  
 ■ IATA-DGR UN 1248 METHYL PROPIONATE, 3, II

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0.914 - 0.918  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21047.0005	Glass bottle	5 ml	inquire
8.21047.0250	Glass bottle	250 ml	inquire
8.21047.1000	Glass bottle	1 l	inquire

2-Methylpropionic acid → Isobutyric acid page 1045

2-Methylpropionyl chloride → Isobutyryl chloride page 1046

2-Methylpropionic anhydride → Isobutyric anhydride page 1046

α-Methylpropiophenone → Isopropyl phenyl ketone page 1056

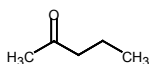
2-Methylpropionitrile → Isobutyronitrile page 1046

Methyl propyl acetylene → 2-Hexyne page 958

Methyl propyl carbinol → 2-Pentanol page 307

Methylpropylglyoxal → 2,3-Hexanedione page 954

## Methyl propyl ketone



C<sub>5</sub>H<sub>10</sub>O  
 CH<sub>3</sub>C(O)CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>  
**2-Pentanone**  
 ■ CAS-No. 107-87-9 ■ EC-No. 203-528-1  
 ■ Refractive index 1.3895 (20 °C, 589 nm)  
 ■ Vapour pressure 37 hPa (20 °C)  
 ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Dielectricity

constant 15 (20 °C) ■ Explosive limit 1.56 - 8.70 % (V) ■ Flash point 8 °C ■ Solub. in H<sub>2</sub>O 43 g/l (25 °C) ■ M = 86.13 g/mol  
 ■ Saturation conc. 52 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -78 °C ■ Boiling point 101 °C (1013 hPa) ■ Ignition temp. 449 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P233  
 ■ LC50 rat > 7.16 mg/l  
 ■ LD50 oral rat 3730 mg/kg ■ LD50 dermal rabbit

6480 mg/kg

■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 3  
 ■ ADR-RID UN 1224 Ketone, flüssig, n.a.g.(METHYLPROPYLKETON UND METHYLISOBUTYLKETON), 3, II ■ IMDG-Code UN 1224 KETONES, LIQUID, N.O.S.(METHYL PROPYL KETONE AND METHYL ISOBUTYL KETONE), 3, II  
 ■ IATA-DGR UN 1224 KETONES, LIQUID, N.O.S.(METHYL PROPYL KETONE AND METHYL ISOBUTYL KETONE), 3, II

## 814536 Methyl propyl ketone for synthesis

**Specification**  
 Assay (GC, area%)..... ≥ 90,0 Area %  
 Isobutyl methyl ketone (GC, area%)... ≤ 10,0 Area %

Density (d 20 °C/ 4 °C) .....0,805 - 0,807  
 Identity (IR)..... conforms

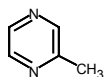
Ord.No.	Packaging	Quantity	Price
8.14536.1000	Glass bottle	1 l	inquire
8.14536.2500	Glass bottle	2.5 l	inquire

## 805965 Methyl propyl ketone for synthesis

**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) .....0,805 - 0,808  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.05965.0100	Glass bottle	100 ml	inquire
8.05965.0500	Glass bottle	500 ml	inquire

## 814629 2-Methylpyrazine for synthesis



C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>  
**2-Methylparadiazine**  
 ■ CAS-No. 109-08-0 ■ EC-No. 203-645-8  
 ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 50 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 94.12 g/mol ■ Melting point -30 °C  
 ■ Boiling point 134 - 137 °C

■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210  
 ■ LD50 oral rat 1800 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-METHYLPYRAZIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHYLPYRAZINE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

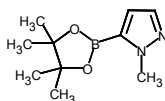
N.O.S.(2-METHYLPYRAZINE), 3, III

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....1,022 - 1,027  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14629.0025	Glass bottle	25 ml	inquire
8.14629.0100	Glass bottle	100 ml	inquire

## 843927 1-Methyl-1H-pyrazol-5-boronic acid pinacol ester for synthesis



C<sub>10</sub>H<sub>17</sub>BN<sub>2</sub>O<sub>2</sub>  
 ■ CAS-No. 847818-74-0  
 ■ M = 208.07 g/mol ■ Melting point 74 - 75 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 19 90 ■ Disposal 3

### Specification

Colour (visual)..... white to offwhite  
 Appearance of substance (visual)..... powder  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Sum of all impurities (GC, area%)..... ≤ 2,0 Area %

Highest single impurity (GC, area%)... ≤ 2,0 Area %  
 Melting range (lower value)..... ≥ 70 °C  
 Melting range (upper value)..... ≤ 74 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.43927.0001	Glass bottle	1 g	inquire
8.43927.0005	Glass bottle	5 g	inquire

## 843820 1-Methylpyrazole for synthesis

C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>

- CAS-No. 930-36-9
- Vapour pressure 12.2 hPa (20 °C)
- Spec. density 0.989 g/cm<sup>3</sup> (20 °C)
- Flash point 30 °C ■ M = 82.11 g/mol
- Boiling point 126 - 127 °C (1013 hPa)

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338
- LGK 3
- HS-No. 2933 19 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-METHYLPYRAZOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-METHYLPYRAZOLE), 3, III

- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-METHYLPYRAZOLE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.987 - 0.991  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43820.0010	Glass bottle	10 ml	inquire

## 814214 3-Methylpyrazole for synthesis

C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>

- CAS-No. 1453-58-3 ■ EC-No. 215-925-7
- Refractive index 1.4928 (20 °C, 589 nm)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

- M = 82.11 g/mol ■ Boiling point 205 - 206 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 710 mg/kg

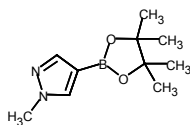
- LGK 10 - 13
- HS-No. 2933 19 90

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,017 - 1,019  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14214.0005	Glass bottle	5 ml	inquire

## 843919 1-Methylpyrazole-4-boronic acid pinacol ester for synthesis

C<sub>10</sub>H<sub>17</sub>BN<sub>2</sub>O<sub>2</sub>

- CAS-No. 761446-44-0
- M = 208.07 g/mol ■ Melting point 67 - 69 °C
- WGK 3

- LGK 10 - 13
- HS-No. 2933 19 90 ■ Disposal 3

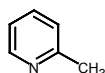
**Specification**

Colour (visual) ..... white to offwhite  
 Appearance of substance (visual) ..... powder  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Sum of all impurities (GC, area%) ..... ≤ 2,0 Area %  
 Highest single impurity (GC, area%) ..... ≤ 2,0 Area %

Melting range (lower value) ..... ≥ 63 °C  
 Melting range (upper value) ..... ≤ 67 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43919.0001	Glass bottle	1 g	inquire
8.43919.0005	Glass bottle	5 g	inquire

## 809722 2-Methylpyridine for synthesis

C<sub>6</sub>H<sub>7</sub>N2-(CH<sub>3</sub>)C<sub>5</sub>H<sub>4</sub>N  
2-Picoline

- CAS-No. 109-06-8 ■ EC-No. 203-643-7
- Refractive index 1.501 (20 °C, 589 nm) ■ Vapour pressure 12 hPa (20 °C) ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ El. dipole moment 1.72 (20 °C)
- Explosive limit 1.4 - 8.6 % (V)
- Flash point 27 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 93.13 g/mol ■ pH value 8.5 (100 g/l, H<sub>2</sub>O,

- 20 °C) ■ Melting point -70 °C
- Boiling point 129 °C (1013 hPa)
- Ignition temp. 535 °C
- WGK 1

- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P302 + P352, P305 + P351 + P338
- LD50 oral rat 790 mg/kg ■ LD50 dermal rabbit 410 mg/kg
- EC-Index-No. 613-036-00-2 ■ LGK 3

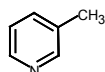
- HS-No. 2933 39 99
- ADR-RID UN 2313 Picoline, 3, III ■ IMDG-Code UN 2313 PICOLINES, 3, III
- IATA-DGR UN 2313 PICOLINES, 3, III

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,943 - 0,945  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.09722.0100	Glass bottle	100 ml	inquire
8.09722.0500	Glass bottle	500 ml	inquire
8.09722.1000	Glass bottle	1 l	inquire

## 807048 3-Methylpyridine for synthesis

C<sub>6</sub>H<sub>7</sub>N3-(CH<sub>3</sub>)C<sub>5</sub>H<sub>4</sub>N

3-Picoline

- CAS-No. 108-99-6 ■ EC-No. 203-636-9
- Refractive index 1.504 (20 °C, 589 nm) ■ Vapour pressure 6 hPa ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C)
- Explosive limit 1.3 - 8.7 % (V)
- Flash point 40 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 93.13 g/mol ■ pH value 10 (100 g/l, H<sub>2</sub>O,

- 20 °C) ■ Boiling point 144 °C (1013 hPa)
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 16.84 mg/l
- LD50 oral rat 400 - 800 mg/kg
- LD50 dermal rabbit 200 - 1000 mg/kg

- LGK 3
- HS-No. 2933 39 99
- ADR-RID UN 2313 Picoline, 3, III ■ IMDG-Code UN 2313 PICOLINES, 3, III
- IATA-DGR UN 2313 PICOLINES, 3, III

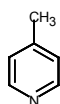
**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,955 - 0,957  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07048.0250	Glass bottle	250 ml	inquire
8.07048.1000	Glass bottle	1 l	inquire

# Methyl

## 807049 4-Methylpyridine for synthesis



**C<sub>6</sub>H<sub>7</sub>N**  
**4-Picoline**  
 ■ CAS-No. 108-89-4 ■ EC-No. 203-626-4  
 ■ Refractive index 1.5049 (20 °C, 589 nm)  
 ■ Vapour pressure 5.8 hPa (20 °C)  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 8.7 % (V) ■ Flash point 40 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (25 °C) ■ M = 93.13 g/mol  
 ■ Melting point 3 °C ■ Boiling point 145 °C

(1013 hPa) ■ Ignition temp. >500 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P280, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1290 mg/kg ■ LD50 dermal rabbit 270 mg/kg  
 ■ EC-Index-No. 613-037-00-8 ■ LGK 3  
 ■ HS-No. 2933 39 55 ■ Disposal 9

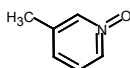
■ ADR-RID UN 2313 Picoline, 3, III ■ IMDG-Code UN 2313 PICOLINES, 3, III  
 ■ IATA-DGR UN 2313 PICOLINES, 3, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,953 - 0,955  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07049.0010	Glass bottle	10 ml	inquire
8.07049.0100	Glass bottle	100 ml	inquire
8.07049.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire

## 821876 3-Methylpyridine 1-oxide for synthesis



**C<sub>6</sub>H<sub>7</sub>NO**  
**3-Picoline N-oxide**  
 ■ CAS-No. 1003-73-2 ■ EC-No. 213-714-4  
 ■ Vapour pressure 0.01 hPa (20 °C)  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (40 °C)  
 ■ Flash point 155 °C ■ Solub. in H<sub>2</sub>O >2000 g/l

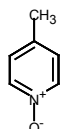
(20 °C) ■ M = 109.13 g/mol  
 ■ Melting point 37 - 38 °C ■ Boiling point 150 °C (20 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 36 °C  
 Melting range (upper value) ..... ≤ 39 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21876.0100	Glass bottle	100 g	inquire
8.21876.0500	Glass bottle	500 g	inquire

## 840067 4-Methylpyridine-1-oxide for synthesis



**C<sub>6</sub>H<sub>7</sub>NO**  
**4-Picoline-N-oxide**  
 ■ CAS-No. 1003-67-4 ■ EC-No. 213-712-3

■ Flash point 149 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 109.13 g/mol ■ pH value >7 (H<sub>2</sub>O, 25 °C) Aqueous solution  
 ■ Melting point 183 - 186 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.

■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 183 °C  
 Melting range (upper value) ..... ≤ 186 °C  
 Identity (IR) ..... passes test

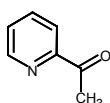
Ord.No.	Packaging	Quantity	Price
8.40067.0050	Glass bottle	50 g	inquire

3-Methyl-2-pyridylamine → 2-Amino-3-methylpyridine page 394

4-Methyl-2-pyridylamine → 2-Amino-4-methylpyridine page 395

5-Methyl-2-pyridylamine → 2-Amino-5-methylpyridine page 395

## 800154 Methyl 2-pyridyl ketone for synthesis



**C<sub>7</sub>H<sub>7</sub>NO**  
**2-(CH<sub>3</sub>CO)C<sub>5</sub>H<sub>4</sub>N**  
**2-Acetylpyridine**  
 ■ CAS-No. 1122-62-9 ■ EC-No. 214-355-6  
 ■ Refractive index 1.5203 (20 °C, 589 nm)  
 ■ Vapour pressure 0.2 hPa (20 °C)

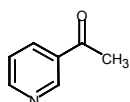
■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 76 °C ■ Solub. in H<sub>2</sub>O 170 g/l (20 °C)  
 ■ M = 121.14 g/mol ■ pH value 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 10 °C  
 ■ Boiling point 188 °C  
 ■ WGK 2  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P262, P305 + P351 + P338  
 ■ LD50 oral rat 2280 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,081 - 1,083  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00154.0025	Glass bottle	25 ml	inquire
8.00154.0100	Glass bottle	100 ml	inquire

## 800155 Methyl 3-pyridyl ketone for synthesis



**C<sub>7</sub>H<sub>7</sub>NO**  
**3-(CH<sub>3</sub>CO)C<sub>5</sub>H<sub>4</sub>N**  
**3-Acetylpyridine**  
 ■ CAS-No. 350-03-8 ■ EC-No. 206-496-7  
 ■ Refractive index 1.5336 (20 °C, 589 nm)  
 ■ Vapour pressure 0.003 hPa (20 °C)  
 ■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 104 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 121.14 g/mol  
 ■ pH value 6.5 - 7.5 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point 11 - 13 °C ■ Boiling point 220 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315, P262, P302 + P352, P309 + P310  
 ■ LD50 oral rat 51 mg/kg  
 ■ LGK 6.1 C  
 ■ HS-No. 2933 39 99 ■ Disposal 9  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(METHYL-3-PYRIDYLKETON), 6.1, III

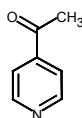
■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(METHYL-3-PYRIDYLKETONE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(METHYL-3-PYRIDYLKETONE), 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,106 - 1,107  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00155.0025	Glass bottle	25 ml	inquire

## 800156 Methyl 4-pyridyl ketone for synthesis



C<sub>7</sub>H<sub>7</sub>NO  
4-(CH<sub>3</sub>CO)C<sub>5</sub>H<sub>4</sub>N  
4-Acetylpyridine

■ CAS-No. 1122-54-9 ■ EC-No. 214-350-9

■ Refractive index 1.529 (20 °C, 589 nm) ■ Vapour pressure 13 hPa (100 °C) ■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Flash point 104 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 121.14 g/mol  
■ Melting point 14 - 16 °C  
■ Boiling point 211 - 213 °C  
■ WGK 2  
■ GHS: Warning, Skin irritation, Category 2, H315, P262, P302 + P352  
■ LGK 10 - 13

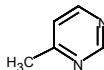
■ HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,099 - 1,101  
Water (K. F.) ..... ≤ 0,30 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00156.0025	Glass bottle	25 ml	inquire
8.00156.0100	Glass bottle	100 ml	inquire

## 818393 4-Methylpyrimidine for synthesis



C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>

■ CAS-No. 3438-46-8 ■ EC-No. 222-344-2  
■ Refractive index 1.4936 (25 °C, 589 nm)  
■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C)  
■ Flash point 40 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
■ M = 94.12 g/mol ■ Boiling point 140 - 142 °C (1013 hPa)

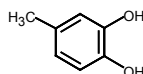
■ WGK 3  
■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
■ LGK 3  
■ HS-No. 2933 59 95  
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4-METHYLPYRIMIDIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4-METHYLPYRIMIDINE), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(4-METHYLPYRIMIDINE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.019 - 1.024  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18393.0001	Glass bottle	1 ml	inquire
8.18393.0005	Glass bottle	5 ml	inquire

## 821257 4-Methylpyrocatechol for synthesis



C<sub>7</sub>H<sub>8</sub>O<sub>2</sub>

4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>3</sub>-1,2-(OH)<sub>2</sub>  
Homopyrocatechol, 4-Methylcatechol, 3,4-Dihydroxytoluene

■ CAS-No. 452-86-8 ■ EC-No. 207-214-5

■ Flash point 140 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 124.14 g/mol  
■ Melting point 63 - 66 °C  
■ Boiling point 256 - 260 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2907 29 00 ■ Disposal 3

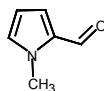
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 64 °C  
Melting range (upper value) ..... ≤ 67 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21257.0025	Glass bottle	25 g	inquire
8.21257.0100	Glass bottle	100 g	inquire

## 841012 1-Methylpyrrol-2-carbaldehyde for synthesis



C<sub>6</sub>H<sub>7</sub>NO

N-Methylpyrrole-2-carbaldehyde

■ CAS-No. 1192-58-1 ■ EC-No. 214-755-0

■ Spec. density 1.074 g/cm<sup>3</sup> (20 °C)  
■ Flash point 72 °C ■ M = 109.13 g/mol  
■ Boiling point 88 - 90 °C (29.3 hPa)  
■ WGK 3  
■ LD50 oral rat 2204 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
■ LGK 10  
■ HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.071 - 1.076  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41012.0010	Glass bottle	10 ml	inquire

## 820832 1-Methylpyrrole for synthesis



C<sub>5</sub>H<sub>7</sub>N

N-Methylpyrrole

■ CAS-No. 96-54-8 ■ EC-No. 202-513-7  
■ Refractive index 1.4875 (20 °C, 589 nm)  
■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 8.5 % (V) ■ Flash point 16 °C ■ Solub. in H<sub>2</sub>O 13 g/l (20 °C) ■ M = 81.12 g/mol  
■ pH value 10.4 (10 g/l, H<sub>2</sub>O, 10 °C)  
■ Melting point -57 °C

■ Boiling point 111 - 113 °C  
■ Ignition temp. 400 °C  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P210, P233, P260, P262, P302 + P352  
■ LC50 rat > 5.6 mg/l  
■ LD50 oral rat 1400 mg/kg ■ LD50 dermal rabbit > 400 mg/kg  
■ LGK 3  
■ HS-No. 2933 99 80 ■ Disposal 3  
■ ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(1-METHYLPYRROL), 3 (6.1), II

■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(1-METHYLPYRROLE), 3 (6.1), II  
■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(1-METHYLPYRROLE), 3 (6.1), II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,909 - 0,910  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20832.0100	Glass bottle	100 ml	inquire
8.20832.0500	Glass bottle	500 ml	inquire

N-Methylpyrrole → 1-Methylpyrrole page 1177

N-Methylpyrrole-2-carbaldehyde → 1-Methylpyrrol-2-carbaldehyde page 1177



# Methyl

## 816146 1-Methylpyrrolidine for synthesis



C<sub>5</sub>H<sub>11</sub>N  
 ■ CAS-No. 120-94-5 ■ EC-No. 204-438-5  
 ■ Vapour pressure 100 hPa (20 °C)  
 ■ Spec. density 0.799 g/cm<sup>3</sup> ■ Explosive limit 1.1 - 9.1 % (V) ■ Flash point -3 °C ■ Solub. in H<sub>2</sub>O 213 g/l ■ M = 85.15 g/mol ■ pH value 11.3 (1 g/l, H<sub>2</sub>O) ■ Melting point < -80 °C  
 ■ Boiling point 81 °C ■ Ignition temp. 170 °C DIN 51794

■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1A, H314; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Oral, H301, P210, P223, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 1.12 - 2.52 mg/l  
 ■ LD50 oral rat 280 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
 ■ ADR-RID UN 3286 Entzündbarer flüssiger Stoff, giftig, ätzend, n.a.g.(1-METHYLPYRROLIDIN), 3 (6.1, 8), II ■ IMDG-Code UN 3286 FLAMMABLE

LIQUID, TOXIC, CORROSIVE, N.O.S.(1-METHYLPYRROLIDINE), 3 (6.1, 8), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(1-METHYLPYRROLIDINE), 3 (6.1, 8), II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16146.0010	Glass bottle	10 ml	inquire
8.16146.0100	Glass bottle	100 ml	inquire

N-Methyl-2-pyrrolidinone → page 306

## 1-Methyl-2-pyrrolidone



C<sub>5</sub>H<sub>9</sub>NO  
 NMP, N-Methyl-2-pyrrolidone  
 ■ CAS-No. 872-50-4 ■ EC-No. 212-828-1  
 ■ Refractive index 1.469 (25 °C) ■ Vapour pressure 0.32 hPa (20 °C) ■ Spec. density 1.03 g/

cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 9.5 % (V)  
 ■ Flash point 91 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (25 °C) ■ M = 99.13 g/mol ■ pH value 8.5 - 10.0 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -24 °C  
 ■ Bulk density 1.03 g/cm<sup>3</sup> ■ Boiling point 202 °C (1013 hPa) ■ Water absorption 1000 g/kg  
 ■ Ignition temp. 245 °C  
 ■ WGK 1  
 ■ GHS: Danger, Reproductive toxicity, Category 1B, H360D; Eye irritation, Category 2, H319;

Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P201, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LC50 rat > 5.1 mg/l  
 ■ LD50 oral rat 3598 mg/kg ■ LD50 dermal rabbit 8000 mg/kg  
 ■ EC-Index-No. 606-021-00-7 ■ LGK 6.1C  
 ■ HS-No. 2933 79 00 ■ Disposal 3

## 806072 1-Methyl-2-pyrrolidone EEMPLURA®

**Specification**  
 Purity (GC) ..... ≥ 99.5 %  
 Identity (IR) ..... conforms  
 Density (d 20 °C/ 4 °C) ..... 1.031 - 1.033  
 Acidity ..... ≤ 0.0002 meq/g  
 Alkalinity ..... ≤ 0.003 meq/g

Water ..... ≤ 0.10 %

Ord.No.	Packaging	Quantity	Price
8.06072.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.06072.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.06072.6025	Drum stainl. st.	25 l	inquire
8.06072.9011	Steel barrel	10 l	inquire
8.06072.9025	Plastic container	25 l	inquire

## 100574 1-Methyl-2-pyrrolidone for Peptide Synthesis

**Specification**  
 Purity (GC) ..... ≥ 99.7 %  
 Identity (IR) ..... conforms  
 Colour ..... ≤ 10 Hazen

Free amines ..... ≤ 5 ppm  
 Water ..... ≤ 500 ppm

Ord.No.	Packaging	Quantity	Price
1.00574.2500	Glass bottle	2.5 l	inquire
1.00574.4000	Glass bottle	4 l	inquire

## 107063 1-Methyl-2-pyrrolidone for analysis EMPARTA® ACS

C<sub>5</sub>H<sub>9</sub>NO  
 NMP, N-Methyl-2-pyrrolidone  
 ■ CAS-No. 872-50-4 ■ EC-No. 212-828-1  
 ■ Refractive index 1.469 (25 °C) ■ Vapour pressure 0.32 hPa (20 °C) ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 9.5 % (V)  
 ■ Flash point 91 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (25 °C) ■ M = 99.13 g/mol ■ pH value 8.5 - 10.0 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -24 °C  
 ■ Boiling point 202 °C (1013 hPa)

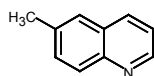
■ Ignition temp. 245 °C  
 ■ WGK 1  
 ■ GHS: Danger, Reproductive toxicity, Category 1B, H360D; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P201, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LC50 rat > 5.1 mg/l

■ LD50 oral rat 3598 mg/kg ■ LD50 dermal rabbit 8000 mg/kg  
 ■ EC-Index-No. 606-021-00-7 ■ LGK 6.1C  
 ■ Disposal 3

Ord.No.	Packaging	Quantity	Price
1.07063.4000	Glass bottle	4 l	inquire

Methyl-2-pyrrolyl ketone → 2-Acetylpyrrole page 349

## 841768 6-Methylquinoline for synthesis



C<sub>10</sub>H<sub>9</sub>N  
 ■ CAS-No. 91-62-3 ■ EC-No. 202-084-6  
 ■ Spec. density 1.065 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 109 °C ■ M = 143.19 g/mol  
 ■ Boiling point 259 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P262, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 800 mg/kg ■ LD50 dermal rabbit 5000 mg/kg  
 ■ LGK 10 - 13

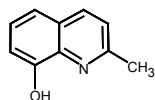
■ HS-No. 2933 49 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,063 - 1,067  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41768.0010	Glass bottle	10 ml	inquire

2-Methylquinoline → Quinaldine page 1396

## 820783 2-Methyl-8-quinolinol for synthesis

C<sub>10</sub>H<sub>9</sub>NO

8-Hydroxy-2-methylquinoline, 8-Hydroxyquinaldine

- CAS-No. 826-81-3 ■ EC-No. 212-562-6
- Vapour pressure < 0.01 hPa (50 °C) ■ Solub. in H<sub>2</sub>O 0.4 g/l (20 °C) ■ M = 159.19 g/mol
- pH value 7 - 8 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 70 - 73 °C ■ Bulk density 800 kg/

- m<sup>3</sup> ■ Boiling point 274 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273
- LD50 oral rat 2125 - 2250 mg/kg
- LGK 10 - 13
- HS-No. 2933 49 90 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2-METHYLCHINOLIN-8-OL), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-METHYLCHINOLINE-8-OL), 9, III, Marine

Pollutant: P

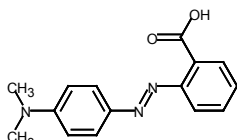
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-METHYLCHINOLINE-8-OL), 9, III

## Specification

- Assay (HClO<sub>4</sub>)..... ≥ 99.0 %
- Melting range (lower value)..... ≥ 70 °C
- Melting range (upper value)..... ≤ 73 °C
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20783.0100	Plastic bottle	100 g	inquire

## 106076 Methyl red (C.I. 13020) indicator ACS,Reag. Ph Eur

C<sub>15</sub>H<sub>15</sub>N<sub>3</sub>O<sub>2</sub>

4-Dimethylaminoazobenzene-2'-carboxylic acid

- CAS-No. 493-52-7 ■ EC-No. 207-776-1
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 269.31 g/mol ■ Melting point 178 - 182 °C
- Bulk density 300 - 500 kg/m<sup>3</sup>
- dangerous for the environment ■ WGK 2
- LGK 10 - 13
- HS-No. 2927 00 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff,

- fest, n.a.g.(2-(4-DIMETHYLAMINOPHENYLAZO)BENZOESÄURE), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-(4-DIMETHYLAMINOPHENYLAZO)BENZOIC ACID), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-(4-DIMETHYLAMINOPHENYLAZO)BENZOIC ACID), 9, III
- Use as pH indicator: 0.1 g in 100 ml ethanol (96%)

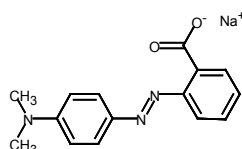
## Specification

- Identity (UV/VIS-Spectrum)..... passes test
- Appearance .... Red to red-violet powder, eventually with granular parts.
- Clarity of solution (1 g/l; ethanol)..... passes test

- Melting point (capillary method, temperature measurement in the heating block)..... 179 - 182 °C
- Transition range..... pH 4.4 - pH 6.0 Red - yellow
- Absorption maximum (buffer pH 4.5)..... 523 - 526 nm
- Absorption maximum (buffer pH 6.2)..... 427 - 437 nm
- Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.005 g/l; buffer pH 4.5; calculated on anhydrous substance)..... 1350 - 1500
- Loss on drying (110 °C)..... ≤ 5 %

Ord.No.	Packaging	Quantity	Price
1.06076.0025	Glass bottle	25 g	inquire
1.06076.0100	Glass bottle	100 g	inquire

## 106078 Methyl red sodium salt (C.I. 13020) water-soluble ACS

C<sub>15</sub>H<sub>14</sub>N<sub>3</sub>NaO<sub>2</sub>

2-[[4-Dimethylamino]phenylazo]benzoic acid

- Methyl-red VOGES-PROSKAUER broth → page 103
- 5-Methylresorcinol → 3,5-Dihydroxytoluene page 763

sodium salt, 4-(Dimethylamino)azobenzene-1,2'-carboxylic acidsodium salt

- CAS-No. 845-10-3 ■ EC-No. 212-682-9
- Solub. in H<sub>2</sub>O 800 g/l (25 °C) ■ M = 291.29 g/mol ■ pH value 8.2 (10 g/l, H<sub>2</sub>O, 25 °C)
- Bulk density 360 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2927 00 00 ■ Disposal 3
- Use as pH indicator: 0.1 g in 100 ml water

## Specification

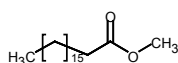
- Transition range..... pH 4.5 - pH 6.2 red violet - brownish yellow
- Appearance of solution..... passes test
- Loss on drying (110 °C)..... ≤ 5%
- Transition range (according to ACS)..... passes test

Ord.No.	Packaging	Quantity	Price
1.06078.0025	Glass bottle	25 g	inquire
1.06078.0100	Glass bottle	100 g	inquire

Methyl silicate → Tetramethyl orthosilicate page 1542

- 3-Methylsalicylic acid → 2-Hydroxy-3-methylbenzoic acid page 987
- O-Methylsalicylic acid → 2-Methoxybenzoic acid page 1116

## 109602 Methyl stearate reference substance for gas-chromatography

C<sub>19</sub>H<sub>38</sub>O<sub>2</sub>

Octadecanoic acid methyl ester

- CAS-No. 112-61-8 ■ EC-No. 203-990-4

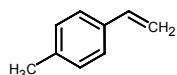
- Spec. density 0.85 g/cm<sup>3</sup> (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 298.50 g/mol
- Melting point 37 - 39 °C ■ Boiling point 215 °C (20 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2915 70 50 ■ Disposal 3

## Specification

- Purity (GC)..... ≥ 99.0% (a/a)
- Identity (IR-spectrum)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09602.0005	Glass bottle	5 g	inquire

## 841352 4-Methylstyrene (stabilised with 3,5-Di-tert-butylpyrocatechol) for synthesis

C<sub>9</sub>H<sub>10</sub>

4-Vinyltoluene

- CAS-No. 622-97-9 ■ EC-No. 210-762-8
- Vapour pressure 1.47 hPa (20 °C)
- Spec. density 0.897 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 5.2 % (V) ■ Flash point 45 °C
- Kin. viscosity 0.6 mm<sup>2</sup>/s (25 °C) (calculated)
- Solub. in H<sub>2</sub>O 0.089 g/l (25 °C) ■ M = 118.18 g/

- mol ■ Melting point -34 °C ■ Boiling point 173 °C (1013 hPa) ■ Ignition temp. 494 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P260, P262, P273, P301 + P310, P331
- LD50 oral rat 2255 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 3 ■ Store below +15°C.
- HS-No. 2902 90 00 ■ Disposal 3
- ADR-RID UN 2618 Vinyltoluene, stabilisiert, 3,

- III ■ IMDG-Code UN 2618 VINYL TOLUENES, STABILIZED, 3, III
- IATA-DGR UN 2618 VINYL TOLUENES, STABILIZED, 3, III

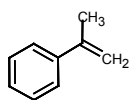
## Specification

- Assay (GC, area%)..... ≥ 99.0 % (a/a)
- Density (d 20 °C / 4 °C)..... 0.892 - 0.897
- Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41352.0010	Glass bottle	10 ml	inquire

# Methyl

## 806086 $\alpha$ -Methylstyrene (stabilised with 4-tert-butylpyrocatechol) for synthesis



$C_9H_{10}$   
 $C_6H_5C(CH_3)=CH_2$   
*2-Phenyl-1-propene, Isopropenylbenzene*  
 ■ CAS-No. 98-83-9 ■ EC-No. 202-705-0  
 ■ Refractive index 1.5375 (20 °C, 589 nm)  
 ■ Vapour pressure 2.9 hPa (20 °C)  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 6.6 % (V) ■ Flash point 40 °C DIN 51758  
 ■ Solub. in H<sub>2</sub>O 560 mg/l (20 °C) ■ M = 118.18 g/mol

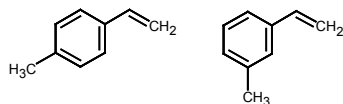
mol ■ pH value 5 - 6 (500 g/l, H<sub>2</sub>O)  
 ■ Melting point -23 °C ■ Boiling point 164 °C (1013 hPa) ■ Ignition temp. 445 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Chronic aquatic toxicity, Category 2, H411, P273, P305 + P351 + P338  
 ■ LD50 oral rat 4900 mg/kg  
 ■ EC-Index-No. 601-027-00-6 ■ LGK 3  
 ■ HS-No. 2902 90 00 ■ Disposal 1  
 ■ ADR-RID UN 2303 Isopropenylbenzen, 3, III  
 ■ IMDG-Code UN 2303 ISOPROPENYLBENZENE,

3, III  
 ■ IATA-DGR UN 2303 ISOPROPENYLBENZENE, 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,908 - 0,910  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06086.0100	Glass bottle	100 ml	inquire
8.06086.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 822098 Methylstyrene (mixture of 3- and 4-isomers) stabilised with 4-tert-butylpyrocatechol for synthesis



$C_9H_{10}$   
 $3/4-(CH_3)C_6H_4CH=CH_2$   
*Vinyltoluene*  
 ■ CAS-No. 1319-73-9 ■ EC-No. 215-292-7  
 ■ Vapour pressure 1.47 hPa (20 °C)  
 ■ Spec. density 0.893 g/cm<sup>3</sup> (25 °C) ■ Explosive limit 1.1 - 5.2 % (V) ■ Flash point 52 °C ■ Solub. in H<sub>2</sub>O 0.09 g/l (20 °C) ■ M = 118.18 g/mol  
 ■ Melting point -77 °C ■ Boiling point 168 °C

■ Ignition temp. 575 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Skin irritation, Category 3, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat 3 mg/l  
 ■ LD50 oral rat 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2902 90 00 ■ Disposal 3  
 ■ ADR-RID UN 2618 Vinyltoluene, stabilisiert, 3, III ■ IMDG-Code UN 2618 VINYLTOLUENES, STABILIZED, 3, III

■ IATA-DGR UN 2618 VINYLTOLUENES, STABILIZED, 3, III

**Specification**  
 Assay 3-methyl styrol (GC, area%) .... 40.0 - 60.0 % (a/a)  
 Assay 4-methyl styrol (GC, area%) .... 40.0 - 60.0 % (a/a)  
 Sum isomers (GC) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.896 - 0.898  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22098.0100	Glass bottle	100 ml	inquire
8.22098.1000	Glass bottle	1 l	inquire

Methyl styryl ketone → Benzylideneacetone page 451

Methylsulfinylmethane → page 302

Methyl sulfoxide → page 43

Methyl sulfate → Dimethyl sulfate page 802

Methyl sulfite → Dimethyl sulfite page 803

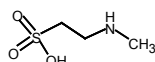
Methylsulfoxide → page 302

Methyl sulfide → Dimethyl sulfide page 803

Methyl sulfone → Dimethyl sulfone page 803

Methylsulfoxide deuterated → page 295

## 820835 N-Methyltaurine for synthesis



$C_3H_9NO_3S$   
 $CH_3NHCH_2CH_2SO_3H$   
*2-Methylamino-1-ethanesulfonic acid*

■ CAS-No. 107-68-6 ■ EC-No. 203-510-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 139.17 g/mol  
 ■ Melting point 246 - 249 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 19 99 ■ Disposal 3

**Specification**  
 Assay (of S) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20835.0025	Plastic bottle	25 g	inquire

Methyl tetradecanoate → page 44

## 108292 2-Methyltetrahydrofuran EMPLURA®



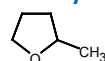
$C_5H_{10}O$   
*Tetrahydro-2-methylfuran*  
 ■ CAS-No. 96-47-9 ■ EC-No. 202-507-4  
 ■ Vapour pressure 130 hPa (25 °C)  
 ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 5.7 % (V) ■ Flash point -12 °C ■ Solub. in H<sub>2</sub>O 130 g/l (25 °C) ■ M = 86.13 g/mol  
 ■ Melting point -136 °C ■ Boiling point 78 - 80 °C  
 ■ Ignition temp. 270 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2,

H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P233, P240, P305 + P351 + P338  
 ■ LC50 rat  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit 4500 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2932 19 00 ■ Disposal 1  
 ■ ADR-RID UN 2536 Methyltetrahydrofuran, 3, II  
 ■ IMDG-Code UN 2536 METHYLTETRAHYDROFURAN, 3, II

■ IATA-DGR UN 2536 METHYLTETRAHYDROFURAN, 3, II

Ord.No.	Packaging	Quantity	Price
1.08292.1000		1 l	inquire
1.08292.2500		2.5 l	inquire
1.08292.4000		4 l	inquire

## 2-Methyltetrahydrofuran



$C_5H_{10}O$   
 $CH_3C_4H_7O$   
*Tetrahydro-2-methylfuran*  
 ■ CAS-No. 96-47-9 ■ EC-No. 202-507-4  
 ■ Refractive index 1.4056 (20 °C, 589 nm)  
 ■ Vapour pressure 136 hPa (20 °C)

■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 5.7 % (V) ■ Flash point -11 °C ■ Solub. in H<sub>2</sub>O 150 g/l (25 °C) ■ M = 86.13 g/mol  
 ■ Melting point -136 °C ■ Boiling point 78 - 80 °C (1013 hPa) ■ Ignition temp. 270 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P233, P240, P305 + P351 + P338

■ LC50 rat  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit 4500 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2932 19 00 ■ Disposal 1  
 ■ ADR-RID UN 2536 Methyltetrahydrofuran, 3, II  
 ■ IMDG-Code UN 2536 METHYLTETRAHYDROFURAN, 3, II  
 ■ IATA-DGR UN 2536 METHYLTETRAHYDROFURAN, 3, II

## 821093 2-Methyltetrahydrofuran (stabilised with 2,6-di-tert-butyl-4-methylphenol) for synthesis

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.852 - 0.855  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.005 %

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21093.0005	Glass bottle	5 ml	inquire
8.21093.0250	Glass bottle	250 ml	inquire
8.21093.1000	Glass bottle	1 l	inquire

## 845103 2-Methyltetrahydrofuran (stabilised with 2,6-di-tert-butyl-4-methylphenol) for pharma synthesis, non-GMP

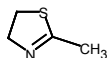
### Specification

Colour (visual).....colourless  
 Appearance of substance (visual).....clear  
 Assay (GC, area%)..... $\geq 98,0\%$  (a/a)  
 Density (d 20 °C/ 4 °C).....0,852 - 0,855

Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... $\leq 0,005\%$   
 Identity (IR).....passes test  
 Tetrahydrofuran.....lot specific result  
 2-Pentanol.....lot specific result

Ord.No.	Packaging	Quantity	Price
8.45103.0250	Glass bottle	250 ml	inquire
8.45103.1000	Glass bottle	1 l	inquire

## 814232 2-Methyl-2-thiazoline for synthesis



C<sub>4</sub>H<sub>7</sub>NS

- CAS-No. 2346-00-1 ■ EC-No. 219-071-6
- Refractive index 1.5211 (20 °C, 589 nm)
- Spec. density 1.08 g/cm<sup>3</sup> (20 °C)
- Flash point 37 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 101.17 g/mol ■ Melting point -101 °C

- Boiling point 144 - 146 °C (1013 hPa)
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2934 10 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-METHYL-2-THIAZOLIN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHYL-2-THIAZOLINE), 3, III

- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHYL-2-THIAZOLINE), 3, III

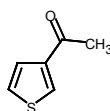
### Specification

Assay (GC, area%)..... $\geq 98,0\%$  Area %  
 Density (d 20 °C/ 4 °C).....1,074 - 1,077  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.14232.0010	Glass bottle	10 ml	inquire

4-Methyl-2-thiazolylamine → 2-Amino-4-methylthiazol page 396

## 841051 Methyl 3-thienyl ketone for synthesis



C<sub>6</sub>H<sub>6</sub>OS

### 3-Acetylthiophene

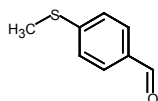
- CAS-No. 1468-83-3 ■ EC-No. 215-996-4
- M = 126.17 g/mol ■ Melting point 58 - 61 °C
- WGK 3
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2934 99 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... $\geq 98,0\%$  (a/a)  
 Melting range (lower value)..... $\geq 58\text{ °C}$   
 Melting range (upper value)..... $\leq 61\text{ °C}$   
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41051.0010	Glass bottle	10 g	inquire

## 841190 4-(Methylthio)benzaldehyde for synthesis



C<sub>8</sub>H<sub>8</sub>OS

### 4-(Methylmercapto)benzaldehyde

- CAS-No. 3446-89-7 ■ EC-No. 222-365-7
- Spec. density 1.144 g/cm<sup>3</sup> (20 °C)

- Flash point >110 °C ■ M = 152.22 g/mol
- Boiling point 118 - 121 °C (16 hPa)
- WGK 3
- LGK 10
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(4-(METHYLTHIO)-BENZALDEHYDE),

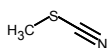
9, III

### Specification

Assay (GC, area%)..... $\geq 97,0\%$  (a/a)  
 Density (d 20 °C/ 4 °C).....1.166 - 1.171  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41190.0025	Glass bottle	25 ml	inquire

## 821841 Methyl thiocyanate for synthesis



C<sub>2</sub>H<sub>3</sub>NS

CH<sub>3</sub>SCN

### Thiocyanic acid methyl ester

- CAS-No. 556-64-9 ■ EC-No. 209-134-6
- Refractive index 1.4745 (15 °C, 589 nm)
- Vapour pressure 16.1 hPa (25 °C)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point 38 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 73.12 g/mol ■ Melting point -5 °C ■ Boiling point 131 °C

- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P260, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 60 mg/kg
- LGK 3 ■ Store below +15°C.
- HS-No. 2930 90 99 ■ Disposal 9
- ADR-RID UN 3080 Isocyanate, giftig, entzündbar, n.a.g.(METHYLTHIOCYANAT), 6.1 (3), II
- IMDG-Code UN 3080 ISOCYANATES, TOXIC, FLAMMABLE, N.O.S.(METHYLTHIOCYANATE), 6.1

(3), II

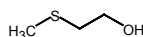
- IATA-DGR UN 3080 ISOCYANATES, TOXIC, FLAMMABLE, N.O.S.(METHYLTHIOCYANATE), 6.1 (3), II

### Specification

Assay (GC, area%)..... $\geq 96,0\%$  (a/a)  
 Density (d 20 °C/ 4 °C).....1,072 - 1,074  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.21841.0050	Glass bottle	50 ml	inquire

## 841481 2-(Methylthio)-ethanol for synthesis



C<sub>3</sub>H<sub>8</sub>OS

### 2-Hydroxyethyl methyl sulfide, 2-(Methylmercapto)ethanol

- CAS-No. 5271-38-5 ■ EC-No. 226-090-3
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)
- Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 92.16 g/mol ■ Boiling point 169 - 171 °C

- (1013 hPa)
- WGK 3
- LGK 10
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-(METHYLTHIO)-ETHANOL), 6.1, III
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-(METHYLTHIO)ETHANOL), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-(METHYLTHIO)ETHANOL), 6.1, III

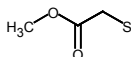
### Specification

Assay (GC, area%)..... $\geq 99,0\%$  (a/a)  
 Density (d 20 °C/ 4 °C).....1.058 - 1.063  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41481.0025	Glass bottle	25 ml	inquire



## 820765 Methyl thioglycolate for synthesis



C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>S  
 HSCH<sub>2</sub>COOCH<sub>3</sub>  
*Thioglycolic acid methyl ester, Mercaptoacetic acid methyl ester, Methyl mercaptoacetate*  
 ■ CAS-No. 2365-48-2 ■ EC-No. 219-121-7  
 ■ Refractive index 1.4657 (20 °C, 589 nm)  
 ■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 56 °C ■ Solub. in H<sub>2</sub>O 40 g/l (20 °C)  
 ■ M = 106.14 g/mol ■ Melting point -3 °C  
 ■ Boiling point 146 - 149 °C (1013 hPa)  
 ■ WGK 1

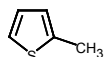
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 84 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 3071 Mercaptane, flüssig, giftig, entzündbar, n.a.g.(METHYLTHIOGLYCOLAT), 6.1 (3), II ■ IMDG-Code UN 3071 MERCAPTANS, LIQUID, TOXIC, FLAMMABLE,

N.O.S.(METHYLTHIOGLYCOLATE), 6.1 (3), II  
 ■ IATA-DGR UN 3071 MERCAPTANS, LIQUID, TOXIC, FLAMMABLE, N.O.S.(METHYLTHIOGLYCOLATE), 6.1 (3), II  
**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.162 - 1.165  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20765.0250	Glass bottle	250 ml	inquire
8.20765.1000	Glass bottle	1 l	inquire

Methylthionium chloride → page 1149

## 820838 2-Methylthiophene for synthesis



C<sub>5</sub>H<sub>6</sub>S  
*α-Thiolenol*  
 ■ CAS-No. 554-14-3 ■ EC-No. 209-063-0  
 ■ Refractive index 1.5199 (20 °C, 589 nm)  
 ■ Vapour pressure 20 hPa (20 °C)  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 8 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ M = 98.17 g/mol ■ Melting point -63 °C

■ Boiling point 112 - 113 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P262  
 ■ LD50 oral rat 3200 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-METHYLTHIOPHEN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHYLTHIOPHENE), 3, II

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-METHYLTHIOPHENE), 3, II  
**Specification**  
 Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.017 - 1.021  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20838.0025	Glass bottle	25 ml	inquire
8.20838.0100	Glass bottle	100 ml	inquire

## 841302 3-Methylthiophene for synthesis



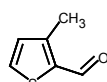
C<sub>5</sub>H<sub>6</sub>S  
 ■ CAS-No. 616-44-4 ■ EC-No. 210-482-6  
 ■ Vapour pressure 24 hPa (20 °C)  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 11 °C ■ Solub. in H<sub>2</sub>O 0.40 g/l (25 °C) ■ M = 98.17 g/mol ■ Melting point -69 °C  
 ■ Boiling point 115 - 117 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
 ■ LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(3-METHYLTHIOPHEN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(3-METHYLTHIOPHENE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(3-METHYLTHIOPHENE), 3, II  
**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.019 - 1.024  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41302.0025	Glass bottle	25 ml	inquire
8.41302.0100	Glass bottle	100 ml	inquire

## 841291 3-Methylthiophene-2-carbaldehyde for synthesis



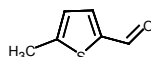
C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>S  
 ■ CAS-No. 5834-16-2 ■ EC-No. 227-418-8

■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 82 °C ■ M = 126.18 g/mol  
 ■ WGK 1  
 ■ LD50 oral rat 2204 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2934 99 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 90.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.180 - 1.190  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41291.0025	Glass bottle	25 ml	inquire

## 841255 5-Methylthiophene-2-carbaldehyde for synthesis



C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>S  
 ■ CAS-No. 13679-70-4 ■ EC-No. 237-178-6  
 ■ Spec. density 1.18 g/cm<sup>3</sup> (20 °C)

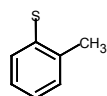
■ Flash point 87 °C ■ M = 126.18 g/mol  
 ■ Boiling point 114 °C (33 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2934 99 90 ■ Disposal 3

Density (d 20 °C/ 4 °C)..... 1.156 - 1.162  
 Identity (IR)..... passes test

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.41255.0010	Glass bottle	10 ml	inquire

## 814976 2-Methylthiophenol for synthesis



C<sub>7</sub>H<sub>8</sub>S  
*o-Thiocresol*  
 ■ CAS-No. 137-06-4 ■ EC-No. 205-276-8  
 ■ Spec. density 1.054 g/cm<sup>3</sup> ■ Explosive limit 1.1 % (V) ■ Flash point 63 °C ■ Solub. in

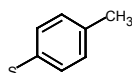
H<sub>2</sub>O (20 °C) insoluble ■ M = 124.21 g/mol  
 ■ Melting point 14 °C ■ Boiling point 194 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 6

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14976.0005	Glass bottle	5 ml	inquire
8.14976.0025	Glass bottle	25 ml	inquire



## 821130 4-Methylthiophenol for synthesis

C<sub>7</sub>H<sub>8</sub>S4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>SH*p*-Tolyl mercaptan, *p*-Thiocresol

■ CAS-No. 106-45-6 ■ EC-No. 203-399-1

■ Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 124.21 g/mol

■ Melting point 39 - 42 °C ■ Boiling point 195 °C

(1013 hPa)

■ WGK 3

■ GHS: Warning, Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 9

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-METHYLTHIOPHENOL), 6.1, II

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-METHYLTHIOPHENOL), 6.1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(4-METHYLTHIOPHENOL), 6.1, II

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)

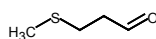
Melting range (lower value)..... ≥ 39 °C

Melting range (upper value)..... ≤ 42 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21130.0100	Glass bottle	100 g	inquire
8.21130.0250	Glass bottle	250 g	inquire

## 841168 3-(Methylthio)-propionaldehyde for synthesis

C<sub>4</sub>H<sub>8</sub>OS*Methional*

■ CAS-No. 3268-49-3 ■ EC-No. 221-882-5

■ Vapour pressure 0.53 hPa (20 °C)

■ Spec. density 1.052 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 26.1 % (V) ■ Flash point 63 °C ■ Solub. in H<sub>2</sub>O ≤ 75 g/l (20 °C) ■ M = 104.17 g/mol

■ Melting point -58 °C

■ Boiling point 165 - 166 °C (1013 hPa)

■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin sensitisation, Category 1, H317; Eye irritation, Category 2, H319; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P280, P302 + P352, P305 + P351 + P338

■ LC50 rat ≥ 4.84 mg/l

■ LD50 oral rat 755 mg/kg ■ LD50 dermal rat 1650 mg/kg

■ LGK 6.1C ■ Store below +15 °C.

■ HS-No. 2930 90 99 ■ Disposal 6

■ ADR-RID UN 2785 4-Thiapentanal, 6.1, III

■ IMDG-Code UN 2785 4-THIAPENTANAL, 6.1, III

■ IATA-DGR UN 2785 4-THIAPENTANAL, 6.1, III

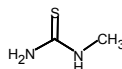
## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41168.0010	Glass bottle	10 ml	inquire

## 820837 N-Methylthiourea for synthesis

C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>SH<sub>2</sub>NCSNHCH<sub>3</sub>

■ CAS-No. 598-52-7 ■ EC-No. 209-936-6

■ Vapour pressure 2.96 hPa (25 °C) (Lit.) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 90.15 g/mol

■ Melting point 118 - 121 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Oral, H300, P309 + P310

■ LD50 oral rat 50 mg/kg

■ LGK 6.1A

■ HS-No. 2930 90 99 ■ Disposal 9

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-METHYLTHIOHARNSTOFF), 6.1, II

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-METHYLTHIOUREA), 6.1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-METHYLTHIOUREA), 6.1, II

## Specification

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 118 °C

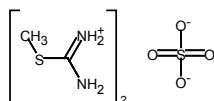
Melting range (upper value)..... ≤ 121 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20837.0025	Glass bottle	25 g	inquire
8.20837.0100	Plastic bottle	100 g	inquire

Methylthiourea polystyrene (200-400 mesh), 2% DVB → page 282

## 805706 S-Methylthiuronium sulfate for synthesis

C<sub>4</sub>H<sub>14</sub>N<sub>4</sub>O<sub>4</sub>S<sub>3</sub>[CH<sub>3</sub>SC(=NH)NH<sub>2</sub>]<sub>2</sub> \* H<sub>2</sub>SO<sub>4</sub>*S*-Methylisothiurea sulfate

■ CAS-No. 867-44-7 ■ EC-No. 212-759-7

■ Spec. density 1.28 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 260 g/l (20 °C) ■ M = 278.38 g/mol■ pH value 5.5 (260 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 240 - 241 °C (decomposition)

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302

■ LD50 oral rat 1228 mg/kg

■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 3

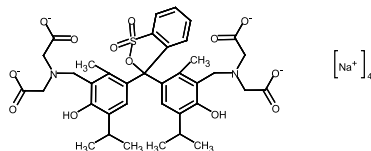
## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99.0 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.05706.0250	Plastic bottle	250 g	inquire

## 106084 Methylthymol blue sodium salt metal indicator

C<sub>37</sub>H<sub>40</sub>N<sub>2</sub>Na<sub>4</sub>O<sub>13</sub>S

■ CAS-No. 1945-77-3 ■ EC-No. 217-743-3

■ Solub. in H<sub>2</sub>O 460 g/l (20 °C) ■ M = 844.76 g/mol■ pH value 6.2 (10 g/l, H<sub>2</sub>O, 20 °C)■ Bulk density 570 kg/m<sup>3</sup>

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2934 99 90 ■ Disposal 3

Use as metal indicator: 1 % in ethanol (96%) or 1:100 KNO<sub>3</sub>

## Specification

Identity (UV/VIS-Spectrum)..... passes test

Absorption maximum λ 1 (buffer pH 7.0).....

..... 602 - 606 nm

Absorption maximum λ 2 (buffer pH 7.0).....

..... 430 - 450 nm

Spec. Absorptivity A 1%/1cm (λ<sub>1max</sub>; 0.04 g/l;

buffer pH 7.0; calc. on dried substance)

..... ≥ 60

..... ≥ 85

Loss on drying (50 °C/ &lt; 1 hPa; 3h)..... ≤ 7 %

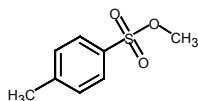
Suitability as indicator (for metal titration)...passes test

Ord.No.	Packaging	Quantity	Price
1.06084.0001	Glass bottle	1 g	inquire
1.06084.0005	Glass bottle	5 g	inquire

Methyl *p*-toluate → Methyl 4-methylbenzoate page 1161

# Methyl

## 808333 Methyl-4-toluenesulfonate for synthesis



$C_8H_{10}O_3S$   
 $4-(CH_3)C_6H_4SO_3CH_3$   
*p*-Toluenesulfonic acid methyl ester  
 ■ CAS-No. 80-48-8 ■ EC-No. 201-283-5  
 ■ Spec. density 1.23 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 130 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 186.23 g/mol

- Melting point 24 - 27 °C ■ Boiling point 292 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352, P305 + P351 + P338
- LD50 oral rat 341 mg/kg
- LGK 10 - 13
- HS-No. 2905 19 00 ■ Disposal 3

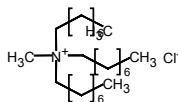
### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 24 °C  
 Melting range (upper value)..... ≤ 29 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08333.0100	Glass bottle	100 ml	inquire
8.08333.0500	Glass bottle	500 ml	inquire
8.08333.2500	Glass bottle	2.5 l	inquire
8.08333.9025	Plastic container	25 l	inquire

Methyl *p*-tolyl ketone → 4'-Methylacetophenone page 1129

## 818079 Methyltrialkylammonium chloride (mixture of C8-C10) for synthesis



$CH_3N(C_8-C_{10} \text{ n-Alkyl})_3Cl$   
*Triquat*® (\* = Trade mark of Henkel Corp. USA), *Methyltriethylamine hydrochloride*  
 ■ CAS-No. 63393-96-4 ■ EC-No. 264-120-7  
 ■ Vapour pressure < 1.3 hPa  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C)  
 ■ Boiling point >240 °C  
 ■ WGK 3

- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 1, H410, P280, P273, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 220 mg/kg
- LGK 6.1 C
- HS-No. 2923 90 00 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(TRIALKYL(C8-C10)METHYLAMMONIUMCHLORID), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(TRIALKYL(C8-C10)METHYLAMMONIUMCHLORIDE), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(TRIALKYL(C8-C10)METHYLAMMONIUMCHLORIDE), 6.1, III

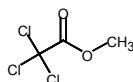
### Specification

Assay (argentometric)..... 85,0 - 95,0 %(m)  
 Density (d 20 °C/ 4 °C)..... 0,887 - 0,890  
 Water (K. F.)..... 2,0 - 5,0 %(m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18079.0005	Glass bottle	5 ml	inquire
8.18079.0250	Glass bottle	250 ml	inquire
8.18079.1000	Glass bottle	1 l	inquire

Methyltributylammonium chloride → Tributylmethylammonium chloride page 1575

## 822168 Methyl trichloroacetate for synthesis



$C_3H_2Cl_3O_2$   
 $CCl_3COOCH_3$   
*Trichloroacetic acid methyl ester*  
 ■ CAS-No. 598-99-2 ■ EC-No. 209-960-7  
 ■ Refractive index 1.4572 (20 °C, 589 nm)  
 ■ Spec. density 1.49 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O 1050 mg/l

- (25 °C) ■ M = 177.41 g/mol ■ Melting point - 17.5 °C ■ Boiling point 154 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10
- HS-No. 2915 40 00 ■ Disposal 3
- ADR-RID UN 2533 Methyltrichloracetat, 6.1, III
- IMDG-Code UN 2533 METHYL TRICHLOROACETATE, 6.1, III

■ IATA-DGR UN 2533 METHYL TRICHLOROACETATE, 6.1, III

### Specification

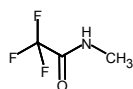
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1,485 - 1,487  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22168.0050	Glass bottle	50 ml	inquire
8.22168.0250	Glass bottle	250 ml	inquire

Methyltrichlorosilane → Trichloromethylsilane page 1580

Methyltriethoxysilane → Triethoxymethylsilane page 1584

## 841591 N-Methyl-2,2,2-trifluoroacetamide for synthesis



$C_3H_4F_3NO$   
 ■ CAS-No. 815-06-5 ■ EC-No. 212-417-7  
 ■ Flash point 73 °C ■ M = 127.07 g/mol

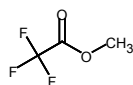
- Melting point 48 - 51 °C
- Boiling point 156 - 157 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 48 °C  
 Melting range (upper value)..... ≤ 51 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41591.0005	Glass bottle	5 g	inquire

## 808263 Methyl trifluoroacetate for synthesis



$C_3H_3F_3O_2$   
 $CF_3COOCH_3$   
*Trifluoroacetic acid methyl ester*  
 ■ CAS-No. 431-47-0 ■ EC-No. 207-074-5  
 ■ Spec. density 1.28 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 6.1 - 24.8 %(V) ■ Flash point -18 °C ■ Solub.

- in H<sub>2</sub>O 8 g/l (20 °C) ■ M = 128.05 g/mol
- pH value 7 (8 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point - 78 °C ■ Boiling point 41 - 43 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Serious eye damage, Category 1, H318, P210, P223, P280, P305 + P351 + P338, P313
- LGK 3 ■ Store below +15°C.
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(METHYL-TRIFLUOROACETAT), 3, II ■ IMDG-Code UN 3272

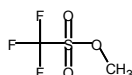
ESTERS, N.O.S.(METHYLTRIFLUORO ACETATE), 3, II  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(METHYLTRIFLUORO ACETATE), 3, II

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,280 - 1,285  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08263.0025	Glass bottle	25 ml	inquire
8.08263.0100	Glass bottle	100 ml	inquire

## 818035 Methyl trifluoromethanesulfonate for synthesis

C<sub>2</sub>H<sub>3</sub>F<sub>3</sub>O<sub>3</sub>SCF<sub>3</sub>SO<sub>3</sub>CH<sub>3</sub>

Trifluoromethanesulfonic acid methyl ester

■ CAS-No. 333-27-7 ■ EC-No. 206-371-7

■ Refractive index 1.3228 (25 °C, 589 nm)

■ Spec. density 1.49 g/cm<sup>3</sup> (20 °C)

■ Flash point 38 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 164.1 g/mol

■ Boiling point 99 °C (1013 hPa)

■ WGK 3

■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 3

■ HS-No. 2905 19 00 ■ Disposal 3

■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(METHYL-TRIFLUORMETHANSULFONAT), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(METHYLTRIFLUOROMETHANSULFONATE), 8 (3), II

■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(METHYLTRIFLUOROMETHANSULFONATE), 8 (3), II

## Specification

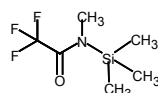
Assay (GC, area%)..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,480 - 1,495  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18035.0010	Glass bottle	10 ml	inquire

Methyltriglycol → Triethylene glycol monomethyl ether page 1586

Methyltrimethoxysilane → Trimethoxymethylsilane page 1599

## 841102 N-Methyl-N-trimethylsilyl-trifluoroacetamide for synthesis

C<sub>6</sub>H<sub>12</sub>F<sub>3</sub>NOSi

MSTFA

■ CAS-No. 24589-78-4 ■ EC-No. 246-331-6

■ Spec. density 1.085 g/cm<sup>3</sup> ■ Flash point 25 °C

■ M = 199.25 g/mol ■ Boiling point 130 - 132 °C (1013 hPa)

■ WGK 3

■ GHS: Warning, Flammable liquid, Category 3,

H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 3

■ HS-No. 2931 90 90 ■ Disposal 3

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(N-METHYL-N-(TRIMETHYLSILYL)-2,2,2-TRIFLUOROACETAMID), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(N-METHYL-N-(TRIMETHYLSILYL)-2,2,2-TRIFLUOROACETAMIDE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(N-METHYL-N-(TRIMETHYLSILYL)-2,2,2-TRIFLUOROACETAMIDE), 3, III

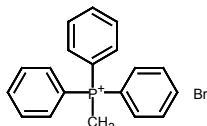
## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,078 - 1,087  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41102.0002	Glass bottle	2 ml	inquire
8.41102.0005	Glass bottle	5 ml	inquire
8.41102.0025	Glass bottle	25 ml	inquire

Methyltriethylamine hydrochloride → Methyltrialkylammonium chloride page 1184

## 806116 Methyltriphenylphosphonium bromide for synthesis

C<sub>19</sub>H<sub>18</sub>BrP

■ CAS-No. 1779-49-3 ■ EC-No. 217-218-9

■ Vapour pressure 0.0000002 hPa

■ Flash point >240 °C ■ Solub. in H<sub>2</sub>O 342 g/l(20 °C) ■ M = 357.22 g/mol ■ pH value 6.0 - 6.5 (400 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 230 - 233 °C■ Bulk density 280 - 320 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 2, H411, P260, P262, P273, P309 + P310

■ LD50 oral rat 118 mg/kg

■ LGK 6.1C

■ HS-No. 2931 90 90 ■ Disposal 3

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(METHYLTRIPHENYLPHOSPHONIUMBROMID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(METHYLTRIPHENYLPHOSPHONIUM BROMIDE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(METHYLTRIPHENYLPHOSPHONIUM BROMIDE), 6.1, III

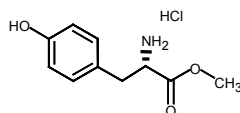
## Specification

Assay (argentometric)..... ≥ 98,0 %(m)  
Melting range (lower value)..... ≥ 230 °C  
Melting range (upper value)..... ≤ 233 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06116.0100	Plastic bottle	100 g	inquire

4-Methyltrityl chloride → page 280

## 841414 L-Methyltyrosinate hydrochloride for synthesis

C<sub>10</sub>H<sub>14</sub>ClNO<sub>3</sub>

L-Tyrosine methyl ester hydrochloride, 2-Amino-3-(4-hydroxyphenyl)propionic acid methylester

## hydrochloride

■ CAS-No. 3417-91-2 ■ EC-No. 222-313-3

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 231.68 g/mol ■ Melting point 188 - 191 °C (decomposition)

■ WGK 3

■ GHS: P262

■ LGK 10 - 13

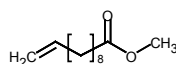
■ HS-No. 2922 50 00 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 98,0 %  
Melting range (lower value)..... ≥ 188 °C  
Melting range (upper value)..... ≤ 191 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup> (c=3.48 in pyridine).....  
..... 73.0 - 77.0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41414.0025	Plastic bottle	25 g	inquire

## 840019 Methyl-10-undecenoate for synthesis

C<sub>12</sub>H<sub>22</sub>O<sub>2</sub>

10-Undecenoic acid methyl ester

■ CAS-No. 111-81-9 ■ EC-No. 203-910-8

■ Vapour pressure &lt; 0.1 hPa (20 °C)

■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C)

■ Flash point 115 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 198.3 g/mol ■ Melting point -24 °C ■ Boiling point 248 °C

■ Ignition temp. 250 °C

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273

■ LC50 rat 3.76 mg/l

■ LD50 oral rat 1563 mg/kg

■ LGK 10 - 13

■ HS-No. 2916 19 10 ■ Disposal 3

■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(METHYL-10-UNDECENAT), 9, III

■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(METHYL-

10-UNDECENOATE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(METHYL-10-UNDECENOATE), 9, III

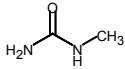
## Specification

Assay (GC, area%)..... ≥ 96,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.884 - 0.888  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40019.0025	Glass bottle	25 ml	inquire

# Methyl

## 820800 N-Methylurea for synthesis



C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O  
 CH<sub>3</sub>NHCONH<sub>2</sub>  
 ■ CAS-No. 598-50-5 ■ EC-No. 209-935-0  
 ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 74.08 g/

mol ■ pH value 6.7 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 98 - 102 °C  
 ■ Bulk density 450 kg/m<sup>3</sup> ■ Ignition temp. >240 °C  
 ■ WGK 1  
 ■ LC50 rat > 5.7 mg/l  
 ■ LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13

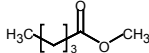
■ HS-No. 2924 19 00 ■ Disposal 3

### Specification

Assay (ex N) ..... ≥ 97.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20800.0250	Plastic bottle	250 g	inquire

## 814857 Methyl valerate for synthesis



C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>  
*Methyl valerate, Valeric acid methyl ester, Pentanoic acid methyl ester*  
 ■ CAS-No. 624-24-8 ■ EC-No. 210-838-0  
 ■ Vapour pressure ≤ 1 hPa  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 29 °C ■ Solub. in H<sub>2</sub>O 5 g/l (25 °C)

■ M = 116.16 g/mol ■ Melting point -91 °C  
 ■ Boiling point 127 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LD50 oral rat ≥ 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2915 60 90 ■ Disposal 3  
 ■ ADR-RID UN 3272 Ester, n.a.g.(METHYLVALERAT), 3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(METHYL VALERATE), 3, III

■ IATA-DGR UN 3272 ESTERS, N.O.S.(METHYL VALERATE), 3, III

### Specification

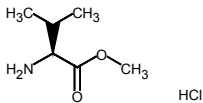
Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.888 - 0.891  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14857.0100	Glass bottle	100 ml	inquire
8.14857.0500	Glass bottle	500 ml	inquire

2-Methylvaleric acid → 2-Methylpentanoic acid  
 page 1167

4-Methylvaleric acid → 4-Methyl pentanoic acid  
 page 1167

## 841600 L-Methyl valinate hydrochloride for synthesis



C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub> \* ClH  
 ■ CAS-No. 6306-52-1 ■ EC-No. 228-620-9

■ M = 167.63 g/mol  
 ■ Melting point 153 - 156 °C (decomposition)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85

Melting range (lower value) ..... ≥ 153 °C  
 Melting range (upper value) ..... ≤ 156 °C  
 Identity (IR) ..... passes test

### Specification

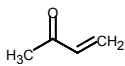
Assay (argentometric) ..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.41600.0010	Plastic bottle	10 g	inquire

3-Methyl-L-valine → L-(+)-tert-Leucine page 1076

Methylvinylchlorosilane →  
 Dichloromethylvinylsilane page 726

## 805901 Methyl vinyl ketone (stabilised) for synthesis



C<sub>4</sub>H<sub>6</sub>O  
 CH<sub>3</sub>COCH=CH<sub>2</sub>  
*1-Buten-3-one, MVK, Vinyl methyl ketone*  
 ■ CAS-No. 78-94-4 ■ EC-No. 201-160-6  
 ■ Refractive index 1.413 (20 °C, 589 nm) ■ Vapour pressure 100 hPa (20 °C) ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 - 15.6 % (V)  
 ■ Flash point -7 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 70.09 g/mol ■ Melting point -7 °C  
 ■ Boiling point 80 - 81 °C (1013 hPa)  
 ■ Ignition temp. 491 °C

■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 1, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.007 mg/l  
 ■ LD50 oral rat 23.1 mg/kg ■ LD50 dermal rat 35 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 9

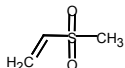
■ ADR-RID UN 1251 Methylvinylketon, stabilisiert, 6.1 (3, 8), I ■ IMDG-Code UN 1251 METHYL VINYL KETONE, STABILIZED, 6.1 (3, 8), I  
 ■ IATA-DGR UN 1251 METHYL VINYL KETONE, STABILIZED, 6.1 (3, 8),

### Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.850 - 0.860  
 Water (GC, area%) ..... ≤ 5.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.05901.0100	Glass bottle	100 ml	inquire
8.05901.0250	Glass bottle	250 ml	inquire

## 841371 Methyl vinyl sulfone for synthesis



C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>S  
 ■ CAS-No. 3680-02-2 ■ EC-No. 222-958-0  
 ■ Spec. density 1.212 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >109 °C ■ M = 106.14 g/mol  
 ■ Boiling point 115 - 117 °C (25.3 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 1, Dermal,

H310; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 570 mg/kg ■ LD50 dermal rabbit 38.7 mg/kg  
 ■ LGK 6.1A ■ Store below +15°C.  
 ■ HS-No. 2930 90 99 ■ Disposal 9  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(METHYL-VINYLSULFON), 6.1, I  
 ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(METHYL VINYL SULPHONE), 6.1, I

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(METHYL VINYL SULPHONE), 6.1, I

### Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.213 - 1.221  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41371.0001	Glass bottle	1 ml	inquire



Methyl yellow → Dimethylyellow (C.I. 11020) page 807	(3-Methylbutyl)-benzene → Isopentylbenzene page 1049	MIBK → page 319
Methynol → page 186	4-(1-Methylethoxy)benzoic acid → 4-Isopropoxybenzoic acid page 1051	Michler ethylketone → 4,4'-Bis(diethylamino)-benzophenone page 467
3-Methyphenol → m-Cresol page 658	2-(1-Methylethyl)phenol → 2-Isopropylphenol page 1056	Michler ketone → 4,4'-Bis(dimethylamino)-benzophenone page 467
2-(2-Methoxyethoxy)ethanol → Diethylene glycol monomethyl ether page 301	4-(1-Methylethyl)phenol → 4-Isopropylphenol page 1056	Michler thioketone → 4,4'-Bis(dimethylamino)thiobenzophenone page 468
3-(2-Methoxyphenoxy)-1,2-propanediol → Guaiacol glyceryl ether page 931	(2-Methylpropyl)-benzene → Isobutylbenzene page 1043	Microbiology products → chapter Microbiology
trans-3-(3-Methoxyphenyl)acrylic acid → 3-Methoxycinnamic acid page 1119	3-(1-Methyl-2-pyrrolidinyl)pyridine → (-)-Nicotine page 1208	Microcosmic salt → Sodium ammonium hydrogen phosphate tetrahydrate page 1426
1-(4-Methoxyphenyl)-2-propanone → (4-Methoxyphenyl) acetone page 1123	2-(4-Methylthiazol-5-yl)ethanol → 5-(2-Hydroxyethyl)-4-methylthiazole page 982	Microscopy products → chapter In Vitro Diagnostics / Microscopy
1-(4-Methoxyphenyl)-1-propene → trans-Anethole page 417	M-FIX™ spray fixative → page 186	

## Microscopy, universal reagents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
336	100063	Acetic acid (glacial) 100%	318	100859	Ethylene glycol monomethyl ether	1335	807347	Platinum(IV) chloride (57.5% Pt)
315	100014	Acetone	185	103999	Formaldehyde solution min. 37% free from acid	1335	824566	Platinum(II) chloride (73% Pt)
298	115500	Acetonitrile	185	104239	Glutardialdehyde solution 25%	1345	104928	Potassium carbonate
315	100003	Acetonitrile	188	104095	Glutardialdehyde solution 25%	1346	104936	Potassium chloride
357	112018	Albumin fraction V	318	104094	Glycerol 85%	1347	104967	Potassium cyanide
368	101031	Aluminium ammonium sulfate dodecahydrate	186	111955	Hemacolor® Rapid staining of blood smear	1348	104864	Potassium dichromate
370	101047	Aluminium potassium sulfate dodecahydrate	187	111609	Histosec® pastilles	1349	104873	Potassium dihydrogen phosphate
406	105432	Ammonia solution 25%	187	115161	Histosec® pastilles (without DMSO)	1350	104875	Potassium dihydrogen phosphate solution
412	103776	Ammonium iron(III) sulfate dodecahydrate	169	109057	Hydrochloric acid	1351	104984	Potassium hexacyanoferrate(II) trihydrate
315	101261	Aniline	169	109063	Hydrochloric acid	1353	104874	Potassium hydrogen phthalate
187	108562	Aquatex®	966	100316	Hydrochloric acid 25%	1354	105033	Potassium hydroxide
480	100165	Boric acid	968	100317	Hydrochloric acid fuming 37%	1359	105043	Potassium iodide
507	806210	1-Bromonaphthalene	192	100327	Hydrochloric acid in ethanol	308	100996	1-Propanol
526	107294	Buffer solution	973	107209	Hydrogen peroxide 30%	320	100997	1-Propanol
189	111373	Buffer tablets pH 6.4	975	822333	Hydroquinone	320	109634	2-Propanol
189	111374	Buffer tablets pH 6.8	188	104699	Immersion oil	1405	107593	Resorcinol
189	109468	Buffer tablets pH 7.2	188	115577	Immersion oil acc. to ISO 8036	201	109033	Schiff's reagent
299	101974	n-Butyl acetate	1005	104761	Iodine	1421	101512	Silver nitrate
316	109652	n-Butyl acetate	1038	103943	Iron(III) chloride hexahydrate	1429	106392	Sodium carbonate
562	102382	Calcium chloride dihydrate	187	109242	Kaiser's glycerol gelatine	1430	106404	Sodium chloride
187	101691	Canada balsam	186	112327	LEUCOGNOST® Fixing Mixture	1434	106528	Sodium disulfite
570	102211	Carbon disulfide	1081	105680	Lithium carbonate	1436	106329	Sodium hydrogen carbonate
316	102445	Chloroform	188	103973	Merckoglas®	1437	106586	di-Sodium hydrogen phosphate
641	100229	Chromium(VI) oxide	1104	104419	Mercury(II) chloride	1437	106580	di-Sodium hydrogen phosphate dihydrate
641	101036	Chromium(III) potassium sulfate dodecahydrate	319	106009	Methanol	1438	106587	di-Sodium hydrogen phosphate solution
644	802505	trans-Cinnamaldehyde	305	106059	Methyl benzoate	1441	105587	Sodium hydroxide solution about 32%
300	800952	1,2-Dibromoethane	186	103981	M-FIX™ spray fixative	1445	106525	Sodium iodate
301	100923	Diethyl ether	1190	100532	Molybdato-phosphoric acid hydrate	1451	820151	di-Sodium succinate hexahydrate
316	100921	Diethyl ether	197	109843	Neo-Clear®	167	106306	di-Sodium tetraborate
764	106053	Diiodomethane	188	109016	Neo-Mount®	167	106310	di-Sodium tetraborate
302	802936	2,2-Dimethoxypropane	1211	100443	Nitric acid 65%	192	108000	Sputofluor®
43	109669	Dinonyl phthalate	188	106965	Oil of cedar wood	1526	101582	Tetrachloroauric(III) acid trihydrate 99.5%
302	103115	1,4-Dioxane	186	109266	Osmic acid solution 2%	308	108114	Tetrahydrofuran
317	109671	1,4-Dioxane	186	124505	Osmium(VIII) oxide	320	109731	Tetrahydrofuran
187	107960	Entellan®	186	101736	OSTEOMOLL®	309	108323	Toluene
188	107961	Entellan® new	187	107164	Paraffin pastilles	320	108325	Toluene
838	800795	1,2-Ethanedithiol	1278	100524	Periodic acid	1576	100807	Trichloroacetic acid
317	100983	Ethanol	1289	100206	Phenol	309	100958	Trichloroethylene
317	100974	Ethanol				1584	821619	3-(Triethoxysilyl)propylamine
303	100949	Ethylene glycol				1616	108382	Tris(hydroxymethyl)aminomethane
318	109621	Ethylene glycol				1621	100583	Tungstophosphoric acid hydrate



# Milkan

## Milk analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
50	116892	Ammonium Test	65	116720	Glucose Test	75	116976	Peracetic Acid Test
52	116981	Ascorbic Acid Test	67	116127	Lactic Acid Test	75	116974	Peroxide Test
53	116125	Calcium Test	68	116124	Magnesium Test	75	116731	Peroxide Test
95	110537	Carrez Clarification Kit	71	116995	Nitrate Test	1426	106687	Sodium azide tablets
56	116896	Chlorine Test	75	116975	Peracetic Acid Test			

## Milk analysis with the Reflectoquant® system

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
50	116892	Ammonium Test	65	116720	Glucose Test	75	116974	Peroxide Test
52	116981	Ascorbic Acid Test	67	116127	Lactic Acid Test	75	116731	Peroxide Test
53	116125	Calcium Test	68	116124	Magnesium Test	91	116970	Reflectometer
95	110537	Carrez Clarification Kit	71	116995	Nitrate Test	91	116998	Software
91	116957	Check Set	75	116975	Peracetic Acid Test			
56	116896	Chlorine Test	75	116976	Peracetic Acid Test			

Milk industry → Hygiene monitoring

## Mineral separation

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
501	101944	Bromoform	764	106053	Diiodomethane			

Mixed bed exchanger → page 8

## 101359 Mixed indicator 4.5 acc. to Mortimer

- Spec. density 0.93 g/cm<sup>3</sup> (20 °C)
- Flash point 9 °C
- Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 4.8 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210
- LGK 3

- HS-No. 3822 00 00
- Disposal 3
- ADR-RID UN 1170 Ethanol, 3, II
- IMDG-Code UN 1170 ETHANOL, 3, II
- IATA-DGR UN 1170 ETHANOL, 3, II

**Specification**  
Application test.....conforms

pH-value (20 °C)..... 4.5 - 5.0

Ord.No.	Packaging	Quantity	Price
1.01359.0250	Plastic bottle	250 ml	inquire

## 106130 Mixed indicator 5 for ammonia titrations

- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 14 °C
- Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 4.4 - 5.8 (H<sub>2</sub>O, 20 °C)
- Ignition temp. 425 °C (ethanol)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233

- HS-No. 3822 00 00
- Disposal 3
- ADR-RID UN 1170 Ethanol, 3, II
- IMDG-Code UN 1170 ETHANOL, 3, II
- IATA-DGR UN 1170 ETHANOL, 3, II

**Specification**  
Application test.....conforms

pH-value (20 °C)..... 5.0 - 5.5

Ord.No.	Packaging	Quantity	Price
1.06130.0250	Glass bottle	250 ml	inquire
1.06130.1000	Glass bottle	1 l	inquire

MMA → Methyl methacrylate page 1160

MNPT → 2-Methyl-4-nitroaniline page 1163

Modifier → Magnesium matrix modifier page 166

MNCB → 1-Chloro-3-nitrobenzene page 623

MO → Methyl orange (C.I. 13025) page 1166

## Molecular biology, reagents and reagent kits

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
351	100209	Acrylamide	1090	101193	MagPrep® Silica Particles			
484	101894	Brij® 35 solution	1148	101546	N,N'-Methylenbisacrylamide			

## Molecular sieve

### Molecular sieve 0,3 nm

#### 105704 Molecular sieve 0.3 nm beads ~ 2 mm

Sodium aluminium silicate

- CAS-No. 1318-02-1
- EC-No. 215-283-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Bulk density 700 - 750 kg/m<sup>3</sup>
- WGK 1
- GHS: P260
- LGK 10 - 13

- HS-No. 3824 90 15
- Disposal 32

**Specification**  
Identity.....passes test  
Loss on ignition (950 °C).....≤ 5 %  
Water absorption capacity.....≥ 20 %

Ord.No.	Packaging	Quantity	Price
1.05704.0250	Plastic bottle	250 g	inquire
1.05704.1000	Plastic bottle	1 kg	inquire
1.05704.9010	Bucket, plastic	10 kg	inquire

#### 105734 Molecular sieve 0.3 nm beads, with moisture indicator ~ 2 mm

- pH value (H<sub>2</sub>O) not applicable
- WGK 1
- LGK 10 - 13
- HS-No. 3824 90 15
- Disposal 32
- Colour changes from brown to yellowish

**Specification**  
Identity.....passes test  
Loss on ignition (950 °C).....≤ 5 %  
Water absorption capacity (24 hrs.,80 % relative humidity).....≥ 20 %

Ord.No.	Packaging	Quantity	Price
1.05734.0250	Plastic bottle	250 g	inquire
1.05734.1000	Plastic bottle	1 kg	inquire

**105706 Molecular sieve 0.3 nm powder***Sodium aluminium silicate*

- CAS-No. 1318-02-1 ■ EC-No. 215-283-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Bulk density 700 - 750 kg/m<sup>3</sup>
- WGK 1
- GHS: P260

- LGK 10 - 13
- HS-No. 3824 90 15 ■ Disposal 32

**Specification**

Identity..... conforms  
Loss on ignition (950 °C) ..... ≤ 5 %

Water absorption capacity (24 hrs.,80 % relative humidity)..... ≥ 15 %

Ord.No.	Packaging	Quantity	Price
1.05706.0250	Glass bottle	250 g	inquire

**105741 Molecular sieve 0.3 nm rods ~ 1.6 mm (1/16")***Sodium aluminium silicate*

- CAS-No. 1318-02-1 ■ EC-No. 215-283-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Bulk density 700 - 750 kg/m<sup>3</sup>
- WGK 1
- GHS: P260
- LGK 10 - 13

- HS-No. 3824 90 15 ■ Disposal 32

**Specification**

Identity..... conforms  
Loss on ignition (950 °C) ..... ≤ 10 %  
Water absorption capacity (24 hrs.,80 % relative humidity)..... ≥ 15 %

Ord.No.	Packaging	Quantity	Price
1.05741.0250	Plastic bottle	250 g	inquire
1.05741.1000	Plastic bottle	1 kg	inquire
1.05741.9010	Bucket, plastic	10 kg	inquire

**Molecular sieve 0,4 nm****105708 Molecular sieve 0.4 nm beads ~ 2 mm Reag. Ph Eur***Sodium aluminium silicate*

- CAS-No. 1318-02-1 ■ EC-No. 215-283-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Bulk density 700 - 750 kg/m<sup>3</sup>
- WGK 1
- GHS: P260
- LGK 10 - 13

- HS-No. 3824 90 15 ■ Disposal 32

**Specification**

Identity..... passes test  
Loss on ignition (950 °C) ..... ≤ 5 %  
Water absorption capacity (24 hrs.,80 % relative humidity)..... ≥ 20 %

Ord.No.	Packaging	Quantity	Price
1.05708.0250	Glass bottle	250 g	inquire
1.05708.1000	Glass bottle	1 kg	inquire
1.05708.9010	Bucket, plastic	10 kg	inquire

**105739 Molecular sieve 0.4 nm beads, with moisture indicator ~ 2 mm**

- pH value (H<sub>2</sub>O) not applicable

- WGK 1
- LGK 10 - 13

- HS-No. 3824 90 15 ■ Disposal 32

Colour changes from brown to yellowish

**Specification**

Identity..... passes test  
Loss on ignition (950 °C) ..... ≤ 5 %  
Water absorption capacity (24 hrs.,80 % relative humidity)..... ≥ 20 %

Ord.No.	Packaging	Quantity	Price
1.05739.0250	Glass bottle	250 g	inquire
1.05739.1000	Glass bottle	1 kg	inquire

**105743 Molecular sieve 0.4 nm rods ~ 1.6 mm (1/16")***Sodium aluminium silicate*

- CAS-No. 1318-02-1 ■ EC-No. 215-283-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Bulk density 700 - 750 kg/m<sup>3</sup>
- WGK 1
- GHS: P260

- LGK 10 - 13
- HS-No. 3824 90 15 ■ Disposal 32

**Specification**

Identity..... passes test  
Loss on ignition (950 °C) ..... ≤ 5 %

Water absorption capacity (24 hrs.,80 % relative humidity)..... ≥ 15 %

Ord.No.	Packaging	Quantity	Price
1.05743.1000	Plastic bottle	1 kg	inquire

**Molecular sieve 0,5 nm****105705 Molecular sieve 0.5 nm beads ~ 2 mm***Sodium aluminium silicate*

- CAS-No. 1318-02-1 ■ EC-No. 215-283-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Bulk density 700 - 750 kg/m<sup>3</sup>
- WGK 1
- GHS: P260
- LGK 10 - 13

- HS-No. 3824 90 15 ■ Disposal 32

**Specification**

Identity..... passes test  
Loss on ignition (950 °C) ..... ≤ 7.5 %  
Water absorption capacity (24 hrs.,80 % relative humidity)..... ≥ 20 %

Ord.No.	Packaging	Quantity	Price
1.05705.0250	Glass bottle	250 g	inquire
1.05705.1000	Glass bottle	1 kg	inquire

**Molecular sieve 1,0 nm****105703 Molecular sieve 1.0 nm beads ~ 2 mm***Sodium aluminium silicate*

- CAS-No. 1318-02-1 ■ EC-No. 215-283-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble
- Bulk density 700 - 750 kg/m<sup>3</sup>
- WGK 1
- GHS: P260
- LGK 10 - 13

- HS-No. 3824 90 15 ■ Disposal 32

**Specification**

Identity..... passes test  
Loss on ignition (950 °C) ..... ≤ 5 %  
Water absorption capacity (24 hrs.,80 % relative humidity)..... ≥ 24 %

Ord.No.	Packaging	Quantity	Price
1.05703.1000	Glass bottle	1 kg	inquire
1.05703.9010	Bucket, plastic	10 kg	inquire

Molecular sieve 0.3 nm in drying tube → Absorption tube for H<sub>2</sub>O page 330

**Molecular sieves**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1188	105704	Molecular sieve 0.3 nm	1189	105708	Molecular sieve 0.4 nm	1189	105703	Molecular sieve 1.0 nm
1189	105706	Molecular sieve 0.3 nm	1189	105705	Molecular sieve 0.5 nm			

# Molybd

## Molybdates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
411	101180	Ammonium heptamolybdate tetrahydrate	411	101182	Ammonium heptamolybdate tetrahydrate	1447	106521	Sodium molybdate dihydrate
411	101181	Ammonium heptamolybdate tetrahydrate	1447	106524	Sodium molybdate dihydrate			

Molybdatophosphoric acid → page 14

## 100532 Molybdatophosphoric acid hydrate for analysis EMSURE® ACS, Reag. Ph Eur



H<sub>3</sub>Mo<sub>12</sub>O<sub>40</sub>P \* x H<sub>2</sub>O  
 H<sub>3</sub>[P(Mo<sub>3</sub>O<sub>10</sub>)<sub>4</sub>] \* x H<sub>2</sub>O  
*Phosphomolybdic acid*  
 ■ CAS-No. 51429-74-4 ■ EC-No. 234-713-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 1825.28 g/mol (anhydrous substance)  
 ■ pH value (H<sub>2</sub>O) strongly acid  
 ■ Melting point 78 - 90 °C (anhydrous substance)  
 ■ Bulk density 980 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2811 19 80 ■ Disposal 14

■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(MOLYBDATOPHOSPHORSAEURE), 8, III  
 ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(MOLYBDATOPHOSPHORIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(MOLYBDATOPHOSPHORIC ACID), 8, III  
**Specification**  
 Insoluble matter ..... ≤ 100 ppm  
 Chloride (Cl) ..... ≤ 50 ppm  
 Sulphate (SO<sub>4</sub>) ..... ≤ 100 ppm  
 Heavy metals (as Pb) ..... ≤ 50 ppm

Ca (Calcium) ..... ≤ 100 ppm  
 Cu (Copper) ..... ≤ 10 ppm  
 Fe (Iron) ..... ≤ 50 ppm  
 NH<sub>4</sub> (Ammonium) ..... ≤ 30 ppm  
 Pb (Lead) ..... ≤ 20 ppm  
 Loss on drying (120 °C) ..... 21,0 - 23,0 %  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.00532.0025	Glass bottle	25 g	inquire
1.00532.0100	Glass bottle	100 g	inquire

Molybdatophosphoric acid spray solution → page 14

Molybdenum carbonyl → Hexacarbonylmolybdenum page 944

Molybdenum Cell Test → page 69

## Molybdenum, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
462	103098	2,2'-Bipyridine	172	101922	3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate			
1306	107251	Phenylhydrazine	1551	100700	Thioglycolic acid			

Molybdenum disulfide → Molybdenum(IV) sulfide page 1191

## Molybdenum(VI) oxide



MoO<sub>3</sub>  
*Molybdenum trioxide, Molybdic acid anhydrous, Molybdic anhydride*  
 ■ CAS-No. 1313-27-5 ■ EC-No. 215-204-7  
 ■ Spec. density 4.70 g/cm<sup>3</sup> (26 °C) ■ Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 143.94 g/mol  
 ■ Melting point 795 °C ■ Bulk density 1200 kg/m<sup>3</sup>

■ Boiling point 1155 °C  
 ■ WGK 1  
 ■ GHS: Warning, Carcinogenicity, Category 2, H351; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P281, P305 + P351 + P338, P308 + P313

■ LC50 rat > 5840 mg/m<sup>3</sup>  
 ■ LD50 oral rat 2689 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ EC-Index-No. 042-001-00-9 ■ LGK 10 - 13  
 ■ HS-No. 2825 70 00 ■ Disposal 14

## 100401 Molybdenum(VI) oxide extra pure

**Specification**  
 Assay (precipitative titration) ..... ≥ 99,0 %(m)  
 Chloride (Cl) ..... ≤ 0,005 %(m)  
 Phosphate, Arsenate, Silicate (as PO<sub>4</sub>) .....

..... ≤ 0,002 %(m)  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0,01 %(m)  
 Fe (Iron) ..... ≤ 0,002 %(m)

NH<sub>4</sub> (Ammonium) ..... ≤ 0,01 %(m)

Ord.No.	Packaging	Quantity	Price
1.00401.0250	Plastic bottle	250 g	inquire

## 100403 Molybdenum(VI) oxide for analysis EMSURE®

**Specification**  
 Assay (precipitative titration) ..... ≥ 99,5 %  
 Chloride (Cl) ..... ≤ 0,002 %  
 Phosphate, Arsenate, Silicate (as PO<sub>4</sub>) .. ≤ 0,0005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0,005 %

Fe (Iron) ..... ≤ 0,0005 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0,005 %  
 Pb (Lead) ..... ≤ 0,001 %

Ord.No.	Packaging	Quantity	Price
1.00403.0100	Plastic bottle	100 g	inquire
1.00403.0500	Plastic bottle	500 g	inquire

## 112254 Molybdenum powder 99+

Mo  
 ■ CAS-No. 7439-98-7 ■ EC-No. 231-107-2  
 ■ Spec. density 10.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 95.94 g/mol  
 ■ Melting point 2620 °C ■ Bulk density 1400 kg/m<sup>3</sup>

■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 8102 10 00 ■ Disposal 27

**Specification**  
 Assay (gravimetrically) ..... ≥ 99,0 %(m)

Identity (elemental analysis) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.12254.0100	Plastic bottle	100 g	inquire

## 109926 Molybdenum standard 1000 mg Mo, [(NH<sub>4</sub>)<sub>6</sub>Mo<sub>7</sub>O<sub>24</sub> 4H<sub>2</sub>O in 0.7% NH<sub>4</sub>OH] Titrisol®



■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.2 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313

■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 content (Mo) ..... 1000 mg / Ampoule  
 Determination method: Titration with lead(II)

nitrate solution . (traceable to NIST - SRM 682)  
 Accuracy of the method: +/- 5 mg

Ord.No.	Packaging	Quantity	Price
1.09926.0001	Plastic ampoule	1 amp	inquire

Molybdenum standard for aqueous matrices → Molybdenum standard page 1190

## 112257 Molybdenum(IV) sulfide 98+

MoS<sub>2</sub>*Molybdenum disulfide*

- CAS-No. 1317-33-5 ■ EC-No. 215-263-9
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 160.07 g/mol
- pH value 5 - 8 (100 g/l, H<sub>2</sub>O, 20 °C) suspension ■ Melting point 2375 °C
- Bulk density 500 kg/m<sup>3</sup>
- WGK nwg

- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2830 90 85 ■ Disposal 14
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Identity (elemental analysis)..... passes test  
 Assay (precipitative titration)..... ≥ 98.0 %  
 Particle size (< 10 µm)..... ≥ 100 %

Ord.No.	Packaging	Quantity	Price
1.12257.0250	Glass bottle	250 g	inquire

Molybdenum Test → page 70

Molybdenum trioxide → page 1190

100400 Molybdic acid about 85% MoO<sub>3</sub> (containing ammonium molybdate)H<sub>2</sub>MoO<sub>4</sub>

- CAS-No. 7782-91-4 ■ EC-No. 231-970-5
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 161.95 g/mol
- Melting point 300 °C ■ Bulk density 980 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Specific target organ toxicity - repeated exposure, Category 2, H373, P304 +

- P340, P305 + P351 + P338
- LC50 rat > 5840 mg/m<sup>3</sup>
- LD50 oral rat 2689 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2825 70 00 ■ Disposal 14

Phosphate, Arsenate, Silicate (as PO<sub>4</sub>).....  
 ..... ≤ 0,005 % (m)  
 Sulphate (SO<sub>4</sub>)..... ≤ 0,02 % (m)  
 Fe (Iron)..... ≤ 0,005 % (m)  
 NH<sub>4</sub> (Ammonium)..... about 6 % (m)

## Specification

Assay (precipitative titration)..... ≥ 85 % (m)  
 Chloride (Cl)..... ≤ 0,01 % (m)

Ord.No.	Packaging	Quantity	Price
1.00400.1000	Plastic bottle	1 kg	inquire

Molybdic acid anhydrous → page 1190

Molybdic anhydride → page 1190

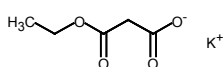
mono-*t*-Butoxycarbonyl 1,5-diaminopentane  
 toluenesulfonic acid salt → page 259

Monochloramine Test → page 70

Monochloroacetic acid → Chloroacetic acid page  
 595

Monochlorobenzene → page 599

## 814305 Monoethyl malonate potassium salt for synthesis

C<sub>5</sub>H<sub>7</sub>KO<sub>4</sub>C<sub>2</sub>H<sub>5</sub>OOCCH<sub>2</sub>COOK*Malonic acid monoethyl ester potassium salt*

- CAS-No. 6148-64-7 ■ EC-No. 228-156-7
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 170.21 g/mol
- WGK 2
- LGK 10 - 13
- HS-No. 2917 19 10 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14305.0025	Plastic bottle	25 g	inquire

mono-Fmoc 1,4-diaminobutane hydrochloride →  
 page 258

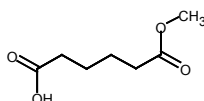
mono-Fmoc 1,6-diaminohexane hydrochloride →  
 page 259

mono-Fmoc 1,5-diaminopentane hydrochloride →  
 page 259

mono-Fmoc 1,3-diaminopropane hydrochloride →  
 page 258

mono-Fmoc ethylene diamine hydrochloride →  
 page 258

## 820014 Monomethyl adipate for synthesis

C<sub>7</sub>H<sub>12</sub>O<sub>4</sub>HOOC(CH<sub>2</sub>)<sub>4</sub>COOCH<sub>3</sub>*Adipic acid monomethyl ester*

- CAS-No. 627-91-8 ■ EC-No. 211-019-0
- Refractive index 1.4401 (20 °C, 589 nm)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 160.17 g/mol
- Melting point 7 - 9 °C
- Boiling point 162 - 163 °C (13 hPa)
- WGK 3
- LGK 10 - 13

- HS-No. 2917 12 00 ■ Disposal 3

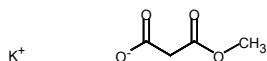
## Specification

Assay (GC, area%)..... ≥ 97.5 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.121 - 1.123  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20014.0025	Glass bottle	25 ml	inquire

Monomethylaniline → N-Methylaniline page 1132

## 821514 Monomethyl malonate potassium salt for synthesis

C<sub>4</sub>H<sub>5</sub>KO<sub>4</sub>CH<sub>3</sub>OOCCH<sub>2</sub>COOK*Malonic acid monomethyl ester potassium salt*

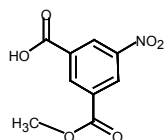
- CAS-No. 38330-80-2 ■ EC-No. 253-886-8
- M = 156.18 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2917 19 10 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21514.0050	Plastic bottle	50 g	inquire

## 818476 Monomethyl 5-nitroisophthalate for synthesis

C<sub>9</sub>H<sub>7</sub>NO<sub>6</sub>5-(NO<sub>2</sub>)-3-(COOH)C<sub>6</sub>H<sub>3</sub>COOCH<sub>3</sub>*5-Nitroisophthalic acid monomethyl ester*

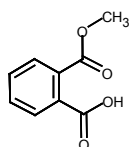
- CAS-No. 1955-46-0 ■ EC-No. 217-793-6
- Flash point > 120 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 225.16 g/mol
- Melting point 177 - 180 °C
- Bulk density 750 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2917 39 95 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 177 °C  
 Melting range (upper value)..... ≤ 180 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18476.0050	Plastic bottle	50 g	inquire

## 821569 Monomethyl phthalate for synthesis



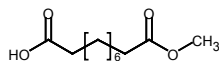
C<sub>9</sub>H<sub>8</sub>O<sub>4</sub>

2-(HOOC)C<sub>6</sub>H<sub>4</sub>COOCH<sub>3</sub>  
**Methyl phthalate, Phthalic acid monomethyl ester**  
 ■ CAS-No. 4376-18-5 ■ EC-No. 224-476-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 180.16 g/mol  
 ■ Melting point 80 - 83 °C  
 ■ WGK 3  
 ■ HS-No. 2917 34 00 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 80 °C  
 Melting range (upper value)..... ≤ 83 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21569.0025	Plastic bottle	25 g	inquire

## 841706 Monomethyl sebacate for synthesis



C<sub>11</sub>H<sub>20</sub>O<sub>4</sub>

**Sebacic acid monomethyl ester**  
 ■ CAS-No. 818-88-2 ■ EC-No. 212-458-0

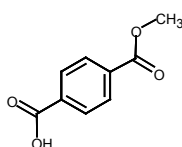
■ M = 216.28 g/mol ■ Melting point 40 - 42 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 13 90 ■ Disposal 3

Melting range (upper value)..... ≤ 42 °C  
 Identity (IR)..... conforms

**Specification**  
 Assay (GC, area%)..... ≥ 97,0 Area %  
 Melting range (lower value)..... ≥ 38 °C

Ord.No.	Packaging	Quantity	Price
8.41706.0001	Glass bottle	1 g	inquire

## 821602 Monomethyl terephthalate for synthesis



C<sub>9</sub>H<sub>8</sub>O<sub>4</sub>

4-(HOOC)C<sub>6</sub>H<sub>4</sub>COOCH<sub>3</sub>  
**Terephthalic acid monomethyl ester**  
 ■ CAS-No. 1679-64-7 ■ EC-No. 216-849-7  
 ■ M = 180.16 g/mol ■ Melting point 215 - 220 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 39 95 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%)..... ≥ 95.0 % (a/a)  
 Melting range (lower value)..... ≥ 215 °C  
 Melting range (upper value)..... ≤ 220 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21602.0010	Glass bottle	10 g	inquire

Mononitromethane → Nitromethane page 306

Monophenyl glycol → Ethylene glycol monophenyl ether page 303

MOPS → 3-Morpholinopropane sulfonic acid page 1193

## 806127 Morpholine for synthesis



C<sub>4</sub>H<sub>9</sub>NO

■ CAS-No. 110-91-8 ■ EC-No. 203-815-1  
 ■ Vapour pressure 10 hPa (20 °C)  
 ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 32 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 87.12 g/mol ■ pH value 10.6 (5 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point 128 - 130 °C (1013 hPa)  
 ■ Ignition temp. 275 °C  
 ■ WGK 2

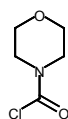
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 22.2 mg/l  
 ■ LD50 oral rat 1050 mg/kg ■ LD50 dermal rabbit 500 mg/kg  
 ■ EC-Index-No. 613-028-00-9 ■ LGK 3  
 ■ HS-No. 2934 99 90  
 ■ ADR-RID UN 2054 Morpholin, 8 (3), I ■ IMDG-Code UN 2054 MORPHOLINE, 8 (3), I

■ IATA-DGR UN 2054 MORPHOLINE, 8 (3), I

**Specification**  
 Assay (GC, area%)..... ≥ 99 %  
 Density (d 20 °C/ 4 °C)..... 0.999 - 1.001  
 Water (K. F.)..... ≤ 0.3 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.06127.0100	Plastic bottle	100 ml	inquire
8.06127.0500	Plastic bottle	500 ml	inquire
8.06127.1000	Plastic bottle	1 l	inquire
8.06127.2500	Plastic bottle	2.5 l	inquire
8.06127.9025	Plastic container	25 l	inquire

## 841345 4-Morpholine-carbonylchloride for synthesis



C<sub>5</sub>H<sub>8</sub>ClNO<sub>2</sub>

**N-(Chlorocarbonyl)morpholine**  
 ■ CAS-No. 15159-40-7 ■ EC-No. 239-213-0  
 ■ Spec. density 1.283 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ M = 149.58 g/mol  
 ■ Boiling point 121 - 124 °C (26.7 hPa)

■ WGK 3  
 ■ GHS: Warning, Carcinogenicity, Category 2, H351; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ EC-Index-No. 613-041-00-X ■ LGK 10  
 ■ HS-No. 2934 99 90 ■ Disposal 11  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(4-MORPHOLIN-CARBONYLCHLORID), 6,1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(MORPHOLINE-4-CARBONYL CHLORIDE), 6,1, II

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(MORPHOLINE-4-CARBONYL CHLORIDE), 6,1, II

**Specification**  
 Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.300 - 1.306  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41345.0025	Glass bottle	25 ml	inquire

4-Morpholinecarboxaldehyde → N-Formylmorpholine page 304

Morpholine hydrochloride → Morpholinium chloride page 1192

Morpholines → Heterocycles

## 822101 Morpholinium chloride for synthesis



C<sub>4</sub>H<sub>10</sub>ClNO

**Morpholine hydrochloride**  
 ■ CAS-No. 10024-89-2 ■ EC-No. 233-029-4

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 123.58 g/mol  
 ■ Melting point 174 - 178 °C  
 ■ WGK 2  
 ■ LD50 oral rat 4580 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

Melting range (lower value)..... ≥ 174 °C  
 Melting range (upper value)..... ≤ 178 °C  
 Sulfated ash..... ≤ 0,20 %  
 Identity (IR)..... passes test

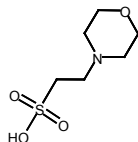
**Specification**  
 Assay (argentometric)..... ≥ 98,0 %

Ord.No.	Packaging	Quantity	Price
8.22101.0250	Glass bottle	250 g	inquire

Morpholinobenzene → N-Phenylmorpholine page 1309



## 106126 2-Morpholinoethanesulfonic acid monohydrate buffer substance MES



$C_6H_{13}NO_4S \cdot H_2O$   
MES

- CAS-No. 145224-94-8 ■ EC-No. 224-632-3
- Solub. in  $H_2O$  80 g/l (20 °C) ■ M = 213.25 g/mol
- pH value 3.6 (10 g/l,  $H_2O$ , 20 °C)

- Melting point >300 °C ■ Bulk density 570 kg/m<sup>3</sup>
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2934 99 90 ■ Disposal 3
- Properties: pKa (20 °C) = 6.15.

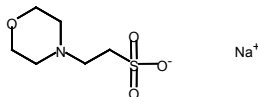
**Specification**

Assay (alcalimetric, calculated on anhydrous substance) ..... ≥ 99 %  
Identity (IR-spectrum) ..... passes test  
UV-Absorption (250 nm, 50 g/l, 1 cm, water) ..... ≤ 0.05  
Chloride (Cl) ..... ≤ 0.005%

Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
Heavy metals (as Pb) ..... ≤ 0.0005 %  
Na (Sodium) ..... ≤ 0.005 %  
Water (according to Karl Fischer) ..... 8.0 - 9.0 %  
Biological buffer, pKa at 20 °C ..... 6.15

Ord.No.	Packaging	Quantity	Price
1.06126.0025	Glass bottle	25 g	inquire
1.06126.0250	Glass bottle	250 g	inquire
1.06126.1000	Glass bottle	1 kg	inquire
1.06126.9010	Plastic drum	10 kg	inquire

## 106197 2-Morpholinoethanesulfonic acid sodium salt (MES Na) buffer substance



$C_6H_{12}NNaO_4S$

- CAS-No. 71119-23-8 ■ EC-No. 275-203-2
  - M = 217.22 g/mol ■ pH value 8.9 - 10.1 (10 g/l,  $H_2O$ , 20 °C)
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2934 99 90 ■ Disposal 3
- Useful pH range: pH 5.5-6.7

**Specification**

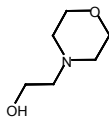
Assay (alkalimetric, calculated on dried substance) ..... ≥ 99.0 %  
Identity (IR-spectrum) ..... passes test

Appearance: white to almost white, fine powder or colorless crystals  
Appearance of solution (0.5 mol/l, water) ..... clear and colorless.  
UV-Absorption (260 nm; 0.5 mol/l; 1 cm; water) ..... ≤ 0.05  
UV-Absorption (280 nm; 0.5 mol/l; 1 cm; water) ..... ≤ 0.05  
Chloride (Cl) ..... ≤ 50 ppm  
Sulphate (SO<sub>4</sub>) ..... ≤ 50 ppm  
Heavy metals (as Pb) ..... ≤ 5 ppm  
Ca (Calcium) ..... ≤ 50 ppm  
Cd (Cadmium) ..... ≤ 5 ppm  
Co (Cobalt) ..... ≤ 5 ppm  
Cr (Chromium) ..... ≤ 5 ppm  
Cu (Copper) ..... ≤ 5 ppm  
Fe (Iron) ..... ≤ 10 ppm

K (Potassium) ..... ≤ 50 ppm  
Mg (Magnesium) ..... ≤ 10 ppm  
Mn (Manganese) ..... ≤ 5 ppm  
Ni (Nickel) ..... ≤ 5 ppm  
Pb (Lead) ..... ≤ 5 ppm  
Zn (Zinc) ..... ≤ 5 ppm  
DNases (Exo- and endonucleases) ... non detectable  
RNases ..... non detectable  
Proteases ..... non detectable  
Nicking activity ..... ≤ 10 %  
Loss on drying (105 °C) ..... ≤ 1.0 %  
Biological buffer, pKa at 20 °C ..... 6.1

Ord.No.	Packaging	Quantity	Price
1.06197.0100	Glass bottle	100 g	inquire
1.06197.1000	Glass bottle	1 kg	inquire
1.06197.9010	Plastic drum	10 kg	inquire

## 804316 2-Morpholinoethanol for synthesis



$C_6H_{13}NO_2$

- N*-(2-Hydroxyethyl)morpholine
- CAS-No. 622-40-2 ■ EC-No. 210-734-5
  - Refractive index 1.4781 (20 °C, 589 nm)

- Vapour pressure 1.8 hPa (50 °C)
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 9.8 % (V) ■ Flash point 102 °C ■ Solub. in  $H_2O$  (20 °C) soluble ■ M = 131.17 g/mol
- pH value 10.7 (100 g/l,  $H_2O$ , 20 °C)
- Melting point 2 °C ■ Boiling point 223 - 225 °C (1013 hPa) ■ Ignition temp. 205 °C DIN 51794
- WGK 1
- LD50 oral rat 5500 mg/kg ■ LD50 dermal rabbit > 16000 mg/kg

- LGK 10
- HS-No. 2934 99 90

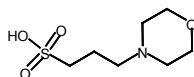
**Specification**

Assay (GC, area%) ..... ≥ 95.0 Area %  
Density (d 20 °C / 4 °C) ..... 1,069 - 1,073  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04316.0250	Glass bottle	250 ml	inquire

Morpholinomethyl polystyrene HL → page 282

## 106129 3-Morpholinopropane sulfonic acid buffer substance MPS



$C_7H_{15}NO_4S$   
MOPS

- CAS-No. 1132-61-2 ■ EC-No. 214-478-5
- Solub. in  $H_2O$  1440 g/l (20 °C) ■ M = 209.26 g/mol ■ pH value 3 - 5 (111 g/l,  $H_2O$ , 20 °C)
- Melting point 277 - 281 °C (decomposition)
- Bulk density 350 kg/m<sup>3</sup>

- WGK 1
  - LD50 oral rat > 2000 mg/kg
  - LGK 10 - 13
  - HS-No. 2934 99 90
- Properties: pKa (20 °C) = 7.20.

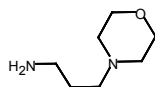
**Specification**

Assay (alkalimetric) ..... ≥ 99.0 %  
Identity (IR-spectrum) ..... passes test  
UV-Absorption (250 nm, 50 g/l, 1 cm, water) ..... ≤ 0.05  
Chloride (Cl) ..... ≤ 0.005 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
Heavy metals (as Pb) ..... ≤ 0.0005 %  
Na (Sodium) ..... ≤ 0.01 %  
Loss on drying (105 °C) ..... ≤ 0.2 %  
Biological buffer, pKa at 20 °C ..... 7.20

Ord.No.	Packaging	Quantity	Price
1.06129.0025	Plastic bottle	25 g	inquire
1.06129.0250	Plastic bottle	250 g	inquire
1.06129.9010	Plastic drum	10 kg	inquire

## 801303 3-Morpholino propylamine for synthesis



$C_7H_{15}N_2O$

- N*-(3-Aminopropyl)morpholine, 4-(3-Aminopropyl)morpholine
- CAS-No. 123-00-2 ■ EC-No. 204-590-2
  - Refractive index 1.4762 (20 °C, 589 nm)
  - Vapour pressure < 1 hPa (20 °C)
  - Spec. density 0.99 g/cm<sup>3</sup> (20 °C)
  - Flash point 100 °C ■ Solub. in  $H_2O$  1000 g/l (20 °C) ■ M = 144.22 g/mol ■ pH value 12 ( $H_2O$ ,

- 20 °C) ■ Melting point -15 °C
- Boiling point 224 °C (1013 hPa)
- Ignition temp. 250 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1790 mg/kg ■ LD50 dermal rabbit 2300 mg/kg
- LGK 8A
- HS-No. 2934 99 90 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(3-MORPHOLINOPROPYLAMIN), 8, II ■ IMDG-

Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-MORPHOLINOPROPYLAMINE), 8, II, Segregation Group: 18 (Alkalis)  
■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-MORPHOLINOPROPYLAMINE), 8, II

**Specification**

Assay (GC, area%) ..... ≥ 97 %  
Density (d 20 °C / 4 °C) ..... 0.984 - 0.986  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.01303.0250	Glass bottle	250 ml	inquire

MOSSSEL broth → page 102

MOSSSEL Enterobacteriaceae enrichment broth → page 102

## Mounting media for Microscopy

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
187	108562	Aquatex®	187	107960	Entellan®	187	109242	Kaiser's glycerol gelatine
187	101691	Canada balsam	188	107961	Entellan® new	188	103973	Merckoglas®
187	101979	DPX	188	100869	Entellan® new for cover slipper	188	109016	Neo-Mount®
204	100579	DPX new	188	104095	Glycerol			

MP-anhydride resin EHL → page 282

## MQuant™ semi-quantitative teststrips

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
49	110015	Aluminium Test	66	110004	Iron Test	75	110337	Peroxide Test
49	110024	Ammonium Test	67	110077	Lead Test	79	110428	Phosphate Test
51	117917	Arsenic Test	69	110080	Manganese Test	81	117985	Potassium Test
52	110023	Ascorbic Acid Test	69	110049	Molybdenum Test	83	110019	Sulfate Test
90	111860	Blank Strips	70	110006	Nickel Test	84	110013	Sulfite Test
53	110083	Calcium Test	71	110092	Nitrate Test	85	110028	Tin Test
54	110648	Carbonate Hardness Test	71	110020	Nitrate Test	87	117934	Total Hardness Test
54	110079	Chloride Test	72	110022	Nitrite Test	86	110025	Total Hardness Test
58	110012	Chromate Test	72	110007	Nitrite Test	86	110046	Total Hardness Test
59	110002	Cobalt Test	75	110084	Peracetic Acid Test	86	110032	Total Hardness Test
62	110003	Copper Test	75	110001	Peracetic Acid Test	86	110029	Total Hardness Test
63	110044	Cyanide Test	75	117828	Peroxidase Test	89	117953	Zinc Test
64	110036	Formaldehyde Test	75	110011	Peroxide Test			
65	117866	Glucose Test	75	110081	Peroxide Test			

MRS-agar → page 102

MRS-broth → page 102

MR-VP broth → page 103

MSA → page 1110

MsCl → page 1110

MSNT → page 279

MSTFA → 2,2,2-Trifluoro-N-methyl-N-(trimethylsilyl)acetamide page 44

MTBE → page 299

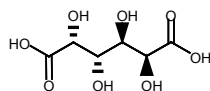
MTB-ether → page 316

MTBSTFA → N-tert-Butyldimethylsilyl-N-methyltrifluoroacetamide page 545

MTES → Triethoxymethylsilane page 1584

MTT → 3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium bromide page 806

## 800660 Mucic acid for synthesis



$C_6H_{10}O_8$   
 $HOOC[CH(OH)]_4COOH$

Galactaric acid, Tetrahydroxydipic acid

■ CAS-No. 526-99-8 ■ EC-No. 208-404-0

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 210.14 g/mol ■ Melting point 220 - 225 °C (decomposition)■ Bulk density 400 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2918 19 98 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 98,0 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00660.0100	Plastic bottle	100 g	inquire

Mucobromic acid → 2,3-Dibromomalealdehydic acid page 704

Mucochloric acid → 2,3-Dichloromalealdehydic acid page 723

trans, trans-Muconic acid → trans, trans-2,4-Hexadienedioic acid page 948

MUELLER-HINTON agar → page 103

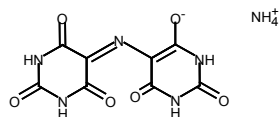
MUELLER-HINTON broth → page 103

Multi-element standard for aqueous matrices → page 1485

Multi-element standards → Standards

Multi-element standards dissolved in oil → page 1492

## 106161 Murexide (ammonium purpurate) metal indicator ACS, Reag. Ph Eur



$C_8H_6N_6O_6$   
 Ammonium purpurate, acid  
 ■ CAS-No. 3051-09-0 ■ EC-No. 221-266-6  
 ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ M = 284.19 g/mol

■ pH value 5 (1 g/l, H<sub>2</sub>O, 20 °C)■ Bulk density 330 kg/m<sup>3</sup>

■ WGK 2

■ LGK 10 - 13

■ HS-No. 2933 54 00 ■ Disposal 3

Use as metal indicator: 1% in water or 1:100 NaCl or 1:500 saccharose

## Specification

Identity (IR-spectrum)..... passes test

Identity (UV/VIS-Spectrum)..... passes test

Absorption maximum (water)..... 520 - 524 nm

Spec. Absorptivity A 1%/1cm ( $\lambda_{max}$ ; 0.01 g/l; water).....

..... ≥ 300

Sulfated ash (800 °C)..... ≤ 1.0 %

Loss on drying (105 °C)..... ≤ 2.0 %

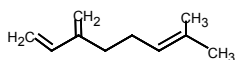
Suitability as indicator (for metal titration)...passes test

Ord.No.	Packaging	Quantity	Price
1.06161.0005	Glass bottle	5 g	inquire
1.06161.0025	Glass bottle	25 g	inquire

MVK → Methyl vinyl ketone page 1186

Myo-Inositol → myo-Inositol page 1005

## 814593 Myrcene (stabilized) for synthesis

C<sub>10</sub>H<sub>16</sub>

- CAS-No. 123-35-3 ■ EC-No. 204-622-5
- Vapour pressure 2.68 hPa (25 °C)
- Spec. density 0.80 g/cm<sup>3</sup> (20 °C)
- Flash point 39 °C ■ Solub. in H<sub>2</sub>O 0.006 g/l (25 °C) ■ M = 136.24 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution)
- Boiling point 167 °C (1013 hPa)

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P262
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(7-METHYL-3-METHYLEN-1,6-OCTADIEN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(7-METHYL-3-METHYLEN-1,6-OCTADIENE), 3, III

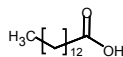
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(7-METHYL-3-METHYLEN-1,6-OCTADIENE), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 85,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,790 - 0,800  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14593.0250	Glass bottle	250 ml	inquire
8.14593.1000	Glass bottle	1 l	inquire

## 800399 Myristic acid for synthesis

C<sub>14</sub>H<sub>28</sub>O<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>12</sub>COOH

Tetradecanoic acid

- CAS-No. 544-63-8 ■ EC-No. 208-875-2
- Vapour pressure < 0.01 hPa (20 °C)

- Spec. density 0.8622 g/cm<sup>3</sup> (54 °C)
- Flash point >165 °C ■ Solub. in H<sub>2</sub>O 1.07 mg/l (25 °C) ■ M = 228.37 g/mol
- Melting point 52 - 56 °C ■ Boiling point 326 °C (1013 hPa)
- WGK nwg
- LD50 oral rat > 10000 mg/kg
- LGK 10 - 13
- HS-No. 2915 90 70 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 52 °C  
 Melting range (upper value) ..... ≤ 56 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00399.0100	Plastic bottle	100 g	inquire
8.00399.1000	Plastic bottle	1 kg	inquire

Myristic acid ethyl ester → Ethyl myristate page 877

Myristic acid isopropyl ester → Isopropyl myristate page 1055

Myristic acid methyl ester → page 44

Myristyl alcohol → 1-Tetradecanol page 1528

Myristyl bromide → 1-Bromotetradecane page 515

Myristyltrimethylammonium bromide → Tetradecyltrimethylammonium bromide page 1529

# Npego

N<sub>3</sub>-(PEG)<sub>7</sub>-COOH (33 atoms) → page 259

NAD free acid → Nicotinamide adenine dinucleotide free acid page 1207

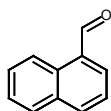
NADH-Na<sub>2</sub> → Dihyronicotinamide adenine dinucleotide disodium salt page 758

NADP disodium salt → Nicotinamide adenine dinucleotide phosphate disodium salt page 1208

NADPH-Na<sub>4</sub> → Dihyronicotinamide adenine dinucleotide phosphate tetrasodium salt page 758

NANA → 2-Acetylnaphthalene page 348

## 820844 1-Naphthaldehyde for synthesis



C<sub>11</sub>H<sub>8</sub>O  
1-Naphthalenecarbaldehyde  
■ CAS-No. 66-77-3 ■ EC-No. 200-633-4  
■ Refractive index 1.652 (20 °C, 589 nm)

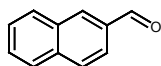
■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C)  
■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O < 1 g/l (20 °C) ■ M = 156.18 g/mol ■ pH value 7 (< 1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 2 °C  
■ Boiling point 160 - 161 °C (20 hPa)  
■ Ignition temp. 350 °C  
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
■ LD50 oral rat 667 mg/kg

■ LGK 10 - 13  
■ HS-No. 2912 29 00 ■ Disposal 3

**Specification**  
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.145 - 1.148  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20844.0025	Glass bottle	25 ml	inquire

## 820845 2-Naphthaldehyde for synthesis



C<sub>11</sub>H<sub>8</sub>O  
2-Naphthalenecarbaldehyde  
■ CAS-No. 66-99-9 ■ EC-No. 200-640-2  
■ Flash point >100 °C ■ Solub. in

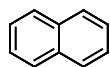
H<sub>2</sub>O (20 °C) slightly soluble ■ M = 156.18 g/mol  
■ Melting point 57 - 60 °C  
■ WGK 2  
■ LGK 10 - 13  
■ HS-No. 2912 29 00 ■ Disposal 3

Melting range (upper value) ..... ≤ 60 °C  
Identity (IR) ..... passes test

**Specification**  
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Melting range (lower value) ..... ≥ 57 °C

Ord.No.	Packaging	Quantity	Price
8.20845.0010	Glass bottle	10 g	inquire

## 820846 Naphthalene for synthesis



C<sub>10</sub>H<sub>8</sub>  
■ CAS-No. 91-20-3 ■ EC-No. 202-049-5  
■ Vapour pressure 0.08 hPa (20 °C)  
■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 5.9 % (V) ■ Flash point 80 °C ■ Solub. in H<sub>2</sub>O 0.03 g/l (25 °C) ■ M = 128.17 g/mol  
■ Melting point 79 - 82 °C  
■ Bulk density 550 - 600 mg/m<sup>3</sup>  
■ Boiling point 218 °C ■ Ignition temp. 540 °C  
■ WGK 3

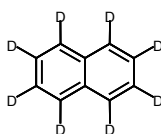
■ GHS: Warning, Flammable solid, Category 2, H228; Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P281, P308 + P313, P370 + P378  
■ LC50 rat > 100 mg/l  
■ LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2500 mg/kg  
■ EC-Index-No. 601-052-00-2 ■ LGK 4.1B  
■ HS-No. 2902 90 00  
■ ADR-RID UN 1334 Naphthalen, raffiniert, 4.1, III  
■ IMDG-Code UN 1334 NAPHTHALENE, REFINED, 4.1, III

■ IATA-DGR UN 1334 NAPHTHALENE, REFINED, 4.1, III

**Specification**  
Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Melting range (lower value) ..... ≥ 79 °C  
Melting range (upper value) ..... ≤ 82 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20846.0100	Plastic bottle	100 g	inquire
8.20846.1000	Plastic bottle	1 kg	inquire

## 815000 Naphthalene-D<sub>8</sub> deuteration degree min. 98% for NMR spectroscopy MagniSolv™



C<sub>10</sub>D<sub>8</sub>  
C<sub>10</sub>D<sub>8</sub>  
■ CAS-No. 1146-65-2 ■ EC-No. 214-552-7  
■ Explosive limit 0.9 - 5.9 % (V)  
■ Flash point 78 °C ■ M = 136.22 g/mol

■ Melting point 81 - 83 °C  
■ WGK 3  
■ GHS: Danger, Flammable solid, Category 1, H228; Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273, P281, P308 + P313, P370 + P378  
■ LC50 rat > 100 mg/l  
■ LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2500 mg/kg  
■ LGK 4.1B

■ HS-No. 2845 90 10 ■ Disposal 3  
■ ADR-RID UN 1334 Naphthalen, raffiniert, 4.1, III  
■ IMDG-Code UN 1334 NAPHTHALENE, REFINED, 4.1, III  
■ IATA-DGR UN 1334 NAPHTHALENE, REFINED, 4.1, III

**Specification**  
Deuteration degree ..... ≥ 98 %

Ord.No.	Packaging	Quantity	Price
8.15000.0001	Glass ampoule	1 g	inquire

2-Naphthaleneacetic acid → 2-Naphthylacetic acid page 1201

1-Naphthalenecarbaldehyde → 1-Naphthaldehyde page 1196

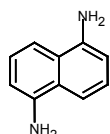
2-Naphthalenecarbaldehyde → 2-Naphthaldehyde page 1196

1-Naphthalenecarboxylic acid → 1-Naphthoic acid page 1199

2-Naphthalenecarboxylic acid → 2-Naphthoic acid page 1199

2-Naphthalenecarboxylic acid chloride → 2-Naphthoic acid chloride page 1201

## 840116 1,5-Naphthalenediamine for synthesis



C<sub>10</sub>H<sub>10</sub>N<sub>2</sub>  
1,5-Diaminonaphthalene  
■ CAS-No. 2243-62-1 ■ EC-No. 218-817-8  
■ Vapour pressure 4 - 8 hPa (200 - 210 °C)  
■ Spec. density 1.4 g/cm<sup>3</sup> (20 °C)  
■ Flash point 226 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 0.04 g/l (20 °C) ■ M = 158.2 g/mol

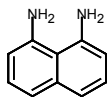
■ Melting point 187 - 190 °C  
■ Boiling point 200 - 210 °C (4 hPa)  
■ Ignition temp. 580 °C DIN 51794  
■ WGK 2  
■ GHS: Warning, Carcinogenicity, Category 2, H351; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P281, P308 + P313  
■ LC50 rat > 5.27 mg/l  
■ LD50 oral rat 634 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
■ EC-Index-No. 612-089-00-9 ■ LGK 10 - 13  
■ HS-No. 2921 59 90 ■ Disposal 3  
■ ADR-RID UN 3077 Umweltgefährdender Stoff,

fest, n.a.g.(NAPHTHALIN-1,5-DIAMIN), 9, III  
■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,5-NAPHTHALENE DIAMINE), 9, III, Marine Pollutant: P  
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,5-NAPHTHALENE DIAMINE), 9, III

**Specification**  
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40116.0025	Glass bottle	25 g	inquire

## 806206 1,8-Naphthalenediamine for synthesis

C<sub>10</sub>H<sub>10</sub>N<sub>2</sub>

1,8-Diaminonaphthalene, 1,8-Naphthylenediamine

- CAS-No. 479-27-6 ■ EC-No. 207-529-8
- Flash point 195 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 158.2 g/mol
- Melting point 61 - 65 °C ■ Boiling point 205 °C (15.6 hPa)
- WGK 2

- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352
- LD50 oral rat 800 mg/kg
- LGK 8A
- HS-No. 2921 59 50 ■ Disposal 3
- ADR-RID UN 3259 Polyamine, fest, ätzend, n.a.g.(NAPHTHALIN-1,8-DIAMIN), 8, III ■ IMDG-Code UN 3259 POLYAMINES, SOLID, CORROSIVE, N.O.S.(1,8-NAPHTHALENE-DIAMINE), 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 3259 POLYAMINES, SOLID, CORROSIVE, N.O.S.(1,8-NAPHTHALENE-DIAMINE),

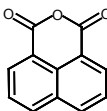
8, III

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 97,0 % (m)  
 Melting range (lower value)..... ≥ 61 °C  
 Melting range (upper value)..... ≤ 65 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06206.0100	Glass bottle	100 g	inquire
8.06206.0500	Glass bottle	500 g	inquire

## 821847 1,8-Naphthalenedicarboxylic anhydride for synthesis

C<sub>12</sub>H<sub>6</sub>O<sub>3</sub>

1H, 3H-Naphtho(1,8-cd)-pyran-1,3-dione, Naphthalic anhydride

- CAS-No. 81-84-5 ■ EC-No. 201-380-2
- Flash point 272 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 198.18 g/mol

- Melting point 268 - 273 °C
- Bulk density 300 - 310 kg/m<sup>3</sup>
- Ignition temp. 625 °C
- WGK 1
- GHS: Warning, Skin sensitisation, Category 1, H317, P260, P280, P302 + P352
- LC50 rat < 820 mg/l
- LD50 oral rat 12340 mg/kg
- LD50 dermal rabbit > 2025 mg/kg
- LGK 10 - 13

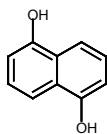
- HS-No. 2917 39 95 ■ Disposal 3

## Specification

Assay (morpholine method)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 272 °C  
 Melting range (upper value)..... ≤ 276 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21847.0250	Plastic bottle	250 g	inquire

## 820848 1,5-Naphthalenediol for synthesis

C<sub>10</sub>H<sub>8</sub>O<sub>2</sub>

1,5-Dihydroxynaphthalene

- CAS-No. 83-56-7 ■ EC-No. 201-487-4
- Flash point 252 °C ■ Solub. in H<sub>2</sub>O 0.6 g/l (20 °C) ■ M = 160.17 g/mol ■ pH value 6 (0.5 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 250 °C (decomposition)
- Bulk density 700 kg/m<sup>3</sup> ■ Ignition temp. >250 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338
- LD50 oral rat 660 mg/kg
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(NAPHTHALIN-1,5-DIOL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,5-

NAPHTHALENE-DIOL), 9, III, Marine Pollutant: P

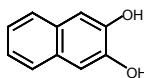
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,5-NAPHTHALENE-DIOL), 9, III

## Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 257 °C  
 Melting range (upper value)..... ≤ 260 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20848.0250	Glass bottle	250 g	inquire

## 814578 2,3-Naphthalenediol for synthesis

C<sub>10</sub>H<sub>8</sub>O<sub>2</sub>

2,3-Dihydroxynaphthalene

- CAS-No. 92-44-4 ■ EC-No. 202-156-7
- Vapour pressure 0.8 hPa (149 °C)
- Flash point 175 °C ■ Solub. in H<sub>2</sub>O 4 g/l (35 °C)
- M = 160.17 g/mol ■ pH value 6 (1 g/l, H<sub>2</sub>O,

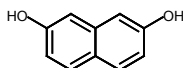
- 20 °C) ■ Melting point 161 - 164 °C
- Bulk density 500 kg/m<sup>3</sup> ■ Ignition temp. >330 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LD50 oral rat 970 mg/kg
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 97,0 Area %  
 Melting range (lower value)..... ≥ 161 °C  
 Melting range (upper value)..... ≤ 164 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14578.0050	Glass bottle	50 g	inquire

## 820851 2,7-Naphthalenediol for synthesis

C<sub>10</sub>H<sub>8</sub>O<sub>2</sub>

2,7-Dihydroxynaphthalene

- CAS-No. 582-17-2 ■ EC-No. 209-478-7
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 160.17 g/mol ■ Melting point 184 - 187 °C
- Bulk density 600 - 700 kg/m<sup>3</sup>

- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2907 29 00 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 184 °C

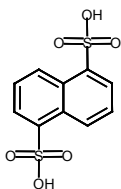
Melting range (upper value)..... ≤ 189 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20851.0100	Glass bottle	100 g	inquire
8.20851.0250	Glass bottle	250 g	inquire

1,4-Naphthalenedione → 1,4-Naphthoquinone page 1200



## 840104 1,5-Naphthalenedisulfonic acid for synthesis

C<sub>10</sub>H<sub>6</sub>O<sub>6</sub>S<sub>2</sub>

Armstrong acid

- CAS-No. 81-04-9 ■ EC-No. 201-317-9
- Vapour pressure 51 hPa (50 °C)

- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 1030 g/l (20 °C) ■ M = 288.3 g/mol ■ pH value 2.4 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 110 °C decomposes
- Bulk density 900 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2420 mg/kg
- LGK 8A
- HS-No. 2904 10 00 ■ Disposal 3
- ADR-RID UN 2585 Arylsulfonsäuren, fest, 8, III
- IMDG-Code UN 2585 ARYLSULPHONIC ACIDS,

SOLID, 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III

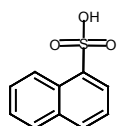
## Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Water (K. F.) ..... 21,0 - 23,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40104.0025	Glass bottle	25 g	inquire
8.40104.0250	Glass bottle	250 g	inquire

1-Naphthalenemethylamine → 1-Naphthylmethylamine page 1203

## 820853 1-Naphthalenesulfonic acid for synthesis

C<sub>10</sub>H<sub>8</sub>O<sub>3</sub>S

α-Naphthalenesulfonic acid

- CAS-No. 85-47-2 ■ EC-No. 201-610-1

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 208.24 g/mol
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2904 10 00 ■ Disposal 3

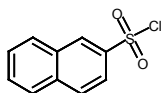
## Specification

Assay (acidimetric) ..... ≥ 70,0 %  
 Identity (IR-spectrum) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20853.0025	Plastic bottle	25 g	inquire
8.20853.0250	Plastic bottle	250 g	inquire

α-Naphthalenesulfonic acid → 1-Naphthalenesulfonic acid page 1198

## 806213 2-Naphthalenesulfonyl chloride for synthesis

C<sub>10</sub>H<sub>7</sub>ClO<sub>2</sub>S

- CAS-No. 93-11-8 ■ EC-No. 202-219-9

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 226.68 g/mol ■ Melting point 73 - 76 °C
- Boiling point 147.6 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314;

Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8A
- HS-No. 2904 90 95 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(NAPHTHALIN-2-SULFONSAEURECHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-NAPHTHALENSULFONYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

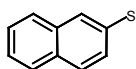
ORGANIC, N.O.S.(2-NAPHTHALENSULFONYL CHLORIDE), 8, II

## Specification

Assay (morpholine method) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 73 °C  
 Melting range (upper value) ..... ≤ 76 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06213.0025	Glass bottle	25 g	inquire
8.06213.0100	Glass bottle	100 g	inquire

## 820858 2-Naphthalenethiol for synthesis

C<sub>10</sub>H<sub>8</sub>S

2-Thionaphthol, 2-Naphthyl mercaptan

- CAS-No. 91-60-1 ■ EC-No. 202-082-5
- Spec. density 1.55 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 160.24 g/mol

- Melting point 79 - 82 °C ■ Boiling point 286 °C (1013 hPa)

- WGK 3
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR UN 3335 AVIATION REGULATED SOLID, N.O.S.(2-NAPHTHALENETHIOL), 9, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 78 °C  
 Melting range (upper value) ..... ≤ 81 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20858.0010	Glass bottle	10 g	inquire

Naphthalic anhydride → 1,8-

Naphthalenedicarboxylic anhydride page 1197

Naphthamine G → Titan yellow (C.I. 19540) page 1560

Naphthene → page 42

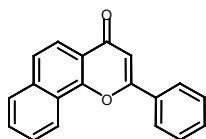
Naphthionic acid → 4-Aminonaphthalene-1-sulfonic acid page 396

Naphthionic acid sodium salt → 4-

Aminonaphthalene-1-sulfonic acid sodium salt page 396

1H, 3H-Naphtho(1,8-cd)-pyran-1,3-dione → 1,8-Naphthalenedicarboxylic anhydride page 1197

## 841442 α-Naphthoflavone for synthesis

C<sub>19</sub>H<sub>12</sub>O<sub>2</sub>

7,8-Benzoflavone

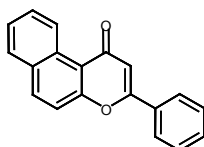
- CAS-No. 604-59-1 ■ EC-No. 210-071-1
- M = 272.31 g/mol ■ Melting point 156 - 157 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 154 °C  
 Melting range (upper value) ..... ≤ 157 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41442.0001	Plastic bottle	1 g	inquire
8.41442.0005	Plastic bottle	5 g	inquire

841447 **β-Naphthoflavone** for synthesisC<sub>19</sub>H<sub>12</sub>O<sub>2</sub>**5,6-Benzoflavone**

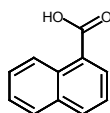
- CAS-No. 6051-87-2 ■ EC-No. 227-958-4
- M = 272.3 g/mol ■ Melting point 163 - 164 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)

Melting range (lower value)..... ≥ 163 °C  
 Melting range (upper value)..... ≤ 166 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41447.0001	Plastic bottle	1 g	inquire
8.41447.0005	Plastic bottle	5 g	inquire

800597 **1-Naphthoic acid** for synthesisC<sub>11</sub>H<sub>8</sub>O<sub>2</sub>

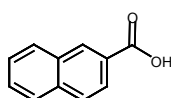
1-Naphthalenecarboxylic acid

- CAS-No. 86-55-5 ■ EC-No. 201-681-9
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 172.18 g/mol
- Melting point 160 - 162 °C
- WGK 3
- LD50 oral rat 2370 mg/kg
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 158 °C  
 Melting range (upper value)..... ≤ 161 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00597.0100	Plastic bottle	100 g	inquire

800598 **2-Naphthoic acid** for synthesisC<sub>11</sub>H<sub>8</sub>O<sub>2</sub>

2-Naphthalenecarboxylic acid

■ CAS-No. 93-09-4 ■ EC-No. 202-217-8

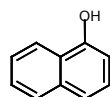
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 172.18 g/mol ■ pH value 4.5 (H<sub>2</sub>O, 20 °C)
- Melting point 182 - 185 °C
- WGK 1
- LD50 oral rat 4500 mg/kg
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 182 °C  
 Melting range (upper value)..... ≤ 185 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00598.0025	Plastic bottle	25 g	inquire

## 1-Naphthol

C<sub>10</sub>H<sub>8</sub>OC<sub>10</sub>H<sub>7</sub>OH

1-Hydroxynaphthalene

- CAS-No. 90-15-3 ■ EC-No. 201-969-4
- Vapour pressure 1.3 hPa (94 °C)
- Spec. density 1.28 g/cm<sup>3</sup> (20 °C)
- Flash point 125 °C ■ Solub. in H<sub>2</sub>O 0.1 g/l

(20 °C) ■ M = 144.17 g/mol

- Melting point 94 - 96 °C ■ Bulk density 450 kg/m<sup>3</sup> ■ Boiling point 288 °C (1013 hPa)
- Ignition temp. 510 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Dermal, H311; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Specific target organ toxicity - single exposure, Category 3, H335, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1870 mg/kg ■ LD50 dermal rabbit

880 mg/kg

- EC-Index-No. 604-029-00-5 ■ LGK 6.1C
- HS-No. 2907 15 10 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1-NAPHTHOL), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-NAPHTHOL), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-NAPHTHOL), 6.1, III
- Reagent for carbohydrates and oxidase reagent (Nadi reaction).

822289 **1-Naphthol** for synthesis**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 94 °C  
 Melting range (upper value)..... ≤ 96 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22289.0250	Glass bottle	250 g	inquire
	Glass bottle	6 x 250 g	inquire
8.22289.1000	Glass bottle	1 kg	inquire
	Glass bottle	4 x 1 kg	inquire

106223 **1-Naphthol** GR for analysis**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 2-Naphthol (GC, area%)..... ≤ 0.20 % (a/a)  
 Naphthalene (GC, area%)..... ≤ 0.20 % (a/a)  
 Melting range (lower value)..... ≥ 95 °C  
 Melting range (upper value)..... ≤ 97 °C

Water (K. F.)..... ≤ 0.20 %  
 Identity (IR)..... passes test  
 Chloride (Cl)..... ≤ 0.005 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Iron (Fe)..... ≤ 0.001 %

Sulfated ash..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.06223.0050	Glass bottle	50 g	inquire
1.06223.0250	Glass bottle	250 g	inquire

845086 **1-Naphthol** for pharma synthesis, non-GMP**Specification**

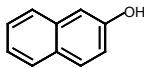
Colour (visual)..... off white to grey  
 Appearance of substance (visual)..... flakes  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 2-Naphthol (GC, area%)..... lot specific result

Naphthalene (GC, area%)..... lot specific result  
 Melting range (lower value)..... ≥ 94 °C  
 Melting range (upper value)..... ≤ 96 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45086.0250	Glass bottle	250 g	inquire
8.45086.1000	Glass bottle	1 kg	inquire

# Naphth

## 822290 2-Naphthol for synthesis



C<sub>10</sub>H<sub>8</sub>O  
**2-Hydroxy naphthalene**  
 ■ CAS-No. 135-19-3 ■ EC-No. 205-182-7  
 ■ Vapour pressure < 0.1 hPa (30 °C)  
 ■ Spec. density 1.27 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 153 °C ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C)  
 ■ M = 144.17 g/mol ■ Melting point 121.6 °C  
 ■ Bulk density 300 kg/m<sup>3</sup> ■ Boiling point 294.8 °C (1013 hPa) ■ Ignition temp. 430 °C  
 ■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400, P273  
 ■ LC50 rat > 0.2 mg/l  
 ■ LD50 oral rat 1960 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg  
 ■ EC-Index-No. 604-007-00-5 ■ LGK 10 - 13  
 ■ HS-No. 2907 15 90 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2-NAPHTHOL), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-NAPHTHOL), 9, III, Marine Pollutant: P

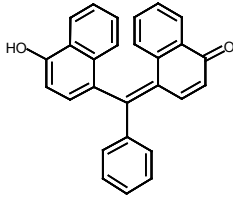
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2-NAPHTHOL), 9, III

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 119 °C  
 Melting range (upper value) ..... ≤ 122 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22290.0250	Glass bottle	250 g	inquire
	Glass bottle	6 x 250 g	inquire
8.22290.1000	Glass bottle	1 kg	inquire

## 106202 1-Naphtholbenzein indicator Reag. Ph Eur



C<sub>27</sub>H<sub>18</sub>O<sub>2</sub>  
 ■ CAS-No. 145-50-6 ■ EC-No. 205-656-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 374.44 g/

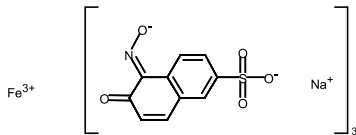
mol ■ Melting point 243 - 245 °C  
 ■ Bulk density 120 - 300 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 50 00 ■ Disposal 3  
 Use as pH indicator: 0.1-1.0 g in 100 ml 2-propanol  
**Specification**  
 Identity (IR-spectrum) ..... passes test  
 Identity (UV/VIS-Spectrum) ..... passes test  
 Absorption maximum λ<sub>max</sub> (perchloric acid (0,1 mol/l) in acetic acid) .....

..... 622 - 626 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0,005 g/l; perchloric acid (0,1 mol/l) in acetic acid; calculated on dried substance) ..... 640 - 950  
 Transition range ..... pH 8,0 - pH 9,6; apricot-turquoise/blue  
 Loss on drying (105 °C) ..... ≤ 7 %  
 Suitability as indicator (for non-aqueous titration) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.06202.0005	Glass bottle	5 g	inquire

Naphthol blue black → page 190

## 101306 Naphthol green B (C.I. 10020) indicator



C<sub>30</sub>H<sub>15</sub>FeN<sub>3</sub>Na<sub>3</sub>O<sub>15</sub>S<sub>3</sub>  
 Green acid 1

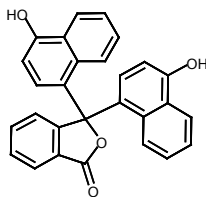
■ CAS-No. 19381-50-1 ■ EC-No. 243-010-2  
 ■ Solub. in H<sub>2</sub>O 160 g/l (20 °C) ■ M = 878.46 g/mol ■ pH value 9.3 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Bulk density 620 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 3204 19 00 ■ Disposal 3  
 Use as metal indicator

### Specification

Identity (UV/VIS-Spectrum) ..... passes test  
 Absorption maximum (water) ..... 710 - 720 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0,005 %; water; calc. on dried substance) ..... ≥ 100  
 Loss on drying (105 °C) ..... ≤ 10 %

Ord.No.	Packaging	Quantity	Price
1.01306.0025	Glass bottle	25 g	inquire

## 106246 1-Naphtholphthalein indicator



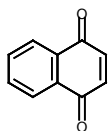
C<sub>28</sub>H<sub>18</sub>O<sub>4</sub>  
 ■ CAS-No. 596-01-0 ■ EC-No. 209-875-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 418.45 g/mol ■ Melting point 253 - 255 °C

■ Bulk density 350 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 20 90 ■ Disposal 3  
 Use as pH indicator: 0.1 g in 100 ml ethanol (96%)  
**Specification**  
 Identity (UV/VIS-Spectrum) ..... passes test  
 Transition range ..... pH 7.1 - pH 8.3  
 Pinkbrowish - blue  
 Absorption maximum λ 1 (buffer pH 7.1) ..... 470 - 485 nm  
 Absorption maximum λ 2 (buffer pH 8.3) .....

..... 649 - 654 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>1max</sub>; 0,01 g/l; buffer pH 7.1; calc. on anhydrous substance) ..... 100 - 180  
 Spec. Absorptivity A 1%/1cm (λ<sub>2max</sub>; 0,01 g/l; buffer pH 8.3; calc. on anhydrous substance) ..... 360 - 520  
 Loss on drying (110 °C) ..... ≤ 5 %

Ord.No.	Packaging	Quantity	Price
1.06246.0001	Glass bottle	1 g	inquire
1.06246.0005	Glass bottle	5 g	inquire

## 806215 1,4-Naphthoquinone for synthesis



C<sub>10</sub>H<sub>6</sub>O<sub>2</sub>  
**1,4-Naphthalenedione, 1,4-Dihydro-1,4-diketonaphthalene**  
 ■ CAS-No. 130-15-4 ■ EC-No. 204-977-6  
 ■ Vapour pressure 0.026 hPa (50 °C)  
 ■ Spec. density 1.42 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 141 °C ■ Solub. in H<sub>2</sub>O 0.09 g/l (25 °C) ■ M = 158.16 g/mol ■ pH value 6.1 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 120 - 125 °C (sublimed)

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 1, Inhalation, H330; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P280, P273, P309 + P310, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LC50 rat 0.046 mg/l  
 ■ LD50 oral rat 190 mg/kg ■ LD50 dermal rat 202 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2914 69 10 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,4-NAPHTHOCHINON), 6, 1, I ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

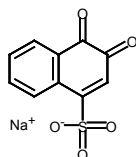
N.O.S.(1,4-NAPHTHOQUINONE), 6, 1, I  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,4-NAPHTHOQUINONE), 6, 1, I

### Specification

Assay (HPLC, area%) ..... ≥ 97 %  
 Melting point (dried substance) ..... 121 - 126 °C  
 Loss on drying (70 °C) ..... ≤ 6 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.06215.0005	Glass bottle	5 g	inquire
8.06215.0250	Glass bottle	250 g	inquire
8.06215.1000	Glass bottle	1 kg	inquire
	Glass bottle	4 x 1 kg	inquire
8.06215.9025	Plastic drum	25 kg	inquire

## 106531 1,2-Naphthoquinone-4-sulfonic acid sodium salt GR for analysis

Sodium  $\beta$ -naphthoquinone sulfonate

- CAS-No. 521-24-4 ■ EC-No. 208-308-9
- Solub. in H<sub>2</sub>O 45 g/l (20 °C) ■ M = 260.2 g/mol
- Melting point 289 °C ■ Bulk density 200 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

For the detection of amino acids (Folins reagent).

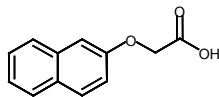
## Specification

- Assay (iodometric) ..... ≥ 98%
- Identity (IR-spectrum) ..... passes test
- Suitability for amino acid detection ..... passes test

Ord.No.	Packaging	Quantity	Price
1.06531.0005	Glass bottle	5 g	inquire
1.06531.0025	Plastic bottle	25 g	inquire

C<sub>10</sub>H<sub>5</sub>NaO<sub>5</sub>S

## 841023 2-Naphthoxyacetic acid for synthesis



- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 500 mg/kg
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

## Specification

- Assay (acidimetric) ..... ≥ 97.0 %

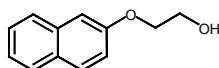
- Melting range (lower value) ..... ≥ 154 °C
- Melting range (upper value) ..... ≤ 158 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41023.0100	Glass bottle	100 g	inquire

C<sub>12</sub>H<sub>10</sub>O<sub>3</sub>

- CAS-No. 120-23-0 ■ EC-No. 204-380-0
- M = 202.21 g/mol ■ Melting point 155 - 157 °C

## 814891 2-(2-Naphthoxy)-ethanol for synthesis



- M = 188.23 g/mol ■ Melting point 75 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2909 49 80 ■ Disposal 3

## Specification

- Assay (GC, area%) ..... ≥ 98.0 % (a/a)
- Melting range (lower value) ..... ≥ 74 °C

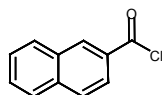
- Melting range (upper value) ..... ≤ 77 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14891.0005	Glass bottle	5 g	inquire

C<sub>12</sub>H<sub>12</sub>O<sub>2</sub>

- 2-(2-Hydroxyethoxy)naphthalene
- CAS-No. 93-20-9 ■ EC-No. 202-228-8

## 820863 2-Naphthoyl chloride for synthesis



- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(NAPHTHALIN-2-CARBONSAEURECHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-NAPHTHOYL CHLORIDE), 8, II, Segregation

Group: 1 (Acids)

- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-NAPHTHOYL CHLORIDE), 8, II

## Specification

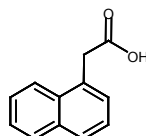
- Assay (morpholine method) ..... ≥ 96.0 %
- Melting range (lower value) ..... ≥ 49 °C
- Melting range (upper value) ..... ≤ 53 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20863.0010	Glass bottle	10 g	inquire

C<sub>11</sub>H<sub>7</sub>ClO

- 2-Naphthalenecarboxylic acid chloride
- CAS-No. 2243-83-6 ■ EC-No. 218-822-5
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 190.63 g/mol ■ Melting point 49 - 52 °C
- Boiling point 160 - 162 °C (19 hPa)

## 806862 1-Naphthylacetic acid for synthesis



- mol ■ pH value 3.0 (0.6 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 125 - 131 °C
- Bulk density 240 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 1000 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

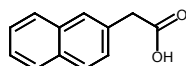
- Assay (GC, area%) ..... ≥ 96.0 Area %
- Melting range (lower value) ..... ≥ 126 °C
- Melting range (upper value) ..... ≤ 134 °C
- 2-Naphthylacetic acid (GC, area%) ..... ≤ 4.0 Area %
- Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06862.0100	Plastic bottle	100 g	inquire
8.06862.0500	Plastic bottle	500 g	inquire

C<sub>12</sub>H<sub>10</sub>O<sub>2</sub>

- 1-Naphthaleneacetic acid, Planofix
- CAS-No. 86-87-3 ■ EC-No. 201-705-8
- Solub. in H<sub>2</sub>O 0.42 g/l (20 °C) ■ M = 186.21 g/mol

## 818495 2-Naphthylacetic acid for synthesis



- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 186.21 g/mol
- Melting point 139 - 142 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 4

## Specification

- Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

- Melting range (lower value) ..... ≥ 140 °C
- Melting range (upper value) ..... ≤ 143 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18495.0010	Plastic bottle	10 g	inquire

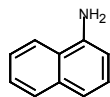
C<sub>12</sub>H<sub>10</sub>O<sub>2</sub>

- $\beta$ -Naphthylacetic acid, 2-Naphthaleneacetic acid
- CAS-No. 581-96-4 ■ EC-No. 209-475-0

$\alpha$ -Naphthylacetic acid → 1-Naphthylacetic acid  
page 1201

$\beta$ -Naphthylacetic acid → 2-Naphthylacetic acid  
page 1201

## 822291 1-Naphthylamine for synthesis

C<sub>10</sub>H<sub>9</sub>N

## 1-Aminonaphthalene

■ CAS-No. 134-32-7 ■ EC-No. 205-138-7  
 ■ Vapour pressure 0.003 hPa (20 °C)  
 ■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 157 °C ■ Solub. in H<sub>2</sub>O 1.7 g/l (20 °C) ■ M = 143.19 g/mol ■ pH value 7.1 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 48 - 50 °C

■ Bulk density 560 kg/m<sup>3</sup> ■ Boiling point 301 °C (1013 hPa) ■ Ignition temp. 460 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1A, H350; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P201, P273, P308 + P313  
 ■ LD50 oral rat 680 mg/kg  
 ■ EC-Index-No. 612-020-00-2 ■ LGK 6.1A  
 ■ HS-No. 2921 45 00  
 ■ ADR-RID UN 2077 alpha-Naphthylamin, 6.1, III  
 ■ IMDG-Code UN 2077 ALPHA-NAPHTHYLAMINE, 6.1, III

■ IATA-DGR UN 2077 ALPHA-NAPHTHYLAMINE, 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 48 °C  
 Melting range (upper value) ..... ≤ 50 °C  
 2-Naphthylamine (GC, area%) ..... ≤ 0.10 % (a/a)  
 Identity (IR) ..... passes test

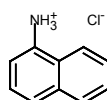
Ord.No.	Packaging	Quantity	Price
8.22291.0100	Glass bottle	100 g	inquire
8.22291.1000	Glass bottle	1 kg	inquire

1-Naphthylamine hydrochloride → 1-Naphthylammonium chloride page 1202

1-Naphthylamine-4-sulfonic acid → 4-Aminonaphthalene-1-sulfonic acid page 396

1-Naphthylamine-4-sulfonic acid sodium salt → 4-Aminonaphthalene-1-sulfonic acid sodium salt page 396

## 820866 1-Naphthylammonium chloride for synthesis

C<sub>10</sub>H<sub>10</sub>ClN

## 1-Naphthylamine hydrochloride

■ CAS-No. 552-46-5 ■ EC-No. 209-014-3  
 ■ Solub. in H<sub>2</sub>O 37.7 g/l (20 °C) ■ M = 179.65 g/mol ■ Melting point 272 - 275 °C

■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 680 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 45 00 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1-NAPHTHYLAMMONIUMCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-NAPHTHYLAMMONIUM CHLORIDE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-NAPHTHYLAMMONIUM CHLORIDE), 6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20866.0100	Glass bottle	100 g	inquire

N-1-Naphthylaniline → N-Phenyl-1-naphthylamine page 1309

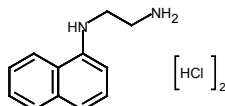
β-Naphthyl bromide → 2-Bromonaphthalene page 508

Naphthylethylenediamine dihydrochloride → N-(1-Naphthyl)ethylenediamine dihydrochloride page 1202

α-Naphthyl bromide → 1-Bromonaphthalene page 507

1,8-Naphthylenediamine → 1,8-Naphthalenediamine page 1197

## 106237 N-(1-Naphthyl)ethylenediamine dihydrochloride GR for analysis ACS

C<sub>12</sub>H<sub>16</sub>Cl<sub>2</sub>N<sub>2</sub>

## Naphthylethylenediamine dihydrochloride

■ CAS-No. 1465-25-4 ■ EC-No. 215-981-2  
 ■ Solub. in H<sub>2</sub>O 30 g/l (20 °C) ■ M = 259.18 g/mol  
 ■ pH value 1.0 (25 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Bulk density 380 kg/m<sup>3</sup>

■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 59 90 ■ Disposal 3  
 for the determination of sulfonamide in blood and nitrite

Appearance of solution (20 g/l, water) ..... clear, dissolution is complete

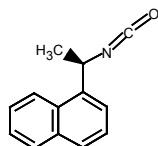
1-Naphthylamine (HPLC) ..... ≤ 0.1 %  
 2-Naphthylamine (HPLC) ..... ≤ 0.01 %  
 Water (according to Karl Fischer) ..... ≤ 5.0 %  
 Sensitivity to sulfanilamide ..... conforms

## Specification

Assay (argentometric, calc. on anhydrous substance) ..... ≥ 98.0 %  
 Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.06237.0005	Glass bottle	5 g	inquire
1.06237.0025	Glass bottle	25 g	inquire

## 814180 (R)-(-)-1-(1-Naphthyl)ethyl isocyanate for synthesis

C<sub>13</sub>H<sub>11</sub>NO

## 1-(1-Naphthyl)ethyl isocyanate

■ CAS-No. 42340-98-7 ■ EC-No. 255-759-2  
 ■ Refractive index 1.6067 (20 °C, 589 nm)  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 197.24 g/mol

■ Boiling point 106 - 108 °C (0.2 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10  
 ■ HS-No. 2929 10 00 ■ Disposal 11  
 ■ ADR-RID UN 2206 Isocyanate, giftig, n.a.g.(NAPHTHYLETHYLISOCYANAT), 6.1, III  
 ■ IMDG-Code UN 2206 ISOCYANATES, TOXIC, N.O.S.(NAPHTHYLETHYLISOCYANATE), 6.1, III  
 ■ IATA-DGR UN 2206 ISOCYANATES, TOXIC, N.O.S.

(NAPHTHYLETHYLISOCYANATE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,128 - 1,132  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=3.5 in toluene) ..... -50,0 - -45,0 °  
 Identity (IR) ..... conforms

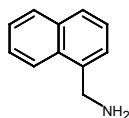
Ord.No.	Packaging	Quantity	Price
8.14180.0001	Glass bottle	1 ml	inquire

1-Naphthyl iodide → 1-Iodonaphthalene page 1012

2-Naphthyl mercaptan → 2-Naphthalenethiol page 1198



## 814851 1-Naphthylmethylamine for synthesis

C<sub>11</sub>H<sub>11</sub>N

1-Aminomethylnaphthalene, 1-Naphthalenemethylamine

■ CAS-No. 118-31-0 ■ EC-No. 204-244-0

- Spec. density 1.075 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ M = 157.22 g/mol
- Boiling point 289 - 292 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2921 49 00 ■ Disposal 3

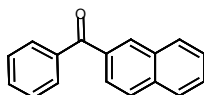
## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,090 - 1,095  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14851.0005	Glass bottle	5 ml	inquire

2-Naphthyl methyl ether → 2-Methoxynaphthalene page 1121

## 820869 2-Naphthyl phenyl ketone for synthesis

C<sub>17</sub>H<sub>12</sub>O

Phenyl 2-naphthyl ketone

■ CAS-No. 644-13-3 ■ EC-No. 211-410-6

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 232.28 g/mol
- Melting point 80 - 82 °C
- Boiling point 398 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 39 00 ■ Disposal 3

Melting range (lower value) ..... ≥ 78 °C  
 Melting range (upper value) ..... ≤ 81 °C  
 Identity (IR) ..... passes test

## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.20869.0001	Glass bottle	1 g	inquire

NBS → N-Bromosuccinimide page 515

NBT → page 191

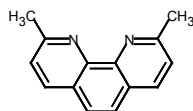
NCS → page 635

Neocarmine MS "Fesago" color reagent → page 191

Neocarmine W "Fesago" color reagent → page 191

Neo-Clear® → page 197

## 102968 Neocuproine GR for analysis

C<sub>14</sub>H<sub>12</sub>N<sub>2</sub>

2,9-Dimethyl-1,10-phenanthroline

■ CAS-No. 484-11-7 ■ EC-No. 207-601-9

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
  - M = 208.26 g/mol ■ Melting point 159 - 164 °C
  - Bulk density 280 kg/m<sup>3</sup>
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2933 99 80 ■ Disposal 3
- Reagent for copper.

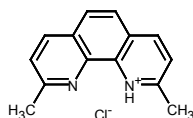
substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... conforms  
 Melting point ..... 159 - 164 °C  
 Water (according to Karl Fischer) ..... ≤ 5.0 %

## Specification

Assay (Perchloric acid titration, calc. on anhydrous

Ord.No.	Packaging	Quantity	Price
1.02968.0005	Glass bottle	5 g	inquire

## 102964 Neocuproine hydrochloride monohydrate GR for analysis

C<sub>14</sub>H<sub>12</sub>N<sub>2</sub> \* ClH \* H<sub>2</sub>O

■ CAS-No. 303136-82-5 ■ EC-No. 230-732-8

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 262.75 g/mol
  - Bulk density 160 kg/m<sup>3</sup>
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2933 99 80 ■ Disposal 3
- Reagent for copper.

substance) ..... ≥ 99%  
 Identity (IR-spectrum) ..... passes test  
 Sulfated ash ..... ≤ 0.1 %  
 Water (according to Karl Fischer) ..... 6.0 - 8.5 %

## Specification

Assay (Perchloric acid titration, calc. on anhydrous

Ord.No.	Packaging	Quantity	Price
1.02964.0001	Glass bottle	1 g	inquire

## 112276 Neodymium(III) oxide 99+

Nd<sub>2</sub>O<sub>3</sub>

- CAS-No. 1313-97-9 ■ EC-No. 215-214-1
- Spec. density 7.24 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 336.48 g/mol
- Melting point 2272 °C
- Bulk density 1200 kg/m<sup>3</sup>
- WGK 1

- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2846 90 00 ■ Disposal 27

..... ≥ 99.0 %

## Specification

Identity (elemental analysis) ..... passes test  
 Assay (complexometric, calc. on the ignited basis) .....

Ord.No.	Packaging	Quantity	Price
1.12276.0025	Glass bottle	25 g	inquire

Neohexene → 3,3-Dimethyl-1-butene page 785

Neo-Mount® → page 188

## 106254 Neomycin sulfate for biochemistry

- CAS-No. 1405-10-3 ■ EC-No. 215-773-1
- Solub. in H<sub>2</sub>O 500 g/l (20 °C)
- pH value 5.0 - 7.5 (50 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 640 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2941 90 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

- IATA-DGR No Dangerous Good
- Aminoglycosidic antibiotic; inhibits translation by binding to a small subunit of procaryotic ribosomes and causing a misreading of the code.

dried substance) ..... +53 - +59 °  
 TLC-Test ..... passes test  
 Loss on drying (60 °C; 3 h; 6.7 hPa) ..... ≤ 8 %

## Specification

Identity (IR-spectrum) ..... passes test  
 pH (50 g/l CO<sub>2</sub>-free water) ..... 5.0 - 7.5  
 Spec. rotation (α 20/D; 100 g/l; water; calc. on

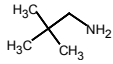
Ord.No.	Packaging	Quantity	Price
1.06254.0100	Glass bottle	100 g	inquire

Neopentanediamine → 2,2-

Dimethylpropylenediamine page 799

Neopentanoic acid → Pivalic acid page 1333

## 843922 Neopentylamine for synthesis

C<sub>5</sub>H<sub>13</sub>N

- CAS-No. 5813-64-9 ■ EC-No. 227-378-1
- Spec. density 0.745 g/cm<sup>3</sup> ■ M = 87.16 g/mol
- WGK 3
- GHS: Danger, Corrosive to metals, Category 1, H290; Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P280, P301 +

- P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2733 Amine, entzündbar, ätzend, n.a.g.(NEOPENTYLAMIN), 3 (8), II ■ IMDG-Code UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(NEOPENTYLAMINE), 3 (8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2733 AMINES, FLAMMABLE, CORROSIVE, N.O.S.(NEOPENTYLAMINE), 3 (8), II

## Specification

Colour (visual) ..... colourless  
 Appearance of substance (visual) ..... liquid  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... lot specific result  
 Water (K. F.) ..... ≤ 2,0 %(m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43922.0005	Glass bottle	5 ml	inquire
8.43922.0025	Glass bottle	25 ml	inquire

Neopentyl glycol → 2,2-Dimethyl-1,3-propanediol  
 page 799

Neophyl chloride → (2-Chloro-1,1-dimethylethyl)  
 benzene page 607

## 818553 Nerolidol (mixture of cis- and trans-isomers) for synthesis

C<sub>15</sub>H<sub>26</sub>O

- (CH<sub>3</sub>)<sub>2</sub>C=CHCH<sub>2</sub>CH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>(OH)CH=CH<sub>2</sub>  
 3,7,11-Trimethyl-1,6,10-dodecatrien-3-ol
- CAS-No. 7212-44-4 ■ EC-No. 230-597-5
  - Refractive index 1.4893 (20 °C, 589 nm)
  - Vapour pressure < 1 hPa (20 °C)
  - Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 4.5 %(V) ■ Flash point 96 °C ■ Solub. in H<sub>2</sub>O 0.014 g/l (20 °C) ■ M = 222.37 g/mol
  - Melting point -75 °C
  - Boiling point 263 - 266 °C (1013 hPa)
  - Ignition temp. 230 °C
  - WGK 2

- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2905 22 00 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(ENTH. 3,7,11-TRIMETHYL-DODECATRIEN-3-OL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CONT. 3,7,11-TRIMETHYL-DODECATRIEN-3-OL), 9, III, Marine Pollutant: P
- IATA-DGR UN 3082 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CONT. 3,7,11-TRIMETHYL-DODECATRIEN-3-OL), 9, III

## Specification

Assay isomers (GC, area%) ..... ≥ 95,0 % (a/a)  
 cis-Nerolidol (GC, area%) ..... 35,0 - 45,0 % (a/a)  
 trans-Nerolidol (GC, area%) ..... 50,0 - 60,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.870 - 0.880  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18553.0100	Glass bottle	100 ml	inquire

## 109028 Nessler's reagent for ammonium salts

- Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly alkaline
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P302 + P352, P305 +

- P351 + P338, P309 + P310
- LGK 6.1B
- HS-No. 3822 00 00 ■ Disposal 20
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(KALIUMTETRAIODMERCURATLOESUNG UND ENTH. KALILAUIGE), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(POTASSIUM TETRAIODMERCURATE AND CONT. POTASSIUM HYDROXIDE), 8 (6.1), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC,

N.O.S.(POTASSIUM TETRAIODMERCURATE AND CONT. POTASSIUM HYDROXIDE), 8 (6.1), II

## Specification

Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09028.0100	Plastic bottle	100 ml	inquire
1.09028.0500	Plastic bottle	500 ml	inquire

## 109011 Nessler's reagent A for determination of nitrogen Solution A : potassium tetraiodomercurate(II) solution

Potassium mercury(II) iodide solution

- Spec. density 1.25 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.2 (H<sub>2</sub>O, 20 °C)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 2, Dermal, H310; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310

- LGK 6.1B
- HS-No. 3822 00 00 ■ Disposal 20
- ADR-RID UN 2024 Quecksilberverbindung, flüssig, n.a.g.(KALIUMTETRAIODMERCURATLOESUNG), 6,1, II ■ IMDG-Code UN 2024 MERCURY COMPOUND, LIQUID, N.O.S.(POTASSIUM TETRAIODMERCURATE), 6,1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)

■ IATA-DGR UN 2024 MERCURY COMPOUND, LIQUID, N.O.S.(POTASSIUM TETRAIODMERCURATE), 6,1, II

## Specification

Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09011.0500	Glass bottle	500 ml	inquire

## 109012 Nessler's reagent B for determination of nitrogen solution B: Sodium hydroxide solution

- Spec. density 1.30 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 13
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

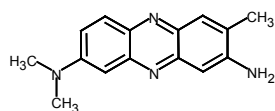
## Specification

Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09012.0500	Plastic bottle	500 ml	inquire

Neutralit® → page 76

## Neutral red (C.I. 50040)



HCl

C<sub>15</sub>H<sub>17</sub>ClN<sub>4</sub>

- CAS-No. 553-24-2 ■ EC-No. 209-035-8
- Solub. in H<sub>2</sub>O 50 g/l (25 °C) ■ M = 288.78 g/mol
- pH value 3.1 (10 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 350 - 500 kg/m<sup>3</sup>
- WGK 2

- LGK 10 - 13
  - HS-No. 3204 13 00 ■ Disposal 3
- Use as pH indicator: 0.1 g in 100 ml ethanol (70%)

## 101369 Neutral red (C.I. 50040) indicator and for microbiology

## Specification

Dye content (spectrophotometrically) ..... ≥ 75 %  
 Identity (UV/VIS-Spectrum)..... passes test  
 Transition range..... pH 6.8 - pH 8.0 Violet red - orange yellow  
 Absorption maximum λ<sub>max</sub> (Ethanol 50 %) ..... 540 - 543 nm  
 Absorption maximum λ 1 (buffer pH 6.8)..... 514 - 519 nm

Absorption maximum λ 2 (buffer pH 8.0)..... 395 - 535  
 ..... 452 - 455 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.005 g/l; ethanol 50 %)..... 1180 - 1610  
 Spec. Absorptivity A 1%/1cm (λ<sub>1max</sub>; 0.015 g/l; buffer pH 6.8; calc. on dried substances)..... 425 - 575  
 Spec. Absorptivity A 1%/1cm (λ<sub>2max</sub>; 0.015 g/l; buffer pH 8.0; calc. on dried substances).....

.....395 - 535  
 TLC-Test ..... passes test  
 Loss on drying (110 °C) ..... ≤ 18 %  
 Suitability for microbiology ..... passes test

Ord.No.	Packaging	Quantity	Price
1.01369.0025	Glass bottle	25 g	inquire
1.01369.0100	Glass bottle	100 g	inquire

## 101376 Neutral red (C.I. 50040) for microscopy Certistain®

## Specification

Dye content (spectrophotometrically) ..... ≥ 90 %  
 Identity (UV/VIS-Spectrum)..... passes test  
 Absorption maximum λ max (ethanol 50 %) ..... 540 - 543 nm

Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.005 g/l; ethanol 50 %) ..... 1420 - 1610  
 TLC-Test ..... passes test  
 Loss on drying (110 °C) ..... ≤ 12 %  
 Suitability for microscopy..... passes test

Ord.No.	Packaging	Quantity	Price
1.01376.0025	Glass bottle	25 g	inquire

New fuchsin (C.I. 42520) → page 190

Niacinamide → Nicotinamide page 173

## 112277 Nickel powder 99+

Ni

- CAS-No. 7440-02-0 ■ EC-No. 231-111-4
- Spec. density 8.90 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 58.69 g/mol
- Melting point 1453 °C
- Bulk density 1600 - 2600 kg/m<sup>3</sup>
- Boiling point 2832 °C
- WGK 2
- GHS: Danger, Carcinogenicity, Category 2, H351;

Specific target organ toxicity - repeated exposure, Category 1, H372; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P260, P273, P280, P302 + P352, P308 + P313

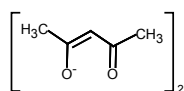
- LD50 oral rat > 9000 mg/kg
- EC-Index-No. 028-002-01-4 ■ LGK 6.1A
- HS-No. 7504 00 00 ■ Disposal 27

## Specification

Particle size (d50) ..... about 10 µm

Ord.No.	Packaging	Quantity	Price
1.12277.0250	Plastic bottle	250 g	inquire
1.12277.1000	Plastic bottle	1 kg	inquire

## 806715 Nickel(II) acetylacetonate for synthesis

Ni<sup>2+</sup>C<sub>10</sub>H<sub>14</sub>NiO<sub>4</sub>

*Bis(acetylacetonato)nickel(II)*, *Bis(2,4-pentanedionato)nickel(II)*  
 ■ CAS-No. 3264-82-2 ■ EC-No. 221-875-7  
 ■ Vapour pressure 2.7 hPa (110 °C) ■ Solub. in

H<sub>2</sub>O 4.8 g/l (20 °C) ■ M = 256.91 g/mol  
 ■ Melting point 208 °C ■ Bulk density 470 kg/m<sup>3</sup>  
 ■ Boiling point 220 - 235 °C (14 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352  
 ■ LD50 oral rat 587 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 19 90 ■ Disposal 15

## Specification

Assay (Ni)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06715.0025	Glass bottle	25 g	inquire
8.06715.0100	Glass bottle	100 g	inquire

## 806749 Nickel-aluminium alloy (powder) for the production of Raney nickel for synthesis

- CAS-No. 12635-29-9
- Spec. density 4.3 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) (reaction) ■ Melting point 1460 °C
- Bulk density 2850 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Substances, which in contact with water, emit flammable gases, Category 3, H261; Carcinogenicity, Category 2, H351; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin sensitisation, Category 1, H317;

Chronic aquatic toxicity, Category 3, H412, P273, P280, P302 + P352, P308 + P313

- LGK 4.3
- HS-No. 7502 20 00 ■ Disposal 26
- ADR-RID UN 1396 Aluminium-Pulver, nicht überzogen, 4.3, III ■ IMDG-Code UN 1396 ALUMINIUM POWDER, UNCOATED, 4.3, III, Segregation Group: 15 (Powdered metals)
- IATA-DGR UN 1396 ALUMINIUM POWDER, UNCOATED, 4.3, III

## Specification

Assay of Ni ..... 47.0 - 53.0 %  
 Assay of Al ..... 47.0 - 53.0 %

Ord.No.	Packaging	Quantity	Price
8.06749.0005	Glass bottle	5 g	inquire
8.06749.0250	Plastic bottle	250 g	inquire
8.06749.1000	Plastic bottle	1 kg	inquire

Nickel bis(triphenylphosphine)dichloride → Bis(triphenylphosphine)nickel(II) chloride page 478

## 843836 Nickel boride for synthesis

- CAS-No. 12007-01-1 ■ EC-No. 234-494-6
- M = 128.2 g/mol
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1A, H350i; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity,

Category 1, H410, P201, P273, P280, P302 + P352, P314

- EC-Index-No. 028-056-00-1 ■ LGK 6.1B
- HS-No. 2850 00 90 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(DINICKELBORID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(DINICKEL BORIDE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(DINICKEL BORIDE), 9, III

## Specification

Assay (Ni)..... ≥ 98,0 %

Ord.No.	Packaging	Quantity	Price
8.43836.0010	Glass bottle	10 g	inquire

Nickel catalyst acc. Raney → Raney nickel catalyst page 1399

Nickel Cell Test → page 70

# Nickel

## 806722 Nickel(II) chloride anhydrous for synthesis



Cl<sub>2</sub>Ni  
NiCl<sub>2</sub>  
*Nickel dichloride*  
■ CAS-No. 7718-54-9 ■ EC-No. 231-743-0  
■ Vapour pressure 1.33 hPa (671 °C)  
■ Spec. density 3.55 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 129.6 g/mol  
■ pH value 4 (500 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 1009 °C  
■ WGK 3  
■ GHS: Danger, Carcinogenicity, Category 1A, Inhalation, H350i; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category

1B, H360D; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin irritation, Category 2, H315; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P309 + P310  
■ LD50 oral rat 105 mg/kg  
■ EC-Index-No. 028-011-00-6 ■ LGK 6.1 D  
■ HS-No. 2827 35 00 ■ Disposal 15  
■ ADR-RID UN 3288 Giftiger anorganischer fester

Stoff, n.a.g.(NICKEL(II)-CHLORID), 6.1, III ■ IMDG-Code UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(NICKEL(II)-CHLORIDE), 6.1, III  
■ IATA-DGR UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(NICKEL(II)-CHLORIDE), 6.1, III

**Specification**  
Assay (complexometric) .....98.0 - 102.0 %  
Loss on drying (150 °C; 3h)..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
8.06722.0100	Glass bottle	100 g	inquire

## 106717 Nickel(II) chloride hexahydrate for analysis EMSURE® ACS



Cl<sub>2</sub>Ni \* 6 H<sub>2</sub>O  
NiCl<sub>2</sub> \* 6 H<sub>2</sub>O  
*Nickel dichloride*  
■ CAS-No. 7791-20-0 ■ EC-No. 231-743-0  
■ Spec. density 1.92 g/cm<sup>3</sup> (anhydrous substance)  
■ Solub. in H<sub>2</sub>O 553 g/l (20 °C) ■ M = 237.66 g/mol  
■ pH value 4.9 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 1001 °C (anhydrous substance), decomposes ■ Bulk density 640 kg/m<sup>3</sup>  
■ Boiling point 987 °C (sublimed), (anhydrous substance)  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Skin irritation, Category 2, H315; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1A, Inhalation, H350i; Reproductive

toxicity, Category 1B, H360D; Specific target organ toxicity - repeated exposure, Category 1, H372; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P309 + P310  
■ LD50 oral rat 186 mg/kg  
■ EC-Index-No. 028-011-00-6 ■ LGK 6.1 D  
■ HS-No. 2827 35 00 ■ Disposal 15  
■ ADR-RID UN 3288 Giftiger anorganischer fester Stoff, n.a.g.(NICKEL(II)-CHLORID), 6.1, III ■ IMDG-Code UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(NICKEL(II)-CHLORIDE), 6.1, III  
■ IATA-DGR UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(NICKEL(II)-CHLORIDE), 6.1, III

Sulphate (SO<sub>4</sub>).....≤ 0.005 %  
Total nitrogen (N).....≤ 0.005 %  
Ca (Calcium).....≤ 0.005 %  
Co (Cobalt).....≤ 0.005 %  
Cu (Copper).....≤ 0.001 %  
Fe (Iron).....≤ 0.001 %  
K (Potassium).....≤ 0.01 %  
Mg (Magnesium).....≤ 0.01 %  
Mn (Manganese).....≤ 0.002 %  
Na (Sodium).....≤ 0.01 %  
Pb (Lead).....≤ 0.002 %  
Zn (Zinc).....≤ 0.001 %  
conforms to ACS

**Specification**  
Assay (complexometric) .....≥ 98.0 %  
Insoluble matter.....≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.06717.0250	Plastic bottle	250 g	inquire
1.06717.1000	Plastic bottle	1 kg	inquire

## Nickel, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
791	103062	Dimethylglyoxime	1407	100629	Rubeanic acid			
791	103061	Dimethylglyoxime disodium salt octahydrate	1432	106689	Sodium diethyldithiocarbamate trihydrate			

Nickel dichloride → Nickel(II) chloride page 1206

## 106721 Nickel(II) nitrate hexahydrate for analysis EMSURE® ACS



N<sub>2</sub>NiO<sub>6</sub> \* 6 H<sub>2</sub>O  
Ni(NO<sub>3</sub>)<sub>2</sub> \* 6 H<sub>2</sub>O  
■ CAS-No. 13478-00-7 ■ EC-No. 236-068-5  
■ Spec. density 2.05 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 940 g/l (20 °C) ■ M = 290.81 g/mol  
■ pH value 5 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 56.7 °C ■ Bulk density 800 kg/m<sup>3</sup>  
■ Boiling point 136.7 °C (1013 hPa)  
■ WGK 3  
■ GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1A, Inhalation, H350i; Reproductive toxicity, Category 1B, H360D;

Specific target organ toxicity - repeated exposure, Category 1, H372; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P210, P221, P273, P280, P302 + P352, P305 + P351 + P338, P308 + P313  
■ LD50 oral rat 1620 mg/kg  
■ EC-Index-No. 028-012-00-1 ■ LGK 5.1 B  
■ HS-No. 2834 29 20 ■ Disposal 22  
■ ADR-RID UN 2725 Nickelnitrat, 5.1, III ■ IMDG-Code UN 2725 NICKEL NITRATE, 5.1, III  
■ IATA-DGR UN 2725 NICKEL NITRATE, 5.1, III

Co (Cobalt).....≤ 0.005 %  
Cu (Copper).....≤ 0.0005 %  
Fe (Iron).....≤ 0.001 %  
K (Potassium).....≤ 0.01 %  
Mg (Magnesium).....≤ 0.01 %  
Mn (Manganese).....≤ 0.002 %  
Na (Sodium).....≤ 0.005 %  
NH<sub>4</sub> (Ammonium).....≤ 0.05 %  
Pb (Lead).....≤ 0.001 %  
Zn (Zinc).....≤ 0.001 %

**Specification**  
Assay (complexometric) .....99.0 - 102.0 %  
Insoluble matter.....≤ 0.005 %  
Chloride (Cl).....≤ 0.001 %  
Sulphate (SO<sub>4</sub>).....≤ 0.002 %  
Ca (Calcium).....≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.06721.0100	Plastic bottle	100 g	inquire
1.06721.0250	Plastic bottle	250 g	inquire
1.06721.1000	Plastic bottle	1 kg	inquire

## 109989 Nickel standard 1000 mg Ni, (NiCl<sub>2</sub> in H<sub>2</sub>O) Titrisol®



*Nickel standard for aqueous matrices*  
■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.4 (H<sub>2</sub>O, 20 °C)  
■ WGK 3  
■ GHS: Danger, Carcinogenicity, Category 1A, H350i; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 1B, H360D; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P281, P273, P201, P308 + P313, P302 + P352

■ LGK 6.1 B  
■ HS-No. 2827 35 00 ■ Disposal 28  
■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(NICKEL(II)-CHLORID-LOESUNG), 9, III  
■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(NICKEL(II)-CHLORIDE), 9, III, Marine Pollutant: P  
■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(NICKEL(II)-CHLORIDE), 9, III

**Specification**  
content (Ni)..... 1000 mg/Ampoule  
Determination method: Complexometric titration. (traceable of NIST - SRM 682) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09989.0001	Plastic ampoule	1 amp	inquire

Nickel standard for aqueous matrices → Nickel standard page 1206

Nickel standard for aqueous matrices ready for use → page 1469



## Nickel(II) sulfate hexahydrate

NiO<sub>4</sub>S \* 6 H<sub>2</sub>ONiSO<sub>4</sub> \* 6 H<sub>2</sub>O

■ CAS-No. 10101-97-0 ■ EC-No. 232-104-9  
 ■ Spec. density 2.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 650 g/l (20 °C) ■ M = 262.86 g/mol  
 ■ pH value 4.3 - 4.7 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 53 °C ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Skin irritation, Category 2, H315; Respiratory sensitisation, Category 1, H334; Skin

sensitisation, Category 1, H317; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1A, Inhalation, H350i; Reproductive toxicity, Category 1B, H360D; Specific target organ toxicity - repeated exposure, Category 1, H372; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P308 + P313  
 ■ LC50 rat 2.48 mg/l  
 ■ LD50 oral rat 361 mg/kg  
 ■ EC-Index-No. 028-009-00-5 ■ LGK 6.1 D

■ HS-No. 2833 24 00 ■ Disposal 15  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(NICKEL(II) SULFAT HEXAHYDRAT), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(NICKEL(II) SULFATE HEXAHYDRATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(NICKEL(II) SULFATE HEXAHYDRATE), 9, III

## 106726 Nickel(II) sulfate hexahydrate extra pure

## Specification

Assay (complexometric) ..... ≥ 98.0 %  
 Identity ..... passes test  
 Chloride (Cl) ..... ≤ 0.003 %  
 Co (Cobalt) ..... ≤ 0.05 %  
 Fe (Iron) ..... ≤ 0.01 %

Pb (Lead) ..... ≤ 0.001 %  
 Zn (Zinc) ..... ≤ 0.2 %  
 Substances not precipitated by ammonium sulfide (as SO<sub>4</sub>) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.06726.1000	Plastic bottle	1 kg	inquire
1.06726.9050	Plastic drum	50 kg	inquire

## 106727 Nickel(II) sulfate hexahydrate for analysis EMSURE® ACS

## Specification

Assay (complexometric) ..... 99.0 - 101.0 %  
 Identity ..... passes test  
 Insoluble matter ..... ≤ 0.005 %  
 Chloride (Cl) ..... ≤ 0.001 %  
 Total nitrogen (N) ..... ≤ 0.001 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Co (Cobalt) ..... ≤ 0.002 %

Cu (Copper) ..... ≤ 0.002 %  
 Fe (Iron) ..... ≤ 0.001 %  
 K (Potassium) ..... ≤ 0.01 %  
 Mg (Magnesium) ..... ≤ 0.005 %  
 Mn (Manganese) ..... ≤ 0.002 %  
 Na (Sodium) ..... ≤ 0.03 %  
 Pb (Lead) ..... ≤ 0.001 %

Zn (Zinc) ..... ≤ 0.002 %

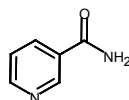
Ord.No.	Packaging	Quantity	Price
1.06727.0100	Plastic bottle	100 g	inquire
1.06727.0250	Plastic bottle	250 g	inquire
1.06727.1000	Plastic bottle	1 kg	inquire

Nickel Test → page 70

Nickel Test Refill pack → page 70

Nicotinaldehyde → 3-Pyridinecarbaldehyde page 1385

## 106828 Nicotinamide test substance for elemental analysis

C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O

Nicotinamide, Niacinamide, 3-Pyridinecarboxamide

■ CAS-No. 98-92-0 ■ EC-No. 202-713-4  
 ■ Spec. density 1.40 g/cm<sup>3</sup> ■ Flash point 182 °C  
 ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 122.13 g/mol  
 ■ pH value 6.0 - 7.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 128 - 131 °C (sublimed)

■ Bulk density 360 kg/m<sup>3</sup> ■ Boiling point 224 °C (20 hPa) ■ Ignition temp. 480 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 3530 - 3540 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2936 29 00 ■ Disposal 3

## Specification

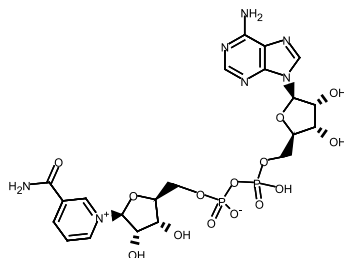
Content values and standard deviations of 10 measurements  
 Identity (IR-spectrum) ..... conforms

C content (mean value tenfold determination) ..... 58.7 - 59.3 %  
 H content (mean value tenfold determination) ..... 4.8 - 5.2 %  
 N-content (mean value tenfold determination) ..... 22.7 - 23.3 %  
 O content (mean value tenfold determination) ..... 12.7 - 13.3 %  
 Suitable as standard for the determination of C, H, N, O

Ord.No.	Packaging	Quantity	Price
1.06828.0005	Glass bottle	5 g	inquire

Nicotinamide → page 173

## 124542 Nicotinamide adenine dinucleotide free acid for biochemistry NAD

C<sub>21</sub>H<sub>27</sub>N<sub>7</sub>O<sub>14</sub>P<sub>2</sub>

NAD free acid, DPN

■ CAS-No. 53-84-9 ■ EC-No. 200-184-4  
 ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 663.43 g/mol

■ pH value 2.5 - 3.0 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 140 - 142 °C  
 ■ Bulk density 200 - 300 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Neutral or slightly acid solutions (pH 3-7) are stable at 4°C for 4 weeks. In alkaline solutions decomposition occurs rapidly.

## Specification

Assay (β-NAD, enzymatically with ADH; calc. on anhydrous substance) ..... ≥ 95 %  
 Assay (spectrophotometrically) ..... ≥ 95.0 %  
 Identity (IR-spectrum) ..... passes test

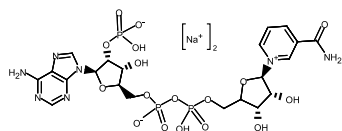
Appearance ..... White to almost white, fine powder eventual slightly yellowish.  
 pH (10 g/l, water) ..... 2.5 - 3.0  
 Absorption maximum λ<sub>max</sub> (buffer pH 7.0) ..... 259 - 261 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0,01 g/l; 1 cm; buffer pH 7,0; calc. on anhydrous subst.) ..... 255 - 270  
 Water (according to Karl Fischer) ..... ≤ 7.0 %

Ord.No.	Packaging	Quantity	Price
1.24542.0001	Glass bottle	1 g	inquire
1.24542.0005	Glass bottle	5 g	inquire
1.24542.0025	Glass bottle	25 g	inquire



# Nicoti

## 124541 Nicotinamide adenine dinucleotide phosphate disodium salt for biochemistry NADP-Na<sub>2</sub>



C<sub>21</sub>H<sub>27</sub>N<sub>7</sub>Na<sub>2</sub>O<sub>17</sub>P<sub>3</sub>

NADP disodium salt

- CAS-No. 24292-60-2 ■ EC-No. 246-129-8
- M = 788.38 g/mol
- WGK 3

- LGK 10 - 13 ■ Store at +2°C to +8°C.
  - HS-No. 2934 99 90 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- Aqueous solutions of NADP are relatively stable at acid pH (pH 2-6), e.g. 4 weeks at 4°C.  
Decomposition occurs in alkaline solutions.

### Specification

Assay (enzymatically; calculated on solvent-free substance) ..... ≥ 95 %  
Identity (IR-spectrum) ..... passes test

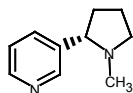
pH (10 mg/ml; water) ..... 3.7 - 4.2  
UV-Absorption (360 nm; 10 mg/ml; water) .. ≤ 0.20  
Spec. Absorptivity A 1%/1cm (260 nm; 0.01 g/l; buffer pH 7.0; calculated on solvent-free substance) ..... 220 - 240  
Methanol (GC) ..... ≤ 3.0 %  
Water (according to Karl Fischer) ..... ≤ 6.0 %

Ord.No.	Packaging	Quantity	Price
1.24541.0001	Glass bottle	1 g	inquire

Nicotinamide adenine dinucleotide phosphate reduced (NADPH<sub>2</sub>) tetrasodium salt → Dihyronicotinamide adenine dinucleotide phosphate tetrasodium salt page 758

Nicotinamide adenine dinucleotide reduced disodium salt (NADH<sub>2</sub>) → Dihyronicotinamide adenine dinucleotide disodium salt page 758

## 820877 (-)-Nicotine for synthesis



C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>

3-(1-Methyl-2-pyrrolidinyl)pyridine, (S)-(-)-Nicotine

- CAS-No. 54-11-5 ■ EC-No. 200-193-3
- Vapour pressure 0.05 hPa (25 °C)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 4 % (V) ■ Flash point 101 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 162.23 g/mol

- pH value 10.2 (8.1 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -79 °C ■ Boiling point 247 °C (1013 hPa) ■ Ignition temp. 240 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P309 + P310
- LD50 oral rat 50 mg/kg ■ LD50 dermal rabbit 50 mg/kg
- EC-Index-No. 614-001-00-4 ■ LGK 6.1A
- HS-No. 2939 99 00 ■ Disposal 9
- ADR-RID UN 1654 Nicotin, 6.1, II ■ IMDG-

Code UN 1654 NICOTINE, 6.1, II  
■ IATA-DGR UN 1654 NICOTINE, 6.1, II

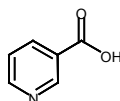
### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.009 - 1.012  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)] -169.0 - -164.0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20877.0025	Glass bottle	25 ml	inquire
8.20877.0100	Glass bottle	100 ml	inquire

(S)-(-)-Nicotine → (-)-Nicotine page 1208

## 818714 Nicotinic acid for synthesis



C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub>

3-(COOH)-C<sub>5</sub>H<sub>4</sub>N

Niacin, 3-Pyridinecarboxylic acid

- CAS-No. 59-67-6 ■ EC-No. 200-441-0
- Spec. density 1.47 g/cm<sup>3</sup> (20 °C)
- Flash point 193 °C ■ Solub. in H<sub>2</sub>O 18 g/l (20 °C)

- M = 123.11 g/mol ■ pH value 2.7 (18 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 236.6 °C
- Bulk density 330 kg/m<sup>3</sup>
- Ignition temp. >365 °C Dust
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2936 29 00 ■ Disposal 4

### Specification

Assay (acidimetric) ..... ≥ 99.0 %  
Melting range (lower value) ..... ≥ 234 °C  
Melting range (upper value) ..... ≤ 238 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18714.0100	Plastic bottle	100 g	inquire
8.18714.1000	Plastic bottle	1 kg	inquire

iso-Nicotinic acid → 4-Pyridinecarboxylic acid page 1386

Nicotinic acid nitrile → 3-Pyridinecarbonitrile page 1386

Nicotinic acid ethyl ester → Ethyl 3-pyridinecarboxylate page 883

Nicotinonitrile → 3-Pyridinecarbonitrile page 1386  
Nicotinylalcohol → 3-Pyridylmethanol page 1390

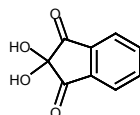
Nicotinic acid methyl ester → Methyl nicotinate page 1162

Nigrosine (C.I. 50420) → page 190

Nile blue → page 190

Nile blue (hydrogen sulfate) (C.I. 51180) → page 190

## 106762 Ninhydrin GR for analysis ACS,Reag. Ph Eur



C<sub>9</sub>H<sub>6</sub>O<sub>4</sub>

2,2-Dihydroxy-1,3-dioxohydrindene, 2,2-Dihydroxy-1,3-indandione, Indantrione hydrate, Triketohydrindene hydrate

- CAS-No. 485-47-2 ■ EC-No. 207-618-1
- Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 178.15 g/mol
- pH value 4.6 - 5.0 (10 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 250 - 258 °C (decomposition)
  - Bulk density 680 kg/m<sup>3</sup>
  - WGK 2
  - GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
  - LD50 oral rat 600 mg/kg
  - LGK 10 - 13
  - HS-No. 2914 40 90 ■ Disposal 3
- Colour reagent for the determination of amino acids.

### Specification

Identity (IR-spectrum) ..... conforms  
Appearance ..... White to weakly yellow or brownish white crystalline powder or crystals.  
Solubility (10 g/l, water) ..... conforms  
Melting point ..... about 250°C  
Suitability for amino acid analysis ..... conforms

Ord.No.	Packaging	Quantity	Price
1.06762.0010	Plastic bottle	10 g	inquire
1.06762.0100	Plastic bottle	100 g	inquire
1.06762.1000	Plastic bottle	1 kg	inquire

Ninhydrin spray solution → page 14

Ninhydrin spray solution for TLC → page 14

## 112285 Niobium(V) chloride 98+



<p>Cl<sub>5</sub>Nb NbCl<sub>5</sub> <i>Niobium pentachloride</i> ■ CAS-No. 10026-12-7 ■ EC-No. 233-059-8 ■ Spec. density 2.75 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 270.17 g/mol ■ pH value 1 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry) ■ Melting point 205 °C ■ Bulk density 1450 kg/m<sup>3</sup> ■ Boiling point 254 °C ■ WGK 1 ■ GHS: Danger, Acute toxicity, Category 4, Oral,</p>	<p>H302; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310 ■ LD50 oral rat 1400 mg/kg ■ LGK 8 B ■ HS-No. 2827 39 85 ■ Disposal 24 ■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(NIOB(V)-CHLORID), 8, II ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC,</p>	<p>N.O.S.(NIOBIUM(V)CHLORIDE), 8, II, Segregation Group: 1 (Acids) ■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(NIOBIUM(V)CHLORIDE), 8, II <b>Specification</b> Identity..... passes test Assay (gravimetrically) ..... ≥ 98.0 %</p>
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Ord.No.	Packaging	Quantity	Price
1.12285.0100	Glass bottle	100 g	inquire

## Niobium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
995	107098	8-Hydroxyquinoline	1392	100612	Pyrogallol			

## 106868 Niobium(V) oxide 99+

<p>Nb<sub>2</sub>O<sub>5</sub> ■ CAS-No. 1313-96-8 ■ EC-No. 215-213-6 ■ Spec. density 4.5 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 265.81 g/mol ■ Melting point 1512 °C ■ WGK nwg ■ LD50 oral rat &gt; 10000 mg/kg ■ LGK 10 - 13</p>	<p>■ HS-No. 2825 90 85 ■ Disposal 27 <b>Specification</b> Hydrochloric acid soluble matter ..... ≤ 0.5 % Chloride (Cl) ..... ≤ 0.002 % Sulphate (SO<sub>4</sub>) ..... ≤ 0.002 % Co (Cobalt) ..... ≤ 0.0005 % Cr (Chromium) ..... ≤ 0.001 %</p>	<p>Cu (Copper) ..... ≤ 0.001 % Fe (Iron) ..... ≤ 0.005 % Ti (Titanium) ..... ≤ 0.005 % V (Vanadium) ..... ≤ 0.005 %</p>
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Ord.No.	Packaging	Quantity	Price
1.06868.0100	Plastic bottle	100 g	inquire

Nioxime → 1,2-Cyclohexanedione dioxime page 672	o-Nitraniline → 2-Nitroaniline page 1215	Nitrate Cell Test in seawater → page 72
NIS → N-Iodosuccinimide page 1013	p-Nitraniline → page 1216	
m-Nitraniline → 3-Nitroaniline page 1216	Nitrate Cell Test → page 71	

## Nitrate, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
385	107293	4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one	797	103768	2,6-Dimethylphenol	1450	106601	Sodium salicylate
172	102498	Chromotropic acid disodium salt dihydrate	904	110539	4-Fluorophenol	1506	100686	Sulfanilic acid

## Nitrates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
370	101086	Aluminium nitrate nonahydrate	649	102554	Cobalt(II) nitrate hexahydrate	165	105065	Potassium nitrate
370	101063	Aluminium nitrate nonahydrate	654	102753	Copper(II) nitrate trihydrate	1360	105063	Potassium nitrate
409	102276	Ammonium cerium(IV) nitrate	920	112171	Gallium(III) nitrate hydrate 98+	1421	101512	Silver nitrate
168	102277	Ammonium cerium(IV) nitrate solution	1039	103883	Iron(III) nitrate nonahydrate	170	111718	Silver nitrate solution
			166	105326	Lanthanum nitrate hexahydrate	170	109081	Silver nitrate solution
413	101187	Ammonium nitrate	1075	107398	Lead(II) nitrate	170	109080	Silver nitrate solution
413	101188	Ammonium nitrate	165	105653	Lithium nitrate	170	109990	Silver nitrate solution
413	102596	Ammonium nitrate solution	1083	112230	Lithium nitrate	166	106546	Sodium nitrate
432	101729	Barium nitrate	165	105855	Magnesium nitrate hexahydrate	1447	106535	Sodium nitrate
475	101878	Bismuth(III) nitrate	1088	105853	Magnesium nitrate hexahydrate	1447	106537	Sodium nitrate
165	102123	Calcium nitrate tetrahydrate	1096	105940	Manganese(II) nitrate tetrahydrate	166	107871	Strontium nitrate
564	102120	Calcium nitrate tetrahydrate				1502	107872	Strontium nitrate
564	102121	Calcium nitrate tetrahydrate	1105	104437	Mercury(I) nitrate dihydrate	1638	112516	Yttrium(III) nitrate hexahydrate
586	102271	Cerium(III) nitrate hexahydrate	1105	104439	Mercury(II) nitrate monohydrate	1641	108833	Zinc nitrate tetrahydrate
588	102856	Cesium nitrate						
641	102481	Chromium(III) nitrate nonahydrate	169	109143	Mercury(II) nitrate solution			
			1206	106721	Nickel(II) nitrate hexahydrate			
649	102536	Cobalt(II) nitrate hexahydrate	1259	814573	Palladium(II) nitrate dihydrate (40% Pd)			

Nitrate standard for aqueous matrices ready for use → page 40	Nitrate test in seawater → page 72	Nitratophenylmercury → Phenylmercury nitrate (basic) page 1309
Nitrate Test → page 71	Nitrate Test Refill pack → page 71	
Nitrate Test in freshwater → page 71	Nitrate Test RQeasy® → page 71	

# Nitric

## 109964 Nitric acid for 1 l measure solution, c(HNO<sub>3</sub>) = 0.1 mol/l (0.1 N) Titrisol®

■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -10 °C ■ Boiling point 101 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2808 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN

20%, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2031 NITRIC ACID, 8, II  
**Specification**  
 Concentration after dilution to 1 liter: c(HNO<sub>3</sub>) = 0.1 mol/l  
 Amount-of-substance concentration .0.1000 mol/l  
 The concentration of this solution was determined with volumetric standard Tris(hydroxymethyl) aminomethane (Merck article number 1.02408).  
 The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability).

The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl) aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09964.0001	Fibre case	1 amp	inquire

## 109966 Nitric acid for 1000 ml, c(HNO<sub>3</sub>) = 1 mol/l (1 N) Titrisol®

■ Vapour pressure 9.4 hPa (20 °C)  
 ■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -28 °C ■ Boiling point 120 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2808 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-

Code UN 2031 NITRIC ACID MORE THAN 20% BUT LESS THAN 65%, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2031 NITRIC ACID, 8, II  
**Specification**  
 Concentration after dilution to 1 liter: c(HNO<sub>3</sub>) = 1 mol/l  
 Amount-of-substance concentration ....1.000 mol/l  
 The concentration of this solution was determined with volumetric standard Tris(hydroxymethyl) aminomethane (Merck article number 1.02408).  
 The determined titer at 20°C was 1.000 with an

expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability).  
 The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl) aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09966.0001	Fibre case	1 amp	inquire

## 100630 Nitric acid 10 mol/l Titripur®

■ Vapour pressure 9.4 hPa (20 °C)  
 ■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -28 °C ■ Boiling point 120 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301

+ P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2808 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID MORE THAN 20% BUT LESS THAN 65%, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2031 NITRIC ACID, 8, II  
**Specification**  
 Assay (HNO<sub>3</sub>) ..... 48.0 - 50.0 %

Ord.No.	Packaging	Quantity	Price
1.00630.1000	Glass bottle	1 l	inquire

## 101518 Nitric acid 60% Ultrapur

■ Spec. density 1.37 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -22 °C ■ Boiling point 120 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2808 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID MORE THAN 20% BUT

LESS THAN 65%, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2031 NITRIC ACID, 8, II  
 Acid purified by sub-boiling distillation for sample preparation in trace analysis. Each package includes a certificate of analysis.  
**Specification**  
 Assay (acidimetric)..... ≥ 60.0 %  
 Ag (Silver)..... ≤ 20 ppt  
 Al (Aluminium)..... ≤ 50 ppt  
 As (Arsenic)..... ≤ 20 ppt  
 Au (Gold)..... ≤ 20 ppt  
 B (Boron)..... ≤ 100 ppt  
 Ba (Barium)..... ≤ 20 ppt  
 Be (Beryllium)..... ≤ 20.0 ppt  
 Bi (Bismuth)..... ≤ 20.0 ppt  
 Ca (Calcium)..... ≤ 200 ppt  
 Cd (Cadmium)..... ≤ 20.0 ppt  
 Ce (Cerium)..... ≤ 20.0 ppt  
 Co (Cobalt)..... ≤ 20.0 ppt  
 Cr (Chromium)..... ≤ 50 ppt  
 Cu (Copper)..... ≤ 20 ppt  
 Dy (Dysprosium)..... ≤ 20.00 ppt  
 Er (Erbium)..... ≤ 20.00 ppt  
 Eu (Europium)..... ≤ 20.00 ppt  
 Fe (Iron)..... ≤ 100 ppt  
 Ga (Gallium)..... ≤ 20.0 ppt  
 Gd (Gadolinium)..... ≤ 20 ppt  
 Ge (Germanium)..... ≤ 20 ppt  
 Hf(Hafnium)..... ≤ 10.00 ppt  
 Hg (Mercury)..... ≤ 50 ppt  
 Ho (Holmium)..... ≤ 20.00 ppt  
 In (Indium)..... ≤ 20.0 ppt  
 K (Potassium)..... ≤ 100 ppt  
 La (Lanthanum)..... ≤ 20.0 ppt  
 Li (Lithium)..... ≤ 20.0 ppt  
 Lu (Lutetium)..... ≤ 20.00 ppt  
 Mg (Magnesium)..... ≤ 50 ppt  
 Mn (Manganese)..... ≤ 20 ppt  
 Mo (Molybdenum)..... ≤ 20.0 ppt  
 Na (Sodium)..... ≤ 100 ppt  
 Nb (Niobium)..... ≤ 20.0 ppt  
 Nd (Neodymium)..... ≤ 20.0 ppt  
 Ni (Nickel)..... ≤ 50 ppt  
 Pb (Lead)..... ≤ 20.0 ppt  
 Pd (Palladium)..... ≤ 20 ppt  
 Pr (Praseodym)..... ≤ 20.00 ppt  
 Pt (Platinum)..... ≤ 20 ppt  
 Rb (Rubidium)..... ≤ 20.0 ppt  
 Re (Rhenium)..... ≤ 10.00 ppt  
 Ru (Ruthenium)..... ≤ 20.0 ppt  
 Sb (Antimony)..... ≤ 20.0 ppt  
 Sc (Scandium)..... ≤ 20 ppt

Se (Selenium)..... ≤ 200 ppt  
 Si (Silicon)..... ≤ 1000 ppt  
 Sm (Samarium)..... ≤ 20.00 ppt  
 Sn (Tin)..... ≤ 20 ppt  
 Sr (Strontium)..... ≤ 20.0 ppt  
 Ta (Tantalum)..... ≤ 50.00 ppt  
 Tb (Terbium)..... ≤ 20.00 ppt  
 Te (Tellur)..... ≤ 50 ppt  
 Th (Thorium)..... ≤ 1.00 ppt  
 Ti (Titanium)..... ≤ 20 ppt  
 Tl (Thallium)..... ≤ 20.00 ppt  
 Tm (Thulium)..... ≤ 20.00 ppt  
 U (Uranium)..... ≤ 1.00 ppt  
 V (Vanadium)..... ≤ 20 ppt  
 W (Wolfram)..... ≤ 100 ppt  
 Y (Yttrium)..... ≤ 10.0 ppt  
 Yb (Ytterbium)..... ≤ 20.0 ppt  
 Zn (Zinc)..... ≤ 100 ppt  
 Zr (Zirconium)..... ≤ 20.0 ppt  
 ICP-MS: Determination after evaporation to dryness with ICP-MS ICP-MS\*: Determination with ICP-MS CSDPP : Determination with cathodic stripping differential pulse polarography GFAAS: Determination with graphite furnace atomic absorption spectrometry Actual analysis values are subject to unavoidable systematic variations in this concentration range.

Ord.No.	Packaging	Quantity	Price
1.01518.0250	Plastic bottle	250 ml	inquire
1.01518.0500	Fibre case	500 ml	inquire
1.01518.1000	Plastic bottle	1 l	inquire

## Nitric acid 65%

- Vapour pressure 9.4 hPa (20 °C)
- Spec. density 1.39 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid ■ Melting point -32 °C
- Boiling point 121 °C (1013 hPa)
- WGK 1

- GHS: Danger, Oxidising liquid, Category 3, H272; Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 5.1B
- HS-No. 2808 00 00

- ADR-RID UN 2031 Salpetersäure, 8 (5.1), II
- IMDG-Code UN 2031 NITRIC ACID WITH AT LEAST 65% BUT NOT MORE THAN 70%, 8 (5.1), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2031 NITRIC ACID, 8 (5.1), II



## 100443 Nitric acid 65% extra pure

## Specification

Assay (alkalimetric).....	64.3 – 66.4 %	As (Arsenic).....	≤ 0.0001 %
Identity.....	passes test	Ca (Calcium).....	≤ 0.001 %
Appearance of solution.....	passes test	Fe (Iron).....	≤ 0.0004 %
Chloride (Cl).....	≤ 0.0003 %	NH <sub>4</sub> (Ammonium).....	≤ 0.001 %
Iodate, Bromate.....	passes test	Residual solvents (ICH Q3C).....	excluded by production process
Nitrogen oxides (as N <sub>2</sub> O <sub>3</sub> ).....	≤ 0.003 %	Evaporation residue.....	≤ 0.01%
Sulphate (SO <sub>4</sub> ).....	≤ 0.001 %	Date of expiry: see product label	
Heavy metals (as Pb).....	≤ 0.0005 %		

Ord.No.	Packaging	Quantity	Price
1.00443.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00443.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00443.9025	Barrel PE/met	25 l	inquire

## 100452 Nitric acid 65% for analysis (max. 0.005ppm Hg) EMSURE® ISO

## Specification

Assay (alkalimetric).....	≥ 65.0 %	Cr (Chromium).....	≤ 0.02 ppm	Pt (Platinum).....	≤ 0.1 ppm
Chloride (Cl).....	≤ 0.2 ppm	Cu (Copper).....	≤ 0.01 ppm	Sr (Strontium).....	≤ 0.01 ppm
Fluoride (F).....	≤ 1 ppm	Fe (Iron).....	≤ 0.1 ppm	Ti (Titanium).....	≤ 0.02 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 0.2 ppm	Ga (Gallium).....	≤ 0.05 ppm	Tl (Thallium).....	≤ 0.02 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 0.5 ppm	Ge (Germanium).....	≤ 0.02 ppm	V (Vanadium).....	≤ 0.01 ppm
Ag (Silver).....	≤ 0.01 ppm	Hg (Mercury).....	≤ 0.005 ppm	Zn (Zinc).....	≤ 0.02 ppm
Al (Aluminium).....	≤ 0.05 ppm	In (Indium).....	≤ 0.02 ppm	Zr (Zirconium).....	≤ 0.02 ppm
As (Arsenic).....	≤ 0.01 ppm	K (Potassium).....	≤ 0.1 ppm	Residue on ignition (as SO <sub>4</sub> ).....	≤ 3 ppm
Au (Gold).....	≤ 0.05 ppm	Li (Lithium).....	≤ 0.01 ppm	Tested by the dithizone.....	passes test
Ba (Barium).....	≤ 0.01 ppm	Mg (Magnesium).....	≤ 0.05 ppm	ISO-reagent Minimum shelf life: see product label	
Be (Beryllium).....	≤ 0.01 ppm	Mn (Manganese).....	≤ 0.01 ppm		
Bi (Bismuth).....	≤ 0.1 ppm	Mo (Molybdenum).....	≤ 0.01 ppm		
Ca (Calcium).....	≤ 0.1 ppm	Na (Sodium).....	≤ 0.2 ppm		
Cd (Cadmium).....	≤ 0.01 ppm	Ni (Nickel).....	≤ 0.02 ppm		
Co (Cobalt).....	≤ 0.01 ppm	Pb (Lead).....	≤ 0.01 ppm		

Ord.No.	Packaging	Quantity	Price
1.00452.1000	Glass bottle	1 l	inquire
1.00452.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 100456 Nitric acid 65% for analysis EMSURE® ISO

## Specification

Assay (alkalimetric).....	≥ 65.0 %	Cr (Chromium).....	≤ 0.020 ppm	Ti (Titanium).....	≤ 0.020 ppm
Colour (Hazen).....	≤ 10 Hazen	Cu (Copper).....	≤ 0.010 ppm	Tl (Thallium).....	≤ 0.020 ppm
Chloride (Cl).....	≤ 0.2 ppm	Fe (Iron).....	≤ 0.100 ppm	V (Vanadium).....	≤ 0.010 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 0.2 ppm	Ga (Gallium).....	≤ 0.050 ppm	Zn (Zinc).....	≤ 0.020 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 0.5 ppm	Ge (Germanium).....	≤ 0.020 ppm	Zr (Zirconium).....	≤ 0.020 ppm
Heavy metals (as Pb).....	≤ 0.2 ppm	In (Indium).....	≤ 0.020 ppm	Residue on ignition (as SO <sub>4</sub> ).....	≤ 3 ppm
Ag (Silver).....	≤ 0.010 ppm	K (Potassium).....	≤ 0.100 ppm	Tested by the dithizone.....	passes test
Al (Aluminium).....	≤ 0.050 ppm	Li (Lithium).....	≤ 0.010 ppm	Date of expiry: see product label ISO-reagent	
As (Arsenic).....	≤ 0.010 ppm	Mg (Magnesium).....	≤ 0.050 ppm		
Au (Gold).....	≤ 0.050 ppm	Mn (Manganese).....	≤ 0.010 ppm		
Ba (Barium).....	≤ 0.010 ppm	Mo (Molybdenum).....	≤ 0.010 ppm		
Be (Beryllium).....	≤ 0.010 ppm	Na (Sodium).....	≤ 0.200 ppm		
Bi (Bismuth).....	≤ 0.020 ppm	Ni (Nickel).....	≤ 0.020 ppm		
Ca (Calcium).....	≤ 0.100 ppm	Pb (Lead).....	≤ 0.010 ppm		
Cd (Cadmium).....	≤ 0.010 ppm	Pt (Platinum).....	≤ 0.100 ppm		
Co (Cobalt).....	≤ 0.010 ppm	Sr (Strontium).....	≤ 0.010 ppm		

Ord.No.	Packaging	Quantity	Price
1.00456.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00456.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00456.2510	Safebreak btl.	2.5 l	inquire

## 100441 Nitric acid 65% Suprapur®

## Specification

Assay (acidimetric).....	≥ 65.0 %	Ga (Gallium).....	≤ 0.1 ppb	Tl (Thallium).....	≤ 0.5 ppb
Chloride (Cl).....	≤ 50 ppb	Ge (Germanium).....	≤ 0.1 ppb	V (Vanadium).....	≤ 0.5 ppb
Phosphate (PO <sub>4</sub> ).....	≤ 10 ppb	Hg (Mercury).....	≤ 1.0 ppb	Zn (Zinc).....	≤ 2.0 ppb
Sulphate (SO <sub>4</sub> ).....	≤ 200 ppb	In (Indium).....	≤ 0.5 ppb	Zr (Zirconium).....	≤ 1.0 ppb
Ag (Silver).....	≤ 0.5 ppb	K (Potassium).....	≤ 2.0 ppb	Residue on ignition (as sulphate).....	≤ 2 ppm
Al (Aluminium).....	≤ 5.0 ppb	Li (Lithium).....	≤ 0.5 ppb	Actual analysis values are subject to unavoidable systematic variations in this concentration range	
As (Arsenic).....	≤ 0.5 ppb	Mg (Magnesium).....	≤ 1.0 ppb	The actual values are subject to unavoidable systematic variations in this concentration range.	
Au (Gold).....	≤ 0.1 ppb	Mn (Manganese).....	≤ 0.5 ppb		
Ba (Barium).....	≤ 0.5 ppb	Mo (Molybdenum).....	≤ 0.5 ppb		
Be (Beryllium).....	≤ 0.5 ppb	Na (Sodium).....	≤ 10.0 ppb		
Bi (Bismuth).....	≤ 0.5 ppb	Ni (Nickel).....	≤ 5.0 ppb		
Ca (Calcium).....	≤ 2.0 ppb	Pb (Lead).....	≤ 2.0 ppb		
Cd (Cadmium).....	≤ 0.5 ppb	Pt (Platinum).....	≤ 0.5 ppb		
Co (Cobalt).....	≤ 0.5 ppb	Sb (Antimony).....	≤ 0.5 ppb		
Cr (Chromium).....	≤ 1.0 ppb	Sn (Tin).....	≤ 0.5 ppb		
Cu (Copper).....	≤ 0.5 ppb	Sr (Strontium).....	≤ 0.5 ppb		
Fe (Iron).....	≤ 2.0 ppb	Ti (Titanium).....	≤ 1.0 ppb		

Ord.No.	Packaging	Quantity	Price
1.00441.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
1.00441.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

# Nitric

## Nitric acid 69%

■ Vapour pressure 9.4 hPa (20 °C)  
 ■ Spec. density 1.41 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -41 °C ■ Boiling point 122 °C (1013 hPa)  
 ■ WGK 1

■ GHS: Danger, Oxidising liquid, Category 3, H272; Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 5.1B  
 ■ HS-No. 2808 00 00 ■ Disposal 12

■ ADR-RID UN 2031 Salpetersäure, 8 (5.1), II  
 ■ IMDG-Code UN 2031 NITRIC ACID WITH AT LEAST 65% BUT NOT MORE THAN 70%, 8 (5.1), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2031 NITRIC ACID, 8 (5.1), II



### 101832 Nitric acid 69% for analysis EMPARTA® ACS

#### Specification

Assay (acidimetric)..... 68.0 - 70.0 %  
 Identity..... passes test  
 Appearance..... passes test  
 Colour..... ≤ 10 Hazen  
 Chloride (Cl)..... ≤ 0.5 ppm

Heavy metals (as Pb)..... ≤ 0.2 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 1 ppm  
 As (Arsenic)..... ≤ 0.010 ppm  
 Fe (Iron)..... ≤ 0.200 ppm  
 Residue on ignition (as SO<sub>4</sub>)..... ≤ 5 ppm

Ord.No.	Packaging	Quantity	Price
1.01832.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

### 101799 Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur

#### Specification

Assay (acidimetric)..... 68.5 - 69.5 %  
 Identity..... passes test  
 Appearance..... passes test  
 Appearance of solution..... passes test  
 Colour..... ≤ 10 Hazen  
 Chloride (Cl)..... ≤ 0.2 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.2 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.5 ppm  
 Heavy metals (as Pb)..... ≤ 0.2 ppm  
 Ag (Silver)..... ≤ 0.010 ppm  
 Al (Aluminium)..... ≤ 0.050 ppm  
 As (Arsenic)..... ≤ 0.010 ppm  
 Au (Gold)..... ≤ 0.050 ppm  
 B (Boron)..... ≤ 0.050 ppm  
 Ba (Barium)..... ≤ 0.010 ppm  
 Be (Beryllium)..... ≤ 0.010 ppm

Bi (Bismuth)..... ≤ 0.020 ppm  
 Ca (Calcium)..... ≤ 0.100 ppm  
 Cd (Cadmium)..... ≤ 0.010 ppm  
 Co (Cobalt)..... ≤ 0.010 ppm  
 Cr (Chromium)..... ≤ 0.020 ppm  
 Cu (Copper)..... ≤ 0.010 ppm  
 Fe (Iron)..... ≤ 0.100 ppm  
 Ga (Gallium)..... ≤ 0.020 ppm  
 Ge (Germanium)..... ≤ 0.020 ppm  
 In (Indium)..... ≤ 0.020 ppm  
 K (Potassium)..... ≤ 0.100 ppm  
 Li (Lithium)..... ≤ 0.010 ppm  
 Mg (Magnesium)..... ≤ 0.050 ppm  
 Mn (Manganese)..... ≤ 0.010 ppm  
 Mo (Molybdenum)..... ≤ 0.010 ppm  
 Na (Sodium)..... ≤ 0.200 ppm

Ni (Nickel)..... ≤ 0.020 ppm  
 Pb (Lead)..... ≤ 0.010 ppm  
 Pt (Platinum)..... ≤ 0.100 ppm  
 Sr (Strontium)..... ≤ 0.010 ppm  
 Ti (Titanium)..... ≤ 0.020 ppm  
 Tl (Thallium)..... ≤ 0.020 ppm  
 V (Vanadium)..... ≤ 0.010 ppm  
 Zn (Zinc)..... ≤ 0.020 ppm  
 Zr (Zirconium)..... ≤ 0.020 ppm  
 Residue on ignition (as SO<sub>4</sub>)..... ≤ 3 ppm

Ord.No.	Packaging	Quantity	Price
1.01799.1000	Glass bottle	1 l	inquire
1.01799.2500	Glass bottle	2.5 l	inquire
1.01799.2510	Safebreak btl.	2.5 l	inquire

Nitric acid ammonia → page 413

## Nitric acid fuming 100%

HNO<sub>3</sub>  
 ■ CAS-No. 7697-37-2 ■ EC-No. 231-714-2  
 ■ Vapour pressure 56 hPa (20 °C)  
 ■ Spec. density 1.51 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (development of heat)  
 ■ M = 63.01 g/mol ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -42 °C ■ Boiling point 86 °C (1013 hPa)

■ WGK 1  
 ■ GHS: Danger, Oxidising liquid, Category 1, H271; Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P210, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 28 mg/l

■ EC-Index-No. 007-004-00-1 ■ LGK 5.1A  
 ■ HS-No. 2808 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2031 Salpetersäure, 8 (5.1), I  
 ■ IMDG-Code UN 2031 NITRIC ACID MORE THAN 70%, 8 (5.1), I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2031 NITRIC ACID, 8 (5.1), I



### 100450 Nitric acid fuming 100% extra pure

#### Specification

Assay (acidimetric)..... ≥ 99.5 %  
 Identity..... passes test  
 Chloride (Cl)..... ≤ 0.0005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %

As (Arsenic)..... ≤ 0.00002 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Residue on ignition (as SO<sub>4</sub>)..... ≤ 0.005 %  
 Minimum shelf life: see product label

Ord.No.	Packaging	Quantity	Price
1.00450.1000	Glass btl. pl.coat.	1 l	inquire
	Glass btl. pl.coat.	11 x 1 l	inquire

### 100455 Nitric acid fuming 100% for analysis EMSURE® Reag. Ph Eur

#### Specification

Assay (acidimetric)..... ≥ 99.5 %  
 Dilution test..... conforms  
 Chloride (Cl)..... ≤ 0.5 ppm  
 Heavy metals (as Pb)..... ≤ 5 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 1 ppm  
 Ag (Silver)..... ≤ 0.02 ppm  
 Al (Aluminium)..... ≤ 0.05 ppm  
 As (Arsenic)..... ≤ 0.01 ppm  
 Ba (Barium)..... ≤ 0.020 ppm  
 Be (Beryllium)..... ≤ 0.02 ppm  
 Bi (Bismuth)..... ≤ 0.1 ppm  
 Ca (Calcium)..... ≤ 0.1 ppm  
 Cd (Cadmium)..... ≤ 0.02 ppm  
 Co (Cobalt)..... ≤ 0.02 ppm

Cr (Chromium)..... ≤ 0.02 ppm  
 Cu (Copper)..... ≤ 0.02 ppm  
 Fe (Iron)..... ≤ 0.1 ppm  
 Ge (Germanium)..... ≤ 0.05 ppm  
 K (Potassium)..... ≤ 0.1 ppm  
 Li (Lithium)..... ≤ 0.02 ppm  
 Mg (Magnesium)..... ≤ 0.02 ppm  
 Mn (Manganese)..... ≤ 0.02 ppm  
 Mo (Molybdenum)..... ≤ 0.02 ppm  
 Na (Sodium)..... ≤ 0.5 ppm  
 Ni (Nickel)..... ≤ 0.02 ppm  
 Pb (Lead)..... ≤ 0.02 ppm  
 Sr (Strontium)..... ≤ 0.02 ppm  
 Ti (Titanium)..... ≤ 0.1 ppm

Tl (Thallium)..... ≤ 0.05 ppm  
 V (Vanadium)..... ≤ 0.02 ppm  
 Zn (Zinc)..... ≤ 0.05 ppm  
 Zr (Zirconium)..... ≤ 0.1 ppm  
 Residue on ignition (as SO<sub>4</sub>)..... ≤ 5 ppm  
 According to the chemical properties of Nitric acid 100 % the influence of light can cause formation of nitrogen oxides.

Ord.No.	Packaging	Quantity	Price
1.00455.1000	Glass btl. pl.coat.	1 l	inquire
	Glass btl. pl.coat.	11 x 1 l	inquire

Nitric acid sodium salt → page 1447



## Nitriles and isonitriles

## Aliphatic nitriles and isonitriles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
355	800092	Adiponitrile	665	820193	Cyanogen bromide	1131	814871	3-Methylaminopropionitrile
376	841034	Aminoacetone nitrile sulfate	665	820194	Cyanogen bromide	1153	840066	2-Methylglutarodinitrile
427	841748	Azelainitrile	665	802491	1-Cyanoguanidine	1271	808514	Pentanonitrile
428	801595	$\alpha,\alpha'$ -Azoisobutyronitrile	665	841248	3-Cyanopropyl-trichlorosilane	1272	814700	cis-2-Pentenitrile
462	824436	Bis(acetonitrile)-palladium(II) chloride (41% Pd)	670	802823	Cyclohexanecarbonitrile	1312	841358	3-Phenylpropionitrile
483	814784	Borontrifluoride-acetonitrile complex	675	818151	Cyclohexyl isocyanide	1373	807068	Propionitrile
487	843270	Bromoacetonitrile	678	841775	Cyclopropanecarbonitrile	1413	814070	Sebacic acid dinitrile
503	814669	6-Bromohexanonitrile	686	818783	Decanonitrile	1503	805216	Suberonitrile
518	814670	5-Bromovaleronitrile	729	841239	2,6-Dichlorophenylacetonitrile	1504	822143	Succinodinitrile
558	821718	Butyronitrile	779	803224	3-(Dimethylamino)propionitrile	1540	818105	1,1,3,3-Tetramethylbutyl isocyanide
595	802604	Chloroacetonitrile	926	804105	Glutaronitrile	1552	841125	Thiophene-2-acetonitrile
605	820284	4-Chlorobutyronitrile	1046	804805	Isobutyronitrile	1577	808222	Trichloroacetonitrile
632	802794	3-Chloropropionitrile	1072	805345	Lauronitrile	1607	818171	Trimethylsilyl cyanide
664	840036	Cyanoacetone sodium salt	1093	806189	Malononitrile			

## Phenylacetone nitriles (Benzyl cyanides)

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
450	801811	Benzyl cyanide	718	841151	3,4-Dichlorobenzyl cyanide	1124	814636	(3-Methoxyphenyl)acetonitrile
465	818460	1,2-Bis(cyanomethyl)-benzene	729	841239	2,6-Dichlorophenylacetonitrile	1226	820897	(4-Nitrophenyl)acetonitrile
465	818463	1,3-Bis(cyanomethyl)-benzene	813	803259	Diphenylacetonitrile	1570	821132	p-Tolylacetonitrile
502	814668	7-Bromoheptanonitrile	991	820688	4-Hydroxyphenylacetonitrile			
604	802620	4-Chlorobenzyl cyanide	1094	819016	DL-Mandelic acid nitrile			

## Unsaturated nitriles and isonitriles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
353	800834	Acrylonitrile	696	818430	Diaminomaleonitrile	1528	808240	Tetracyanoethylene
644	820349	Cinnamonitrile	916	800277	Fumaronitrile	1528	818973	7,7,8,8-Tetracyanoquinonodimethane

## Nitriles and isonitriles with carbonyl groups

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
479	841266	2-(tert-BOC-Oxyimino)-2-phenylacetonitrile	664	800252	Cyanoacetic acid			
544	841096	tert-Butyl cyanoacetate	664	841218	3-Cyanobenzaldehyde			

## Aromatic nitriles and isonitriles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
345	814828	3-Acetylbenzonitrile	600	802698	4-Chlorobenzonitrile	1003	841058	Indole-5-carbonitrile
345	841061	4-Acetylbenzonitrile	612	841488	2-Chloro-6-fluorobenzonitrile	1051	841355	Isophthalonitrile
379	801419	2-Aminobenzonitrile	664	841218	3-Cyanobenzaldehyde	1220	818412	3-Nitrobenzonitrile
379	814183	4-Aminobenzonitrile	664	841282	4-Cyanobenzoic acid	1220	818589	4-Nitrobenzonitrile
299	801800	Benzonitrile	665	818511	4-Cyanobenzyltriphenylphosphonium chloride	1265	841508	Pentafluorobenzonitrile
463	818181	Bis(benzonitrile)-palladium(II) chloride (27.7% Pd)				1327	800593	Phthalonitrile
491	821698	2-Bromobenzonitrile	716	840037	2,4-Dichlorobenzonitrile	1382	814624	2-Pyrazinecarbonitril
491	821699	3-Bromobenzonitrile	733	814409	2,3-Dicyanohydroquinone	1521	821076	Terephthalodinitrile
491	804149	4-Bromobenzonitrile	898	841211	2-Fluorobenzonitrile	1569	808268	m-Tolunitrile
505	841069	2-(Bromomethyl)-benzonitrile	899	841013	4-Fluorobenzonitrile	1569	808273	o-Tolunitrile
506	841224	3-(Bromomethyl)-benzonitrile	901	814962	2-Fluoro-4-hydroxybenzonitrile	1570	808274	p-Tolunitrile
600	802696	2-Chlorobenzonitrile				1594	818588	3-(Trifluoromethyl)-benzonitrile
600	818500	3-Chlorobenzonitrile	978	820659	2-Hydroxybenzonitrile	1594	818680	4-(Trifluoromethyl)-benzonitrile
			978	814579	4-Hydroxybenzonitrile			
			979	814961	4'-Hydroxybiphenyl-4-carbonitrile			

## Heterocyclic nitriles and isonitriles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
402	841044	5-Aminopyrazole-4-carbonitrile						

## Halogenated nitriles and isonitriles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
491	821698	2-Bromobenzonitrile	639	841309	5-Chlorovaleronitrile	898	841211	2-Fluorobenzonitrile
494	841720	4-Bromobutyronitrile	716	840037	2,4-Dichlorobenzonitrile	899	841013	4-Fluorobenzonitrile
505	841069	2-(Bromomethyl)-benzonitrile	718	841151	3,4-Dichlorobenzyl cyanide	1231	841510	2-Nitro-4-(trifluoromethyl)benzonitrile
506	841224	3-(Bromomethyl)-benzonitrile	725	842413	2,6-Dichloro-4-methylnicotinonitrile			
513	841334	3-Bromopropionitrile	753	841117	2,6-Difluorobenzonitrile			

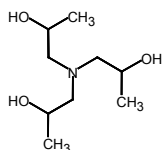
## Isocyanates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
452	841372	Benzyl isocyanate	818	820797	Diphenylmethane 4,4'-diisocyanate	1307	821001	Phenyl isocyanate
548	840099	n-Butyl isocyanate				1420	810600	Silicon tetraisocyanate
619	840102	3-Chloro-4-methyl-phenyl isocyanate	872	818854	Ethyl isocyanate	1570	808264	Toluylene diisocyanate
635	818882	Chlorosulfonyl isocyanate	951	822066	Hexamethylene diisocyanate	1577	808613	Trichloroacetyl isocyanate
675	820372	Cyclohexyl isocyanate	1050	818586	Isophorone diisocyanate			
729	841439	2,4-Dichlorophenyl isocyanate	1202	814180	(R)-(-)-1-(1-Naphthyl)ethyl isocyanate			
			1304	814080	(R)-(+)-1-Phenylethyl isocyanate			

2,2',2''-Nitriltriethanol hydrochloride →  
Triethanolamine hydrochloride page 1583

Nitrilotriacetic acid → Titriplex® I page 172

## 808236 1,1',1''-Nitrilotri-2-propanol for synthesis



C<sub>9</sub>H<sub>21</sub>NO<sub>3</sub>

Triisopropanolamine

■ CAS-No. 122-20-3 ■ EC-No. 204-528-4  
■ Vapour pressure 1 hPa (100 °C)

■ Spec. density 1.01 g/cm<sup>3</sup> (50 °C) ■ Explosive limit 0.8 - 5.8 % (V) ■ Flash point 160 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 191.27 g/mol  
■ pH value 10.8 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 50 °C ■ Boiling point 305 °C (1013 hPa) ■ Ignition temp. 275 °C  
■ WGK 1

■ GHS: Warning, Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P305 + P351 + P338

■ LD50 oral rat 4000 mg/kg ■ LD50 dermal rabbit

10000 mg/kg

■ EC-Index-No. 603-097-00-3 ■ LGK 10 - 13

■ HS-No. 2922 19 85 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 90,0 Area %

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08236.0100	Glass bottle	100 g	inquire
8.08236.1000	Glass bottle	1 kg	inquire

Nitrite Cell Test → page 73

## Nitrite, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
385	107293	4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one	1506	100686	Sulfanilic acid			
1505	111799	Sulfanilamide	1551	100700	Thioglycolic acid			

Nitrite Powder Packs for photometers of other manufacturers for 25-ml samples → page 73

## Nitrites

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
40	109866	Nitrite standard	1360	105067	Potassium nitrite	1448	106549	Sodium nitrite
40	119899	Nitrite standard solution	1448	822285	Sodium nitrite			

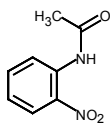
Nitrite standard for aqueous matrices → page 40  
Nitrite standard for aqueous matrices ready for use → page 40

Nitrite Test → page 73

Nitrite Test in freshwater and seawater → page 72

Nitrite Test Refill pack → page 72

## 820879 2'-Nitroacetanilide for synthesis



C<sub>8</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>

■ CAS-No. 552-32-9 ■ EC-No. 209-009-6

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 180.16 g/mol  
■ Melting point 90 - 93 °C

■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2924 29 98 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

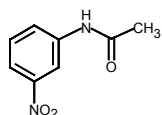
Melting range (lower value) ..... ≥ 90 °C

Melting range (upper value) ..... ≤ 93 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20879.0025	Glass bottle	25 g	inquire
8.20879.0100	Glass bottle	100 g	inquire

## 814647 3'-Nitroacetanilide for synthesis



C<sub>8</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>

■ CAS-No. 122-28-1 ■ EC-No. 204-532-6

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 180.16 g/mol  
■ Melting point 150 - 155 °C

■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2924 29 98 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

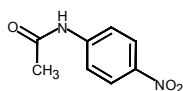
Melting range (lower value) ..... ≥ 150 °C

Melting range (upper value) ..... ≤ 155 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14647.0025	Glass bottle	25 g	inquire

## 820880 4'-Nitroacetanilide for synthesis

C<sub>8</sub>H<sub>9</sub>N<sub>2</sub>O<sub>3</sub>CH<sub>3</sub>CONHC<sub>6</sub>H<sub>4</sub>-4-(NO<sub>2</sub>)*N*-Acetyl-4-nitroaniline

■ CAS-No. 104-04-1 ■ EC-No. 203-169-0

■ Solub. in H<sub>2</sub>O 2.2 g/l (25 °C) ■ M = 180.16 g/mol

- Melting point 212 - 215 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

**Specification**

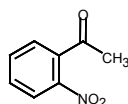
Assay (HPLC, area%) ..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 212 °C  
 Melting range (upper value)..... ≤ 215 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20880.0025	Glass bottle	25 g	inquire
8.20880.0100	Glass bottle	100 g	inquire

Nitroacetic acid ethyl ester → Ethyl nitroacetate page 877

## 822105 2'-Nitroacetophenone for synthesis

C<sub>8</sub>H<sub>7</sub>NO<sub>3</sub>2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COCH<sub>3</sub>*2*-Nitro-1-acetylbenzene

■ CAS-No. 577-59-3 ■ EC-No. 209-414-8

- Refractive index 1.556 (21 °C, 589 nm)
- Spec. density 1.24 g/cm<sup>3</sup> (20 °C)
- Flash point 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 165.15 g/mol
- Melting point 27 - 28 °C ■ Boiling point 159 °C (22 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1600 mg/kg

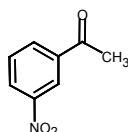
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 95,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1,239 - 1,245  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22105.0010	Glass bottle	10 g	inquire

## 806207 3'-Nitroacetophenone for synthesis

C<sub>8</sub>H<sub>7</sub>NO<sub>3</sub>3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COCH<sub>3</sub>

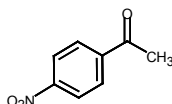
- CAS-No. 121-89-1 ■ EC-No. 204-504-3
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 165.15 g/mol
- Melting point 76 - 79 °C
- Boiling point 201 - 203 °C (1013 hPa)
- WGK 2
- LD50 oral rat 3250 mg/kg
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 76 °C  
 Melting range (upper value)..... ≤ 79 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06207.0250	Plastic bottle	250 g	inquire

## 806217 4'-Nitroacetophenone for synthesis

C<sub>8</sub>H<sub>7</sub>NO<sub>3</sub>4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COCH<sub>3</sub>*1*-(4-Nitrophenyl)ethanone

- CAS-No. 100-19-6 ■ EC-No. 202-827-4
- Flash point 149 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 165.15 g/mol
- Melting point 76 - 80 °C
- Boiling point 201 - 203 °C (1013 hPa)
- WGK 2
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 76 °C  
 Melting range (upper value)..... ≤ 80 °C  
 Identity (IR)..... conforms

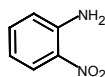
Ord.No.	Packaging	Quantity	Price
8.06217.0005	Glass bottle	5 g	inquire
8.06217.0250	Plastic bottle	250 g	inquire

2-Nitro-1-acetylbenzene → 2'-Nitroacetophenone page 1215

3-Nitro-4-aminoanisole → 4-Methoxy-2-nitroaniline page 1121

5-Nitro-2-aminoanisole → 2-Methoxy-4-nitroaniline page 1121

## 820881 2-Nitroaniline for synthesis

C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>*o*-Nitraniline

■ CAS-No. 88-74-4 ■ EC-No. 201-855-4

■ Flash point 167 °C ■ Solub. in H<sub>2</sub>O 1.1 g/l (20 °C) ■ M = 138.13 g/mol ■ pH value 6.1 (10 g/l, H<sub>2</sub>O, 20 °C) (slurry) ■ Melting point 68 - 71 °C

■ Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 284 °C

■ Ignition temp. 521 °C

- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Chronic aquatic toxicity, Category 3, H412; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Dermal, H311, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 1600 mg/kg ■ LD50 dermal rabbit > 7940 mg/kg
- EC-Index-No. 612-012-00-9 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 1661 Nitroaniline, 6.1, II ■ IMDG-

Code UN 1661 NITROANILINES, 6.1, II  
 ■ IATA-DGR UN 1661 NITROANILINES, 6.1, II

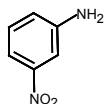
**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 70 °C  
 Melting range (upper value)..... ≤ 73 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20881.0005	Glass bottle	5 g	inquire
8.20881.0250	Glass bottle	250 g	inquire
8.20881.1000	Glass bottle	1 kg	inquire

# Nitroa

## 806209 3-Nitroaniline for synthesis



C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>  
 3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>  
*m*-Nitraniline  
 ■ CAS-No. 99-09-2 ■ EC-No. 202-729-1  
 ■ Vapour pressure 1 hPa (104 °C)  
 ■ Spec. density 0.9 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 196 °C ■ Solub. in H<sub>2</sub>O 1.25 g/l (20 °C) ■ M = 138.13 g/mol

■ Melting point 109 - 112 °C  
 ■ Boiling point 306 °C (1013 hPa) decomposes  
 ■ Ignition temp. 521 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P273, P280, P304 + P340, P302 + P352, P309 + P310  
 ■ LD50 oral rat 535 mg/kg  
 ■ EC-Index-No. 612-012-00-9 ■ LGK 6.1A  
 ■ HS-No. 2921 42 00 ■ Disposal 9

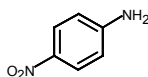
■ ADR-RID UN 1661 Nitroaniline, 6.1, II ■ IMDG-Code UN 1661 NITROANILINES, 6.1, II  
 ■ IATA-DGR UN 1661 NITROANILINES, 6.1, II

### Specification

Assay (HPLC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 109 °C  
 Melting range (upper value) ..... ≤ 112 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06209.0005	Glass bottle	5 g	inquire
8.06209.0250	Glass bottle	250 g	inquire
8.06209.1000	Glass bottle	1 kg	inquire

## 4-Nitroaniline



C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>  
 H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub>  
*p*-Nitraniline  
 ■ CAS-No. 100-01-6 ■ EC-No. 202-810-1  
 ■ Vapour pressure 1.33 hPa (142 °C)  
 ■ Spec. density 1.44 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 199 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l

(20 °C) ■ M = 138.13 g/mol ■ pH value (0.5 g/l, H<sub>2</sub>O, 20 °C) neutral ■ Melting point 148 °C  
 ■ Bulk density 630 kg/m<sup>3</sup> ■ Boiling point >331 °C (1013 hPa) (decomposition)  
 ■ Ignition temp. 500 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic

toxicity, Category 3, H412, P273, P280, P304 + P340, P302 + P352, P309 + P310  
 ■ LD50 oral rat 750 mg/kg ■ LD50 dermal rabbit > 2500 mg/kg  
 ■ EC-Index-No. 612-012-00-9 ■ LGK 6.1A  
 ■ HS-No. 2921 42 00 ■ Disposal 9  
 ■ ADR-RID UN 1661 Nitroaniline, 6.1, II ■ IMDG-Code UN 1661 NITROANILINES, 6.1, II  
 ■ IATA-DGR UN 1661 NITROANILINES, 6.1, II

## 822292 4-Nitroaniline for synthesis

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 146 °C  
 Melting range (upper value) ..... ≤ 150 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22292.0250	Glass bottle	250 g	inquire
	Glass bottle	6 x 250 g	inquire
8.22292.1000	Glass bottle	1 kg	inquire

## 106760 4-Nitroaniline for the determination of phenol

**Specification**  
 Assay (perchloric acid titration) ..... ≥ 98%  
 Identity (IR-spectrum) ..... passes test  
 Melting range ..... 145 - 149 °C

Heavy metals (as Pb) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Sulfated ash ..... ≤ 0.1 %

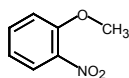
Ord.No.	Packaging	Quantity	Price
1.06760.0050	Glass bottle	50 g	inquire

2-Nitro-*m*-anisic acid → 3-Methoxy-2-nitrobenzoic acid page 1122

2-Nitro-*p*-anisidine → 4-Methoxy-2-nitroaniline page 1121

4-Nitro-*o*-anisidine → 2-Methoxy-4-nitroaniline page 1121

## 806227 2-Nitroanisole for synthesis



C<sub>7</sub>H<sub>7</sub>NO<sub>3</sub>  
 2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>OCH<sub>3</sub>  
*1*-Methoxy-2-nitrobenzene  
 ■ CAS-No. 91-23-6 ■ EC-No. 202-052-1  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 1.25 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 142 °C ■ Solub. in H<sub>2</sub>O 1690 mg/l

(30 °C) ■ M = 153.14 g/mol ■ Melting point 9 °C  
 ■ Boiling point 273 - 277 °C (1013 hPa)  
 ■ Ignition temp. 464 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 4, Oral, H302, P201, P308 + P313  
 ■ LD50 oral rat 740 mg/kg  
 ■ EC-Index-No. 609-047-00-7 ■ LGK 6.1A  
 ■ HS-No. 2909 30 90 ■ Disposal 9  
 ■ ADR-RID UN 2730 Nitroanisole, flüssig, 6.1, III

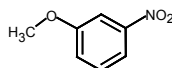
■ IMDG-Code UN 2730 NITROANISOLE, LIQUID, 6.1, III  
 ■ IATA-DGR UN 2730 NITROANISOLE, LIQUID, 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,249 - 1,252  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06227.0250	Glass bottle	250 ml	inquire

## 820882 3-Nitroanisole for synthesis



C<sub>7</sub>H<sub>7</sub>NO<sub>3</sub>  
 3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>OCH<sub>3</sub>  
 3-Methoxynitrobenzene  
 ■ CAS-No. 555-03-3 ■ EC-No. 209-079-8  
 ■ Solub. in H<sub>2</sub>O 500 mg/l (25 °C) ■ M = 153.14 g/mol ■ Melting point 38.5 °C

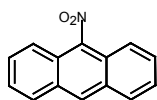
■ Boiling point 258 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 30 90 ■ Disposal 3  
 ■ ADR-RID UN 3458 Nitroanisole, fest, 6.1, III  
 ■ IMDG-Code UN 3458 NITROANISOLE, SOLID, 6.1, III  
 ■ IATA-DGR UN 3458 NITROANISOLE, SOLID, 6.1, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 32 °C  
 Melting range (upper value) ..... ≤ 35 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20882.0010	Glass bottle	10 g	inquire
8.20882.0050	Glass bottle	50 g	inquire

## 841263 9-Nitroanthracene for synthesis

C<sub>14</sub>H<sub>9</sub>NO<sub>2</sub>

- CAS-No. 602-60-8 ■ EC-No. 210-021-9
- M = 223.23 g/mol ■ Melting point 137 - 139 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2904 20 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(9-NITROANTHRACEN), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(9-NITROANTHRACENE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

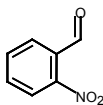
N.O.S.(9-NITROANTHRACENE), 6.1, III

## Specification

Assay (GC, area%)..... ≥ 85.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41263.0001	Plastic bottle	1 g	inquire

## 822293 2-Nitrobenzaldehyde for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>3</sub>2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CHO

- CAS-No. 552-89-6 ■ EC-No. 209-025-3

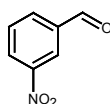
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 151.12 g/mol ■ Melting point 41 - 43 °C
- Bulk density 350 kg/m<sup>3</sup> ■ Boiling point 156 °C (20 hPa) ■ Ignition temp. 200 °C (Lit.)
- WGK 2
- GHS: P262
- LGK 10 - 13
- HS-No. 2913 00 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99.0 Area %  
 Melting range (lower value)..... ≥ 41 °C  
 Melting range (upper value)..... ≤ 43 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22293.0001	Glass bottle	1 g	inquire
8.22293.0025	Plastic bottle	25 g	inquire
8.22293.0100	Plastic bottle	100 g	inquire

## 806765 3-Nitrobenzaldehyde for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>3</sub>3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CHO

- CAS-No. 99-61-6 ■ EC-No. 202-772-6
- Solub. in H<sub>2</sub>O 1.6 g/l (25 °C) ■ M = 151.12 g/mol
- Melting point 54 - 57 °C ■ Boiling point 164 °C (31 hPa)
- WGK 2

- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 1075 mg/kg
- LGK 10 - 13
- HS-No. 2913 00 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(3-NITROBENZALDEHYD), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(3-NITROBENZALDEHYDE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY

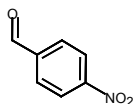
HAZARDOUS SUBSTANCE, SOLID, N.O.S.(3-NITROBENZALDEHYDE), 9, III

## Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
 Melting range (lower value)..... ≥ 54 °C  
 Melting range (upper value)..... ≤ 58 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06765.0005	Glass bottle	5 g	inquire
8.06765.0250	Plastic bottle	250 g	inquire

## 806766 4-Nitrobenzaldehyde for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>3</sub>4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CHO

- CAS-No. 555-16-8 ■ EC-No. 209-084-5

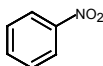
- Solub. in H<sub>2</sub>O 2.34 g/l (25 °C) ■ M = 151.12 g/mol ■ Melting point 101 - 104 °C
- Bulk density 400 kg/m<sup>3</sup>
- WGK 2
- GHS: P262
- LD50 oral rat 4700 mg/kg ■ LD50 dermal rat 16000 mg/kg
- LGK 10 - 13
- HS-No. 2913 00 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
 Melting range (lower value)..... ≥ 103 °C  
 Melting range (upper value)..... ≤ 108 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06766.0025	Plastic bottle	25 g	inquire
8.06766.0100	Plastic bottle	100 g	inquire

## 806770 Nitrobenzene for synthesis

C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub>

- CAS-No. 98-95-3 ■ EC-No. 202-716-0
- Refractive index 1.553 (20 °C, 589 nm) ■ Vapour pressure 0.3 hPa (20 °C) ■ Spec. density 1.20 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 34.8 (20 °C)
- El. dipole moment 4 (20 °C) ■ Explosive limit 1.8 - 40 % (V) ■ Flash point 88 °C ■ Solub. in H<sub>2</sub>O 1.90 g/l (20 °C) ■ M = 123.11 g/mol
- pH value 8.1 (1 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. 1 g/m<sup>3</sup> (20 °C) Air
- Melting point 6.0 °C ■ Boiling point 211 °C (1013 hPa) ■ Ignition temp. 480 °C DIN 51794

- WGK 2
- GHS: Danger, Carcinogenicity, Category 2, H351; Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LC50 rat 2.8 mg/l
- LD50 oral rat 640 mg/kg ■ LD50 dermal rat 2100 mg/kg
- EC-Index-No. 609-003-00-7 ■ LGK 6.1A
- HS-No. 2904 20 00 ■ Disposal 9
- ADR-RID UN 1662 Nitrobenzen, 6.1, II ■ IMDG-Code UN 1662 NITROBENZENE, 6.1, II

■ IATA-DGR UN 1662 NITROBENZENE, 6.1, II

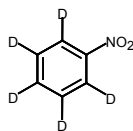
## Specification

Assay (GC, area%)..... ≥ 99 %  
 Density (d 20 °C/ 4 °C)..... 1.201 - 1.203  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.06770.0100	Glass bottle	100 ml	inquire
8.06770.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.06770.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.06770.9033	Steel barrel	33 kg	inquire



## 815001 Nitrobenzene-D5 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™

C<sub>6</sub>D<sub>5</sub>NO<sub>2</sub>

- CAS-No. 4165-60-0 ■ EC-No. 224-014-3
- Refractive index 1.5498 ■ Vapour pressure 0.3 hPa (20 °C) ■ Spec. density 1.55 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 40 % (V)
- Flash point 88 °C ■ Solub. in H<sub>2</sub>O 1.9 g/l (20 °C)
- M = 128.14 g/mol ■ pH value 8.1 (1 g/l, H<sub>2</sub>O,

- 20 °C) ■ Melting point 6.0 °C ■ Boiling point 88 °C (16 hPa) ■ Ignition temp. 480 °C
- WGK 3
- GHS: Danger, Carcinogenicity, Category 2, H351; Reproductive toxicity, Category 2, H361f; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LC50 rat 2.8 mg/l
- LD50 oral rat 640 mg/kg ■ LD50 dermal rat 2100 mg/kg

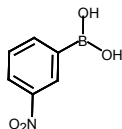
- LGK 6.1A
- HS-No. 2845 90 10 ■ Disposal 9
- ADR-RID UN 1662 Nitrobenzen, 6.1, II ■ IMDG-Code UN 1662 NITROBENZENE, 6.1, II
- IATA-DGR UN 1662 NITROBENZENE, 6.1, II

**Specification**

- Deuteration degree..... ≥ 99.5 %
- Water (NMR, H<sub>2</sub>O)..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
8.15001.0010	Glass ampoule	10 ml	inquire

## 3-Nitro-benzeneboronic acid

C<sub>6</sub>H<sub>6</sub>BNO<sub>4</sub>3-Nitrophenylboronic acid  
■ CAS-No. 13331-27-6

- M = 166.93 g/mol
- Melting point 290 - 291 °C (decomposition)
- WGK 3
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

## 841141 3-Nitro-benzeneboronic acid for synthesis

**Specification**

- Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41141.0001	Glass bottle	1 g	inquire
8.41141.0005	Glass bottle	5 g	inquire
8.41141.8500	Glass bottle	500 mg	inquire

## 845114 3-Nitro-benzeneboronic acid for pharma synthesis, non-GMP

**Specification**

- Colour (visual) ..... white to beige
- Appearance of substance (visual) ..... crystalline powder

- Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)
- Identity (IR) ..... passes test

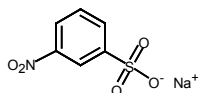
Ord.No.	Packaging	Quantity	Price
8.45114.0005	Glass bottle	5 g	inquire

3-Nitrobenzene-1,2-dicarboxylic acid → 3-Nitrophthalic acid page 1228

4-Nitrobenzene-1,2-dicarboxylic acid → 4-Nitrophthalic acid page 1228

4-Nitrobenzenesulfonic acid chloride → 4-Nitrobenzenesulfonyl chloride page 1219

## 806548 3-Nitrobenzenesulfonic acid sodium salt for synthesis

C<sub>6</sub>H<sub>4</sub>NNaO<sub>5</sub>S3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>Na

Sodium 3-nitrobenzenesulfonate

- CAS-No. 127-68-4 ■ EC-No. 204-857-3
- Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 225.16 g/

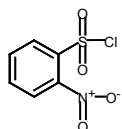
- mol ■ pH value 8 (50 g/l, H<sub>2</sub>O, 23 °C)
- Melting point 350 °C (decomposition)
- Bulk density 450 kg/m<sup>3</sup> ■ Ignition temp. 355 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P280, P305 + P351 + P338, P302 + P352
- LD50 oral rat > 2000 mg/kg
- EC-Index-No. 609-048-00-2 ■ LGK 10 - 13
- HS-No. 2904 90 95 ■ Disposal 3

**Specification**

- Assay (acidimetric after ion exchange) ..... ≥ 92.0 % (m)
- Water (K. F.) ..... ≤ 5.0 % (m)
- Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06548.0100	Plastic bottle	100 g	inquire
8.06548.1000	Plastic bottle	1 kg	inquire

## 842593 2-Nitrobenzenesulfonyl chloride for synthesis

C<sub>6</sub>H<sub>4</sub>ClNO<sub>2</sub>S

■ CAS-No. 1694-92-4 ■ EC-No. 216-907-1

- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 221.62 g/mol ■ Melting point 65 - 67 °C
- WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8A
- HS-No. 2904 90 95 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2-NITROBENZOLSULFONYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-NITROBENZENESULFONYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

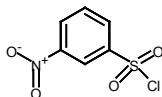
ORGANIC, N.O.S.(2-NITROBENZENESULFONYL CHLORIDE), 8, II

**Specification**

- Assay (morpholine method) ..... ≥ 98.0 % (m)
- Melting range (lower value) ..... ≥ 65 °C
- Melting range (upper value) ..... ≤ 68 °C
- Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.42593.0025	Glass bottle	25 g	inquire
8.42593.0100	Glass bottle	100 g	inquire

## 842824 3-Nitrobenzenesulfonyl chloride for synthesis

C<sub>6</sub>H<sub>4</sub>ClNO<sub>2</sub>S

■ CAS-No. 121-51-7 ■ EC-No. 204-476-2

- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 221.62 g/mol
- pH value (H<sub>2</sub>O, 20 °C) strongly acid, Aqueous solution ■ Melting point 60 - 62 °C
- Ignition temp. >245 °C

- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8A
- HS-No. 2904 90 95 ■ Disposal 11
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(3-NITROBENZOLSULFONYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-NITROBENZENESULFONYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

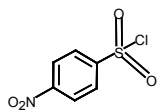
■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-NITROBENZENESULFONYL CHLORIDE), 8, II

**Specification**

- Assay (argentometric) ..... ≥ 97.0 %
- Melting range (lower value) ..... ≥ 58 °C
- Melting range (upper value) ..... ≤ 62 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42824.0025	Glass bottle	25 g	inquire

## 820885 4-Nitrobenzenesulfonyl chloride for synthesis

C<sub>6</sub>H<sub>4</sub>ClNO<sub>2</sub>S4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>Cl

4-Nitrobenzenesulfonyl chloride

■ CAS-No. 98-74-8 ■ EC-No. 202-697-9

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 221.62 g/mol ■ pH value 1 (H<sub>2</sub>O, 20 °C)

■ Melting point 75 - 78 °C ■ Bulk density 400 kg/l

m<sup>3</sup> ■ Boiling point 143 - 144 °C (2 hPa)

■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LD50 oral rat &gt; 5000 mg/kg

■ LGK 8A

■ HS-No. 2904 90 95 ■ Disposal 11

■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(4-NITROBENZOLSULFONYLCHLORID), 8, II ■ IMDG-

Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-NITROBENZENE SULFONYL

CHLORIDE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-NITROBENZENE SULFONYL CHLORIDE), 8, II

## Specification

Assay (morpholine method) ..... ≥ 98.0 %

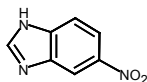
Melting range (lower value) ..... ≥ 75 °C

Melting range (upper value) ..... ≤ 78 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20885.0025	Glass bottle	25 g	inquire
8.20885.0100	Glass bottle	100 g	inquire

## 818257 5-Nitrobenzimidazole for synthesis

C<sub>7</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub>

■ CAS-No. 94-52-0 ■ EC-No. 202-341-2

■ Solub. in H<sub>2</sub>O 0.5 g/l (25 °C) ■ M = 163.14 g/mol■ pH value 6 (10 g/l, H<sub>2</sub>O, 20 °C) (slurry)

■ Melting point 204 - 208 °C

■ Bulk density 270 kg/m<sup>3</sup>

■ WGK 3

■ GHS: Chronic aquatic toxicity, Category 3, H412, P260, P262, P273

■ LGK 10 - 13

■ HS-No. 2933 99 80 ■ Disposal 3

■ ADR-RID UN 2811 Giftiger organischer fester

Stoff, n.a.g.(5-NITROBENZIMIDAZOL), 6,1, II

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(5-NITROBENZIMIDAZOLE), 6,1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(5-NITROBENZIMIDAZOLE), 6,1, II

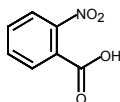
## Specification

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18257.0100	Plastic bottle	100 g	inquire

## 841472 2-Nitrobenzoic acid for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>4</sub>

■ CAS-No. 552-16-9 ■ EC-No. 209-004-9

■ Spec. density 1.57 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 7.8 g/l

(25 °C) ■ M = 167.12 g/mol

■ Melting point 146 - 148 °C

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2916 39 90 ■ Disposal 3

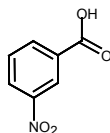
## Specification

Assay (HPLC, area%) ..... ≥ 96.0 % (a/a)

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41472.0100	Glass bottle	100 g	inquire

## 800645 3-Nitrobenzoic acid for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>4</sub>3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COOH

■ CAS-No. 121-92-6 ■ EC-No. 204-508-5

■ Spec. density 1.49 g/cm<sup>3</sup> (20 °C)■ Flash point 190 °C ■ Solub. in H<sub>2</sub>O 3 g/l (25 °C)■ M = 167.12 g/mol ■ pH value 3 (5 g/l, H<sub>2</sub>O,

20 °C) (aqueous suspension)

■ Melting point 139 - 142 °C

■ Bulk density 700 kg/m<sup>3</sup> ■ Ignition temp. 490 °C

■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302

■ LGK 10 - 13

■ HS-No. 2916 39 90 ■ Disposal 4

## Specification

Assay (HPLC, area%) ..... ≥ 99 %

Melting range

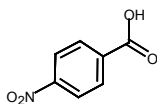
- (lower value) ..... ≥ 139 °C

- (upper value) ..... ≤ 143 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00645.0250	Plastic bottle	250 g	inquire

## 800646 4-Nitrobenzoic acid for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>4</sub>4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COOH

4-Nitrobenzoic acid

■ CAS-No. 62-23-7 ■ EC-No. 200-526-2

■ Spec. density 1.61 g/cm<sup>3</sup> (20 °C) ■ El. dipole moment 3.42 (25 °C) ■ Explosive limit 1.8 % (V)■ Flash point 201 °C ■ Solub. in H<sub>2</sub>O 0.42 g/l

(20 °C) ■ M = 167.12 g/mol ■ pH value 3.1

(0.42 g/l, H<sub>2</sub>O, 20 °C) (saturated solution)

■ Melting point 239 - 242 °C

■ Bulk density 700 kg/m<sup>3</sup>

■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302, P262

■ LD50 oral rat 1960 mg/kg

■ LGK 10 - 13

■ HS-No. 2916 39 90 ■ Disposal 4

## Specification

Assay (HPLC, area%) ..... ≥ 99 %

Melting range

- (lower value) ..... ≥ 239 °C

- (upper value) ..... ≤ 242 °C

Identity (IR) ..... passes test

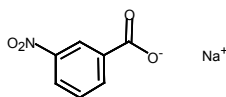
Ord.No.	Packaging	Quantity	Price
8.00646.0100	Plastic bottle	100 g	inquire
8.00646.0500	Plastic bottle	500 g	inquire
8.00646.9050	Fibre carton	50 kg	inquire

4-Nitrobenzoic acid → page 1219

4-Nitrobenzoic acid chloride → 4-Nitrobenzoyl chloride page 1220

4-Nitrobenzoic acid methyl ester → Methyl 4-nitrobenzoate page 1164

## 822106 3-Nitrobenzoic acid sodium salt for synthesis

C<sub>7</sub>H<sub>4</sub>NNaO<sub>4</sub>3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COONa

■ CAS-No. 827-95-2 ■ EC-No. 212-578-3

■ Solub. in H<sub>2</sub>O 10.9 g/l (50 °C) ■ M = 189.1 g/mol■ Bulk density 620 kg/m<sup>3</sup>

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (ex Na, calc. on anhydrous substance).....

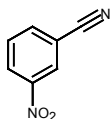
..... ≥ 98,0 %

Water (K. F.) ..... 6,0 - 8,0 %

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22106.0100	Plastic bottle	100 g	inquire
8.22106.0500	Plastic bottle	500 g	inquire

## 818412 3-Nitrobenzonitrile for synthesis



$C_7H_4N_2O_2$   
 3-(NO<sub>2</sub>)-C<sub>6</sub>H<sub>4</sub>CN  
 3-cyano-1-nitrobenzene  
 ■ CAS-No. 619-24-9 ■ EC-No. 210-587-7  
 ■ Spec. density 0.33 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 148.12 g/mol

- Melting point 113 - 116 °C
- Bulk density 500 kg/m<sup>3</sup>
- Boiling point 164 - 166 °C (21 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P260, P309 + P310
- LGK 6.1A
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(3-NITROBENZONITRIL), 6.1, II ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(3-NITROBENZONITRILE), 6.1, II

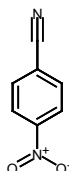
■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(3-NITROBENZONITRILE), 6.1, II

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 113 °C  
 Melting range (upper value) ..... ≤ 116 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18412.0025	Plastic bottle	25 g	inquire

## 818589 4-Nitrobenzonitrile for synthesis



$C_7H_4N_2O_2$   
 4(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CN  
 ■ CAS-No. 619-72-7 ■ EC-No. 210-610-0  
 ■ Vapour pressure 0.0029 hPa (25 °C) ■ Solub. in

- H<sub>2</sub>O (20 °C) slightly soluble ■ M = 148.12 g/mol
- Melting point 145 - 147 °C
  - WGK 2
  - GHS: Danger, Acute toxicity, Category 2, Oral, H300, P260, P309 + P310
  - LD50 oral rat 30 mg/kg
  - LGK 6.1A
  - HS-No. 2926 90 95 ■ Disposal 9
  - ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(4-NITROBENZONITRIL), 6.1, II ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(4-NITROBENZONITRILE), 6.1, II

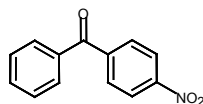
■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(4-NITROBENZONITRILE), 6.1, II

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 145 °C  
 Melting range (upper value) ..... ≤ 147 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18589.0025	Plastic bottle	25 g	inquire

## 841090 4-Nitrobenzophenone for synthesis



$C_{13}H_9NO_3$

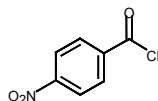
- (4-Nitrophenyl)phenylmethanone
- CAS-No. 1144-74-7 ■ EC-No. 214-542-2
  - M = 227.22 g/mol ■ Melting point 136 - 137 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2914 70 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 136 °C  
 Melting range (upper value) ..... ≤ 138 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41090.0010	Glass bottle	10 g	inquire

## 806772 4-Nitrobenzoyl chloride for synthesis



$C_7H_4ClNO_3$   
 4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>COCl  
 4-Nitrobenzoic acid chloride  
 ■ CAS-No. 122-04-3 ■ EC-No. 204-517-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 185.56 g/mol ■ Melting point 73 °C  
 ■ Boiling point 155 °C (20 hPa)

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 5600 mg/kg
- LGK 8A
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(4-NITROBENZOYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-NITROBENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

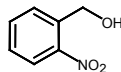
■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-NITROBENZOYL CHLORIDE), 8, II

**Specification**

Assay (morpholine method) ..... ≥ 97.0 %  
 Melting range (lower value) ..... ≥ 70 °C  
 Melting range (upper value) ..... ≤ 73 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.06772.0005	Glass bottle	5 g	inquire
8.06772.0250	Glass bottle	250 g	inquire

## 820888 2-Nitrobenzyl alcohol for synthesis



$C_7H_7NO_3$   
 2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH  
 ■ CAS-No. 612-25-9 ■ EC-No. 210-302-6

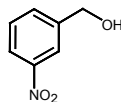
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 153.14 g/mol
- Melting point 70 - 73 °C
- Boiling point 270 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 70 °C  
 Melting range (upper value) ..... ≤ 73 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20888.0025	Glass bottle	25 g	inquire

## 818159 3-Nitrobenzyl alcohol for synthesis



$C_7H_7NO_3$   
 3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH  
 ■ CAS-No. 619-25-0 ■ EC-No. 210-588-2

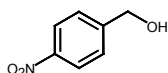
- Refractive index 1.5731 (28 °C, 589 nm)
- Spec. density 1.30 g/cm<sup>3</sup> (20 °C)
- Flash point > 110 °C ■ M = 153.14 g/mol
- Melting point 30 °C ■ Boiling point 170 °C (8 hPa)
- WGK 3
- LGK 10
- HS-No. 2906 29 00 ■ Disposal 1

**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 Area %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18159.0025	Glass bottle	25 ml	inquire

## 820889 4-Nitrobenzyl alcohol for synthesis

C<sub>7</sub>H<sub>7</sub>NO<sub>3</sub>4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH

- CAS-No. 619-73-8 ■ EC-No. 210-611-6
- Flash point 180 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C)

- M = 153.14 g/mol ■ Melting point 90 - 93 °C
- Boiling point 185 °C (16 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

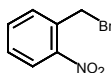
## Specification

- Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)
- Melting range (lower value) ..... ≥ 92 °C

Melting range (upper value) ..... ≤ 95 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20889.0025	Glass bottle	25 g	inquire
8.20889.0100	Glass bottle	100 g	inquire

## 841418 2-Nitrobenzyl bromide for synthesis

C<sub>7</sub>H<sub>6</sub>BrNO<sub>2</sub>

α-Bromo-2-nitrotoluene

- CAS-No. 3958-60-9 ■ EC-No. 223-558-9
- Flash point >110 °C ■ M = 216.03 g/mol
- Melting point 45 - 48 °C
- WGK 3
- GHS: Danger, Specific target organ toxicity -

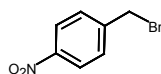
- single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2904 90 95 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(2-NITROBENZYL BROMID), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(2-NITROBENZYL BROMIDE), 8, II
- IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(2-NITROBENZYL BROMIDE), 8, II

## Specification

- Assay (GC, area%) ..... ≥ 98.0 % (a/a)
- Melting range (lower value) ..... ≥ 45 °C
- Melting range (upper value) ..... ≤ 48 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41418.0005	Glass bottle	5 g	inquire

## 820212 4-Nitrobenzyl bromide for synthesis

C<sub>7</sub>H<sub>6</sub>BrNO<sub>2</sub>4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>Br

α-Bromo-p-nitrotoluene

- CAS-No. 100-11-8 ■ EC-No. 202-820-6
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 216.03 g/mol
- Melting point 96 - 99 °C
- WGK 3

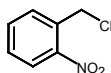
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 6.1A
- HS-No. 2904 90 95 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-NITROBENZYL BROMID), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-NITROBENZYL BROMIDE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-NITROBENZYL BROMIDE), 6.1, II

## Specification

- Assay (GC, area%) ..... ≥ 98.0 % (a/a)
- Melting range (lower value) ..... ≥ 96 °C
- Melting range (upper value) ..... ≤ 99 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20212.0025	Glass bottle	25 g	inquire
8.20212.0100	Glass bottle	100 g	inquire

## 841296 2-Nitrobenzyl chloride for synthesis

C<sub>7</sub>H<sub>6</sub>ClNO<sub>2</sub>

α-Chloro-2-nitrotoluene

- CAS-No. 612-23-7 ■ EC-No. 210-300-5
- Flash point 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 171.58 g/mol
- Melting point 46 - 49 °C
- Boiling point 127 - 133 °C (13 hPa)
- WGK 3

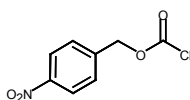
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2904 90 95 ■ Disposal 3
- ADR-RID UN 3457 Chlornitrotoluene, fest, 6.1, III ■ IMDG-Code UN 3457 CHLORONITROTOLUENES, SOLID, 6.1, III, Marine Pollutant: P
- IATA-DGR UN 3457 CHLORONITROTOLUENES, SOLID, 6.1, III

## Specification

- Assay (GC, area%) ..... ≥ 98.0 % (a/a)
- Melting range (lower value) ..... ≥ 47 °C
- Melting range (upper value) ..... ≤ 50 °C
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41296.0010	Glass bottle	10 g	inquire

## 843965 4-Nitrobenzyl chloroformate for synthesis

C<sub>8</sub>H<sub>6</sub>ClNO<sub>4</sub>

CAS-No. 4457-32-3 ■ EC-No. 224-708-6

- Flash point 113 °C ■ M = 215.59 g/mol
- Melting point 32 - 34 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314;

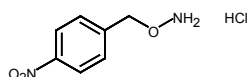
- Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A ■ Store at +2°C to +8°C.
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(4-NITROBENZYLCHLORFORMIAT), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-NITROBENZYL

CHLOROFORMATE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-NITROBENZYL CHLOROFORMATE), 8, II

Ord.No.	Packaging	Quantity	Price
8.43965.0010	Glass bottle	10 g	inquire
8.43965.0025	Glass bottle	25 g	inquire

4-Nitrobenzyl cyanide → (4-Nitrophenyl)acetonitrile page 1226

## 841326 O-(4-Nitrobenzyl)-hydroxylammonium chloride for synthesis

C<sub>7</sub>H<sub>9</sub>ClN<sub>2</sub>O<sub>3</sub>

CAS-No. 2086-26-2 ■ EC-No. 218-228-6

- M = 204.61 g/mol ■ Melting point 216 - 217 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

## Specification

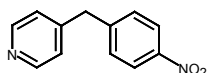
- Assay (argentometric) ..... ≥ 96.0 %
- Melting range (lower value) ..... ≥ 205 °C
- Melting range (upper value) ..... ≤ 215 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41326.0001	Glass bottle	1 g	inquire

# Nitro

## 820890 4-(4-Nitrobenzyl)pyridine for synthesis



C<sub>12</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>

4-[4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>]C<sub>5</sub>H<sub>4</sub>N

■ CAS-No. 1083-48-3 ■ EC-No. 214-108-2

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 214.22 g/

- mol ■ Melting point 68 - 71 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 68 °C  
 Melting range (upper value)..... ≤ 72 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20890.0025	Glass bottle	25 g	inquire
8.20890.0100	Glass bottle	100 g	inquire

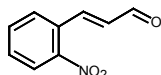
Nitro blue tetrazolium chloride (NBT) → page 191

Nitrocarbol → Nitromethane page 306

1-Nitro-2-chlorine benzene → 1-Chloro-2-nitrobenzene page 623

1-Nitro-3-chlorine benzene → 1-Chloro-3-nitrobenzene page 623

## 818597 2'-Nitrocinnamaldehyde for synthesis



C<sub>9</sub>H<sub>7</sub>NO<sub>3</sub>

2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH=CHCHO

■ CAS-No. 1466-88-2 ■ EC-No. 215-988-0

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 177.15 g/mol ■ Melting point 126 - 129 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2913 00 00 ■ Disposal 3

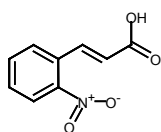
### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 126 °C  
 Melting range (upper value)..... ≤ 129 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18597.0010	Plastic bottle	10 g	inquire

## 820912 2'-Nitrocinnamic acid for synthesis



C<sub>9</sub>H<sub>7</sub>NO<sub>4</sub>

2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH=CHCOOH

*trans*-3-(2-Nitrophenyl)propenoic acid

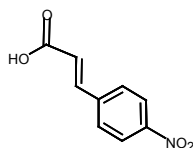
- CAS-No. 612-41-9 ■ EC-No. 210-309-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 193.16 g/mol  
 ■ Melting point 242 - 245 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 242 °C  
 Melting range (upper value)..... ≤ 245 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20912.0025	Glass bottle	25 g	inquire

## 818563 4'-Nitrocinnamic acid for synthesis



C<sub>9</sub>H<sub>7</sub>NO<sub>4</sub>

4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH=CHCOOH

*trans*-3-(4-Nitrophenyl)propenoic acid

- CAS-No. 882-06-4 ■ EC-No. 212-924-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 193.15 g/mol  
 ■ Melting point 288 - 291 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 4

### Specification

Assay (acidimetric)..... ≥ 96.0 %  
 Melting range (lower value)..... ≥ 288 °C  
 Melting range (upper value)..... ≤ 291 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18563.0025	Plastic bottle	25 g	inquire

4-Nitrocinnamic acid ethyl ester → Ethyl-4-nitrocinnamate page 878

## Nitro compounds

### Aliphatic nitro compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
877	841475	Ethyl nitroacetate	1224	818283	5-Nitro-1H-indazole	1230	818165	β-Nitrostyrene
306	806843	Nitroethane	306	820894	Nitromethane	1231	818312	3-Nitro-1H-1,2,4-triazole
1224	824465	2-Nitroimidazole	306	806851	1-Nitropropane			



## Aromatic nitro compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
396	841451	2-Amino-5-nitrobenzotrifluoride	809	822041	2,2'-Dinitrobiphenyl	1219	841472	2-Nitrobenzoic acid
397	841448	2-Amino-3-nitropyridine	810	841307	2,4-Dinitrophenylacetic acid	1220	841090	4-Nitrobenzophenone
508	801985	1-Bromo-2-nitrobenzene	902	841836	2-Fluoro-5-nitroaniline	1221	841418	2-Nitrobenzyl bromide
508	820210	1-Bromo-3-nitrobenzene	902	821798	1-Fluoro-2-nitrobenzene	1221	820212	4-Nitrobenzyl bromide
508	820211	1-Bromo-4-nitrobenzene	902	821799	1-Fluoro-3-nitrobenzene	1221	841296	2-Nitrobenzyl chloride
608	102427	1-Chloro-2,4-dinitrobenzene	902	820580	1-Fluoro-4-nitrobenzene	1221	841326	O-(4-Nitrobenzyl)-hydroxylammonium chloride
608	816145	4-Chloro-3,5-dinitrobenzoic acid	903	841285	3-Fluoro-4-nitrophenol	1222	820890	4-(4-Nitrobenzyl)pyridine
608	841812	4-Chloro-3,5-dinitrobenzotrifluoride	903	841204	5-Fluoro-2-nitrophenol	1224	841702	4-Nitroimidazole
623	841312	4-Chloro-3-nitroaniline	903	841443	5-Fluoro-2-nitrotoluene	1225	806291	1-Nitronaphthalene
623	806232	1-Chloro-2-nitrobenzene	1012	841402	2-Iodo-5-nitrotoluene	1226	814558	4-Nitrophenol
623	818664	1-Chloro-3-nitrobenzene	1122	841153	3-Methoxy-2-nitrobenzoic acid	1227	841435	4-(4-Nitrophenylazo)-1-naphthol
624	841024	4-Chloro-3-nitrobenzotrifluoride	1122	840003	4-Methoxy-2-nitrophenol	1227	841713	4-(4-Nitrophenylazo)-resorcinol
625	815109	3-(4-Chloro-2-nitrophenyl)methyl acrylate	1163	841549	4-Methyl-2-nitroaniline	1227	841283	2-(4-Nitrophenyl)-1-bromoethane
625	841273	2-Chloro-3-nitropyridine	1164	841599	Methyl 4-nitrobenzoate	1228	840107	4-Nitro-1,3-phenylenediamine
625	815110	2-Chloro-6-nitrotoluene	1164	841114	2-Methyl-5-nitrobenzoic acid	1228	841342	4-Nitrophenyl isothiocyanate
625	841578	4-Chloro-3-nitrotoluene	1164	814860	3-Methyl-4-nitrobenzoic acid	261	851092	4-Nitrophenyl-2-(octadecylsulfonyl)ethylcarbonate
661	814543	Crown ether/4'-Nitrobenzo-15-crown-5	1164	824467	(R)-(+)- $\alpha$ -Methyl-4-nitrobenzylamine hydrochloride	1229	841754	4-Nitropyridine-1-oxide
726	840100	1,2-Dichloro-3-nitrobenzene	1165	841806	5-Methyl-2-nitrophenol	1230	806806	2-Nitrotoluene
726	820445	1,2-Dichloro-4-nitrobenzene	1217	841263	9-Nitroanthracene	1231	806805	3-Nitrotoluene
727	820446	1,3-Dichloro-4-nitrobenzene	306	806770	Nitrobenzene	1231	806807	4-Nitrotoluene
727	818560	1,4-Dichloro-2-nitrobenzene	1218	845114	3-Nitro-benzeneboronic acid	1231	841510	2-Nitro-4-(trifluoromethyl)benzonitrile
753	841376	1,5-Difluoro-2,4-dinitrobenzene	1218	841141	3-Nitro-benzeneboronic acid sodium salt	1231	841563	2-Nitro-m-xylene
808	841646	2,6-Dinitroaniline	1218	806548	3-Nitrobenzenesulfonic acid sodium salt	1232	841556	3-Nitro-o-xylene
808	803120	1,4-Dinitrobenzene	1218	842593	2-Nitrobenzenesulfonyl chloride	1232	841547	4-Nitro-m-xylene
808	841366	2,4-Dinitrobenzoic acid	1219	820885	4-Nitrobenzenesulfonyl chloride	1232	841555	4-Nitro-o-xylene
809	814401	(S)-(+)-N-(3,5-Dinitrobenzoyl)phenylglycine						
809	820292	2,4-Dinitrobenzyl chloride						
1-Nitro-2,4-dichlorine benzene → 1,3-Dichloro-4-nitrobenzene page 727			1-Nitro-2,5-dichlorine benzene → 1,4-Dichloro-2-nitrobenzene page 727			1-Nitro-3,4-dichlorine benzene → 1,2-Dichloro-4-nitrobenzene page 726		

## 806843 Nitroethane for synthesis

C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>NO<sub>2</sub>

- CAS-No. 79-24-3 ■ EC-No. 201-188-9
- Refractive index 1.3917 (20 °C, 589 nm)
- Vapour pressure 20 hPa (20 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 28 (30 °C) ■ Explosive limit 3.4 % (V)
- Flash point 29 °C ■ Solub. in H<sub>2</sub>O 45 g/l (20 °C)
- M = 75.07 g/mol ■ pH value 6 (1 g/l, H<sub>2</sub>O, 25 °C)
- Saturation conc. 61 g/m<sup>3</sup> (20 °C) Air

- Melting point -90 °C ■ Boiling point 114 °C (1013 hPa) ■ Ignition temp. 410 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P262, P210
- LD50 oral rat 1100 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 609-035-00-1 ■ LGK 3
- HS-No. 2904 20 00 ■ Disposal 3
- ADR-RID UN 2842 Nitroethan, 3, III ■ IMDG-

Code UN 2842 NITROETHANE, 3, III  
■ IATA-DGR UN 2842 NITROETHANE, 3, III

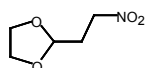
## Specification

Assay (GC, area%) ..... ≥ 97 %  
Density (d 20 °C/ 4 °C) ..... 1.049 - 1.051  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.06843.0100	Glass bottle	100 ml	inquire
8.06843.0500	Glass bottle	500 ml	inquire

2-Nitroethanol tert-butyl ether → tert-Butyl 2-nitroethyl ether page 553

## 814136 2-(2-Nitroethyl)-1,3-dioxolane for synthesis

C<sub>5</sub>H<sub>9</sub>NO<sub>4</sub>

3-Nitropropionaldehyde ethylene glycol acetal

■ CAS-No. 82891-99-4

- Spec. density 1.25 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 147.13 g/mol
- Boiling point 88 - 90 °C (1 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,245 - 1,247  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14136.0001	Glass bottle	1 ml	inquire

## Nitrogen, determination

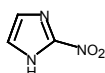
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1067	110958	Kjeldahl tablets	1204	109011	Nessler's reagent A	1441	105591	Sodium hydroxide solution min. 27% (1.30)
1068	115348	Kjeldahl tablets	1204	109012	Nessler's reagent B			
1068	116469	Kjeldahl tablets	1415	108030	Selenium reagent mixture	1514	100748	Sulfuric acid 98%

Nitrogen (total) Cell Test → page 73

5-Nitro-2-hydroxybenzoic acid → 2-Hydroxy-5-nitrobenzoic acid page 990

# Nitroi

## 824465 2-Nitroimidazole for synthesis



C<sub>3</sub>H<sub>3</sub>N<sub>3</sub>O<sub>2</sub>  
(C<sub>3</sub>H<sub>3</sub>N<sub>2</sub>)NO<sub>2</sub>  
Azomycine

■ CAS-No. 527-73-1 ■ EC-No. 208-425-5

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 113.08 g/mol ■ Melting point 279 - 284 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LGK 10 - 13
- HS-No. 2933 29 90

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 279 °C  
Melting range (upper value) ..... ≤ 284 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24465.0500	Glass bottle	500 mg	inquire

## 841702 4-Nitroimidazole for synthesis



C<sub>3</sub>H<sub>3</sub>N<sub>3</sub>O<sub>2</sub>

■ CAS-No. 3034-38-6 ■ EC-No. 221-224-7

■ Vapour pressure 1 hPa (20 °C)

■ Flash point >200 °C ■ Solub. in H<sub>2</sub>O 0.40 g/l

- (20 °C) ■ M = 113.08 g/mol ■ pH value 7 (0.40 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 303 °C (decomposition)
  - Ignition temp. 435 °C
  - WGK 2
  - GHS: Warning, Acute toxicity, Category 4, Oral, H302
  - LC50 rat 6.6 mg/l
  - LD50 oral rat 600 mg/kg

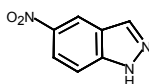
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 95,0 Area %  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41702.0050	Glass bottle	50 g	inquire

## 818283 5-Nitro-1H-indazole for synthesis



C<sub>7</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub>

■ CAS-No. 5401-94-5 ■ EC-No. 226-451-5

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 163.14 g/mol
- Melting point 210 - 212 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

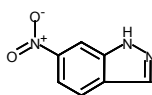
### Specification

Assay (acidimetric) ..... ≥ 99,0 %

Melting range (lower value) ..... ≥ 210 °C  
Melting range (upper value) ..... ≤ 212 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18283.0100	Plastic bottle	100 g	inquire

## 843176 6-Nitroindazole for synthesis



C<sub>7</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub>

■ CAS-No. 7597-18-4 ■ EC-No. 231-500-9

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 163.14 g/mol
- Melting point 177 - 180 °C
- WGK 3
- GHS: Warning, Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

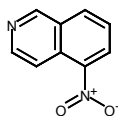
### Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
Melting range (lower value) ..... ≥ 178 °C  
Melting range (upper value) ..... ≤ 182 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43176.0025	Glass bottle	25 g	inquire

5-Nitrosophthalic acid monomethyl ester → Monomethyl 5-nitrosophthalate page 1191

## 843161 5-Nitroisoquinoline for synthesis



C<sub>9</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>

- CAS-No. 607-32-9 ■ EC-No. 210-133-8
- Melting point 106 - 109 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 49 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 106 °C  
Melting range (upper value) ..... ≤ 109 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43161.0005	Glass bottle	5 g	inquire
8.43161.0025	Glass bottle	25 g	inquire

## 820894 Nitromethane for synthesis



CH<sub>3</sub>NO<sub>2</sub>

Mononitromethane, Nitrocarbol

■ CAS-No. 75-52-5 ■ EC-No. 200-876-6

■ Refractive index 1.38056 (22 °C, 589 nm)

■ Vapour pressure 36.4 hPa (20 °C)

■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Dielectricity

constant 35.9 (30 °C) ■ El. dipole moment 3.1

(20 °C) ■ Explosive limit 7.3 - 63.0 % (V)

■ Flash point 35.6 °C ■ Solub. in H<sub>2</sub>O 105 g/l

(20 °C) ■ M = 61.04 g/mol ■ pH value 6.4 (0.6 g/l,

H<sub>2</sub>O, 20 °C) ■ Saturation conc. 90 g/m<sup>3</sup> (20 °C) Air

- Melting point -29 °C ■ Boiling point 101.2 °C (1013 hPa) ■ Ignition temp. 418 °C

■ WGK 2

■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210

- LD50 oral rat 940 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg

■ EC-Index-No. 609-036-00-7 ■ LGK 4.1A

■ HS-No. 2904 20 00 ■ Disposal 10

■ ADR-RID UN 1261 Nitromethan, 3, II ■ IMDG-

Code UN 1261 NITROMETHANE, 3, II

■ IATA-DGR UN 1261 NITROMETHANE, 3, II

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C / 4 °C) ..... 1,134 - 1,138  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20894.0250	Glass bottle	250 ml	inquire
8.20894.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 102914 Nitromethane-D3 deuteration degree min. 99% for NMR spectroscopy MagniSolv™



CD<sub>3</sub>NO<sub>2</sub>

Trideuteronitromethane

■ CAS-No. 13031-32-8 ■ EC-No. 235-892-2

■ Vapour pressure 36 hPa (20 °C)

■ Spec. density 1.19 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 7.1 - 63 % (V) ■ Flash point 44 °C ■ Solub. in

H<sub>2</sub>O 117 g/l (20 °C) ■ M = 64.06 g/mol

■ Melting point -26 °C ■ Boiling point 100 °C

■ Ignition temp. 415 °C

■ WGK 2

■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210

- LD50 oral rat 940 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg

■ LGK 4.1A

■ HS-No. 2845 90 10 ■ Disposal 10

■ ADR-RID UN 1261 Nitromethan, 3, II ■ IMDG-

Code UN 1261 NITROMETHANE, 3, II

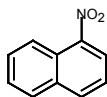
■ IATA-DGR UN 1261 NITROMETHANE, 3, II

### Specification

Deuteration degree ..... ≥ 99 %  
Water (NMR, H<sub>2</sub>O) ..... ≤ 0.03 %  
Performance test (NMR-spectrum) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.02914.0002	Glass ampoule	2x 0.75 ml	inquire

## 806291 1-Nitronaphthalene for synthesis

C<sub>10</sub>H<sub>7</sub>NO<sub>2</sub>

- CAS-No. 86-57-7 ■ EC-No. 201-684-5
- Vapour pressure 0.00015 hPa (20 °C)
- Spec. density 1.33 g/cm<sup>3</sup> (20 °C)
- Flash point 170 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 0.022 g/l (20 °C) ■ M = 173.17 g/mol
- Melting point 59 - 61 °C ■ Boiling point 304 °C
- Ignition temp. 450 °C

- WGK 2
- GHS: Warning, Flammable solid, Category 2, H228; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273, P370 + P378
- LD50 oral rat 350 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 4.1B
- HS-No. 2904 20 00 ■ Disposal 3
- ADR-RID UN 2538 Nitronaphthalen, 4.1, III
- IMDG-Code UN 2538 NITRONAPHTHALENE, 4.1, III
- IATA-DGR UN 2538 NITRONAPHTHALENE, 4.1, III

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 54 °C  
 Melting range (upper value)..... ≤ 56 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06291.0100	Glass bottle	100 g	inquire
8.06291.0500	Glass bottle	500 g	inquire

Nitrones → Organoelement compounds

1-(4-Nitrophenyl)ethanone → 4'-

Nitroacetophenone page 1215

(1-Nitro-2-phenyl)ethylene → β-Nitrostyrene page 1230

(R)-1-(4-Nitrophenyl)-methylamin hydrochloride  
→ (S)-(-)-α-Methyl-4-nitrobenzylamine  
hydrochloride page 1164(S)-1-(4-Nitrophenyl)-methylamin hydrochloride  
→ (S)-(-)-α-Methyl-4-nitrobenzylamine  
hydrochloride page 1164

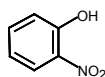
(4-Nitrophenyl)phenylmethanone → 4-Nitrobenzophenone page 1220

trans-3-(2-Nitrophenyl)propenoic acid → 2'-Nitrocinnamic acid page 1222

trans-3-(4-Nitrophenyl)propenoic acid → 4'-Nitrocinnamic acid page 1222

4-Nitrophenethyl bromide → 2-(4-Nitrophenyl)-1-bromoethane page 1227

## 806790 2-Nitrophenol for synthesis

C<sub>6</sub>H<sub>5</sub>NO<sub>3</sub>2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>OH*o*-Nitrophenol

- CAS-No. 88-75-5 ■ EC-No. 201-857-5
- Vapour pressure 0.15 hPa (25 °C)
- Spec. density 1.26 g/cm<sup>3</sup> (20 °C)
- Flash point 108 °C ■ Solub. in H<sub>2</sub>O 2.1 g/l (20 °C) ■ M = 139.11 g/mol

- Melting point 43 - 45 °C
- Boiling point 215 - 216 °C (1013 hPa)
- Ignition temp. 550 °C
- WGK 2
- GHS: Chronic aquatic toxicity, Category 3, H412, P262, P273
- LD50 oral rat 2830 mg/kg ■ LD50 dermal rabbit > 7940 mg/kg
- LGK 6.1C
- HS-No. 2908 99 00 ■ Disposal 3
- ADR-RID UN 1663 Nitrophenole, 6.1, III
- IMDG-Code UN 1663 NITROPHENOLS, 6.1, III

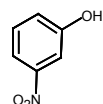
■ IATA-DGR UN 1663 NITROPHENOLS, 6.1, III

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 44 °C  
 Melting range (upper value)..... ≤ 46 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06790.0100	Glass bottle	100 g	inquire
8.06790.0500	Glass bottle	500 g	inquire

## 3-Nitrophenol

C<sub>6</sub>H<sub>5</sub>NO<sub>3</sub>O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>OH*m*-Nitrophenol

- CAS-No. 554-84-7 ■ EC-No. 209-073-5

- Spec. density 1.49 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 139.11 g/mol
- pH value 6.6 - 8.6 (H<sub>2</sub>O, 20 °C)
- Melting point 95 - 98 °C ■ Bulk density 640 kg/m<sup>3</sup> ■ Boiling point 194 °C (93 hPa)
- Ignition temp. 400 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 +

P351 + P338

- LD50 oral rat 328 mg/kg
  - LGK 6.1C
  - HS-No. 2908 99 00 ■ Disposal 3
  - ADR-RID UN 1663 Nitrophenole, 6.1, III
  - IMDG-Code UN 1663 NITROPHENOLS, 6.1, III
  - IATA-DGR UN 1663 NITROPHENOLS, 6.1, III
- Use as pH indicator: 0.3 g in 100 ml ethanol (96%) or 0.08 g in 100 ml water.

## 820895 3-Nitrophenol for synthesis

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 95 °C  
 Melting range (upper value)..... ≤ 98 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20895.0005	Glass bottle	5 g	inquire
8.20895.0025	Glass bottle	25 g	inquire
8.20895.0100	Glass bottle	100 g	inquire

## 106794 3-Nitrophenol indicator

## Specification

Purity (DSC (differential scanning calorimetry))..... ≥ 99 %  
 Identity (UV/VIS-Spectrum)..... passes test  
 Melting point (DSC (differential scanning calorimetry))..... 95 - 99 °C

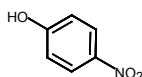
Transition range.....pH 6.6 - pH 8.6 colourless - yellow  
 Absorption maximum λ max  
 - (buffer pH 6.6)..... 329 - 333 nm  
 - (buffer pH 11.0)..... 389 - 393 nm  
 Spec. Absorptivity A 1%/1cm

- (λ1max; 0.05 g/l; buffer pH 6.6).....130 - 150  
 - (λ2max; 0.05 g/l; buffer pH 11.0).....100 - 120

Ord.No.	Packaging	Quantity	Price
1.06794.0025	Glass bottle	25 g	inquire

# Nitrop

## 4-Nitrophenol



$C_6H_5NO_3$   
 $O_2NC_6H_4OH$   
*p*-Nitrophenol, 1-Hydroxy-4-nitrobenzol  
 ■ CAS-No. 100-02-7 ■ EC-No. 202-811-7  
 ■ Spec. density 1.48 g/cm<sup>3</sup> (20 °C) (anhydrous substance) ■ Flash point 169 °C (anhydrous substance) ■ Solub. in H<sub>2</sub>O 16 g/l (25 °C) (anhydrous substance) ■ M = 139.11 g/mol

■ pH value 4.4 (5 g/l, H<sub>2</sub>O, 24 °C) (anhydrous substance)  
 ■ Melting point 110 - 115 °C (anhydrous substance) ■ Bulk density 550 kg/m<sup>3</sup>  
 ■ Boiling point 279 °C (1013 hPa) (decomposition) (anhydrous substance)  
 ■ Ignition temp. 510 °C (anhydrous substance)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated

exposure, Category 2, Oral, H373, P302 + P352  
 ■ LC50 rat 4.7 mg/l  
 ■ LD50 oral rat 202 mg/kg ■ LD50 dermal rat 1024 mg/kg  
 ■ EC-Index-No. 609-015-00-2 ■ LGK 6.1C  
 ■ HS-No. 2908 99 00 ■ Disposal 3  
 ■ ADR-RID UN 1663 Nitrophenole, 6.1, III  
 ■ IMDG-Code UN 1663 NITROPHENOLS, 6.1, III  
 ■ IATA-DGR UN 1663 NITROPHENOLS, 6.1, III  
 Use as pH indicator: 0.2 g in 100 ml ethanol (96%) or 0.08 g in 100 ml water.



### 814558 4-Nitrophenol (stabilized with max. 5% water) for synthesis

**Specification** Identity (IR)..... conforms  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting point (after drying)..... 110 - 115 °C  
 Water (K. F.)..... ≤ 5,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.14558.0100	Glass bottle	100 g	inquire
8.14558.1000	Glass bottle	1 kg	inquire

### 106798 4-Nitrophenol indicator

**Specification** Appearance of solution..... passes test  
 Assay (DSC (differential scanning calorimetry))..... Melting point (DSC (differential scanning calorimetry))..... 110 - 114 °C  
 ..... ≥ 99,5 %  
 Transition range..... pH 5.4 - pH 7.5  
 colourless - yellow

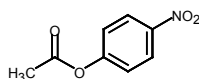
Ord.No.	Packaging	Quantity	Price
1.06798.0025	Glass bottle	25 g	inquire
1.06798.0100	Glass bottle	100 g	inquire

*p*-Nitrophenol → page 1226

Nitrophenol ethers → Phenols and phenol ethers

Nitrophenols → Phenols and phenol ethers

### 843075 4-Nitrophenyl acetate for synthesis



$C_8H_7NO_4$   
 ■ CAS-No. 830-03-5 ■ EC-No. 212-593-5  
 ■ Flash point >110 °C ■ Solub. in H<sub>2</sub>O 0.53 g/l

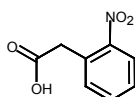
(25 °C) ■ M = 181.15 g/mol  
 ■ Melting point 77 - 79 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 39 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 97,0 % (a/a)

Melting range (lower value)..... ≥ 77 °C  
 Melting range (upper value)..... ≤ 79 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43075.0025	Glass bottle	25 g	inquire

### 820900 2-Nitrophenylacetic acid for synthesis



$C_8H_7NO_4$   
 2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>COOH

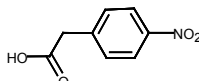
■ CAS-No. 3740-52-1 ■ EC-No. 223-128-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 181.15 g/mol  
 ■ Melting point 136 - 139 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 137 °C  
 Melting range (upper value)..... ≤ 140 °C  
 Identity (IR)..... passes test

**Specification**  
 Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 137 °C  
 Melting range (upper value)..... ≤ 140 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20900.0025	Plastic bottle	25 g	inquire

### 800599 4-Nitrophenylacetic acid for synthesis



$C_8H_7NO_4$   
 4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>COOH  
 ■ CAS-No. 104-03-0 ■ EC-No. 203-168-5

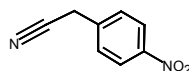
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 181.15 g/mol  
 ■ Melting point 150 - 153 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 98,0 %(m)  
 Melting range (lower value)..... ≥ 150 °C

Melting range (upper value)..... ≤ 153 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00599.0025	Glass bottle	25 g	inquire
8.00599.0100	Glass bottle	100 g	inquire

### 820897 (4-Nitrophenyl)acetonitrile for synthesis



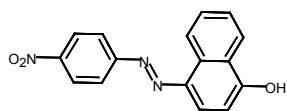
$C_8H_6N_2O_2$   
 4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CN  
 4-Nitrobenzyl cyanide  
 ■ CAS-No. 555-21-5 ■ EC-No. 209-085-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 162.14 g/mol ■ Melting point 112 - 115 °C

■ Boiling point 195 - 197 °C (16 hPa)  
 ■ WGK 3  
 ■ LGK 6.1A  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g. ((4-NITROPHENYL)-ACETONITRIL), 6.1, II ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S. ((4-NITROPHENYL)-ACETONITRILE), 6.1, II  
 ■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S. ((4-NITROPHENYL)-ACETONITRILE), 6.1, II

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 112 °C  
 Melting range (upper value)..... ≤ 115 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20897.0050	Glass bottle	50 g	inquire

## 841435 4-(4-Nitrophenylazo)-1-naphthol for synthesis

C<sub>16</sub>H<sub>11</sub>N<sub>3</sub>O<sub>3</sub>

Magneson II

■ CAS-No. 5290-62-0 ■ EC-No. 226-129-4

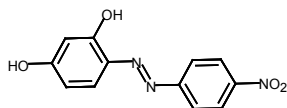
- M = 293.28 g/mol
- Melting point 277 - 280 °C (decomposition)
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2927 00 00 ■ Disposal 3

## Specification

Assay (TLC) ..... ≥ 90.0 %  
 Melting range (lower value) ..... ≥ 278 °C  
 Melting range (upper value) ..... ≤ 284 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41435.0010	Plastic bottle	10 g	inquire

## 841713 4-(4-Nitrophenylazo)-resorcinol for synthesis

C<sub>12</sub>H<sub>9</sub>N<sub>3</sub>O<sub>4</sub>

3-Nitrophenylboronic acid → page 1218

- CAS-No. 74-39-5 ■ EC-No. 200-808-5
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 259.22 g/mol
- Melting point 183 °C (decomposition)
- WGK 2
- GHS: P262
- LD50 oral rat > 500 mg/kg
- LGK 10 - 13

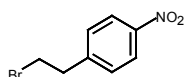
■ HS-No. 2927 00 00

## Specification

Assay (HPLC, area%) ..... ≥ 91.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41713.0025	Glass bottle	25 g	inquire

## 841283 2-(4-Nitrophenyl)-1-bromoethane for synthesis

C<sub>8</sub>H<sub>8</sub>BrNO<sub>2</sub>

4-Nitrophenethyl bromide

■ CAS-No. 5339-26-4 ■ EC-No. 226-271-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 230.06 g/mol  
 ■ Melting point 67 - 70 °C

- Boiling point 112 - 120 °C (0.3 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2904 90 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 67 °C  
 Melting range (upper value) ..... ≤ 70 °C  
 Identity (IR) ..... passes test

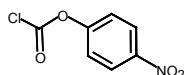
Ord.No.	Packaging	Quantity	Price
8.41283.0005	Plastic bottle	5 g	inquire

p-Nitrophenyl carbonate Merrifield resin → page 267

p-Nitrophenyl carbonate Wang resin → page 267

4-Nitrophenyl chloroformate → 4-Nitrophenyl chloroformate page 1227

## 820272 4-Nitrophenyl chloroformate for synthesis

C<sub>7</sub>H<sub>4</sub>ClNO<sub>4</sub>ClCOOC<sub>6</sub>H<sub>4</sub>-4-(NO<sub>2</sub>)

4-Nitrophenyl chloroformate, Chloroformic acid 4-nitrophenyl ester

■ CAS-No. 7693-46-1 ■ EC-No. 231-706-9  
 ■ Flash point > 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 201.56 g/mol  
 ■ Melting point 78 - 81 °C

- Boiling point 159 - 162 °C (25 hPa)
- WGK 3
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A ■ Store at +2°C to +8°C.
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(4-NITROPHENYL-CHLORFORMIAT), 8, II
- IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(4-NITROPHENYL-CHLORFORMATE), 8, II

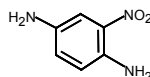
■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(4-NITROPHENYL-CHLORFORMATE), 8, II

## Specification

Assay (argentometric) ..... ≥ 97.0 %  
 Melting range (lower value) ..... ≥ 78 °C  
 Melting range (upper value) ..... ≤ 81 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20272.0010	Glass bottle	10 g	inquire
8.20272.0025	Glass bottle	25 g	inquire

## 820899 2-Nitro-1,4-phenylenediamine for synthesis

C<sub>6</sub>H<sub>7</sub>N<sub>3</sub>O<sub>2</sub>2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>-1,4-(NH<sub>2</sub>)<sub>2</sub>

1,4-Diamino-2-nitrobenzene

■ CAS-No. 5307-14-2 ■ EC-No. 226-164-5  
 ■ Solub. in H<sub>2</sub>O 0.2 g/l (15 °C) ■ M = 153.14 g/mol  
 ■ pH value 7 (H<sub>2</sub>O) (aqueous suspension)  
 ■ Melting point 134 - 137 °C

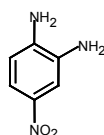
- Bulk density 400 - 500 kg/m<sup>3</sup>
- Ignition temp. > 500 °C
- WGK 2
- GHS: Warning, Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317, P280, P281, P302 + P352, P309 + P310
- LD50 oral rat 397 mg/kg
- LGK 10 - 13
- HS-No. 2921 51 19 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 95.0 % (a/a)  
 Melting range (lower value) ..... ≥ 135 °C  
 Melting range (upper value) ..... ≤ 139 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20899.0100	Glass bottle	100 g	inquire
8.20899.0500	Glass bottle	500 g	inquire

## 806294 4-Nitro-1,2-phenylenediamine for synthesis

C<sub>6</sub>H<sub>7</sub>N<sub>3</sub>O<sub>2</sub>4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>-1,2-(NH<sub>2</sub>)<sub>2</sub>

1,2-Diamino-4-nitrobenzene

- CAS-No. 99-56-9 ■ EC-No. 202-766-3
- Solub. in H<sub>2</sub>O 1.2 g/l (20 °C) ■ M = 153.14 g/mol
- Melting point 197 - 202 °C
- Bulk density 520 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 681 mg/kg
- LGK 10 - 13
- HS-No. 2921 51 19 ■ Disposal 3

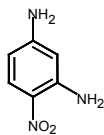
## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 97.0 % (m)  
 Melting range (lower value) ..... ≥ 201 °C  
 Melting range (upper value) ..... ≤ 205 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06294.0100	Glass bottle	100 g	inquire



## 840107 4-Nitro-1,3-phenylenediamine (moist) for synthesis



(15 °C) ■ Melting point 153 °C (decomposition)  
 ■ Bulk density 550 kg/m<sup>3</sup> ■ Ignition temp. >500 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P302 + P352  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 51 19 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 95,0 % (a/a)  
 Water (K. F.) ..... 16,0 - 18,0 %  
 Identity (IR) ..... passes test

1,3-Diamino-4-nitrobenzene

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 1 g/l

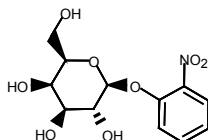
(R)-4-Nitrophenyl-1-ethylamine hydrochloride →  
 (R)-(+)-α-Methyl-4-nitrobenzylamine  
 hydrochloride page 1164

(S)-4-Nitrophenyl-1-ethylamine hydrochloride →  
 (R)-(+)-α-Methyl-4-nitrobenzylamine  
 hydrochloride page 1164

4-Nitrophenyl formate → page 280

Ord.No.	Packaging	Quantity	Price
8.40107.0025	Plastic bottle	25 g	inquire

## 841747 2-Nitrophenyl-β-D-galactopyranoside for synthesis



C<sub>12</sub>H<sub>15</sub>NO<sub>8</sub>  
 ■ CAS-No. 369-07-3 ■ EC-No. 206-716-1  
 ■ M = 301.25 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 2940 00 00 ■ Disposal 3

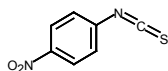
## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in water) ..... -72,0 -  
 -68,0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41747.0001	Plastic bottle	1 g	inquire

α-(p-Nitrophenyl)glycerol → 1-(4-Nitrophenyl)-1,2,3-propanetriol page 1228

## 841342 4-Nitrophenyl isothiocyanate for synthesis

C<sub>7</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>S

1-Isithiocyanato-4-nitrobenzene

■ CAS-No. 2131-61-5 ■ EC-No. 218-359-9  
 ■ M = 180.19 g/mol ■ Melting point 107 - 110 °C  
 ■ Boiling point 137 - 138 °C (15 hPa)  
 ■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P260, P302 +  
 P352, P305 + P351 + P338  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester  
 Stoff, n.a.g.(4-NITROPHENYLISOTHIOCYANAT), 6.1,  
 II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,  
 N.O.S.(4-NITROPHENYLISOTHIOCYANATE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(4-NITROPHENYLISOTHIOCYANATE), 6.1, II

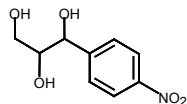
## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 107 °C  
 Melting range (upper value) ..... ≤ 110 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41342.0010	Glass bottle	10 g	inquire

4-Nitrophenyl-2-(octadecylsulfonyl)ethylcarbonate → page 261

## 820902 1-(4-Nitrophenyl)-1,2,3-propanetriol for synthesis

C<sub>9</sub>H<sub>11</sub>NO<sub>5</sub>HOCH<sub>2</sub>CH(OH)CH(OH)C<sub>6</sub>H<sub>4</sub>-4-(NO<sub>2</sub>)

α-(p-Nitrophenyl)glycerol

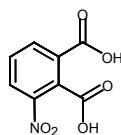
■ CAS-No. 2207-68-3 ■ EC-No. 218-624-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 213.19 g/  
 mol ■ pH value 4 - 7 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 95 - 99 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 95 °C  
 Melting range (upper value) ..... ≤ 99 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20902.0001	Glass bottle	1 g	inquire

## 800649 3-Nitrophthalic acid for synthesis

C<sub>8</sub>H<sub>5</sub>NO<sub>6</sub>3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>-1,2-(COOH)<sub>2</sub>

3-Nitrobenzene-1,2-dicarboxylic acid

■ CAS-No. 603-11-2 ■ EC-No. 210-030-8  
 ■ Solub. in H<sub>2</sub>O 20 g/l (25 °C) ■ M = 211.13 g/mol  
 ■ Melting point 210 - 215 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity -  
 single exposure, Category 3, H335; Skin irritation,  
 Category 2, H315; Eye irritation, Category 2, H319,  
 P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13

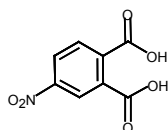
■ HS-No. 2917 39 95 ■ Disposal 4

## Specification

Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00649.0100	Glass bottle	100 g	inquire

## 800650 4-Nitrophthalic acid for synthesis

C<sub>8</sub>H<sub>5</sub>NO<sub>6</sub>4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>-1,2-(COOH)<sub>2</sub>

4-Nitrobenzene-1,2-dicarboxylic acid

■ CAS-No. 610-27-5 ■ EC-No. 210-215-3  
 ■ Solub. in H<sub>2</sub>O 880 g/l (20 °C) ■ M = 211.13 g/  
 mol ■ pH value 1 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 162 - 165 °C  
 ■ Bulk density 685 kg/m<sup>3</sup>  
 ■ WGK 3

■ GHS: Warning, Specific target organ toxicity -  
 single exposure, Category 3, H335; Eye irritation,  
 Category 2, H319; Skin irritation, Category 2,  
 H315, P302 + P352, P304 + P340, P305 + P351 +

P338

■ LGK 10 - 13

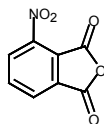
■ HS-No. 2917 39 95 ■ Disposal 4

## Specification

Assay (GC, area%) ..... ≥ 80,0 Area %  
 3-Nitrophthalic acid (GC, area%) ..... ≤ 20,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00650.0100	Plastic bottle	100 g	inquire

## 820903 3-Nitrophthalic anhydride for synthesis

C<sub>8</sub>H<sub>5</sub>NO<sub>5</sub>

- CAS-No. 641-70-3 ■ EC-No. 211-373-6
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)

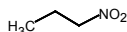
- M = 193.11 g/mol ■ Melting point 159 - 162 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2917 39 95 ■ Disposal 3

## Specification

Assay (morpholine method) ..... ≥ 95.0 %  
 Melting range (lower value) ..... ≥ 159 °C  
 Melting range (upper value) ..... ≤ 162 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20903.0025	Glass bottle	25 g	inquire
8.20903.0100	Glass bottle	100 g	inquire

## 806851 1-Nitropropane for synthesis

C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>NO<sub>2</sub>*N*-Nitropropane

- CAS-No. 108-03-2 ■ EC-No. 203-544-9
- Refractive index 1.4016 (20 °C, 589 nm)
- Vapour pressure 7.6 hPa (20 °C)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 23.2 (30 °C) ■ Explosive limit 2.2 - 11.0 % (V) ■ Flash point 36 °C ■ Solub. in H<sub>2</sub>O 14 g/l (20 °C) ■ M = 89.09 g/mol
- pH value 6.0 (0.9 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. 36 g/m<sup>3</sup> (20 °C) Air

- Melting point -108 °C
- Boiling point 131 - 132 °C (1013 hPa)
- Ignition temp. 420 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P302 + P352, P304 + P340, P309 + P310
- LC50 rat 11.02 mg/l
- LD50 oral rat 455 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 609-001-00-6 ■ LGK 3
- HS-No. 2904 20 00 ■ Disposal 3
- ADR-RID UN 2608 Nitropropane, 3, III ■ IMDG-

Code UN 2608 NITROPROPANES, 3, III

■ IATA-DGR UN 2608 NITROPROPANES, 3, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,999 - 1,001  
 Water (K. F.) ..... ≤ 0,20 % (m)  
 2-Nitropropane (GC, area%) ..... ≤ 0,10 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06851.0250	Glass bottle	250 ml	inquire
8.06851.1000	Glass bottle	1 l	inquire

N-Nitropropane → 1-Nitropropane page 306

## 814138 3-Nitropropanol for synthesis

C<sub>3</sub>H<sub>7</sub>NO<sub>3</sub>O<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OH

- CAS-No. 25182-84-7 ■ EC-No. 246-716-9
- Refractive index 1.445 (23 °C, 589 nm)
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 105.09 g/mol
- Boiling point 138 - 140 °C (43 hPa)
- WGK 3

- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310
- LD50 oral rat 77 mg/kg
- LGK 6.1 D
- HS-No. 2905 59 98 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(3-NITROPROPANOL), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(3-NITROPROPANOLS), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(3-NITROPROPANOLS), 6.1, III

## Specification

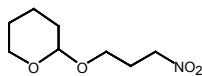
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.208 - 1.212  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14138.0001	Glass bottle	1 ml	inquire

3-Nitropropionaldehyde dimethyl acetal → 1,1-Dimethoxy-3-nitropropane page 772

3-Nitropropionaldehyde ethylene glycol acetal → 2-(2-Nitroethyl)-1,3-dioxolane page 1223

## 814169 3-Nitropropyl-2-tetrahydropyranyl ether for synthesis

C<sub>8</sub>H<sub>15</sub>NO<sub>4</sub>

2-(3-Nitropropoxy)tetrahydropyrane

- CAS-No. 107833-76-1

- Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 189.21 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

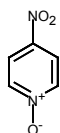
## Specification

Assay (GC, area%) ..... ≥ 95,0 Area %

Density (d 20 °C/ 4 °C) ..... 1,127 - 1,133  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14169.0001	Glass bottle	1 ml	inquire

## 841754 4-Nitropyridine-1-oxide for synthesis

C<sub>5</sub>H<sub>4</sub>N<sub>2</sub>O<sub>3</sub>

- CAS-No. 1124-33-0 ■ EC-No. 214-395-4
- M = 140.1 g/mol ■ Melting point 160 - 163 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral,

- H301; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P262, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 107 mg/kg
- LGK 6.1 C
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-NITROPYRIDIN-1-OXID), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-NITROPYRIDINE-1-OXIDE), 6.1, III

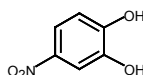
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-NITROPYRIDINE-1-OXIDE), 6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 160 °C  
 Melting range (upper value) ..... ≤ 163 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41754.0010	Plastic bottle	10 g	inquire

## 820892 4-Nitroprocatechol for synthesis

C<sub>6</sub>H<sub>5</sub>NO<sub>4</sub>4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>3</sub>-1,2-(OH)<sub>2</sub>

- CAS-No. 3316-09-4 ■ EC-No. 222-009-0

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 155.11 g/mol ■ Melting point 173 - 177 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2908 99 00 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 97,0 % (m)

Melting range (lower value) ..... ≥ 173 °C  
 Melting range (upper value) ..... ≤ 177 °C  
 Identity (IR) ..... passes test

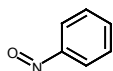
Ord.No.	Packaging	Quantity	Price
8.20892.0005	Glass bottle	5 g	inquire

# Nitros

5-Nitrosalicylaldehyde → 2-Hydroxy-5-nitrobenzaldehyde page 990

5-Nitrosalicylic acid → 2-Hydroxy-5-nitrobenzoic acid page 990

## 820906 Nitrosobenzene for synthesis



C<sub>6</sub>H<sub>5</sub>NO  
 ■ CAS-No. 586-96-9 ■ EC-No. 209-591-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 107.11 g/mol  
 ■ Melting point 62 - 65 °C  
 ■ WGK 3

■ LGK 6.1A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2904 20 00 ■ Disposal 22  
 ■ ADR-RID UN 3143 Farbstoffzwischenprodukt, fest, giftig, n.a.g.(NITROSOBENZOL), 6.1, II  
 ■ IMDG-Code UN 3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.(NITROSOBENZENE), 6.1, II  
 ■ IATA-DGR UN 3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.(NITROSOBENZENE), 6.1, II

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 62 °C  
 Melting range (upper value)..... ≤ 67 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20906.0010	Glass bottle	10 g	inquire

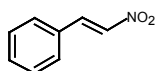
## Nitroso compounds and nitrites

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
553	820247	Butyl nitrite	795	820515	N,N-Dimethyl-4-nitrosoaniline	1230	810569	Nitrosyl tetrafluoroborate
553	818528	tert-Butyl nitrite	1050	101245	Isopentyl nitrite	1273	820966	n-Pentyl nitrite
663	105227	Cupferron	1230	820906	Nitrosobenzene	1448	822285	Sodium nitrite

4-Nitroso-N,N-dimethylaniline → N,N-Dimethyl-4-nitrosoaniline page 795

N-Nitrosophenylhydroxylamine ammonium salt → Cupferron page 663

## 818165 β-Nitrostyrene for synthesis



C<sub>8</sub>H<sub>7</sub>NO<sub>2</sub>  
*ω*-Nitrostyrene, (1-Nitro-2-phenyl)ethylene  
 ■ CAS-No. 102-96-5 ■ EC-No. 203-066-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 149.14 g/mol  
 ■ Melting point 54 - 57 °C  
 ■ Boiling point 250 - 260 °C  
 ■ Ignition temp. 250 °C  
 ■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 6.1A  
 ■ HS-No. 2904 20 00 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TRANS-B-NITROSTYROL), 6.1, II  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TRANS-B-NITROSTYRENE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TRANS-B-NITROSTYRENE), 6.1, II

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 54 °C  
 Melting range (upper value)..... ≤ 57 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18165.0025	Glass bottle	25 g	inquire

*ω*-Nitrostyrene → β-Nitrostyrene page 1230

Nitro-substituted carboxylic acids → Carboxylic acids

## 810569 Nitrosyl tetrafluoroborate for synthesis

BF<sub>4</sub>NO  
 NOBF<sub>4</sub>  
 ■ CAS-No. 14635-75-7 ■ EC-No. 238-679-2  
 ■ Spec. density 2.185 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 116.8 g/mol  
 ■ Melting point 250 °C (sublimed)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2812 90 00 ■ Disposal 24  
 ■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(NITROSYLTETRAFLUORBORAT), 8, II  
 ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(NITROSYLTETRAFLUORBORATE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC,

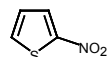
INORGANIC, N.O.S.(NITROSYLTETRAFLUORBORATE), 8, II

### Specification

Assay (acidimetric)..... ≥ 94,0 %

Ord.No.	Packaging	Quantity	Price
8.10569.0005	Glass bottle	5 g	inquire

## 842600 2-Nitrothiophene for synthesis



C<sub>4</sub>H<sub>3</sub>NO<sub>2</sub>S  
 ■ CAS-No. 609-40-5 ■ EC-No. 210-190-9  
 ■ Flash point 93 °C ■ Solub. in

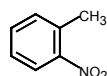
H<sub>2</sub>O (20 °C) practically insoluble ■ M = 129.14 g/mol  
 ■ Melting point 43 - 45 °C  
 ■ Boiling point 224 - 225 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: P262  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 80,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42600.0010	Glass bottle	10 g	inquire

## 806806 2-Nitrotoluene for synthesis



C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>  
 2-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>  
*o*-Nitrotoluene  
 ■ CAS-No. 88-72-2 ■ EC-No. 201-853-3  
 ■ Refractive index 1.545 (20 °C, 589 nm) ■ Vapour pressure 0.1 hPa (20 °C) ■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.47 - 8.8 % (V)  
 ■ Flash point 106 °C ■ Solub. in H<sub>2</sub>O 0.65 g/l (20 °C) (experimental) ■ M = 137.13 g/mol  
 ■ pH value 6 - 8 (H<sub>2</sub>O) ■ Melting point -4 - -3 °C

■ Boiling point 221 - 222 °C (1013 hPa)  
 ■ Ignition temp. 420 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Reproductive toxicity, Category 2, H361F; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P201, P273, P308 + P313  
 ■ LD50 oral rat 891 mg/kg  
 ■ EC-Index-No. 609-065-00-5 ■ LGK 6.1A  
 ■ HS-No. 2904 20 00 ■ Disposal 9  
 ■ ADR-RID UN 1664 Nitrotoluene, flüssig, 6.1, II  
 ■ IMDG-Code UN 1664 NITROTOLUENES, LIQUID,

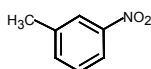
6.1, II  
 ■ IATA-DGR UN 1664 NITROTOLUENES, LIQUID, 6.1, II

### Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C / 4 °C)..... 1,162 - 1,163  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06806.0100	Glass bottle	100 ml	inquire
8.06806.1000	Glass bottle	1 l	inquire

## 806805 3-Nitrotoluene for synthesis

C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>3-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>*m*-Nitrotoluene

- CAS-No. 99-08-1 ■ EC-No. 202-728-6
- Refractive index 1.5459 (20 °C, 589 nm)
- Vapour pressure 0.2 hPa (20 °C)
- Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 % (V) ■ Flash point 98 °C ■ Solub. in H<sub>2</sub>O 0.419 g/l (20 °C) ■ M = 137.13 g/mol

- Melting point 16 °C ■ Boiling point 231 - 232 °C (1013 hPa) ■ Ignition temp. 440 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P315
- LC50 rat > 2.4 mg/l
- LD50 oral rat 1070 mg/kg
- LGK 10
- HS-No. 2904 20 00 ■ Disposal 9
- ADR-RID UN 1664 Nitrotoluene, flüssig, 6.1, II
- IMDG-Code UN 1664 NITROTOLUENES, LIQUID,

6.1, II

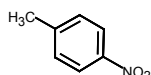
- IATA-DGR UN 1664 NITROTOLUENES, LIQUID, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,155 - 1,157  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06805.0100	Glass bottle	100 ml	inquire
8.06805.1000	Glass bottle	1 l	inquire

## 806807 4-Nitrotoluene for synthesis

C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>4-(NO<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>3</sub>*p*-Nitrotoluene

- CAS-No. 99-99-0 ■ EC-No. 202-808-0
- Vapour pressure 0.4 hPa (20 °C)
- Spec. density 1.39 g/cm<sup>3</sup> ■ Explosive limit 1.6 % (V) ■ Flash point 106 °C ■ Solub. in H<sub>2</sub>O 0.26 g/l (20 °C) ■ M = 137.13 g/mol
- Melting point 50 - 52 °C ■ Bulk density 700 kg/m<sup>3</sup> ■ Boiling point 238 - 239 °C (1013 hPa)

- Ignition temp. 456 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 1960 mg/kg ■ LD50 dermal rat > 16000 mg/kg
- EC-Index-No. 609-006-00-3 ■ LGK 6.1A
- HS-No. 2904 20 00 ■ Disposal 9
- ADR-RID UN 3446 Nitrotoluene, fest, 6.1, II

- IMDG-Code UN 3446 NITROTOLUENES, SOLID, 6.1, II
- IATA-DGR UN 3446 NITROTOLUENES, SOLID, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 50 °C  
 Melting range (upper value) ..... ≤ 52 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06807.0100	Glass bottle	100 g	inquire
8.06807.1000	Glass bottle	1 kg	inquire

3-Nitro-*o*-toluic acid → 2-Methyl-3-nitrobenzoic acid page 11645-Nitro-*o*-toluic acid → 2-Methyl-5-nitrobenzoic acid page 11642-Nitro-*p*-toluidine → 4-Methyl-2-nitroaniline page 11633-Nitro-*o*-toluidine → 2-Methyl-3-nitroaniline page 11634-Nitro-*o*-toluidine → 2-Methyl-4-nitroaniline page 11636-Nitro-*o*-toluidine → 2-Methyl-6-nitroaniline page 1163

## 818312 3-Nitro-1H-1,2,4-triazole for synthesis

C<sub>2</sub>H<sub>2</sub>N<sub>4</sub>O<sub>2</sub>

- CAS-No. 24807-55-4 ■ EC-No. 246-468-1
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble

- M = 114.06 g/mol ■ Melting point 210 - 215 °C
- WGK 3
- LGK 10 - 13 ■ Store below +15 °C.
- HS-No. 2933 99 80 ■ Disposal 3

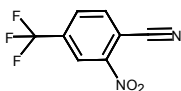
## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 210 °C  
 Melting range (upper value) ..... ≤ 215 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18312.0001	Glass bottle	1 g	inquire
8.18312.0005	Glass bottle	5 g	inquire

## 841510 2-Nitro-4-(trifluoromethyl)benzonitrile for synthesis

C<sub>8</sub>H<sub>3</sub>F<sub>3</sub>N<sub>2</sub>O<sub>2</sub>

4-Cyano-3-nitrobenzotrifluoride

- CAS-No. 778-94-9 ■ EC-No. 212-298-1
- Flash point >100 °C ■ M = 216.11 g/mol
- Melting point 43 - 46 °C
- Boiling point 156 - 158 °C (24 hPa)
- WGK 3

- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(2-NITRO-4-(TRIFLUORMETHYL)-BENZONITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(2-NITRO-4-(TRIFLUORMETHYL) BENZONITRILE), 6.1, III
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,

N.O.S.(2-NITRO-4-(TRIFLUORMETHYL) BENZONITRILE), 6.1, III

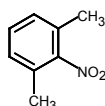
## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Melting range (lower value) ..... ≥ 42 °C  
 Melting range (upper value) ..... ≤ 45 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41510.0001	Glass bottle	1 g	inquire

Nitrous acid butyl ester → Butyl nitrite page 553

Nitrous acid isoamyl ester → Isopentyl nitrite page 1050

Nitrous acid *n*-pentyl ester → *n*-Pentyl nitrite page 1273Nitrous acid *tert*-butyl ester → *tert*-Butyl nitrite page 553841563 2-Nitro-*m*-xylene for synthesisC<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>

- CAS-No. 81-20-9 ■ EC-No. 201-333-6
- Spec. density 1.11 g/cm<sup>3</sup> (20 °C)
- Flash point 87 °C ■ M = 151.16 g/mol

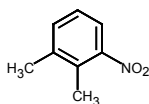
- Melting point 14 - 16 °C
- Boiling point 225 - 227 °C
- WGK 2
- GHS: Warning
- LD50 oral rat 2980 mg/kg
- LGK 10
- HS-No. 2904 20 00
- ADR-RID UN 1665 Nitroxylene, flüssig, 6.1, II
- IMDG-Code UN 1665 NITROXYLENES, LIQUID, 6.1, II

- IATA-DGR UN 1665 NITROXYLENES, LIQUID, 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.105 - 1.109  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41563.0100	Glass bottle	100 ml	inquire

841556 3-Nitro-*o*-xylene for synthesis

$C_8H_9NO_2$   
 $(CH_3)_2C_6H_3NO_2$   
 2,3-Dimethylnitrobenzene  
 ■ CAS-No. 83-41-0 ■ EC-No. 201-474-3  
 ■ Spec. density 1.129 g/cm<sup>3</sup> (20 °C)

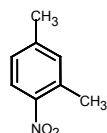
■ Flash point 107 °C ■ Solub. in H<sub>2</sub>O 117 mg/l (25 °C) ■ M = 151.16 g/mol ■ Melting point 15 °C  
 ■ Boiling point 240 - 245 °C  
 ■ WGK 2  
 ■ LD50 oral rat 2110 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2904 20 00 ■ Disposal 3  
 ■ ADR-RID UN 1665 Nitroxylene, flüssig, 6.1, II  
 ■ IMDG-Code UN 1665 NITROXYLENES, LIQUID, 6.1, II

■ IATA-DGR UN 1665 NITROXYLENES, LIQUID, 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.136 - 1.141  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41556.0100	Glass bottle	100 ml	inquire

841547 4-Nitro-*m*-xylene for synthesis

$C_8H_9NO_2$   
 2,4-Dimethylnitrobenzene  
 ■ CAS-No. 89-87-2 ■ EC-No. 201-947-4

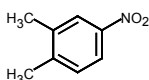
■ Spec. density 1.114 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 107 °C ■ M = 151.16 g/mol  
 ■ Melting point 9 °C ■ Boiling point 243 - 245 °C  
 ■ WGK 2  
 ■ LD50 oral rat 2500 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2904 20 00 ■ Disposal 3  
 ■ ADR-RID UN 1665 Nitroxylene, flüssig, 6.1, II  
 ■ IMDG-Code UN 1665 NITROXYLENES, LIQUID, 6.1, II

■ IATA-DGR UN 1665 NITROXYLENES, LIQUID, 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.029 - 1.033  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41547.0025	Glass bottle	25 ml	inquire

841555 4-Nitro-*o*-xylene for synthesis

$C_8H_9NO_2$   
 $(CH_3)_2C_6H_3NO_2$   
 3,4-Dimethylnitrobenzene  
 ■ CAS-No. 99-51-4 ■ EC-No. 202-761-6  
 ■ Spec. density 1.136 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O 0.1 g/l (25 °C) ■ M = 151.16 g/mol

■ Melting point 30.5 - 32 °C  
 ■ Boiling point 255 - 257 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LGK 10 - 13  
 ■ HS-No. 2904 20 00 ■ Disposal 3  
 ■ ADR-RID UN 3447 Nitroxylene, fest, 6.1, II  
 ■ IMDG-Code UN 3447 NITROXYLENES, SOLID, 6.1, II  
 ■ IATA-DGR UN 3447 NITROXYLENES, SOLID,

6.1, II

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 28 °C  
 Melting range (upper value)..... ≤ 31 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41555.0101	Glass bottle	100 g	inquire

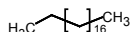
4-Nitro-2,6-xyleneol → 2,6-Dimethyl-4-nitrophenol

NMP → page 306

page 795

NMR standards → Nuclear magnetic resonance spectroscopy

NMM → 4-Methylmorpholine page 1161

822110 *n*-Nonadecane for synthesis

$C_{19}H_{40}$   
 $CH_3(CH_2)_{17}CH_3$   
 ■ CAS-No. 629-92-5 ■ EC-No. 211-116-8  
 ■ Refractive index 1.4211 (70 °C, 589 nm)  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.6 - 6.5 % (V) ■ Flash point > 100 °C ■ Solub.

in H<sub>2</sub>O (20 °C) insoluble ■ M = 268.52 g/mol

■ Melting point 31 - 34 °C  
 ■ Boiling point 329 - 331 °C  
 ■ Ignition temp. 205 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2901 10 00 ■ Disposal 3

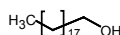
**Specification**

Assay (GC, area%)..... ≥ 98.0 Area %  
 Melting range (lower value)..... ≥ 31 °C

Melting range (upper value)..... ≤ 34 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22110.0010	Glass bottle	10 g	inquire
8.22110.0025	Glass bottle	25 g	inquire
8.22110.0100	Glass bottle	100 g	inquire

## 821856 1-Nonadecanol for synthesis



$C_{19}H_{40}O$   
 $CH_3(CH_2)_{17}CH_2OH$   
*N*-Nonadecyl alcohol  
 ■ CAS-No. 1454-84-8 ■ EC-No. 215-930-4  
 ■ Refractive index 1.4328 (75 °C, 589 nm)  
 ■ Flash point > 110 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 284.52 g/mol  
 ■ Melting point 60 - 61 °C ■ Boiling point 156 °C (13.3 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 19 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Melting range (lower value)..... ≥ 58 °C

Melting range (upper value)..... ≤ 61 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21856.0001	Glass bottle	1 g	inquire
8.21856.0005	Glass bottle	5 g	inquire

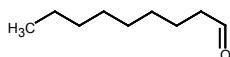
*N*-Nonadecyl alcohol → 1-Nonadecanol page 1232

Nonafluorobutane-1-sulfonic acid potassium salt  
 → Potassium nonafluoro-1-butanefulfonate page 1361

1,1,1,2,2,3,3,4,4,-Nonafluoro-4-iodobutane →  
 Perfluorobutyl iodide page 1277



## 807166 Nonanal for synthesis



$C_9H_{18}O$   
 $CH_3(CH_2)_7CHO$   
*Pelargonaldehyde*  
 ■ CAS-No. 124-19-6 ■ EC-No. 204-688-5  
 ■ Refractive index 1.424 (20 °C, 589 nm)  
 ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C)

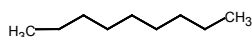
■ Flash point 76 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 142.24 g/mol  
 ■ Boiling point 93 °C (31 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315, P302 + P352  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2912 19 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,823 - 0,827  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07166.0050	Glass bottle	50 ml	inquire

## 806838 n-Nonane for synthesis



$C_9H_{20}$   
 $CH_3(CH_2)_7CH_3$   
 ■ CAS-No. 111-84-2 ■ EC-No. 203-913-4  
 ■ Vapour pressure 5 hPa (20 °C)  
 ■ Spec. density 0.72 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 1.9 (20 °C) ■ Explosive limit 0.7 - 5.6 % (V) ■ Flash point 31 °C  
 ■ Kin. viscosity < 7 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 128.25 g/mol

■ Saturation conc. 24 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -53 °C ■ Boiling point 151 °C  
 ■ Ignition temp. 205 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304, P210, P301 + P310, P331  
 ■ LC50 rat 17 mg/l  
 ■ LGK 3  
 ■ HS-No. 2901 10 00 ■ Disposal 1  
 ■ ADR-RID UN 1920 Nonane, 3, III ■ IMDG-Code UN 1920 NONANES, 3, III

■ IATA-DGR UN 1920 NONANES, 3, III

## Specification

Assay (GC, area%) ..... ≥ 99 %  
 Density (d 20 °C/ 4 °C) ..... 0.717 - 0.719  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.06838.0100	Glass bottle	100 ml	inquire
8.06838.0250	Glass bottle	250 ml	inquire
8.06838.1000	Glass bottle	1 l	inquire

Nonanedioic acid → page 427

## 841835 1,9-Nonanediol for synthesis



$C_9H_{20}O_2$   
*Nonamethylene glycol*  
 ■ CAS-No. 3937-56-2 ■ EC-No. 223-517-5  
 ■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Spec. density 0.918 g/cm<sup>3</sup> (50 °C)  
 ■ Flash point 162 °C ■ Solub. in H<sub>2</sub>O 9 g/l (20 °C)  
 ■ M = 160.25 g/mol ■ pH value (9 g/l, H<sub>2</sub>O,

20 °C) neutral ■ Melting point 45 - 46 °C  
 ■ Boiling point 288 °C ■ Ignition temp. 280 °C  
 ■ WGK 2  
 ■ LD50 oral rat > 3000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 39 95 ■ Disposal 3

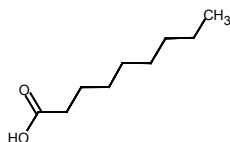
## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 45 °C

Melting range (upper value) ..... ≤ 48 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41835.0025	Glass bottle	25 g	inquire

## 807167 Nonanoic acid for synthesis



$C_9H_{18}O_2$   
 $CH_3(CH_2)_7COOH$   
*Pelargonic acid*  
 ■ CAS-No. 112-05-0 ■ EC-No. 203-931-2  
 ■ Refractive index 1.4330 (20 °C, 589 nm)  
 ■ Vapour pressure 0.04 hPa (20 °C)  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 0.8 - 9 % (V) ■ Flash point 133 °C  
 ■ Kin. viscosity 9.0 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.3 g/l (25 °C) ■ M = 158.24 g/mol  
 ■ pH value 3.5 (< 1 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 12 °C ■ Boiling point 252 - 255 °C (1013 hPa) ■ Ignition temp. 405 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ EC-Index-No. 607-197-00-8 ■ LGK 8A  
 ■ HS-No. 2915 90 70 ■ Disposal 4  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(PELARGONSAEURE), 8, III

■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(NONANOIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(NONANOIC ACID), 8, III

## Specification

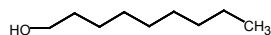
Assay (GC, area%) ..... ≥ 90,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,904 - 0,907  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07167.0100	Glass bottle	100 ml	inquire
8.07167.1000	Glass bottle	1 l	inquire

Nonanoic acid ethyl ester → Ethyl nonanoate page 878

Nonanoic acid methyl ester → Methyl nonanoate page 1165

## 806866 1-Nonanol for synthesis



$C_9H_{20}O$   
 $CH_3(CH_2)_7CH_2OH$   
*Nonyl alcohol*  
 ■ CAS-No. 143-08-8 ■ EC-No. 205-583-7  
 ■ Refractive index 1.4334 (20 °C, 589 nm)  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.80 - 6.10 % (V) ■ Flash point 96 °C ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ M = 144.26 g/mol

■ Melting point -7 °C ■ Boiling point 214 - 216 °C (1013 hPa) ■ Ignition temp. 237 °C  
 ■ WGK 2  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 3560 mg/kg ■ LD50 dermal rabbit 5660 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 19 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

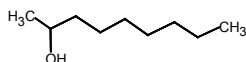
## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,827 - 0,828  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06866.0100	Plastic bottle	100 ml	inquire
8.06866.0250	Plastic bottle	250 ml	inquire

# Nonano

## 818793 2-Nonanol for synthesis



C<sub>9</sub>H<sub>20</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>6</sub>CH(OH)CH<sub>3</sub>  
*Heptyl methyl carbinol*  
 ■ CAS-No. 628-99-9 ■ EC-No. 211-065-1

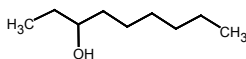
- Refractive index 1.429 (25 °C, 589 nm)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 96 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 144.26 g/mol
- Melting point -35 °C ■ Boiling point 198 °C
- WGK 1
- LGK 10
- HS-No. 2905 19 00 ■ Disposal 1

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) .....0,821 - 0,823  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18793.0025	Glass bottle	25 ml	inquire
8.18793.0100	Glass bottle	100 ml	inquire

## 818784 3-Nonanol for synthesis



C<sub>9</sub>H<sub>20</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>5</sub>CH(OH)CH<sub>2</sub>CH<sub>3</sub>  
*Ethyl hexyl carbinol*  
 ■ CAS-No. 624-51-1 ■ EC-No. 210-850-6

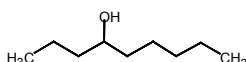
- Refractive index 1.4289 (20 °C, 589 nm)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 96 °C ■ M = 144.25 g/mol
- Boiling point 91 - 92 °C (39 hPa)
- WGK 1
- LGK 10
- HS-No. 2905 19 00 ■ Disposal 1

### Specification

Assay (GC, area%)..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0,823 - 0,826  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18784.0025	Glass bottle	25 ml	inquire

## 818773 4-Nonanol for synthesis



C<sub>9</sub>H<sub>20</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>CH(OH)CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>  
*Pentyl propyl carbinol*  
 ■ CAS-No. 5932-79-6 ■ EC-No. 227-679-8

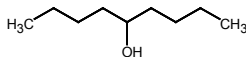
- Refractive index 1.4292 (20 °C, 589 nm)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 144.25 g/mol
- Boiling point 60 - 61 °C (9 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2905 19 00 ■ Disposal 1

### Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0,823 - 0,823  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18773.0025	Glass bottle	25 ml	inquire

## 818792 5-Nonanol for synthesis



C<sub>9</sub>H<sub>20</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH(OH)(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>  
*Dibutyl carbinol*  
 ■ CAS-No. 623-93-8 ■ EC-No. 210-820-2  
 ■ Refractive index 1.4295 (20 °C, 589 nm)

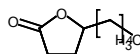
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 77 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 144.25 g/mol
- Melting point 5 °C ■ Boiling point 195 °C
- WGK 1
- LGK 10
- HS-No. 2905 19 00 ■ Disposal 1

### Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) .....0,822 - 0,824  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18792.0025	Glass bottle	25 ml	inquire

## 843783 γ-Nonanolactone for synthesis



C<sub>9</sub>H<sub>16</sub>O<sub>2</sub>  
 ■ CAS-No. 104-61-0 ■ EC-No. 203-219-1  
 ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 113 °C ■ Solub. in

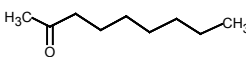
- H<sub>2</sub>O (20 °C) practically insoluble ■ M = 156.23 g/mol
- Boiling point 121 - 122 °C (8 hPa)
- WGK 1
- LD50 oral rat 6600 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10
- HS-No. 2932 20 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0,960 - 0,965  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43783.0100	Glass bottle	100 ml	inquire
8.43783.0500	Glass bottle	500 ml	inquire

## 818790 2-Nonanone for synthesis



C<sub>9</sub>H<sub>18</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>6</sub>COCH<sub>3</sub>  
*Methyl heptyl ketone, Heptyl methyl ketone*  
 ■ CAS-No. 821-55-6 ■ EC-No. 212-480-0  
 ■ Refractive index 1.421 (20 °C, 589 nm)  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C)

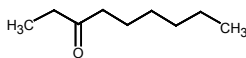
- Flash point 68 °C ■ Solub. in H<sub>2</sub>O 0.37 g/l (25 °C) ■ M = 142.24 g/mol ■ Melting point -15 °C ■ Boiling point 188 - 190 °C (1013 hPa)
- WGK 1
- LD50 oral rat 3200 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10
- HS-No. 2914 19 90 ■ Disposal 1

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) .....0,820 - 0,823  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18790.0025	Glass bottle	25 ml	inquire
8.18790.0100	Glass bottle	100 ml	inquire

## 818576 3-Nonanone for synthesis



C<sub>9</sub>H<sub>18</sub>O  
 CH<sub>3</sub>CH<sub>2</sub>CO(CH<sub>2</sub>)<sub>5</sub>CH<sub>3</sub>  
*Ethyl hexyl ketone*  
 ■ CAS-No. 925-78-0 ■ EC-No. 213-125-2  
 ■ Refractive index 1.4213 (20 °C, 589 nm)

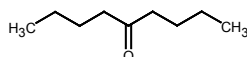
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 142.24 g/mol
- Melting point -8 °C ■ Boiling point 185 - 186 °C
- WGK 2
- LGK 10
- HS-No. 2914 19 90 ■ Disposal 1

### Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0,824 - 0,827  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18576.0050	Glass bottle	50 ml	inquire

## 803538 5-Nonanone for synthesis

C<sub>9</sub>H<sub>18</sub>OCH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CO(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>Di-*n*-butyl ketone

■ CAS-No. 502-56-7 ■ EC-No. 207-946-5

- Refractive index 1.419 (20 °C, 589 nm)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 65 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 142.24 g/mol
- Melting point -50 °C
- Boiling point 186 - 187 °C
- WGK 3
- LGK 10

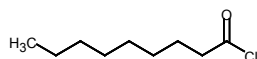
■ HS-No. 2914 19 90 ■ Disposal 1

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,821 - 0,822  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03538.0100	Glass bottle	100 ml	inquire

## 807171 Nonanoyl chloride for synthesis

C<sub>9</sub>H<sub>17</sub>ClOCH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>COCl

Pelargonoyl chloride, Pelargonic acid chloride

- CAS-No. 764-85-2 ■ EC-No. 212-131-2
- Refractive index 1.4377 (20 °C, 589 nm)
- Vapour pressure 0.2 hPa (20 °C)
- Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 3.7 % (V) ■ Flash point 99 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 176.68 g/mol
- Melting point -60.5 °C

- Boiling point 108 - 110 °C (29 hPa)
- Ignition temp. 225 °C
- WGK 3
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(PELARGONSAEURECHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(NONANOYL CHLORIDE),

8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(NONANOYL CHLORIDE), 8, II

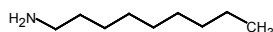
## Specification

Assay (morpholine method) ..... ≥ 97,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,938 - 0,943  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07171.0025	Glass bottle	25 ml	inquire
8.07171.0100	Glass bottle	100 ml	inquire

Nonyl alcohol → 1-Nonanol page 306

## 806845 Nonylamine for synthesis

C<sub>9</sub>H<sub>21</sub>N

1-Aminononane

- CAS-No. 112-20-9 ■ EC-No. 203-945-9
- Refractive index 1.433 (20 °C, 589 nm) ■ Vapour pressure 0.37 hPa (25 °C) ■ Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 143.27 g/mol
- pH value >7 (H<sub>2</sub>O, 20 °C) (undiluted)
- Melting point -1 °C ■ Boiling point 202 °C

- (1013 hPa) ■ Ignition temp. 385 °C
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 2, H411, P280, P273, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(NONYLAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(NONYLAMINE), 8, III, Segregation Group: 18

(Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(NONYLAMINE), 8, III

## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,787 - 0,792  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.06845.0025	Glass bottle	25 ml	inquire

Nonyl bromide → 1-Bromononane page 509

Nonyl chloride → 1-Chlorononane page 626

## 820918 2,5-Norbornadiene (stabilised) for synthesis

C<sub>7</sub>H<sub>8</sub>

Bicyclo[2.2.1]hepta-2,5-diene

- CAS-No. 121-46-0 ■ EC-No. 204-472-0
- Refractive index 1.4702 (20 °C, 589 nm)
- Vapour pressure 69 hPa (20 °C)
- Spec. density 0.906 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 6.3 % (V) ■ Flash point -11 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 92.14 g/mol

- mol ■ Melting point -20 °C ■ Boiling point 90 °C
- Ignition temp. 350 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225, P210
- LGK 3
- HS-No. 2902 19 00 ■ Disposal 3
- ADR-RID UN 2251 Bicyclo-(2,2,1)-hepta-2,5-dien, stabilisiert, 3, II ■ IMDG-Code UN 2251 BICYCLO-(2,2,1)-HEPTA-2,5-DIENE, STABILIZED, 3, II

■ IATA-DGR UN 2251 BICYCLO-(2,2,1)-HEPTA-2,5-DIENE, STABILIZED, 3, II

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.905 - 0.907  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20918.0250	Glass bottle	250 ml	inquire

## 840046 O-(5-Norbornen-2,3-dicarboximido)-N,N,N',N'-tetramethyluroniumtetrafluoroborate for synthesis

C<sub>14</sub>H<sub>20</sub>BF<sub>4</sub>N<sub>3</sub>O<sub>3</sub>

TNTU

- CAS-No. 125700-73-4
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (80 °C) slightly soluble ■ M = 365.13 g/mol
- Melting point 215 - 220 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity -

- single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 215 °C  
 Melting range (upper value) ..... ≤ 220 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40046.0010	Glass bottle	10 g	inquire

## 818796 Norbornene (stabilized) for synthesis

C<sub>7</sub>H<sub>10</sub>

Bicyclo[2.2.1]hept-2-ene

- CAS-No. 498-66-8 ■ EC-No. 207-866-0
- Vapour pressure 32 hPa (65 °C) ■ Flash point -15 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 94.15 g/mol ■ Melting point 44 - 47 °C
- Boiling point 95 - 96 °C
- WGK 1

- GHS: Danger, Flammable solid, Category 1, H228; Chronic aquatic toxicity, Category 2, H411, P210, P262
- LD50 oral rat 11300 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 4.1B
- HS-No. 2902 19 00 ■ Disposal 3
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(NORBORNEN), 4.1, II ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(NORBORNENE), 4.1, II

■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(NORBORNENE), 4.1, II

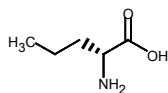
## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 44 °C  
 Melting range (upper value) ..... ≤ 47 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18796.0250	Plastic bottle	250 g	inquire

# Norval

## 841327 D-Norvaline for synthesis



C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>  
D-2-Aminovaleric acid

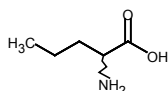
- CAS-No. 2013-12-9 ■ EC-No. 217-936-2
- M = 117.14 g/mol ■ Melting point >300 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**  
Assay (HClO<sub>4</sub>)..... ≥ 99.0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41327.0001	Plastic bottle	1 g	inquire
8.41327.0005	Plastic bottle	5 g	inquire

## 841562 DL-Norvaline for synthesis



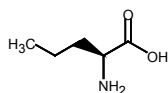
C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>  
DL-2-Aminovaleric acid, DL-2-Aminopentanoic

- acid*
- CAS-No. 760-78-1 ■ EC-No. 212-082-7
  - Solub. in H<sub>2</sub>O 83.9 g/l (25 °C) ■ M = 117.15 g/mol ■ Melting point 303 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2922 49 85 ■ Disposal 3

**Specification**  
Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41562.0025	Plastic bottle	25 g	inquire

## 841505 L-Norvaline for synthesis



C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>  
■ CAS-No. 6600-40-4 ■ EC-No. 229-543-3

- Solub. in H<sub>2</sub>O 48.7 g/l (25 °C) ■ M = 117.15 g/mol ■ Melting point >310 °C
- WGK nwg
- LGK 10 - 13
- HS-No. 2922 49 85

**Specification**  
Assay (HClO<sub>4</sub>)..... ≥ 98.0 %

Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=7 in HCl 20%ig).....  
..... 23.0 - 26.0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41505.0001	Plastic bottle	1 g	inquire

NovaPEG amino resin → page 264	NovaSyn®TGA resin (90 μm) → page 264	NovaSyn® TGR HMP resin → page 264
NovaPEG HMPB resin → page 265	NovaSyn® TGA resin (130 μm) → page 270	NovaSyn®TGR resin → page 264
NovaPEG Rink Amide resin → page 264	NovaSyn TG bromo resin → page 267	NovaSyn® TGR R resin → page 265
NovaPEG Rink Amide resin LL → page 265	NovaSyn® TG carboxy resin → page 268	NovaSyn®TG Sieber resin → page 265
NovaPEG Wang resin → page 264	NovaSyn® TG HMBA resin → page 265	NovaSyn®TGT alcohol resin → page 265
NovaSyn®TG amino resin (90 μm) → page 264	NovaSyn® TG HMP resin → page 270	NTA → Titriplex® I page 172
NovaSyn®TG amino resin (130 μm) → page 268	NovaSyn® TG hydroxy resin → page 270	
NovaSyn TG amino resin HL → page 268	NovaSyn® TG PAP RESIN → page 266	

## NTA compounds (nitrilotriacetic acid)

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
172	108416	Titriplex® I						
Nuclear fast red-aluminum sulfate solution 0.1% → page 201			Nuclear fast red (C.I. 60760) → page 190					

## Nuclear magnetic resonance spectroscopy, calibration

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
296	108183	Tetramethylsilane	296	108652	3-(Trimethylsilyl)propionic acid-D4 sodium salt			

## Nucleic Acid Purification / Identification

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1090	101899	MagPrep® Silica HS	1090	101193	MagPrep® Silica Particles	1379	107393	Proteinase K
1090	101644	MagPrep® Silica MS	1379	124568	Proteinase K			

## Nucleobases, nucleosides, nucleotides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
446	101701	N <sup>6</sup> -Benzyladenine	919	124807	6-(Furfurylamino)purine			

## Nucleotide synthesis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
337	822278	Acetic anhydride	732	818360	1,3-Dichloro-1,1,3,3-tetraisopropylidisiloxane	1043	802358	Isobutyl chloroformate
442	818027	Benzophenone hydrazone				1227	820272	4-Nitrophenyl chloroformate
445	810442	3-Benzoylpropionic acid	758	802971	3,4-Dihydro-2H-pyran	1231	818312	3-Nitro-1H-1,2,4-triazole
448	801815	Benzyl bromide	773	818616	4,4'-Dimethoxytriphenylmethyl chloride	1324	822339	Phosphoryl chloride
449	801809	Benzyl chloride				1597	810591	2,4,6-Triisopropylbenzenesulfonyl chloride
545	818642	tert-Butyldimethylchlorosilane	778	818130	(2-Dimethylamino-4-nitrophenyl) phosphoric acid diammonium salt monohydrate	1600	841268	Trimethoxyvinylsilane
675	818151	Cyclohexyl isocyanide	790	803068	N,N-Dimethylformamide dimethyl acetal	1611	818045	4-(Triphenylmethyl)aniline
			865	814145	Ethylene glycol bis-mercaptoacetate			
			994	818084	3-Hydroxypropionitrile			

Nutrient agar → page 103

Nutrient broth → page 103

**Nutrition products**

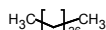
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1447	106535	Sodium nitrate						

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- M
- N**
- O
- P
- Q
- R
- S
- T
- U
- V
- W
- X
- Y
- Z



OCBC → 2-Chlorobenzyl chloride page 603

OCPA → 2-Chlorophenylacetic acid page 628

Octaacetylsucrose → D-(+)-Saccharose octaacetate  
page 1409Octacarbonyldicobalt → di-Cobalt octacarbonyl  
page 649**841354 Octacosane for synthesis**

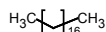
- WGK 3
- LGK 10 - 13
- HS-No. 2901 10 00 ■ Disposal 3

Melting range (upper value) ..... ≤ 62 °C  
Identity (IR) ..... passes testC<sub>28</sub>H<sub>58</sub>

- CAS-No. 630-02-4 ■ EC-No. 211-125-7
- M = 394.76 g/mol ■ Melting point 60 - 61 °C

**Specification**Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Melting range (lower value) ..... ≥ 60 °C

Ord.No.	Packaging	Quantity	Price
8.41354.0005	Glass bottle	5 g	inquire

**n-Octadecane**

- CAS-No. 593-45-3 ■ EC-No. 209-790-3
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 0.78 g/cm<sup>3</sup> (20 °C)
- Flash point 154 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 254.49 g/mol

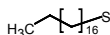
- Melting point 26 - 29 °C ■ Boiling point 317 °C
- Ignition temp. 235 °C
- WGK 1
- LGK 10
- HS-No. 2901 10 00 ■ Disposal 3

C<sub>18</sub>H<sub>38</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>16</sub>CH<sub>3</sub>**820920 n-Octadecane for synthesis****Specification**Assay (GC, area%) ..... ≥ 99.0 Area %  
Identity (GC) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20920.0100	Glass bottle	100 g	inquire

**109606 n-Octadecane reference substance for gas chromatography****Specification**Assay (GC) ..... ≥ 99.3 %  
Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09606.0005	Glass bottle	5 ml	inquire

**814444 1-Octadecanethiol for synthesis**

- Melting point 28 - 31 °C ■ Boiling point 366 °C
- Ignition temp. >200 °C
- WGK 3
- GHS: P262
- LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR UN 3335 AVIATION REGULATED SOLID, N.O.S.(1-OCTADECANETHIOL), 9, III

**Specification**Assay (GC, area%) ..... ≥ 98.0 Area %  
Melting range (lower value) ..... ≥ 28 °C  
Melting range (upper value) ..... ≤ 32 °C  
Identity (IR) ..... conformsC<sub>18</sub>H<sub>38</sub>SCH<sub>3</sub>-(CH<sub>2</sub>)<sub>16</sub>-CH<sub>2</sub>-SH*n-Octadecyl mercaptan, Stearyl mercaptane*

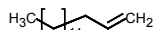
- CAS-No. 2885-00-9 ■ EC-No. 220-744-1
- Refractive index 1.4645 (20 °C, 589 nm)
- Vapour pressure < 0.5 hPa (20 °C)
- Spec. density 0.847 g/cm<sup>3</sup> (20 °C)
- Flash point 185 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 286.55 g/mol

Ord.No.	Packaging	Quantity	Price
8.14444.0010	Glass bottle	10 g	inquire
8.14444.0050	Plastic bottle	50 g	inquire
8.14444.0250	Plastic bottle	250 g	inquire

Octadecanoic acid → Stearic acid page 1501

Octadecanoic acid methyl ester → Methyl stearate  
page 44

1-Octadecanol → Stearyl alcohol page 1501

**822112 1-Octadecene for synthesis**

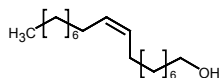
- (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 252.48 g/mol
- Melting point 17 - 18 °C ■ Boiling point 315 °C (1013 hPa)
- WGK 3
- GHS: Danger, Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 4, H413, P273, P301 + P310, P331
- LC50 rat 8.5 mg/l
- LD50 oral rat > 10000 mg/kg
- LD50 dermal rabbit > 10000 mg/kg

- LGK 10 - 13
- HS-No. 2901 29 00 ■ Disposal 3

**Specification**Assay (GC, area%) ..... ≥ 91.0 % (a/a)  
Density (d 20 °C / 4 °C) ..... 0,788 - 0,790  
Identity (IR) ..... passes testC<sub>18</sub>H<sub>36</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>15</sub>CH=CH<sub>2</sub>*1-Octadecylene*

- CAS-No. 112-88-9 ■ EC-No. 204-012-9
- Refractive index 1.4439 (20 °C, 589 nm)
- Vapour pressure 1.3 hPa (20 °C)
- Spec. density 0.79 g/cm<sup>3</sup> (20 °C)
- Flash point 154 °C ■ Kin. viscosity 3.6 mm<sup>2</sup>/s

Ord.No.	Packaging	Quantity	Price
8.22112.0100	Glass bottle	100 ml	inquire
8.22112.1000	Glass bottle	1 l	inquire

**820923 cis-9-Octadecen-1-ol for synthesis**

- Spec. density 0.85 g/cm<sup>3</sup> (20 °C)
- Flash point 190 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 268.48 g/mol
- Melting point 13 - 19 °C
- Boiling point 330 - 360 °C (1013 hPa)
- WGK nwg
- LD50 oral rat > 5000 mg/kg
- LGK 10
- HS-No. 2905 29 90 ■ Disposal 3

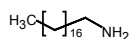
**Specification**Assay (GC, area%) ..... ≥ 80.0 % (a/a)  
Density (d 20 °C / 4 °C) ..... 0,845 - 0,855  
Identity (IR) ..... passes testC<sub>18</sub>H<sub>36</sub>OCH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>CH=CH(CH<sub>2</sub>)<sub>8</sub>OH*Oleyl alcohol*

- CAS-No. 143-28-2 ■ EC-No. 205-597-3
- Refractive index 1.461 (20 °C, 589 nm) ■ Vapour pressure 10.64 hPa (195 °C)

Ord.No.	Packaging	Quantity	Price
8.20923.0100	Plastic bottle	100 ml	inquire
8.20923.1000	Plastic bottle	1 l	inquire
8.20923.2500	Plastic bottle	2.5 l	inquire

Octadecyl alcohol → Stearyl alcohol page 1501

## 841029 Octadecylamine for synthesis

C<sub>18</sub>H<sub>39</sub>N

1-Aminooctadecane, Stearylamine

- CAS-No. 124-30-1 ■ EC-No. 204-695-3
- Vapour pressure < 100 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 269.51 g/mol
- Melting point 50 - 52 °C
- Boiling point 349 °C
- WGK 2

- GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P305 + P351 + P338, P313
- LD50 oral rat 2395 mg/kg
- LGK 10 - 13
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(OCTADECYLAMIN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(OCTADECYLAMINE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(OCTADECYLAMINE), 9, III

## Specification

Assay (GC, area%)..... ≥ 86.0 % (a/a)  
 Melting range (lower value)..... ≥ 50 °C  
 Melting range (upper value)..... ≤ 55 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41029.0250	Glass bottle	250 g	inquire
8.41029.1000	Plastic bottle	1 kg	inquire

n-Octadecyl bromide → 1-Bromooctadecane page 509

Octadecyl chloride → 1-Chlorooctadecane page 626

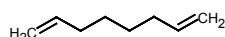
1-Octadecylene → 1-Octadecene page 1238

n-Octadecyl mercaptan → 1-Octadecanethiol page 1238

Octadecyltrichlorosilane → Trichlorooctadecylsilane page 1580

Octadeuterotetrahydrofuran → Tetrahydrofuran-D8 page 296

## 818797 1,7-Octadiene for synthesis

C<sub>8</sub>H<sub>14</sub>CH<sub>2</sub>=CH(CH<sub>2</sub>)<sub>4</sub>CH=CH<sub>2</sub>

- CAS-No. 3710-30-3 ■ EC-No. 223-054-9
- Refractive index 1.4215 (20 °C, 589 nm)
- Vapour pressure 20 hPa (20 °C)
- Spec. density 0.73 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.5 - 8.8 % (V) ■ Flash point 5 °C ■ Solub. in H<sub>2</sub>O 0.08 g/l (20 °C) ■ M = 110.20 g/mol
- Melting point < -70 °C

- Boiling point 116 - 118 °C (1013 hPa)
- Ignition temp. 230 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Chronic aquatic toxicity, Category 3, H412; Aspiration hazard, Category 1, H304, P210, P233, P273, P301 + P310, P331
- LD50 oral rat 20000 mg/kg
- LD50 dermal rabbit 10519 mg/kg
- LGK 3
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 2309 Octadiene, 3, II ■ IMDG-

Code UN 2309 OCTADIENES, 3, II

■ IATA-DGR UN 2309 OCTADIENES, 3, II

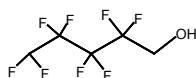
## Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,731 - 0,733  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18797.0100	Glass bottle	100 ml	inquire

1,7-Octadiene dioxide → 1,2:7,8-Diepoxyoctane page 735

## 814701 2,2,3,3,4,4,5,5-Octafluoro-1-pentanol for synthesis

C<sub>5</sub>H<sub>4</sub>F<sub>8</sub>OHOCH<sub>2</sub>(CF<sub>2</sub>)<sub>3</sub>CHF<sub>2</sub>

- CAS-No. 355-80-6 ■ EC-No. 206-593-4
- Spec. density 1.66 g/cm<sup>3</sup> (20 °C)
- Flash point 75 °C ■ M = 232.07 g/mol

- Melting point < -50 °C
- Boiling point 141 - 142 °C (1013 hPa)
- Ignition temp. 75 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2905 59 98 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1,665 - 1,670  
 Identity (IR)..... passes test

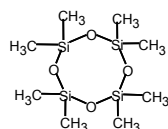
Ord.No.	Packaging	Quantity	Price
8.14701.0010	Glass bottle	10 ml	inquire

(R)-(-)-2,3,4,4a,5,6,7,8-Octahydro-4a-methyl-2-naphthalenone → (R)-(-)-4,4a,5,6,7,8-Hexahydro-4a-methyl-2(3H)-naphthalenone page 949

Octahydropyrimido(1,2-a)azepine → 1,8-Diazabicyclo[5.4.0]undec-7-ene page 700

Octaldehyde → Octanal page 1240

## 814750 Octamethylcyclotetrasiloxane for synthesis

C<sub>8</sub>H<sub>24</sub>O<sub>4</sub>Si<sub>4</sub>

Octamethyltetrasiloxane

- CAS-No. 556-67-2 ■ EC-No. 209-136-7
- Vapour pressure 1.3 hPa (20 °C)
- Spec. density 0.95 g/cm<sup>3</sup> ■ Explosive limit 0.4 - 11.7 % (V) ■ Flash point 51 °C ■ Solub.

- in H<sub>2</sub>O < 0.001 g/l (25 °C) ■ M = 296.62 g/mol
- Melting point 18 °C ■ Boiling point 176 °C
- Ignition temp. 400 °C
- WGK 3
- GHS: Warning, Reproductive toxicity, Category 2, H361f; Chronic aquatic toxicity, Category 4, H413, P281, P273, P308 + P313
- LC50 rat 36 g/m<sup>3</sup>
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2400 mg/kg
- EC-Index-No. 014-018-00-1 ■ LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(OCTAMETHYLCYCLOTETRAILOXAN), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(OCTAMETHYLCYCLOTETRAILOXAN), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(OCTAMETHYLCYCLOTETRAILOXAN), 3, III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Refractive index (n 25°/D)..... 1,394 - 1,395

Ord.No.	Packaging	Quantity	Price
8.14750.0025	Glass bottle	25 ml	inquire
8.14750.0100	Glass bottle	100 ml	inquire
8.14750.0250	Glass bottle	250 ml	inquire

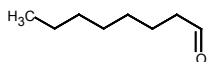
Octamethylene bromide → 1,8-Dibromooctane page 704

Octamethylenediamine → 1,8-Diaminooctane page 696

Octamethylene glycol → 1,8-Octanediol page 1241

Octamethyltetrasiloxane →  
 Octamethylcyclotetrasiloxane page 1239

## 806901 Octanal for synthesis



$C_8H_{16}O$   
 $CH_3(CH_2)_6CHO$   
*Caprylaldehyde, Octaldehyde*  
 ■ CAS-No. 124-13-0 ■ EC-No. 204-683-8  
 ■ Refractive index 1.419 (20 °C, 589 nm) ■ Vapour pressure 1 hPa (20 °C) ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 6.5 % (V)  
 ■ Flash point 56 °C ■ Solub. in H<sub>2</sub>O 0.21 g/l (20 °C) ■ M = 128.21 g/mol

■ Melting point 12 - 15 °C  
 ■ Boiling point 167 - 169 °C (1013 hPa)  
 ■ Ignition temp. 190 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315, P210, P302 + P352  
 ■ LD50 oral rat 4616 mg/kg ■ LD50 dermal rabbit 5207 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2912 19 00 ■ Disposal 1  
 ■ ADR-RID UN 1989 Aldehyde, n.a.g.(OCTANAL), 3, III ■ IMDG-Code UN 1989 ALDEHYDES,

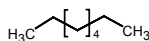
N.O.S.(OCTANAL), 3, III  
 ■ IATA-DGR UN 1989 ALDEHYDES,  
 N.O.S.(OCTANAL), 3, III

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,822 - 0,828  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06901.0100	Glass bottle	100 ml	inquire
8.06901.0500	Glass bottle	500 ml	inquire

## n-Octane



$C_8H_{18}$   
 $CH_3(CH_2)_6CH_3$   
 ■ CAS-No. 111-65-9 ■ EC-No. 203-892-1  
 ■ Vapour pressure 14 hPa (20 °C)  
 ■ Spec. density 0.70 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 1.9 (20 °C) ■ Explosive limit 0.8 - 6.5 % (V) ■ Flash point 13 °C ■ Solub. in

H<sub>2</sub>O 0.0007 g/l (20 °C) ■ M = 114.23 g/mol  
 ■ Saturation conc. 70 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -57 °C  
 ■ Boiling point 125 - 126 °C (1013 hPa)  
 ■ Ignition temp. 210 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336;

Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273, P301 + P330 + P331, P302 + P352  
 ■ LC50 rat 118 mg/l  
 ■ EC-Index-No. 601-009-00-8 ■ LGK 3  
 ■ HS-No. 2901 10 00 ■ Disposal 1  
 ■ ADR-RID UN 1262 Octane, 3, II ■ IMDG-Code UN 1262 OCTANES, 3, II  
 ■ IATA-DGR UN 1262 OCTANES, 3, II

## 806910 n-Octane for synthesis

## Specification

Assay (GC, area%)..... ≥ 99 %  
 Density (d 20 °C/ 4 °C)..... 0.702 - 0.703  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.06910.0100	Glass bottle	100 ml	inquire
8.06910.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.06910.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

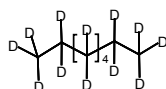
## 109716 n-Octane reference substance for gas chromatography

## Specification

Purity (GC)..... ≥ 99.0% (a/a)  
 Identity (IR-spectrum)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09716.0005	Glass bottle	5 ml	inquire

## 815002 n-Octane-D18 deuteration degree min. 99% for NMR spectroscopy MagniSolv™



$C_8D_{18}$   
 $CD_3(CD_2)_6CD_3$   
 ■ CAS-No. 17252-77-6 ■ EC-No. 241-285-3  
 ■ Vapour pressure 14 hPa (20 °C)  
 ■ Spec. density 0.815 g/cm<sup>3</sup> ■ Explosive limit 0.8 - 6.5 % (V) ■ Flash point 13 °C ■ Solub. in H<sub>2</sub>O 0.0007 g/l (20 °C) ■ M = 132.34 g/mol

■ Melting point -57 °C  
 ■ Boiling point 125 - 126 °C  
 ■ Ignition temp. 210 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410; Specific target organ toxicity - single exposure, Category 3, H336; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315, P210, P262, P301 + P310, P302 + P352, P331  
 ■ LC50 rat 118 mg/l

■ LGK 3  
 ■ HS-No. 2845 90 10 ■ Disposal 1  
 ■ ADR-RID UN 1262 Octane, 3, II ■ IMDG-Code UN 1262 OCTANES, 3, II  
 ■ IATA-DGR UN 1262 OCTANES, 3, II

## Specification

Deuteration degree..... ≥ 99 %

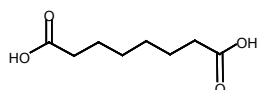
Ord.No.	Packaging	Quantity	Price
8.15002.0001	Glass ampoule	1 ml	inquire

iso-Octane → page 298

1,8-Octanediamine → 1,8-Diaminooctane page 696

Octanedinitrile → Suberonitrile page 1503

## 818800 Octanedioic acid for synthesis



$C_8H_{14}O_4$   
 $HOOC(CH_2)_6COOH$   
*Suberic acid*  
 ■ CAS-No. 505-48-6 ■ EC-No. 208-010-9  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Flash point 210 °C ■ Solub. in H<sub>2</sub>O 1.6 g/l

(20 °C) ■ M = 174.2 g/mol ■ pH value 3.2 (1.6 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 139 - 142 °C  
 ■ Bulk density 700 kg/m<sup>3</sup>  
 ■ Boiling point 229 - 231 °C (20 hPa)  
 ■ Ignition temp. 430 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P260, P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

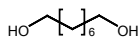
## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 139 °C  
 Melting range (upper value)..... ≤ 142 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18800.0100	Plastic bottle	100 g	inquire
8.18800.0500	Plastic bottle	500 g	inquire

Octanedioic acid dinitrile → Suberonitrile page 1503

## 806921 1,8-Octanediol for synthesis

C<sub>8</sub>H<sub>18</sub>O<sub>2</sub>

Octamethylene glycol

■ CAS-No. 629-41-4 ■ EC-No. 211-090-8

■ Flash point 175 °C ■ Solub. in

H<sub>2</sub>O (20 °C) slightly soluble ■ M = 146.23 g/mol

- Melting point 58 - 61 °C
- Boiling point 171 - 173 °C (27 hPa)
- Ignition temp. 270 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2905 39 95 ■ Disposal 3

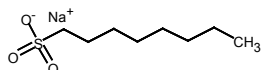
**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 57 °C  
 Melting range (upper value)..... ≤ 60 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06921.0025	Glass bottle	25 g	inquire

## 118307 Octane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®

C<sub>8</sub>H<sub>17</sub>NaO<sub>3</sub>S

■ CAS-No. 5324-84-5 ■ EC-No. 226-195-4

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 216.27 g/mol■ pH value 5.5 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C)■ Melting point >300 °C ■ Bulk density 345 kg/m<sup>3</sup>

■ WGK 2

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2904 10 00 ■ Disposal 3

**Specification**

Assay (alkalimetric, calculated on dried substance)

..... ≥ 99,0 %

Identity (IR-spectrum)..... conforms

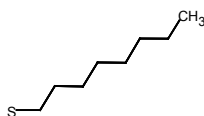
pH (100 g/l, water)..... 5.5 - 7.5

UV-transmission (0.005 mol/l; 1 cm; Water) (at

200 nm)..... ≥ 70 %  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at  
 220 nm)..... ≥ 90 %  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at  
 250 nm)..... ≥ 98 %  
 Loss on drying (120 °C; 4h; Vacuum)..... ≤ 2.0 %

Ord.No.	Packaging	Quantity	Price
1.18307.0025	Glass bottle	25 g	inquire

## 821861 1-Octanethiol for synthesis

C<sub>8</sub>H<sub>18</sub>SCH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>SH*n*-Octyl mercaptan

■ CAS-No. 111-88-6 ■ EC-No. 203-918-1

■ Refractive index 1.4538 (20 °C, 589 nm)

■ Vapour pressure 0.3 hPa (20 °C)

■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C)■ Flash point 70 °C ■ Solub. in H<sub>2</sub>O 0.004 g/l

(20 °C) ■ M = 146.29 g/mol ■ Melting point -

49 °C ■ Boiling point 199 °C (1013 hPa)

■ Ignition temp. 240 °C

■ WGK 3

- GHS: Warning, Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P273, P280, P302 + P352

■ LD50 oral rat 2000 - 2450 mg/kg

■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 6

- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1-OCTANTHIOLE), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS

SUBSTANCE, LIQUID, N.O.S.(1-OCTANTHIOLE), 9, III,  
 Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY  
 HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-  
 OCTANTHIOLE), 9, III

**Specification**

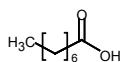
Assay (GC, area%)..... ≥ 98,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 0,842 - 0,843

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21861.0100	Glass bottle	100 ml	inquire
8.21861.0500	Glass bottle	500 ml	inquire

## 800192 Octanoic acid for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>6</sub>COOH

■ CAS-No. 124-07-2 ■ EC-No. 204-677-5

■ Vapour pressure 0.05 hPa (20 °C)

■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1 % (V) ■ Flash point 130 °C ■ Solub. in

H<sub>2</sub>O 0.68 g/l (20 °C) ■ M = 144.21 g/mol■ pH value 4 (0.2 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 16 °C ■ Boiling point 238 °C

(1013 hPa) ■ Ignition temp. &gt;300 °C

■ WGK 1

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LD50 oral rat &gt; 2000 mg/kg

■ LD50 dermal rabbit &gt; 5000 mg/kg

■ LGK 8A

■ HS-No. 2915 90 70 ■ Disposal 4

- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(OCTANSÄURE), 8, III

- IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(OCTANOIC ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC,

ORGANIC, N.O.S.(OCTANOIC ACID), 8, III

**Specification**

Assay (GC, area%)..... ≥ 99 %

Density (d 20 °C/ 4 °C)..... 0.909 - 0.910

Identity (IR)..... passes test

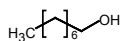
Ord.No.	Packaging	Quantity	Price
8.00192.0100	Glass bottle	100 ml	inquire
8.00192.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00192.2500	Glass bottle	2.5 l	inquire

Octanoic acid chloride → Octanoyl chloride page 1243

Octanoic acid ethyl ester → Ethyl octanoate page 878

Octanoic acid methyl ester → page 1165

## 1-Octanol

C<sub>8</sub>H<sub>18</sub>OCH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>OH*n*-Octyl alcohol

■ CAS-No. 111-87-5 ■ EC-No. 203-917-6

■ Vapour pressure 0.031 hPa (20 °C)

- Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 10.3 (20 °C) ■ Explosive limit 0.8 % (V)
- Flash point 90 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (20 °C)
- M = 130.23 g/mol ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -16 °C
- Boiling point 195 °C (1013 hPa)
- Ignition temp. 270 °C
- WGK 1

- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338

■ LD50 oral rat &gt; 5000 mg/kg

■ LD50 dermal rabbit &gt; 2000 mg/kg

■ LGK 10

■ HS-No. 2905 16 85 ■ Disposal 3

## 820931 1-Octanol for synthesis

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)

Density (d 20 °C/ 4 °C)..... 0,824 - 0,826

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20931.0100	Plastic bottle	100 ml	inquire
8.20931.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.20931.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.20931.9025	Steel barrel	25 l	inquire

# Octano

## 100991 1-Octanol EEMPLURA®

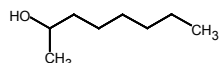
### Specification

Purity (GC)..... ≥ 99.0 %  
 Identity (IR)..... conforms  
 Free acid (as C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>)..... ≤ 0.005 %  
 Density (d 20 °C/ 4 °C)..... 0.824 - 0.827

Foreign alcohols (GC)..... ≤ 1.0 %  
 Readily carbonizable substances..... conforms  
 Water..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.00991.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00991.6025	Drum stainl. st.	25 l	inquire

## 820925 2-Octanol for synthesis



C<sub>8</sub>H<sub>18</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>5</sub>CH(OH)CH<sub>3</sub>  
*Hexyl methyl carbinol, 2-Capryl alcohol*  
 ■ CAS-No. 123-96-6 ■ EC-No. 204-667-0  
 ■ Refractive index 1.4234 (20 °C, 589 nm)  
 ■ Vapour pressure 0.25 hPa (20 °C)  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.80 - 7.40 % (V) ■ Flash point 71 °C ■ Solub.

in H<sub>2</sub>O 1.12 g/l (25 °C) ■ M = 130.23 g/mol  
 ■ Melting point -38 °C  
 ■ Boiling point 177 - 182 °C (1013 hPa)  
 ■ Ignition temp. 255 - 260 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat > 3200 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 16 20 ■ Disposal 1  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

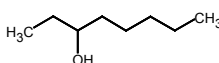
■ IATA-DGR No Dangerous Good

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.820 - 0.822  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20925.0100	Glass bottle	100 ml	inquire
8.20925.1000	Glass bottle	1 l	inquire
8.20925.2500	Glass bottle	2.5 l	inquire

## 821859 3-Octanol for synthesis



C<sub>8</sub>H<sub>18</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>CH(OH)CH<sub>2</sub>CH<sub>3</sub>  
*Ethyl pentyl carbinol*  
 ■ CAS-No. 589-98-0 ■ EC-No. 209-667-4  
 ■ Refractive index 1.4252 (20 °C, 589 nm)  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 0.8 % (V) ■ Flash point 68 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 130.22 g/mol  
 ■ Melting point -45 °C ■ Boiling point 175 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13

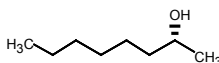
■ HS-No. 2905 16 85 ■ Disposal 1

### Specification

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.822 - 0.824  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21859.0050	Glass bottle	50 ml	inquire

## 818321 (R)-(-)-2-Octanol for synthesis



C<sub>8</sub>H<sub>18</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>5</sub>CH(OH)CH<sub>3</sub>  
 ■ CAS-No. 5978-70-1 ■ EC-No. 227-777-0  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 % (V) ■ Flash point 71 °C ■ Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ M = 130.23 g/mol

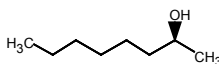
■ Boiling point 79 - 81 °C (12 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LGK 10  
 ■ HS-No. 2905 16 20  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.820 - 0.821  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)]..... -10.0 - -9.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18321.0001	Glass bottle	1 ml	inquire
8.18321.0005	Glass bottle	5 ml	inquire

## 818322 (S)-(+)-2-Octanol for synthesis



C<sub>8</sub>H<sub>18</sub>O  
 ■ CAS-No. 6169-06-8 ■ EC-No. 228-213-6  
 ■ Vapour pressure 0.25 hPa (20 °C)  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 % (V) ■ Flash point 76 °C ■ Solub. in H<sub>2</sub>O 1.28 g/l (25 °C) ■ M = 130.22 g/mol

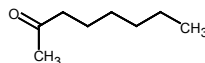
■ Boiling point 79 - 81 °C (12 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LGK 10  
 ■ HS-No. 2905 16 20  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.820 - 0.821  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)]..... 9.0 - 10.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18322.0001	Glass bottle	1 ml	inquire

## 820926 2-Octanone for synthesis



C<sub>8</sub>H<sub>16</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>5</sub>COCH<sub>3</sub>  
*Hexyl methyl ketone, Methyl hexyl ketone*  
 ■ CAS-No. 111-13-7 ■ EC-No. 203-837-1  
 ■ Refractive index 1.4161 (20 °C, 589 nm)  
 ■ Vapour pressure 1.8 hPa (25 °C)  
 ■ Spec. density 0.82 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 56 °C ■ Solub. in H<sub>2</sub>O 0.9 g/l (20 °C)  
 ■ M = 128.21 g/mol ■ Melting point -16 °C

■ Boiling point 172 - 173 °C (1013 hPa)  
 ■ Ignition temp. 295 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Dermal, H312, P210, P260  
 ■ LC50 rat 11.400 mg/m<sup>3</sup>  
 ■ LD50 oral rat 3089 mg/kg ■ LD50 dermal rabbit 1337 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 1  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-OCTANON), 3, III ■ IMDG-Code UN 1993

FLAMMABLE LIQUID, N.O.S.(2-OCTANONE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-OCTANONE), 3, III

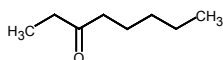
### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.817 - 0.819  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20926.0100	Glass bottle	100 ml	inquire
8.20926.0500	Glass bottle	500 ml	inquire



## 821860 3-Octanone for synthesis



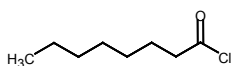
$C_8H_{16}O$   
 $CH_3(CH_2)_4COCH_2CH_3$   
*Ethyl pentyl ketone, Ethyl n-amy ketone, EAK, n-Amyl ethyl ketone*  
 ■ CAS-No. 106-68-3 ■ EC-No. 203-423-0  
 ■ Refractive index 1.415 (20 °C, 589 nm) ■ Vapour pressure 2 hPa (20 °C) ■ Spec. density 0.82 g/cm<sup>3</sup>

(20 °C) ■ Flash point 48 °C ■ Solub. in H<sub>2</sub>O 2.60 g/l (20 °C) ■ M = 128.21 g/mol ■ Melting point -23 °C ■ Boiling point 169 °C (1013 hPa)  
 ■ Ignition temp. 330 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210, P262  
 ■ LD50 oral rat > 3500 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 1

■ ADR-RID UN 2271 Ethylamylketon, 3, III  
 ■ IMDG-Code UN 2271 ETHYL AMYL KETONES, 3, III  
 ■ IATA-DGR UN 2271 ETHYL AMYL KETONE, 3, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,820 - 0,821  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21860.0100	Glass bottle	100 ml	inquire

## 800199 Octanoyl chloride for synthesis



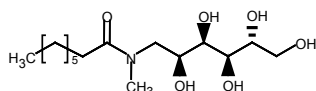
$C_8H_{15}ClO$   
 $CH_3(CH_2)_7COCl$   
*Caprylyl chloride, Octanoic acid chloride*  
 ■ CAS-No. 111-64-8 ■ EC-No. 203-891-6  
 ■ Refractive index 1.435 (20 °C, 589 nm) ■ Vapour pressure 0.33 hPa (20 °C) ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Flash point 82 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 162.65 g/mol  
 ■ Melting point -63 °C ■ Boiling point 195 °C

(1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1780 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(OCTANSAEURECHLORID), 8, II

■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(OCTAOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(OCTAOYL CHLORIDE), 8, II  
**Specification**  
 Assay (morpholine method) ..... ≥ 98,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,948 - 0,951  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00199.0250	Glass bottle	250 ml	inquire

## 814921 Octanoyl-N-methylglucamide for synthesis



$C_{15}H_{31}NO_6$   
 MEGA-8  
 ■ CAS-No. 85316-98-9

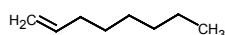
■ M = 321.41 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 80 °C  
 Melting range (upper value) ..... ≤ 90 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14921.0001	Glass bottle	1 g	inquire
8.14921.0010	Glass bottle	10 g	inquire

1,4,7,10,17,20,23,26-Octaoxa[10.10]orthocyclophane → Crown ether/Dibenzo-24-crown-8 page 661

## 820928 1-Octene for synthesis



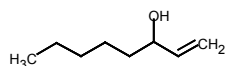
$C_8H_{16}$   
 $CH_3(CH_2)_6CH=CH_2$   
*1-Octylene, Caprylene*  
 ■ CAS-No. 111-66-0 ■ EC-No. 203-893-7  
 ■ Refractive index 1.4085 (20 °C, 589 nm)  
 ■ Vapour pressure 17.3 hPa (20 °C)  
 ■ Spec. density 0.72 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 6.8 % (V) ■ Flash point 8 °C  
 ■ Kin. viscosity 0.38 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 112.21 g/mol ■ Melting point -102 °C

■ Boiling point 121 °C ■ Ignition temp. 221 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P240, P273, P301 + P310, P331, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat 37.6 mg/l  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2901 29 00 ■ Disposal 3  
 ■ ADR-RID UN 3295 Kohlenwasserstoffe, flüssig,

n.a.g., 3, II ■ IMDG-Code UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, II  
 ■ IATA-DGR UN 3295 HYDROCARBONS, LIQUID, N.O.S., 3, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,714 - 0,715  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20928.0005	Glass bottle	5 ml	inquire
8.20928.0250	Glass bottle	250 ml	inquire
8.20928.1000	Glass bottle	1 l	inquire

## 818543 1-Octen-3-ol for synthesis



$C_8H_{16}O$   
 $CH_3(CH_2)_4CH(OH)CH=CH_2$   
*Vinyl pentyl carbinol, Pentyl vinyl carbinol*  
 ■ CAS-No. 3391-86-4 ■ EC-No. 222-226-0  
 ■ Refractive index 1.4378 (20 °C, 589 nm)  
 ■ Vapour pressure 1 hPa (20 °C)  
 ■ Spec. density 0.83 - 0.85 g/cm<sup>3</sup> (20 °C)  
 ■ Explosive limit 0.9 - 8 % (V) ■ Flash point 68 °C  
 ■ Kin. viscosity 5.3 mm<sup>2</sup>/s (23 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 128.21 g/mol

■ pH value (H<sub>2</sub>O) neutral ■ Melting point -49 °C  
 ■ Boiling point 173 - 175 °C (1013 hPa)  
 ■ Ignition temp. 245 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat 3.72 mg/l  
 ■ LD50 oral rat 340 mg/kg ■ LD50 dermal rabbit 3300 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2905 29 90 ■ Disposal 3

■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1-OCTEN-3-OL), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1-OCTEN-3-OL), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1-OCTEN-3-OL), 6.1, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.836 - 0.840  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18543.0050	Glass bottle	50 ml	inquire

Octoxynol → page 1618

iso-Octyl alcohol → 2-Ethyl-1-hexanol page 303

## 806917 Octylamine for synthesis



$C_8H_{19}N$   
 $CH_3(CH_2)_7NH_2$   
**1-Amino-octane, Caprylamine**  
 ■ CAS-No. 111-86-4 ■ EC-No. 203-916-0  
 ■ Refractive index 1.429 (20 °C, 589 nm) ■ Vapour pressure 1 hPa (20 °C) ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 8.2 % (V)  
 ■ Flash point 60 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (25 °C)  
 ■ M = 129.24 g/mol ■ Melting point -1 °C  
 ■ Boiling point 178 - 179 °C (1013 hPa)  
 ■ Ignition temp. 265 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3,

H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290; Acute aquatic toxicity, Category 1, H400, P210, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 1.6 mg/l  
 ■ LD50 oral rat > 250 mg/kg ■ LD50 dermal rabbit 200 - 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2921 19 99 ■ Disposal 3  
 ■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(OCTYLAMIN), 8 (3), I ■ IMDG-

Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(OCTYLAMINE), 8 (3), I, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(OCTYLAMINE), 8 (3), I

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,781 - 0,783  
 Identity (IR) ..... conforms

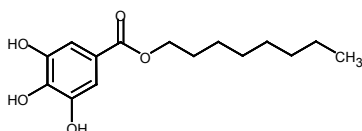
Ord.No.	Packaging	Quantity	Price
8.06917.0250	Glass bottle	250 ml	inquire
8.06917.1000	Glass bottle	1 l	inquire

Octylbenzene → 1-Phenyloctane page 1310  
 Octyl bromide → 1-Bromo-octane page 509

Octyl chloride → 1-Chlorooctane page 626  
 1-Octylene → 1-Octene page 1243

Octyl gallate → page 1244

## 816102 Octyl gallate for synthesis



$C_{15}H_{22}O_5$   
**Gallic acid octyl ester, Octyl gallate**

■ CAS-No. 1034-01-1 ■ EC-No. 213-853-0  
 ■ M = 282.34 g/mol ■ Melting point 100 - 101 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317, P280, P302 + P352  
 ■ LD50 oral rat 1960 mg/kg  
 ■ EC-Index-No. 607-199-00-9 ■ LGK 10 - 13  
 ■ HS-No. 2918 29 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 98 °C  
 Melting range (upper value) ..... ≤ 102 °C  
 Identity (IR) ..... passes test

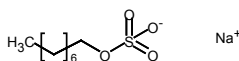
Ord.No.	Packaging	Quantity	Price
8.16102.0100	Plastic bottle	100 g	inquire

Octyl iodide → 1-Iodo-octane page 1012  
 tert-Octylisocyanide → 1,1,3,3-Tetramethylbutyl isocyanide page 1540

n-Octyl mercaptan → 1-Octanethiol page 1241  
 4-tert-Octylphenol → 4-(1,1,3,3-Tetramethylbutyl) phenol page 1540

Octylphenol decaethylene glycol ether → page 1618

## 112268 Octyl sulfate sodium salt for surfactant tests



$C_8H_{17}NaO_4S$   
 $C_8H_{17}NaSO_4$   
**Sodium octyl sulfate**  
 ■ CAS-No. 142-31-4 ■ EC-No. 205-535-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 232.26 g/mol ■ pH value 6 - 8 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 195 °C (decomposition)  
 ■ Bulk density 470 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LD50 oral rat 3200 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2920 90 10 ■ Disposal 3

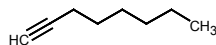
**Specification**  
 Assay (acidimetric; calculated on dried substance) ..... ≥ 99%  
 Identity (IR-spectrum) ..... passes test

Chloride (Cl) ..... ≤ 0.1 %  
 Heavy metals (as Pb) ..... ≤ 0.004 %  
 Free octanol (GC) ..... ≤ 0.1 %  
 Sulfated ash ..... 29.0 - 32.0 %  
 Loss on drying (60 °C; vacuum) ..... ≤ 1%

Ord.No.	Packaging	Quantity	Price
1.12268.0005	Glass bottle	5 g	inquire

n-Octyltriethoxysilane → Triethoxyoctylsilane page 1584

## 814146 1-Octyne for synthesis



$C_8H_{14}$   
**n-Hexylacetylene**  
 ■ CAS-No. 629-05-0 ■ EC-No. 211-069-3  
 ■ Refractive index 1.4156 (20 °C, 589 nm)  
 ■ Vapour pressure 18 hPa (25 °C)  
 ■ Spec. density 0.75 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 % (V) ■ Flash point 16 °C ■ Solub. in H<sub>2</sub>O 0.024 g/l (25 °C) ■ M = 110.19 g/mol  
 ■ Melting point -80 - -79 °C

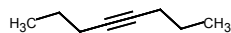
■ Boiling point 124 - 126 °C (1013 hPa)  
 ■ Ignition temp. 225 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P223, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2901 29 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(1-OCTIN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-OCTYNE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-OCTYNE), 3, II

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,746 - 0,750  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14146.0025	Glass bottle	25 ml	inquire

## 820930 4-Octyne for synthesis



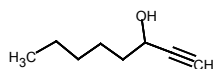
$C_8H_{14}$   
**Dipropylacetylene**  
 ■ CAS-No. 1942-45-6 ■ EC-No. 217-730-2  
 ■ Refractive index 1.4236 (20 °C, 589 nm)  
 ■ Vapour pressure 47 hPa (38 °C)  
 ■ Spec. density 0.75 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 37 % (V) ■ Flash point 18 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 110.19 g/mol

■ Melting point -103 °C  
 ■ Boiling point 131 - 132 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2901 29 00 ■ Disposal 1  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4-OCTIN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4-OCTYNE), 3, II

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(4-OCTYNE), 3, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,750 - 0,753  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20930.0010	Glass bottle	10 ml	inquire

## 841785 1-Octyne-3-ol for synthesis

C<sub>8</sub>H<sub>14</sub>O

Ethylnyl pentyl carbinol

- CAS-No. 818-72-4 ■ EC-No. 212-455-4
- Vapour pressure 4 hPa (50 °C)
- Spec. density 0.864 g/cm<sup>3</sup> (20 °C)
- Flash point 63 °C ■ Solub. in H<sub>2</sub>O 3.4 g/l (20 °C)
- M = 126.19 g/mol ■ Melting point -60 °C
- Boiling point 182 °C ■ Ignition temp. 315 °C

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400, P273
- LGK 10 - 13
- HS-No. 2905 29 90 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1-OCTIN-3-OL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-OCTYN-3-OL), 9, III, Marine Pollutant: P
- IATA-DGR UN 3082 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1-OCTYN-3-OL), 9, III

## Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,865 - 0,869  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41785.0025	Glass bottle	25 ml	inquire

OF test medium → page 103

## 106900 Oil bath filling for oil baths up to about 250°C

- CAS-No. 8002-74-2 ■ EC-No. 232-315-6
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 0.93 g/cm<sup>3</sup> (15 °C) ■ Explosive limit 0.6 - 6.5 % (V) ■ Flash point 318 °C
- Kin. viscosity 965 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value (H<sub>2</sub>O) not applicable ■ Boiling point >240 °C (1013 hPa)
- WGK nwg

- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 3600 mg/kg
- LGK 10 - 13
- HS-No. 2710 19 99 ■ Disposal 1

## Specification

Density (d 20 °C/ 4 °C) ..... 0.92 - 0.96  
 Flash point ..... ~300°C

Viscosity (mPa s, 20°C) ..... ~500mPa s  
 Suitability for oil baths ..... passes test

Ord.No.	Packaging	Quantity	Price
1.06900.1000	Alu bottle	1 l	inquire
1.06900.5000	Alu bottle	5 l	inquire
1.06900.9026	Steel barrel	25 l	inquire

Oil dissolved standards → Standards

Oil of cedar wood → page 188

Oil red O (C.I. 26125) → page 190

Oil soluble standards → Standards

Oleum → Sulfuric acid fuming 65% SO<sub>3</sub> page 1514

Oleyl alcohol → cis-9-Octadecen-1-ol page 1238

Oligonucleotide synthesis → Building blocks and reagents for genetic engineering

OPA → page 1325

## Opening aids

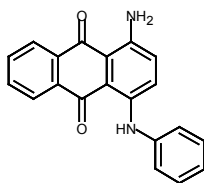
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
328	108801	Bottle key	328	108803	Drum key			
328	108804	Container key	328	109998	Glass rods (plastic-coated)			

Opianic acid → 5,6-Dimethoxyphthalaldehydic acid page 772

Optically-active compounds → Chiralica®

OQ/PV standards → Standards

## 101487 Oracet blue 2R (C.I. 61110) indicator for titration in non-aqueous solvents Reag. Ph Eur

C<sub>20</sub>H<sub>14</sub>N<sub>2</sub>O<sub>2</sub>

Disperse blue 19, 1-Amino-4-anilinoanthraquinone

- CAS-No. 4395-65-7 ■ EC-No. 224-520-4

- Spec. density 1.30 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 314.35 g/mol
- Melting point 194 °C ■ Bulk density 230 kg/m<sup>3</sup>
- Ignition temp. 590 °C
- WGK 3
- LGK 10 - 13
- HS-No. 3204 19 00 ■ Disposal 3
- Use as pH indicator: 0.1-0.5 g in 100 ml galcial acetic acid

## Specification

Identity (UV/VIS-Spectrum) ..... passes test  
 Melting point (DSC (differential scanning

calorimetry) ..... about 194 °C  
 Absorption maximum λ max (Acetic acid) ..... 610 - 615 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.01 g/l; acetic acid) ..... 450 - 520  
 Loss on drying (110 °C) ..... ≤ 1 %  
 Suitability as indicator (for non-aqueous titration) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.01487.0005	Glass bottle	5 g	inquire

Orange III → Methyl orange (C.I. 13025) page 1166

Orange acid 52 → Methyl orange (C.I. 13025) page 1166

Orange G (C.I. 16230) → page 190

Orange serum agar → page 103

Orcein → page 190

Orcinol → 3,5-Dihydroxytoluene page 763

β-Orcinol → 2,5-Dimethylresorcinol page 801

## Organoelement compounds

## Silicium compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
367	814062	Allyltrimethylsilane	767	814719	Diisopropyldimethoxysilane	1542	814651	Tetramethyl orthosilicate
387	819172	N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane	780	814282	Dimethylaminotrimethylsilane	296	108183	Tetramethylsilane
477	818850	Bis(trimethylsilyl)acetylene	816	841612	Diphenyldichlorosilane	1578	842025	Trichloro(chloromethyl)silane
518	814324	Bromotrimethylsilane	820	814023	Diphenylsilane	1580	808255	Trichloromethylsilane
545	818642	tert-Butyldimethylchlorosilane	837	841807	[3-(2,3-Epoxypropoxy)-propyl]-trimethoxysilane	1580	822170	Trichlorooctadecylsilane
546	814047	tert-Butyl-diphenylchlorosilane	847	818821	Ethoxytrimethylsilane	1584	818819	Triethoxymethylsilane
608	814104	Chlorodimethylsilane	950	818889	Hexamethyldisilane	1584	814414	Triethoxyoctylsilane
618	814053	Chloromethyldimethylchlorosilane	950	804324	1,1,1,3,3,3-Hexamethyldisilazane	1584	808276	3-(Triethoxysilyl)propylamine
621	818557	(Chloromethyl)trimethylsilane	950	814051	Hexamethyldisiloxane	1588	818806	Triethoxyvinylsilane
633	818816	3-(Chloropropyl)-trimethoxysilane	1014	814079	Iodotrimethylsilane	1598	841359	Triethylsilane
637	821139	Chlorotriethylsilane	1044	814718	Isobutylisopropyldimethoxysilane	1599	814178	Triisopropylsilane
637	814509	Chlorotriisopropylsilane	1127	841761	trans-1-Methoxy-3-trimethylsilyloxy-1,3-butadiene	1600	818550	Trimethoxymethylsilane
638	818737	Chlorotrimethylsilane	1185	841102	N-Methyl-N-trimethylsilyl-trifluoroacetamide	1606	814551	3-(Trimethoxysilyl)-propylamine
665	841248	3-Cyanopropyl-trichlorosilane	1239	814750	Octamethylcyclotetrasiloxane	1606	841268	Trimethoxyvinylsilane
684	814751	Decamethylcyclopentasiloxane	1315	841592	Phenyltriethoxysilane	1606	814551	2-(Trimethylsiloxy)-1,3-butadiene
707	814244	Di-tert-butyl-dichlorosilane	1340	818063	Poly(methyl hydrogen siloxane)	1607	814226	Trimethylsilylacetylene
720	814115	Dichlorodiethylsilane	1343	843668	Potassium bis(trimethylsilyl)amide	1607	818026	Trimethylsilyl azide
720	803452	Dichlorodimethylsilane	1420	843974	Silicon tetraacetate	1607	841341	Trimethylsilyl bromoacetate
725	814044	Dichloromethylphenylsilane	1420	807706	Silicon tetrachloride	1607	841221	2-(Trimethylsilyl)-ethanol
726	804187	Dichloromethylvinylsilane	1427	841750	Sodium bis(trimethylsilyl)amide	1609	814510	Trimethylvinylsilane
732	818360	1,3-Dichloro-1,1,3,3-tetraisopropyl-disiloxane	1530	800658	Tetraethyl orthosilicate	1613	818458	Triphenylsilane
739	818152	Diethylaminotrimethylsilane	1541	814060	1,1,3,3-Tetramethyldisilazane	1613	818406	Triphenylsilanol
765	814720	Diisobutyldimethoxysilane	1541	818414	1,1,3,3-Tetramethyldisiloxane	1617	843779	Tris(trimethylsilyl)silane

## Phosphorus compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
342	841028	Acetyltriphenylphosphonium chloride	814	818066	Diphenyl azidophosphate	1372	841338	2-Propinyl-triphenylphosphonium bromide
367	814168	Allyltriphenylphosphonium bromide	819	841829	Diphenyl phosphate	1525	814995	Tetra-n-butylphosphonium bis(oxalato-(2)-borate)
387	820061	2-Aminoethyl dihydrogen phosphate	819	841064	Diphenylphosphinic acid	1537	840069	Tetrakis(hydroxymethyl) phosphonium chloride
457	821685	Benzyltriphenylphosphonium chloride	845	841021	Ethoxycarbonylmethylene-triphenylphosphorane	1537	814761	Tetrakis(triphenylphosphine)-palladium(0)
458	824499	(R)-(-)-1,1'-Binaphthalene-2,2'-diyl-phosphate	870	821943	2-Ethylhexyl phosphate	1545	840068	Tetraoctylphosphonium bromide
458	824500	(S)-(+)-1,1'-Binaphthalene-2,2'-diyl-phosphate	887	801019	Ethyltriphenylphosphonium bromide	1546	808243	Tetraphenylphosphonium bromide
469	841081	1,2-Bis(diphenylphosphino)-ethane	887	814600	Ethyltriphenylphosphonium iodide	1547	841105	Tetraphenylphosphonium iodide
469	841115	Bis(diphenylphosphino)-methane	915	841108	Formylmethylenetriphenylphosphorane	1575	818075	Tributylhexadecylphosphonium bromide
470	841492	1,3-Bis(diphenylphosphino)-propane	948	814317	Hexaethyltriaminophosphine	1575	818604	Tributyl phosphate
470	814181	Bis(2-ethylhexyl) phosphate	951	818071	Hexamethyltriaminophosphine (Methacryloyloxyethyl) trimethyl ammonium chloride	309	821141	Triethyl phosphate
477	814069	Bis(triphenylphosphine) carbonylrhodium(I) chloride	1109	840089	4-Methoxybenzyltriphenylphosphonium chloride	1588	841189	Triethyl 2-phosphonopropionate
477	818504	Bis(triphenylphosphine) copper(I) borohydride	1119	841314	Methoxycarbonylmethylene-triphenylphosphorane	1597	818606	Triisobutyl phosphate
478	818158	Bis(triphenylphosphine) nickel(II) chloride	1150	841124	Methylenediphosphonic acid	309	821184	Trimethyl phosphate
478	804174	Bis(triphenylphosphine) palladium(II) chloride (15.2% Pd)	1185	806116	Methyltriphenylphosphonium bromide	1609	814868	Trioctylphosphinooxide
514	840158	3-Bromopropyltriphenylphosphonium bromide	1286	840167	Phenacyltriphenylphosphonium bromide	1611	821197	Triphenyl phosphate
554	820251	Butyl phosphate	1300	821010	Phenyl dichlorophosphate	1612	808270	Triphenylphosphine
555	814141	Butyltriphenylphosphonium chloride	1322	822340	Phosphorus pentachloride	1612	818054	Triphenylphosphine selenide
572	845134	4-Carboxybutyltriphenylphosphonium bromide	1323	807270	Phosphorus (red)	1612	841711	Triphenylphosphine sulfide
572	818330	4-Carboxybutyltriphenylphosphonium bromide	1323	822321	Phosphorus tribromide	1613	800551	Triphenyl phosphite
609	810158	Chlorodiphenylphosphine	1323	822322	Phosphorus trichloride	1613	814386	Triphenylphosphonium bromide
730	820454	Dichlorophenylphosphine	1324	821026	Phosphoryl bromide	1615	821202	Tris(2-ethylhexyl) phosphate
730	818248	Dichlorophenylphosphine oxide	1324	845113	Phosphoryl chloride	1617	808265	Tris(triphenylphosphine) rhodium(I) chloride (11% Rh)
741	818176	Diethyl cyanomethylphosphonate	1324	822339	Phosphoryl chloride	1617	818120	Tris(triphenylphosphine) ruthenium(II) chloride (10.5% Ru)
741	841509	Diethyl 2,2-diethoxyethanephosphonate	1367	843943	Propanephosphonic acid anhydride	1617	814811	Tritolyl phosphate
748	841004	Diethyl methoxycarbonylmethanephosphonate	1367	843944	Propanephosphonic acid anhydride	1618	841817	Tri(o-tolyl)-phosphine
775	841199	Dimethyl acetylmethylphosphonate	1367	843942	Propanephosphonic acid anhydride	1630	843915	Vinylphosphonic acid (80% solution)
794	841287	Dimethyl methoxycarbonylmethanephosphonate				1630	843914	Vinylphosphonic acid, 90%
807	843916	Dimethyl vinylphosphonate						
810	841038	Di-n-octyl phenylphosphonate						

## Hydrides and amides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
563	802100	Calcium hydride	1080	805678	Lithium amide	1427	841750	Sodium bis(trimethylsilyl)-amide
764	818838	Diisobutylaluminium hydride	1082	814225	Lithiumdiisopropylamide	1427	806373	Sodium borohydride
1079	805661	Lithium aluminium hydride	1082	820753	Lithium hydride	1427	818823	Sodium borohydride
1079	814763	Lithium aluminium hydride	1084	822197	Lithium tetrahydroborate	1427	845048	Sodium borohydride (fine granular)
1079	818875	Lithium aluminium hydride	1087	843843	Magnesium hydride	1432	818053	Sodium cyanoborohydride
1079	818876	Lithium aluminium hydride	1340	818063	Poly(methyl hydrogen siloxane)	1436	814552	Sodium hydride suspension
1080	805663	Lithium aluminium hydride	1344	820747	Potassium borohydride	1537	814018	Tetrakis(diethylamino)titanium
1080	818877	Lithium aluminium hydride	1352	818890	Potassium hydride	1576	814109	Tributyltin hydride
1080	818878	Lithium aluminium hydride	1425	814095	Sodium amide crystalline			



## Organometal compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
347	814518	Acetylferrocene	711	803539	Dibutyltin oxide	1525	818320	Tetra-tert-butyl orthotitanate
366	824434	Allylpalladium(II) chloride dimer (58% Pd)	764	818838	Diisobutylaluminum hydride	1526	808278	Tetra-n-butyltin
369	820054	Aluminium tri-sec-butylate	806	804193	Dimethyltin dichloride	1531	821083	Tetraethyl orthotitanate
371	818097	Aluminium triethylate	811	803544	Dioctyltin oxide	1537	814018	Tetrakis(diethylamino)titanium
466	824425	Bis(cycloocta-1,5-dien)rhodium(I)-tetrafluoroborate	892	803978	Ferrocene	1537	814761	Tetrakis(triphenylphosphine)-palladium(0)
466	843807	Bis(cyclopentadienyl)dimethylzirconium(IV)	1079	814870	Lithium acetylide-ethylenediamine complex	1545	808706	Tetramethyltin
466	803036	Bis(cyclopentadienyl)titanium dichloride	1080	843873	Lithium bis(trifluoromethanesulfonyl)imide	1546	821898	Tetraoctyltin
467	803027	Bis(cyclopentadienyl)zirconium dichloride	1082	814225	Lithiumdiisopropylamide	1547	821107	Tetrapropyl orthotitanate
470	824437	Bis(ethylene)rhodium(I) chloride dimer (53% Rh)	1083	814519	Lithium methylate	1576	808390	Tributyltin chloride
548	801660	Butyllithium	1159	820805	Methylithium	1576	814109	Tributyltin hydride
548	818874	Butyllithium	1159	820310	Methylmagnesium chloride	1604	843844	Trimethyl(methylcyclopentadienyl) platinum(IV)
549	814147	tert-Butyllithium	1308	814974	Phenyllithium	1609	808729	Trimethyltin chloride
555	840129	Butyltinchloride-dihydroxide	1309	821819	Phenylmercury hydroxide	1610	821199	Triphenylantimony
555	840126	Butyltinhydroxide-oxide	1309	820878	Phenylmercury nitrate (basic)	1614	808395	Triphenyltin chloride
616	814400	Chloromercuriferrocene	1334	814689	Platinum(II) acetylacetonate (50% Pt)	1614	841536	Triphenyltin hydride
668	824504	Cyclohexadienylmiron(0)-tricarboxyl tetrafluoroborate	1414	845008	Selenium dioxide	1614	808735	Tripropyltin chloride
710	804184	Dibutyltin dichloride	1425	814095	Sodium amide crystalline			
711	845035	Dibutyltin oxide	1525	821084	Tetra-n-butyl orthotitanate			

## Boric compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
367	814395	2-Allyl-4,4,5,5-tetramethyl-1,3,2-dioxaborolane	880	814957	4-Ethylphenylboronic acid	1175	843919	1-Methylpyrazole-4-boronic acid pinacol ester
378	841597	3-Aminobenzeneboronic acid hemisulfate	904	814936	3-Fluorophenylboronic acid	1218	841141	3-Nitro-benzeneboronic acid
387	841636	2-Aminoethylidiphenyl borate	904	814937	4-Fluorophenylboronic acid	1344	820747	Potassium borohydride
436	820131	Benzeneboronic acid	914	843928	5-Formylfuran-2-boronic acid	1427	806373	Sodium borohydride
482	841736	Boron hydride-tert-butylamine	989	843926	4-Hydroxymethylphenyl boronic acid	1427	845048	Sodium borohydride (fine granular)
482	820496	Boron hydride dimethylamine	992	843854	4-Hydroxyphenylboronic acid	1432	818053	Sodium cyanoborohydride
482	841077	Boron hydride-tetrahydrofuran complex	1084	814347	Lithium tetrafluoroborate	1454	824494	Sodium tetrakis(3,5-bis(trifluoromethyl)phenyl) borate dihydrate
482	801630	Boron tribromide	1084	822197	Lithium tetrahydroborate	1454	106669	Sodium tetraphenyl borate
482	814775	Boron trifluoride-acetic acid-complex	1124	814932	3-Methoxyphenylboronic acid	1586	814772	Triethyl borate
483	814784	Borontrifluoride-acetonitrile complex	1124	814933	4-Methoxyphenylboronic acid	1596	814939	3,4,5-Trifluorophenylboronic acid
483	801663	Boron trifluoride-methanol complex	1174	843927	1-Methyl-1H-pyrazol-5-boronic acid pinacol ester	1598	841264	Triisopropyl borate
754	814938	3,4-Difluorophenylboronic acid				1603	821180	Trimethyl borate

## Oximes and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
331	841085	Acetaldoxime	479	841266	2-(tert-BOC-Oxyimino)-2-phenylacetone nitrile	691	102918	Diacetyl monoxime
343	814826	Acetophenone oxime	537	818962	2-Butanoneoxime	791	103062	Dimethylglyoxime
434	820234	Benzaldehyde oxime	672	841825	1,2-Cyclohexanedione dioxime	791	103061	Dimethylglyoxime disodium salt octahydrate
441	841378	$\alpha$ -Benzoin oxime	673	822005	Cyclohexanone oxime	1256	814388	(1S)-(-)-3-Oxocamphorsulfonylimine

## Imines, imides, nitrones

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
371	821945	N-Amidinoglycine	734	802954	N,N'-Dicyclohexylcarbodiimide	1080	843873	Lithium bis(trifluoromethanesulfonyl)imide
429	111962	Azomethine H	767	803649	N,N'-Diisopropylcarbodiimide	1176	840067	4-Methylpyridine-1-oxide
554	841179	N-tert-Butyl- $\alpha$ -phenylnitrone	779	800907	N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride	1229	841754	4-Nitropyridine-1-oxide
568	814372	D-(-)-Camphorsulfonylimine	817	840137	1,3-Diphenylguanidine	1542	821897	N,N,N',N'-Tetramethylguanidine
657	841470	Creatine monohydrate	930	104191	Glyoxalbis(2-hydroxyanil)			
665	802491	1-Cyanoguanidine	932	820612	Guanidinium nitrate	1571	843972	1-(o-Tolyl) biguanide
732	103037	2,6-Dichloroquinone-4-chloroimide	932	814120	4-Guanidinobenzoic acid hydrochloride			

## Arsenic and selenium compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
171	110107	Arsenazo III	816	818061	Diphenyl diselenide	1555	108294	Thorin
782	820670	Dimethylarsinic acid sodium salt trihydrate	1314	841322	Phenylselenyl chloride	1610	808653	Triphenylarsine

## Carbonyls

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
641	822196	Chromium hexacarbonyl	944	800396	Hexacarbonylmolybdenum	1405	814565	di-Rhenium decacarbonyl
649	820748	di-Cobalt octacarbonyl	945	800888	Hexacarbonyltungsten			
668	824504	Cyclohexadienylumiron(0)-tricarbonyl tetrafluoroborate	1095	820760	di-Manganese decacarbonyl			

## Organohalogen compounds

## Alkane halides

## Aliphatic alkane halides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
493	801602	1-Bromobutane	609	805340	1-Chlorododecane	301	822271	Dichloromethane
493	801548	2-Bromobutane	609	821987	Chloroethane	727	814334	1,8-Dichlorooctane
495	841586	1-Bromo-4-chlorobutane	300	822265	Chloroform	764	818153	Diiodomethane
495	818870	1-Bromo-2-chloroethane	615	814288	1-Chloroheptane	764	841396	1,3-Diiodopropane
496	802622	1-Bromo-3-chloro-2-methylpropane	615	802339	1-Chlorohexadecane	1009	804786	1-Iodobutane
496	841478	1-Bromo-5-chloropentane	616	843934	Chloriodomethane	1009	804787	2-Iodobutane
299	801627	1-Bromo-3-chloropropane	616	841565	1-Chloro-3-iodopropane	1010	841120	1-Iodododecane
497	801676	1-Bromodecane	620	820314	1-Chloro-2-methylpropane	1010	820732	1-Iodododecane
499	803268	1-Bromododecane	620	801550	2-Chloro-2-methylpropane	1010	800896	Iodoethane
499	800871	Bromoethane	626	820318	1-Chlorononane	1010	818789	1-Iodoheptane
299	818702	Bromoform	626	820318	1-Chlorononane	1010	820735	1-Iodohexadecane
502	804554	1-Bromoheptane	626	822000	1-Chlorooctadecane	1011	845045	Iodomethane
502	804306	1-Bromohexadecane	626	806903	1-Chlorooctane	1011	806064	Iodomethane
502	801603	1-Bromoheptane	626	820320	1-Chloropentane	1011	821825	1-Iodo-3-methylbutane
502	821707	Bromoheptane	630	802809	2-Chloropropane	1012	841381	1-Iodo-2-methylpropane
506	800427	1-Bromo-3-methylbutane	636	805869	1-Chlorotetradecane	1012	820739	1-Iodoctane
506	841483	Bromomethylcyclopropane	639	818841	1-Chloropropane	1012	820740	1-Iodopentane
506	821709	3-(Bromomethyl)heptane	667	814484	Cyclobutyl methyl bromide	1013	804788	1-Iodopropane
507	801549	1-Bromo-2-methylpropane	680	814459	Cyclopropyl methyl chloride	1013	843955	2-Iodopropane
507	801966	2-Bromo-2-methylpropane	703	841622	1,3-Dibromobutane	1014	841429	2-Iodo-1,1,1-trifluoroethane
509	821710	1-Bromononane	703	803275	1,4-Dibromobutane	1277	818398	Perfluorobutyl iodide
509	814432	1-Bromooctadecane	703	841850	1,12-Dibromododecane	1277	818399	Perfluorohexyl iodide
509	801969	1-Bromooctane	300	800952	1,2-Dibromoethane	1304	807335	2-Phenylethyl bromide
509	801604	1-Bromopentane	704	802921	1,6-Dibromohexane	1304	807511	2-Phenylethyl chloride
512	801667	1-Bromopropane	300	810278	Dibromomethane	1313	807569	3-Phenylpropyl bromide
512	801668	2-Bromopropane	704	803277	1,8-Dibromooctane	1522	814881	meso-1,2,3,4-Tetrabromobutane
515	818896	1-Bromotetradecane	705	803278	1,5-Dibromopentane	1522	100034	1,1,2,2-Tetrabromoethane
517	801986	Bromotrichloromethane	705	841523	1,2-Dibromopropane	1522	100033	1,1,2,2-Tetrabromoethane
518	801961	1-Bromoundecane	705	803279	1,3-Dibromopropane	1526	843948	1,1,2,2-Tetrachloroethane
571	822150	Carbon tetrabromide	706	818551	1,2-Dibromotetrachloroethane	1574	843967	1,2,3-Tribromopropane
604	801640	1-Chlorobutane	719	803227	1,4-Dichlorobutane	1581	821159	1,2,3-Trichloropropane
604	820281	2-Chlorobutane	719	818498	1,10-Dichlorodecane	1590	814521	1,1,1-Trifluoroacetone
606	803212	1-Chlorodecane	722	803632	1,6-Dichlorohexane			

## Araliphatic alkane halides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
443	841554	Benzotrifluoride	499	801535	Bromodiphenylmethane	721	820439	Dichlorodiphenylmethane
448	801815	Benzyl bromide	501	843874	1-Bromo-3-fluoro-4-(trifluoromethoxy)benzene	784	841234	3,5-Dimethylbenzyl bromide
449	801809	Benzyl chloride	599	820286	4-Chlorobenzhydryl chloride	900	818465	2-Fluorobenzyl chloride
463	820419	1,2-Bis(bromomethyl)-benzene	602	802615	2-Chlorobenzotrifluoride	900	818419	3-Fluorobenzyl chloride
464	841356	1,3-Bis(bromomethyl)-benzene	603	820457	2-Chlorobenzyl chloride	900	818411	4-Fluorobenzyl chloride
465	818467	1,3-Bis(chloromethyl)-benzene	607	818622	(2-Chloro-1,1-dimethylethyl)benzene	1136	841581	2-Methylbenzyl bromide
465	841796	1,4-Bis(chloromethyl)-benzene	608	820291	1-Chloro-2,4-dinitrobenzene	1136	840162	2-Methylbenzyl chloride
476	841241	3,5-Bis(trifluoromethyl)-1-bromobenzene	609	801561	Chlorodiphenylmethane	1136	814038	3-Methylbenzyl chloride
491	820225	3-Bromobenzotrifluoride	618	814877	6-Chloro-3,4-methylenedioxybenzyl chloride	1136	820347	4-Methylbenzyl chloride
493	841516	3-Bromobenzyl bromide	619	802360	1-(Chloromethyl)naphthalene	1313	818624	3-Phenylpropyl chloride
493	804148	4-Bromobenzyl bromide	638	808348	Chlorotriphenylmethane	1595	814876	3-(Trifluoromethyl)-benzyl chloride

# Organo

## Alkene and alkyne halides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
494	841455	2-Bromo-2-butene	620	805905	3-Chloro-2-methyl-1-propene	722	845033	1,1-Dichloroethylene (stabilised with hydroquinone monomethyl ether)
494	841642	4-Bromo-1-butene	631	800257	3-Chloro-1-propene			
509	841884	5-Bromo-1-pentene	705	841627	2,3-Dibromopropene			
513	801021	3-Bromo-1-propene	719	841524	1,4-Dichloro-2-butyne	731	841616	2,3-Dichloro-1-propene
605	843875	3-Chloro-2-chloromethyl-1-propene	301	803209	1,1-Dichloroethylene	945	820631	Hexachloropropene
						1013	841469	3-Iodo-1-propene
						1537	821096	Tetraiodoethylene

## Cycloalkane and cycloalkene halides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
488	801628	1-Bromoadamantane	497	802775	Bromocyclopropane	1277	841401	Perfluorodecahydronaphthalene
497	818462	Bromocycloheptane	606	820287	Chlorocyclohexane	1277	841163	Perfluoromethylcyclohexane
497	802296	Bromocyclohexane	606	841582	Chlorocyclopentane			
497	802774	Bromocyclopentane	639	841733	Cholesteryl chloride			

## Aromatic halides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
476	816107	Bis(trifluoroacetoxy)iodobenzene	300	801791	Chlorobenzene	752	841159	1,2-Difluorobenzene
			599	814506	Chlorobenzotrifluoride	752	841193	1,3-Difluorobenzene
476	841241	3,5-Bis(trifluoromethyl)-1-bromobenzene	602	841737	4-Chlorobenzotrifluoride	752	841259	1,4-Difluorobenzene
			608	102427	1-Chloro-2,4-dinitrobenzene	754	840056	4,4'-Difluorodiphenylmethane
299	801786	Bromobenzene	613	841708	2-Chloro-6-fluorotoluene	763	841703	1,4-Diiodobenzene
491	841207	4-Bromobenzotrifluoride	616	841395	2-Chloro-1-iodobenzene	898	802965	Fluorobenzene
492	841669	2-Bromobenzyl bromide	621	841822	4-Chloro- $\alpha$ -methylstyrene	900	841191	3-Fluorobenzyl bromide
493	841516	3-Bromobenzyl bromide	624	841024	4-Chloro-3-nitrobenzotrifluoride	901	841722	2-Fluorobiphenyl
493	814918	2-Bromobiphenyl				905	841066	4-Fluorophenyl isothiocyanate
493	840155	4-Bromobiphenyl	626	841390	Chloropentafluorobenzene	906	841433	4-Fluorostyrene
495	820191	1-Bromo-2-chlorobenzene	635	802458	4-Chlorostyrene	906	822054	2-Fluorotoluene
495	801674	1-Bromo-3-chlorobenzene	636	802651	2-Chlorotoluene	906	820582	3-Fluorotoluene
495	821969	1-Bromo-4-chlorobenzene	636	802652	3-Chlorotoluene	906	821802	4-Fluorotoluene
498	814813	1-Bromo-3,4-difluorobenzene	637	802653	4-Chlorotoluene	949	804514	Hexafluorobenzene
498	840154	1-Bromo-3,5-difluorobenzene	702	803458	1,2-Dibromobenzene	1008	820730	Iodobenzene
500	841057	1-Bromo-4-ethylbenzene	702	841738	1,3-Dibromobenzene	1009	841382	3-Iodobenzyl bromide
500	821703	1-Bromo-2-fluorobenzene	702	803535	1,4-Dibromobenzene	1012	841534	1-Iodonaphthalene
500	820197	1-Bromo-3-fluorobenzene	703	840156	4,4'-Dibromobiphenyl	1013	804781	Iodosobenzene diacetate
501	820198	1-Bromo-4-fluorobenzene	301	803238	1,2-Dichlorobenzene	1014	841415	2-Iodotoluene
501	814963	4-Bromo-2-fluorobiphenyl	301	803225	1,3-Dichlorobenzene	1014	841394	4-Iodotoluene
503	841347	4-Bromo-1-iodobenzene	715	803226	1,4-Dichlorobenzene	1265	820955	Pentafluorobenzene
504	801675	2-Bromomesitylene	715	814765	o-Dichlorobenzene/Phenol (mixture 1:1)	1266	841643	2,3,4,5,6-Pentafluorobenzyl bromide
507	806210	1-Bromonaphthalene	717	842351	2,4-Dichlorobenzotrifluoride	1526	821605	1,2,3,4-Tetrachlorobenzene
508	818830	2-Bromonaphthalene	717	841167	3,4-Dichlorobenzotrifluoride	1526	841787	1,2,4,5-Tetrachlorobenzene
510	818223	9-Bromophenanthrene	718	814849	3,4-Dichlorobenzylamine	1527	800741	Tetrachlorophthalic anhydride
514	841112	2-Bromostyrene	718	841585	2,4-Dichlorobenzyl chloride	1574	841306	1,3,5-Tribromobenzene
516	821715	2-Bromotoluene	718	841010	3,4-Dichlorobenzyl chloride	1578	808285	1,2,3-Trichlorobenzene
517	802400	3-Bromotoluene	726	840100	1,2-Dichloro-3-nitrobenzene	309	821152	1,2,4-Trichlorobenzene
517	801637	4-Bromotoluene	733	820458	2,4-Dichlorotoluene			
517	814966	1-Bromo-3,4,5-trifluorobenzene	733	841827	2,6-Dichlorotoluene			
519	841701	4-Bromo-o-xylene	733	841553	3,4-Dichlorotoluene			
519	841280	5-Bromo-m-xylene						

## Halogenated alcohols

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
471	840054	Bis(4-fluorophenyl)-methanol	617	814513	3-Chloro-1-methoxy-2-propanol	936	841149	Heptafluoro-1-butanol
488	841729	8-Bromoadenosine				304	804515	1,1,1,3,3,3-Hexafluoro-2-propanol
492	841126	2-Bromobenzyl alcohol	629	814834	1-(4-Chlorophenyl) ethanol			
492	841140	3-Bromobenzyl alcohol	629	814889	4-Chlorophenyl-2-hydroxyethyl sulfide	1009	841458	3-Iodobenzyl alcohol
492	841647	4-Bromobenzyl alcohol				1010	841353	2-Iodoethanol (stabilised)
512	841113	1-Bromo-2-propanol	630	802637	3-Chloro-1,2-propanediol	1239	814701	2,2,3,3,4,4,5,5-Octafluoro-1-pentanol
512	820218	3-Bromo-1-propanol	630	802638	3-Chloro-1-propanol			
599	818501	4-Chlorobenzhydrol	718	841083	2,4-Dichlorobenzyl alcohol	1263	841165	2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-Pentadecafluoro-1-octanol
603	818594	2-Chlorobenzyl alcohol	718	841133	3,4-Dichlorobenzyl alcohol			
603	840095	3-Chlorobenzyl alcohol	731	803030	1,3-Dichloro-2-propanol	1266	814556	2,3,4,5,6-Pentafluorobenzylalcohol
603	818186	4-Chlorobenzyl alcohol	731	803031	2,3-Dichloro-1-propanol			
605	841545	4-Chloro-1-butanol	899	814743	2-Fluorobenzyl alcohol	1578	808610	2,2,2-Trichloroethanol
			899	814261	3-Fluorobenzyl alcohol	309	808259	2,2,2-Trifluoroethanol
			900	814744	4-Fluorobenzyl alcohol	1594	841721	4-(Trifluoromethyl)-benzyl alcohol

## Halogenated ethers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
299	801678	Bis(2-chloroethyl) ether	504	820203	2-Bromo-4'-methoxyacetophenone	1008	819077	4-Iodoanisole
485	840009	(2-Bromomethoxy)benzene				1120	806099	2-Methoxyethyl chloride
486	841497	Bromoacetaldehyde dimethyl acetal	592	841820	Chloroacetaldehyde diethyl acetal	1120	842570	2-Methoxyethyl cyanoacetate
489	801592	2-Bromoanisole	597	820274	4-Chloroanisole	1534	841236	Tetrahydrofurfuryl chloride
489	820182	3-Bromoanisole	725	803467	Dichloromethyl methyl ether	1592	841431	4-(Trifluoromethoxy)-aniline
489	801601	4-Bromoanisole	773	818616	4,4'-Dimethoxytriphenylmethyl chloride			
			836	803296	Epichlorohydrine			

## Halogenated amines

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
380	800390	2-Aminobenzotrifluoride	513	841194	3-Bromopropylammonium bromide	713	820429	2,5-Dichloroaniline
380	800391	3-Aminobenzotrifluoride				713	820430	2,6-Dichloroaniline
380	822172	4-Aminobenzotrifluoride	597	802611	2-Chloroaniline	713	820431	3,4-Dichloroaniline
381	841006	2-Amino-5-bromopyridine	597	802612	3-Chloroaniline	713	841790	3,5-Dichloroaniline
382	820275	2-Amino-5-chlorobenzoic acid	597	802613	4-Chloroaniline	730	841886	1-(3,4-Dichlorophenyl)-piperazine
382	843105	5-Amino-2-chloro benzoic acid	603	821725	2-Chlorobenzylamine			
383	801312	2-Amino-5-chlorobenzophenone	610	820265	2-Chloroethylammonium chloride	751	821421	2,4-Difluoroaniline
383	841772	3-Amino-4-chlorobenzotrifluoride	611	803285	N-(2-Chloroethyl)-N,N-diethylammonium chloride	751	841374	2,5-Difluoroaniline
383	841686	5-Amino-2-chlorobenzotrifluoride	611	802448	N-(2-Chloroethyl)-N,N-dimethylammonium chloride	751	841261	2,6-Difluoroaniline
383	802609	2-Amino-4-chlorophenol	611	841417	N-(2-Chloroethyl)-morpholinium chloride	896	820565	2-Fluoroaniline
384	802217	2-Amino-5-chloropyridine				897	820566	3-Fluoroaniline
384	802200	3-Amino-2-chloropyridine	611	807508	N-(2-Chloroethyl)-piperidine hydrochloride	897	820567	4-Fluoroaniline
388	841318	3-Amino-4-fluorobenzotrifluoride	612	818752	3-Chloro-4-fluoroaniline	900	814260	4-Fluorobenzylamine
388	841067	5-Amino-2-fluorobenzotrifluoride	617	802643	3-Chloro-2-methylaniline	902	818593	5-Fluoro-2-methylaniline
464	820159	Bis(2-chloroethyl)ammonium chloride	617	802641	5-Chloro-2-methylaniline	902	841836	2-Fluoro-5-nitroaniline
476	841144	3,5-Bis(trifluoromethyl)-aniline	623	841312	4-Chloro-3-nitroaniline	905	841521	4-Fluoro-phenylhydrazine hydrochloride
488	841412	2-Bromoaniline	629	820325	2-Chloro-1,4-phenylenediammonium sulfate	1007	821822	2-Iodoaniline
488	821694	3-Bromoaniline	629	841213	2-Chlorophenylhydrazine hydrochloride	1007	820726	3-Iodoaniline
489	801600	4-Bromoaniline	629	841601	4-Chlorophenylhydrazine hydrochloride	1008	820727	4-Iodoaniline
499	841675	4-Bromo-N,N-dimethylaniline	632	840039	3-Chloropropylamine hydrochloride	1265	841520	Pentafluoroaniline
500	820176	2-Bromoethylammonium bromide	633	803240	N-(2-Chloropropyl)-N,N-dimethylammonium chloride	1266	841572	Pentafluorophenyl hydrazine
505	841277	2-Bromo-4-methylaniline	633	803241	N-(3-Chloropropyl)-N,N-dimethylammonium chloride	1577	821149	2,4,5-Trichloroaniline
			702	841719	2,4-Dibromoaniline	1594	814850	3-(Trifluoromethyl)-benzylamine
			713	820427	2,4-Dichloroaniline			

## Halogenated Heterocycles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
383	841276	2-Amino-4-chloro-6-methylpyrimidine	625	841273	2-Chloro-3-nitropyridine	901	814875	6-Fluoroindole
385	841666	2-Amino-4,6-dichloropyrimidine	633	841849	2-Chloropyrazine	901	841272	5-Fluoroisatin
508	841121	5-Bromonicotinic acid	636	841746	2-Chlorothiophene	1014	841186	2-Iodothiophene
518	841743	5-Bromouracil	723	110888	Dichloroisocyanuric acid sodium salt dihydrate	1389	818189	Pyridinium chlorochromate
620	841714	3-(Chloromethyl)-pyridinium chloride	732	841815	4,7-Dichloroquinoline			

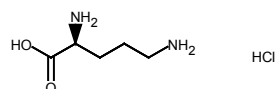
## Other halogenated derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
396	841451	2-Amino-5-nitrobenzotrifluoride	625	843966	4-Chloro-2-nitrotoluene	899	841013	4-Fluorobenzonitrile
491	821698	2-Bromobenzonitrile	639	841309	5-Chlorovaleronitrile	903	841443	5-Fluoro-2-nitrotoluene
494	841720	4-Bromobutyronitrile	716	840037	2,4-Dichlorobenzonitrile	1012	841402	2-Iodo-5-nitrotoluene
505	841069	2-(Bromomethyl)-benzonitrile	718	841151	3,4-Dichlorobenzyl cyanide	1086	814733	Magnesium chloride
506	841224	3-(Bromomethyl)-benzonitrile	753	841117	2,6-Difluorobenzonitrile	1221	841418	2-Nitrobenzyl bromide
513	841334	3-Bromopropionitrile	753	841376	1,5-Difluoro-2,4-dinitrobenzene	1231	841510	2-Nitro-4-(trifluoromethyl)benzonitrile
514	840158	3-Bromopropyltriphenylphosphonium bromide	898	841211	2-Fluorobenzonitrile	1431	814815	Sodium chloride

## Organometallic bases

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
548	801660	Butyllithium	1087	818894	Magnesium ethylate	1434	818199	Sodium ethoxide
548	818874	Butyllithium	1159	820805	Methylithium	1434	820871	Sodium ethoxide
549	814147	tert-Butyllithium	1159	820310	Methylmagnesium chloride	1435	806455	Sodium formaldehydesulfoxylate hydrate
764	818838	Diisobutylaluminium hydride	1352	818890	Potassium hydride			
1079	814763	Lithium aluminium hydride	1360	814222	Potassium methylate			
1080	805678	Lithium amide	1360	820746	Potassium methylate	1436	814552	Sodium hydride suspension
1082	814225	Lithiumdiisopropylamide	1425	814095	Sodium amide crystalline	1446	818194	Sodium methylate
1082	820753	Lithium hydride	1427	841750	Sodium bis(trimethylsilyl)-amide	1446	806538	Sodium methylate
1083	814519	Lithium methylate				1450	820873	Sodium phenolate trihydrate
1084	822197	Lithium tetrahydroborate	1427	806373	Sodium borohydride	1454	824494	Sodium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate dihydrate
			1428	818374	Sodium tert-butylate			

## 106906 L-Ornithine monohydrochloride for biochemistry



C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub> \* ClH

L-(+)-2,5-Diamino valeric acid hydrochloride

■ CAS-No. 3184-13-2 ■ EC-No. 221-678-6

■ Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ M = 168.62 g/mol ■ Melting point 245 °C ■ Bulk density 470 kg/m<sup>3</sup>

■ WGK nwg

■ LD50 oral rat 10000 mg/kg

■ LGK 10 - 13

■ HS-No. 2922 49 85 ■ Disposal 3

Soluble in water and mineral acids; insoluble in organic solvents.

### Specification

Orthoacetic acid triethyl ester → Triethyl orthoacetate page 1587

Orthoacetic acid trimethyl ester → Trimethyl orthoacetate page 1604

Orthocarbonic acid tetraethyl ester → Tetraethyl orthocarbonate page 1530

Orthocarboxylic acid esters → Carboxylic acid derivatives

Orthoformic acid trimethyl ester → Trimethyl orthoformate page 1605

Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %

Identity (IR-spectrum) ..... passes test

Appearance...white, crystalline powder or colorless crystals

Appearance of solution (1 mol/l, water)... clear and colorless

Spec. rotation

(α<sub>D</sub><sup>20</sup>, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +21.7 to +22.7°

UV-Absorption

(260 nm; 1 mol/l; 1 cm; water)..... ≤ 0.20

UV-Absorption

(280 nm; 1 mol/l; 1 cm; water)..... ≤ 0.20

Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %

Heavy metals (as Pb)..... ≤ 0.001 %

As (Arsenic)..... ≤ 0.0005 %

Ca (Calcium)..... ≤ 0.01 %

Co (Cobalt)..... ≤ 0.0005 %

Fe (Iron)..... ≤ 0.0005 %

K (Potassium)..... ≤ 0.002 %

Mg (Magnesium)..... ≤ 0.001 %

Na (Sodium)..... ≤ 0.005 %

NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %

Zn (Zinc)..... ≤ 0.0005 %

Foreign amino acids ..... ≤ 0.3 %

Other ninhydrine positive substances ..... ≤ 0.1 %

Loss on drying (105 °C; 3 h)..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.06906.0025	Plastic bottle	25 g	inquire
1.06906.0100	Plastic bottle	100 g	inquire
1.06906.1000	Plastic bottle	1 kg	inquire
1.06906.9010	Plastic drum	10 kg	inquire

Orthophosphoric acid → page 164

Orthopropionic acid triethyl ester → Triethyl orthopropionate page 1587

Orthosilicic acid tetraethyl ester → Tetraethyl orthosilicate page 1530

Orthosilicic acid tetramethyl ester → Tetramethyl orthosilicate page 1542

Orthotitanic acid tetrabutyl ester → Tetra-n-butyl orthotitanate page 1525

Orthotitanic acid tetra-tert-butyl ester → Tetra-tert-butyl orthotitanate page 1525

Orthotitanic acid tetraethyl ester → Tetraethyl orthotitanate page 1531

Orthotitanic acid tetrapropyl ester → Tetrapropyl orthotitanate page 1547

Osmic acid → page 186

Osmic acid solution 2% → page 186

## Osmium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1392	100612	Pyrogallol	1554	107979	Thiourea			
		Osmium(VIII) oxide → page 186			OSTEOSOFT® → page 186			9-Oxabicyclo[6.1.0]nonane → Epoxycyclooctane page 836
		Osmiumtetraoxide → page 186			O,O',O"-Triethylvinylsilanetriol → Triethoxyvinylsilane page 1584			3-Oxabutyl acetate → 2-Methoxyethyl acetate page 305
		OSTEOMOLL® → page 186			7-Oxabicyclo[4.1.0]heptane → Epoxycyclohexane page 836			

## Oxalate

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
413	101190	di-Ammonium oxalate monohydrate	1361	105073	di-Potassium oxalate monohydrate	168	102407	di-Sodium oxalate
413	101192	di-Ammonium oxalate monohydrate	1448	106557	di-Sodium oxalate	1558	840128	Tin(II) oxalate



## 816144 Oxalic acid anhydrous for synthesis

C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>

HOOC-COOH

*Ethanedioic acid dihydrate*

- CAS-No. 144-62-7 ■ EC-No. 205-634-3
- Vapour pressure 21.5 hPa (50 °C)
- Spec. density 1.9 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 90 g/l (20 °C) ■ M = 90.03 g/mol
- pH value 1 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 189 °C (decomposition)

- Bulk density 750 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312, P262, P302 + P352
- LD50 oral rat 375 mg/kg
- EC-Index-No. 607-006-00-8 ■ LGK 8A
- HS-No. 2917 11 00 ■ Disposal 4
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(OXALSAEURE), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(OXALIC ACID), 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(OXALIC ACID), 8, II

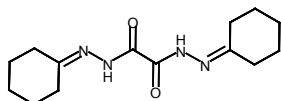
**Specification**

Assay (manganometric)..... ≥ 99.0 %  
 Loss on drying ..... ≤ 2.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16144.0050	Plastic bottle	50 g	inquire
8.16144.0250	Plastic bottle	250 g	inquire

Oxalic acid ammonium salt → page 413

## 101841 Oxalic acid bis (cyclohexylidene hydrazide) GR for analysis (reagent for copper)

C<sub>14</sub>H<sub>22</sub>N<sub>4</sub>O<sub>2</sub>*Biscyclohexanone oxalyldihydrazone, Cuprizone*

- CAS-No. 370-81-0 ■ EC-No. 206-729-2

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 278.35 g/mol ■ Melting point 208 - 212 °C
- Bulk density 150 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

**Specification**

Assay (perchloric acid titration)..... ≥ 99 %

Identity (IR-spectrum)..... conforms  
 Melting range (lower value)..... ≥ 208 °C  
 Melting range (upper value)..... ≤ 214 °C  
 Suitability for copper determination..... conforms

Ord.No.	Packaging	Quantity	Price
1.01841.0025	Glass bottle	25 g	inquire

Oxalic acid diamide → Oxamide page 1255

Oxalic acid dichloride → Oxalyl chloride page 1254

Oxalic acid diethyl ester → page 748

## Oxalic acid dihydrate

C<sub>2</sub>H<sub>2</sub>O<sub>4</sub> \* 2 H<sub>2</sub>O(COOH)<sub>2</sub> \* 2 H<sub>2</sub>O*Ethanedioic acid*

- CAS-No. 6153-56-6 ■ EC-No. 205-634-3
- Vapour pressure 21 hPa (50 °C)
- Spec. density 1.65 g/cm<sup>3</sup> (20 °C)

- Flash point 157 °C (decomposition) ■ Solub. in H<sub>2</sub>O 102 g/l (20 °C) ■ M = 126.07 g/mol
- pH value 1 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 101 °C ■ Bulk density 900 kg/m<sup>3</sup>
- Boiling point 149 - 160 °C (decomposition)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312, P302 + P352
- LD50 oral rat 375 mg/kg

- EC-Index-No. 607-006-00-8 ■ LGK 8A
- HS-No. 2917 11 00 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(OXALSAEURE), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(OXALIC ACID), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(OXALIC ACID), 8, III

## 818242 Oxalic acid dihydrate for synthesis

**Specification**

Assay (manganometric)..... ≥ 99.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18242.0100	Plastic bottle	100 g	inquire
8.18242.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

## 100492 Oxalic acid dihydrate extra pure

**Specification**

Assay (manganometric)..... ≥ 99,0 %  
 Chloride (Cl)..... ≤ 0,002 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0,02 %  
 Heavy metals (as Pb)..... ≤ 0,002 %

Total nitrogen (N)..... ≤ 0,005 %  
 Fe (Iron)..... ≤ 0,001 %  
 Residue on ignition (800 °C as sulphate)..... ≤ 0,05 %

Ord.No.	Packaging	Quantity	Price
1.00492.1000	Plastic bottle	1 kg	inquire
1.00492.5000	Plastic bottle	5 kg	inquire
1.00492.9050	Fibre carton	50 kg	inquire

## 100495 Oxalic acid dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**

Assay (manganometric)..... 99,5 - 102,0 %  
 Insoluble matter..... ≤ 50 ppm  
 Chloride (Cl)..... ≤ 5 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 50 ppm  
 Total nitrogen (N)..... ≤ 10 ppm  
 Heavy metals (as Pb)..... ≤ 5 ppm  
 Ca (Calcium)..... ≤ 10 ppm

Fe (Iron)..... ≤ 2 ppm  
 Readily carbonisable substance..... passes test  
 Residue on ignition (as sulphate)..... ≤ 100 ppm  
 Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.00495.0100	Plastic bottle	100 g	inquire
1.00495.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.00495.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.00495.9025	Fibre carton	25 kg	inquire

# Oxalic

## 100489 Oxalic acid dihydrate Suprapur®

### Specification

Assay (alcalimetric, calc. as dihydrate).....	≥ 99.5 %
Chloride (Cl).....	≤ 5000 ppb
Phosphate (PO <sub>4</sub> ).....	≤ 500 ppb
Sulphate (SO <sub>4</sub> ).....	≤ 2000 ppb
Ag (Silver).....	≤ 10 ppb
Al (Aluminium).....	≤ 20 ppb
As (Arsenic).....	≤ 1.0 ppb
Au (Gold).....	≤ 1.0 ppb
Ba (Barium).....	≤ 100 ppb
Be (Beryllium).....	≤ 1.0 ppb
Bi (Bismuth).....	≤ 1.0 ppb
Ca (Calcium).....	≤ 100 ppb
Cd (Cadmium).....	≤ 50 ppb
Co (Cobalt).....	≤ 5 ppb

Cr (Chromium).....	≤ 10 ppb
Cu (Copper).....	≤ 5 ppb
Fe (Iron).....	≤ 50 ppb
Ga (Gallium).....	≤ 1.0 ppb
Ge (Germanium).....	≤ 1.0 ppb
In (Indium).....	≤ 1.0 ppb
K (Potassium).....	≤ 200 ppb
Li (Lithium).....	≤ 5 ppb
Mg (Magnesium).....	≤ 20 ppb
Mn (Manganese).....	≤ 5 ppb
Mo (Molybdenum).....	≤ 5 ppb
Na (Sodium).....	≤ 100 ppb
Ni (Nickel).....	≤ 10 ppb
Pb (Lead).....	≤ 10 ppb

Pt (Platinum).....	≤ 1.0 ppb
Sb (Antimony).....	≤ 1.0 ppb
Sn (Tin).....	≤ 5 ppb
Sr (Strontium).....	≤ 100 ppb
Ti (Titanium).....	≤ 5 ppb
Tl (Thallium).....	≤ 1.0 ppb
U (Uranium).....	≤ 1.0 ppb
V (Vanadium).....	≤ 10 ppb
Zn (Zinc).....	≤ 20 ppb

Ord.No.	Packaging	Quantity	Price
1.00489.0100	Plastic bottle	100 g	inquire

Oxalic acid dilithium salt → di-Lithium oxalate page 1083

Oxalic acid monoethyl ester amide → Ethyl oxamate page 878

Oxalic acid dimethyl ester → Dimethyl oxalate page 796

Oxalic acid sodium salt → page 168

## Oxalic acid solution

■ Spec. density 1.002 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.5 (H<sub>2</sub>O, 20 °C)

■ WGK nwg  
■ LGK 10 - 13

■ HS-No. 3822 00 00 ■ Disposal 28

## 109932 Oxalic acid solution for 1000 ml, c(C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>) = 0.005 mol/l (0.01 N) Titrisol®

### Specification

Concentration after dilution to 1 liter: c(C.H.O.) = 0.005 mol/l  
Amount-of-substance concentration .....0.005000 mol/l  
The concentration of this solution was determined with potassium permanganate solution (manufacture by Merck article number 1.09930)

standardized against volumetric standard di-sodium oxalate (Merck article number 1.02407). The expanded measurement uncertainty is ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 8040 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard di-sodium oxalate measured

in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09932.0001	Plastic ampoule	1 amp	inquire

## 109965 Oxalic acid solution for 1000 ml, c(C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>) = 0.05 mol/l (0.1 N) Titrisol®

### Specification

Concentration after dilution to 1 liter: c(C<sub>2</sub>H<sub>2</sub>O<sub>4</sub>) = 0.05 mol/l  
Amount-of-substance concentration 0.05000 mol/l  
The concentration of this solution was determined with potassium permanganate solution (Merck article number 1.09122) standardized against

volumetric standard di-sodium oxalate (Merck article number 1.02407). The expanded measurement uncertainty is ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 8040 (NIST: National Institute of Standards and Technology, USA) by means of

volumetric standard di-sodium oxalate measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09965.0001	Plastic ampoule	1 amp	inquire

## 807066 Oxalyl chloride for synthesis



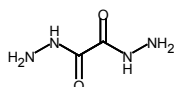
C<sub>2</sub>Cl<sub>2</sub>O<sub>2</sub>  
ClCOCOCl  
Oxalic acid dichloride  
■ CAS-No. 79-37-8 ■ EC-No. 201-200-2  
■ Vapour pressure 200 hPa (20 °C)  
■ Spec. density 1.48 g/cm<sup>3</sup> (20 °C)  
■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
■ M = 126.92 g/mol ■ Melting point -12 °C

■ Boiling point 63 - 64 °C (1013 hPa)  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P309 + P310, P304 + P340, P305 + P351 + P338, P301 + P330 + P331  
■ LC50 rat 2.4 mg/l  
■ LGK 4.3  
■ HS-No. 2917 19 90 ■ Disposal 11  
■ ADR-RID UN 3129 Mit Wasser reagierender flüssiger Stoff, ätzend, n.a.g.(OXALYLCHLORID), 4.3 (8), 1 ■ IMDG-Code UN 3129 WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.(OXALYLCHLORIDE), 4.3

(8), 1  
■ IATA-DGR UN 3129 WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.(OXALYLCHLORIDE), 4.3 (8), 1  
**Specification**  
Assay (argentometric)..... ≥ 98.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.07066.0025	Glass btl. pl.coat.	25 ml	inquire
8.07066.0100	Glass bottle	100 ml	inquire
8.07066.0500	Glass bottle	500 ml	inquire

## 841589 Oxalyl dihydrazide for synthesis



C<sub>2</sub>H<sub>6</sub>N<sub>4</sub>O<sub>2</sub>  
■ CAS-No. 996-98-5 ■ EC-No. 213-640-2

■ M = 118.09 g/mol  
■ Melting point 240 °C (decomposition)  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2928 00 90 ■ Disposal 3

Melting range (lower value)..... ≥ 238 °C  
Melting range (upper value)..... ≤ 242 °C  
Identity (IR)..... passes test

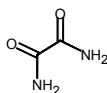
**Specification**  
Assay (HClO<sub>4</sub>)..... ≥ 97.0 %

Ord.No.	Packaging	Quantity	Price
8.41589.0050	Plastic bottle	50 g	inquire

Oxamethane → Ethyl oxamate page 878

Oxamic acid ethyl ester → Ethyl oxamate page 878

## 820936 Oxamide for synthesis



C<sub>2</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>  
H<sub>2</sub>NOC(=O)NH<sub>2</sub>  
Oxalic acid diamide

- CAS-No. 471-46-5 ■ EC-No. 207-442-5
- Spec. density 1.667 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.37 g/l (7 °C) ■ M = 88.06 g/mol
- Melting point 350 °C (decomposition)
- WGK 3
- GHS: P262
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

## Specification

Assay (manganometric)..... ≥ 98.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20936.0100	Plastic bottle	100 g	inquire

Oxazines → Heterocycles

Oxazoles → Heterocycles

## 840165 2-Oxazolidinone for synthesis



C<sub>3</sub>H<sub>5</sub>NO<sub>2</sub>  
■ CAS-No. 497-25-6 ■ EC-No. 207-840-9

- Spec. density 1 g/cm<sup>3</sup> ■ M = 87.07 g/mol
- WGK 3
- HS-No. 2934 99 90 ■ Disposal 3

Melting range (upper value)..... ≤ 89 °C  
Identity (IR)..... passes test

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Melting range (lower value)..... ≥ 86 °C

Ord.No.	Packaging	Quantity	Price
8.40165.0025	Glass bottle	25 g	inquire

Ox bile → Microbiology

2-Oxepanone → ε-Caprolactone page 569

Oxetane → 1,3-Trimethylene oxide page 1604

## Oxidation

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
445	801641	Benzoyl peroxide	803	802912	Dimethyl sulfoxide	1364	814151	Potassium superoxide
468	820163	Bis(α,α-dimethylbenzyl) peroxide	304	804521	Hexafluoroacetone sesquihydrate	1408	810560	Ruthenium(IV) oxide hydrate (60% Ru)
485	820171	Bromine	973	822287	Hydrogen peroxide 30%	1414	800653	Selenium dioxide
515	801949	N-Bromosuccinimide	974	818356	Hydrogen peroxide urea	1423	818881	Silver tetrafluoroborate
547	814006	tert-Butyl hydroperoxide	1006	820738	Iodine monobromide	1423	818003	Silver trifluoroacetate
553	818528	tert-Butyl nitrite	1008	820729	2-Iodobenzoic acid	1428	814368	Sodium bromate
635	845027	N-Chlorosuccinimide	1013	804781	Iodosobenzene diacetate	1449	814606	Sodium peroxide
635	802811	N-Chlorosuccinimide	1096	805958	Manganese(IV) oxide	1516	818112	Sulfur trioxide pyridine complex
641	822266	Chromium(VI) oxide	1258	818056	Palladium(II) acetate (47% Pd)			
662	820502	Cumene hydroperoxide	1278	822288	Periodic acid	1543	814681	2,2,6,6-Tetramethylpiperidine-1-oxyl (free radical)
666	802815	Cyanuric chloride	1352	818401	Potassium hydrogen monopersulfate	1567	818000	Toluene 4-sulfonic acid silver salt
709	820248	Di-tert-butyl peroxide	1361	818055	Potassium osmate dihydrate			

Oxidation-fermentation test medium acc. to HUGH and LEIFSON → page 103

## Oxides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
370	115754	Aluminium oxide	920	112167	Gadolinium(III) oxide	1203	112276	Neodymium(III) oxide
14	101092	Aluminium oxide 60 GF <sub>254</sub> neutral (type E)	921	112177	Germanium(IV) oxide	1209	106868	Niobium(V) oxide
423	107835	Antimony(III) oxide	960	112469	Holmium(III) oxide	186	124505	Osmium(VIII) oxide
423	107836	Antimony(III) oxide	973	107209	Hydrogen peroxide 30%	1323	100540	di-Phosphorus pentoxide
475	101862	Bismuth(III) oxide	973	107210	Hydrogen peroxide 30%	1323	100570	di-Phosphorus pentoxide
165	100169	di-Boron trioxide	973	822287	Hydrogen peroxide 30%	1335	807346	Platinum(IV) oxide hydrate (80% Pt)
167	100163	di-Boron trioxide	165	107298	Hydrogen peroxide 30%			
560	102015	Cadmium oxide	973	108556	Hydrogen peroxide 35%	1364	814151	Potassium superoxide
564	102109	Calcium oxide from marble	1002	112201	Indium(III) oxide	1406	812309	Rhenium(VII) oxide (77% Re)
173	102263	Cerium(IV) oxide	1006	100358	di-Iodine pentoxide	1408	810560	Ruthenium(IV) oxide hydrate (60% Ru)
641	100227	Chromium(VI) oxide	166	112220	Lanthanum(III) oxide	1412	112321	Samarium(III) oxide
641	100229	Chromium(VI) oxide	1075	105658	Lead(II) oxide	1414	845008	Selenium dioxide
641	822266	Chromium(VI) oxide	1075	107401	Lead(II) oxide	1414	800653	Selenium dioxide
655	102768	Copper(II) oxide	1076	107407	Lead(IV) oxide	1422	119208	Silver oxide
173	102764	Copper(II) oxide	1088	105865	Magnesium oxide	1449	814606	Sodium peroxide
655	102761	Copper(II) oxide	1088	105866	Magnesium oxide	1520	112356	Tellurium dioxide
655	102766	Copper(II) oxide	1096	105957	Manganese(IV) oxide	1558	107818	Tin(IV) oxide
655	102762	Copper(II) oxide	1096	805958	Manganese(IV) oxide	1560	100808	Titanium(IV) oxide
173	102767	Copper oxide	1105	104465	Mercury(II) oxide	1628	100824	Vanadium(V) oxide
173	102765	Copper oxide	1106	104466	Mercury(II) oxide	1638	112410	Ytterbium oxide
833	112151	Dysprosium oxide	1190	100401	Molybdenum(VI) oxide	166	112412	Yttrium oxide
889	112156	Europium(III) oxide	1190	100403	Molybdenum(VI) oxide	1642	108849	Zinc oxide

# Oxidiz

## 118615 Oxidizer for DNA-/RNA-synthesis 0.02M Iodine in Tetrahydrofurane/Pyridine/Water 89.6/0.4/10 v/v/v

■ HS-No. 3824 90 97  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(PYRIDIN UND ENT. TETRAHYDROFURAN), 3, II  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(PYRIDINE AND CONT. TETRAHYDROFURANE), 3, II

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(PYRIDINE AND CONT. TETRAHYDROFURANE), 3, II

Ord.No.	Packaging	Quantity	Price
1.18615.0450	Glass bottle	450 ml	inquire
	Glass bottle	6 x 450 ml	inquire
1.18615.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire

## 112936 Oxidizing decomposition reagent for compounds containing P and N Oxisol<sup>®</sup>



■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 800 - 900 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 3, H272; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1,

H317; Specific target organ toxicity - single exposure, Category 3, H335, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P342 + P311  
 ■ LGK 5.1 B  
 ■ HS-No. 3822 00 00 ■ Disposal 22  
 ■ ADR-RID UN 1492 Kaliumpersulfat, 5.1, III  
 ■ IMDG-Code UN 1492 POTASSIUM PERSULPHATE, 5.1, III  
 ■ IATA-DGR UN 1492 POTASSIUM PERSULPHATE,

5.1, III  
**Specification**  
 Potassium peroxosulphate..... 836.200 mg/g  
 Sodium carbonate..... 163.800 mg/g

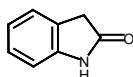
Ord.No.	Packaging	Quantity	Price
1.12936.0030	Plastic bottle	30 g	inquire

Oxifrit-Test → page 73  
 Oxifrit-Test<sup>®</sup> → page 73

Oxifrit-Test<sup>®</sup> Refill pack → page 74  
 Oxime resin HL (100-200 mesh) → page 266

Oxime resin LL (100-200 mesh) → page 266  
 Oximes → Organoelement compounds

## 807055 Oxindole for synthesis



C<sub>8</sub>H<sub>7</sub>NO  
 2-Indolinone  
 ■ CAS-No. 59-48-3 ■ EC-No. 200-429-5

■ Solub. in H<sub>2</sub>O 9.1 g/l (25 °C) ■ M = 133.15 g/mol  
 ■ Melting point 122 - 125 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 79 00 ■ Disposal 3

Identity (IR-spectrum)..... passes test  
 Melting range (lower value)..... 122 - 127 °C  
 Melting range (upper value)..... 122 - 127 °C

**Specification**  
 Purity (HPLC)..... ≥ 98.0 % (a/a)

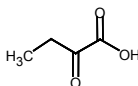
Ord.No.	Packaging	Quantity	Price
8.07055.0010	Plastic bottle	10 g	inquire
8.07055.0025	Plastic bottle	25 g	inquire

Oxine → page 995

2-Oxo-2H-1-benzopyran-3-carboxylic acid →  
 Coumarin-3-carboxylic acid page 657

(1R)-(-)-2-Oxobornan-10-sulfonylchlorid → (1R)-  
 (-)-Camphor-10-sulfonic acid chloride page 567  
 3-Oxobutyraldehyde dimethyl acetal →  
 Acetoacetaldehyde-1,1-dimethyl acetal page 337

## 820938 2-Oxobutyric acid for synthesis



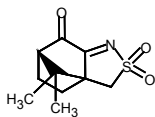
C<sub>4</sub>H<sub>6</sub>O<sub>3</sub>  
 CH<sub>3</sub>CH<sub>2</sub>COCOOH  
 α-Ketobutyric acid  
 ■ CAS-No. 600-18-0 ■ EC-No. 209-986-9  
 ■ Flash point 81 °C ■ Solub. in H<sub>2</sub>O 100 g/l (20 °C)  
 ■ M = 102.08 g/mol ■ pH value 1.1 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 31 - 34 °C

■ Boiling point 68 °C (20 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A ■ Store at +2 °C to +8 °C.  
 ■ HS-No. 2918 30 00 ■ Disposal 4  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2-OXOBUTTERSÄURE), 8, II  
 ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-OXOBUTYRIC ACID), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-OXOBUTYRIC ACID), 8, II  
**Specification**  
 Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 30 °C  
 Melting range (upper value)..... ≤ 34 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20938.0005	Glass bottle	5 g	inquire

## 814388 (1S)-(-)-3-Oxocamphorsulfonylimine for synthesis



C<sub>10</sub>H<sub>13</sub>NO<sub>3</sub>S  
 ■ CAS-No. 119106-38-6

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 227.28 g/mol ■ Melting point 195 - 198 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2925 29 00 ■ Disposal 3

Melting range (upper value)..... ≤ 198 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (c=2 in acetone).....  
 ..... -192,0 - -190,0 °  
 Identity (IR)..... conforms

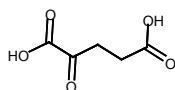
**Specification**  
 Assay (of S)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 195 °C

Ord.No.	Packaging	Quantity	Price
8.14388.0001	Glass bottle	1 g	inquire
8.14388.0005	Glass bottle	5 g	inquire

Oxocarboxylic acids → Carboxylic acids

2-Oxocyclohexanecarboxylic acid ethyl ester →  
 Ethyl 2-oxocyclohexanecarboxylate page 879

## 105194 2-Oxoglutaric acid for biochemistry



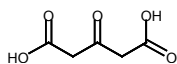
C<sub>5</sub>H<sub>6</sub>O<sub>5</sub>  
 2-Ketoglutaric acid  
 ■ CAS-No. 328-50-7 ■ EC-No. 206-330-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 146.09 g/mol ■ pH value 1.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 112 - 116 °C  
 ■ Bulk density 800 kg/m<sup>3</sup>

■ WGK 1  
 ■ GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338  
 ■ LGK 10 - 13 ■ Store at +2 °C to +8 °C.  
 ■ HS-No. 2918 30 00 ■ Disposal 4  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Substrate for glutamate dehydrogenase glutamate-oxalacetate transaminase and glutamate-pyruvate transaminase.

**Specification**  
 Assay (enzymatically with GIDH)..... ≥ 99 %  
 Identity (IR-spectrum)..... passes test  
 Melting point ..... 112 - 115 °C  
 Suitability as enzyme substrate (tested with GIDH)..... passes test

Ord.No.	Packaging	Quantity	Price
1.05194.0025	Plastic bottle	25 g	inquire
1.05194.0100	Plastic bottle	100 g	inquire
1.05194.1000	Plastic bottle	1 kg	inquire
1.05194.9010	Plastic drum	10 kg	inquire

## 820940 3-Oxoglutaric acid for synthesis

C<sub>5</sub>H<sub>6</sub>O<sub>5</sub>HOOCCH<sub>2</sub>COCH<sub>2</sub>COOH*β*-Ketoglutaric acid, Acetone-1,3-dicarboxylic acid

■ CAS-No. 542-05-2 ■ EC-No. 208-797-9

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 146.10 g/mol ■ Bulk density 400 kg/m<sup>3</sup>

■ WGK 3

■ LGK 10 - 13 ■ Store at +2°C to +8°C.

■ HS-No. 2918 30 00 ■ Disposal 4

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**

Assay (acidimetric)..... ≥ 96.0 %

Melting range (lower value)..... ≥ 122 °C

Melting range (upper value)..... ≤ 126 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20940.0050	Metal can	50 g	inquire
8.20940.0250	Metal can	250 g	inquire

2-Oxohexamethyleneimine → ε-Caprolactam page 569

1-Oxindane → 1-Indanone page 1000

4-Oxoisophorone → 2,6,6-Trimethyl-2-cyclohexene-1,4-dione page 1603

Oxolane → page 4

3-Oxolene → 2,5-Dihydrofuran page 757

Oxonium salts → Ethers

Oxopentane acid ethyl ester → Ethyl levulinate page 873

4-Oxopentanoic acid → Levulinic acid page 1077

3-Oxopentanoic acid methyl ester → Methyl 3-oxopentanoate page 1166

4-Oxo-4-phenylbutyric acid → 3-Benzoylpropionic acid page 445

3-Oxo-3-phenylpropionic acid ethyl ester → Ethyl benzoylacetate page 853

Oxophthalane → Phthalide page 1326

5-Oxo-DL-proline → DL-2-Pyrrolidone-5-carboxylic acid page 1394

5-Oxo-L-proline → (S)-(-)-2-Pyrrolidone-5-carboxylic acid page 1394

2-Oxopropionic acid → Pyruvic acid page 1395  
(2-Oxo-propyl)-phosphonic acid dimethyl ester → Dimethyl acetylmethylphosphonate page 775  
2-Oxopropyl triphenylphosphonium chloride → Acetyltriphenylphosphonium chloride page 342

4-Oxo-2-thioxo-3-thiazolidinylacetic acid → Rhodanine-N-acetic acid page 1406

4-Oxovalerianic acid → Levulinic acid page 1077

..... ≤ 15.0 % (a/a)

Density (d 20 °C/ 4 °C)..... 1.275 - 1.280

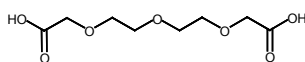
Water (K. F.)..... 9.0 - 11.0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43911.0050	Glass bottle	50 ml	inquire
8.43911.0250	Glass bottle	250 ml	inquire

4,4'-Oxydianiline → 4,4'-Diaminodiphenyl ether page 695

## 843911 2,2'-[Oxybis(2,1-ethanedioxy)] bisacetic acid for synthesis

C<sub>8</sub>H<sub>14</sub>O<sub>7</sub>

■ CAS-No. 13887-98-4 ■ EC-No. 237-655-9

■ Spec. density 1.279 g/cm<sup>3</sup> (20 °C)■ M = 222.19 g/mol ■ pH value 1.8 (100 g/l, H<sub>2</sub>O)

■ WGK 1

■ GHS: Danger, Serious eye damage, Category 1,

H318, P280, P305 + P351 + P338, P313

■ LD50 oral rat &gt; 2000 mg/kg

■ LGK 10 - 13

■ HS-No. 2918 99 90 ■ Disposal 4

**Specification**

Colour (visual)..... colourless to grey-green

Appearance of substance (visual)..... liquid

Assay (HPLC, area%)..... ≥ 73.0 % (a/a)

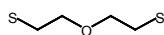
Diglycolic acid (HPLC, area%)..... ≤ 1.3 % (a/a)

Dioxaoctanedioic acid (HPLC, area%).....

2,2'-[Oxybis(methylen)]bis[hydroxymethyl]-1,3-propandiol → Dipentaerythritol page 813

2,2'-Oxybis[propane] → page 316

## 806927 2,2'-Oxydiethanethiol for synthesis

C<sub>4</sub>H<sub>10</sub>OS<sub>2</sub>O(CH<sub>2</sub>CH<sub>2</sub>SH)<sub>2</sub>*Bis(2-mercaptoethyl) ether*

■ CAS-No. 2150-02-9 ■ EC-No. 218-421-5

■ Refractive index 1.5214 (20 °C, 589 nm)

■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)■ Flash point 98 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

■ M = 138.24 g/mol ■ Melting point -80 °C

■ Boiling point 216 - 218 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 6

**Specification**

Assay (GC, area%)..... ≥ 97.0 Area %

Density (d 20 °C/ 4 °C)..... 1,114 - 1,117

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06927.0025	Glass bottle	25 ml	inquire
8.06927.0100	Glass bottle	100 ml	inquire

2,2'-Oxydiethanol → page 301

Oxygen Cell Test → page 74

Oxygen, determination → page 74

Oxygen Reaction Bottle → page 74

Oxygen Scavengers Test → page 74

Oxygen Test → page 74

Oxygen Test in freshwater and seawater → page 74

Oxygen Test Refill pack → page 74

Oxyrna Pure → page 280

Ozone detection → Potassium iodide-starch paper page 81

Ozone paper → Potassium iodide-starch paper page 81

Ozone Test → page 75

Ozone Test Refill pack → page 74



## 119225 Palladium powdered 99+

Pd  
 ■ CAS-No. 7440-05-3 ■ EC-No. 231-115-6  
 ■ Spec. density 12.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 106.4 g/mol  
 ■ pH value (H<sub>2</sub>O) not applicable  
 ■ Melting point 1554 °C  
 ■ Boiling point 2200 - 2900 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 7110 21 00 ■ Disposal 27

### Specification

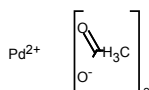
Identity (elemental analysis).....passes test  
 Assay (Pd).....99.0 - 101.0 %  
 Ag (Silver).....≤ 50 ppm

Al (Aluminium).....≤ 10 ppm  
 Au (Gold).....≤ 100 ppm  
 Ca (Calcium).....≤ 50 ppm  
 Cd (Cadmium).....≤ 10 ppm  
 Co (Cobalt).....≤ 10 ppm  
 Cr (Chromium).....≤ 10 ppm  
 Cu (Copper).....≤ 50 ppm  
 Fe (Iron).....≤ 50 ppm  
 Hg (Mercury).....≤ 100 ppm  
 Ir (Iridium).....≤ 100 ppm  
 K (Potassium).....≤ 50 ppm  
 Mg (Magnesium).....≤ 50 ppm  
 Mn (Manganese).....≤ 10 ppm  
 Na (Sodium).....≤ 100 ppm

Ni (Nickel).....≤ 10 ppm  
 Os (Osmium).....≤ 100 ppm  
 Pb (Lead).....≤ 50 ppm  
 Pt (Platinum).....≤ 100 ppm  
 Rh (Rhodium).....≤ 100 ppm  
 Ru (Ruthenium).....≤ 100 ppm  
 Zn (Zinc).....≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
1.19225.0001	Glass bottle	1 g	inquire
1.19225.0005	Glass bottle	5 g	inquire

## 818056 Palladium(II) acetate (47% Pd) for synthesis



■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 224.5 g/mol ■ pH value 2 - 3 (H<sub>2</sub>O, 20 °C) (aqueous suspension) ■ Melting point 205 °C  
 ■ WGK 1  
 ■ GHS: Danger, Serious eye damage, Category 1, H318, P260, P280, P305 + P351 + P338, P313  
 ■ LD50 oral rat >= 5110 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2843 90 90 ■ Disposal 27

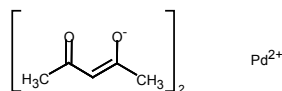
C<sub>4</sub>H<sub>6</sub>O<sub>4</sub>Pd  
 (CH<sub>3</sub>COO)<sub>2</sub>Pd  
 Palladium diacetate  
 ■ CAS-No. 3375-31-3 ■ EC-No. 222-164-4

### Specification

Assay (to Pd).....≥ 99,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.18056.0001	Glass bottle	1 g	inquire
8.18056.0005	Glass bottle	5 g	inquire
8.18056.8500	Glass bottle	500 mg	inquire

## 807103 Palladium(II) acetylacetonate for synthesis



■ GHS: Warning, Flammable solid, Category 2, H228; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338  
 ■ LGK 4.1B  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 3181 Entzündbare Metallsalze organischer Verbindungen, n.a.g.(PALLADIUM(II)-ACETYLACETONAT), 4.1, III ■ IMDG-Code UN 3181 METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.(PALLADIUM(II) ACETYLACETONATE), 4.1, III, Segregation Group: 7

C<sub>10</sub>H<sub>14</sub>O<sub>4</sub>Pd  
 Bis(acetylacetonato)palladium(II), Bis(2,4-pentanedionato)palladium(II)  
 ■ CAS-No. 14024-61-4 ■ EC-No. 237-859-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 304.64 g/mol  
 ■ WGK 3

(Heavy metals and their salts (including their organometallic compounds))

■ IATA-DGR UN 3181 METAL SALTS OF ORGANIC COMPOUNDS, FLAMMABLE, N.O.S.(PALLADIUM(II) ACETYLACETONATE), 4.1, III

### Specification

Assay (to Pd).....≥ 98,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.07103.0001	Glass bottle	1 g	inquire
8.07103.0005	Glass bottle	5 g	inquire

## 807105 Palladium/barium sulfate (5% Pd) hydrogenation catalyst (oxidic form) for synthesis

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ pH value 2.5 - 5 (10 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Bulk density 700 - 900 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3815 12 00 ■ Disposal 27

### Specification

Assay Pd.....4,0 - 5,0 %(m)  
 Suitable for hydrogenation catalyst.....conforms  
 Identity ( RFA).....conforms

Ord.No.	Packaging	Quantity	Price
8.07105.0010	Glass bottle	10 g	inquire
8.07105.0050	Glass bottle	50 g	inquire

Palladium bis(triphenylphosphine) dichloride → Bis(triphenylphosphine)palladium(II) chloride (15.2% Pd) page 478

## 810489 Palladium/calcium carbonate (5 % Pd) Lindlar hydrogenation catalyst (poisoned with lead) for synthesis

Hydrogenation catalyst  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ GHS: Danger, Reproductive toxicity, Category 1A, H360Df; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P201, P273, P308 + P313  
 ■ LGK 6.1 D  
 ■ HS-No. 3815 12 00 ■ Disposal 27

■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ENTH. BLEI), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CONT. LEAD), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 9 (Lead and its compounds)  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CONT.

LEAD), 9, III

### Specification

Assay Pd.....4,0 - 6,0 %(m)  
 Suitable for hydrogenation catalyst.....conforms  
 Identity ( RFA).....conforms

Ord.No.	Packaging	Quantity	Price
8.10489.0005	Glass bottle	5 g	inquire

## 807104 Palladium/charcoal activated (10% Pd) hydrogenation catalyst (oxidic form) for synthesis

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 6 - 7 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry) ■ Bulk density 400 kg/m<sup>3</sup> ■ Ignition temp. 460 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3815 12 00 ■ Disposal 27  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
 ■ IATA-DGR No Dangerous Good

### Specification

Assay Pd.....9,0 - 11,0 %(m)  
 Suitable for hydrogenation catalyst.....conforms  
 Identity ( RFA).....conforms

Ord.No.	Packaging	Quantity	Price
8.07104.0005	Plastic bottle	5 g	inquire
8.07104.0010	Plastic bottle	10 g	inquire

**807110 Palladium(II) chloride (59% Pd) anhydrous, for synthesis**Cl<sub>2</sub>PdPdCl<sub>2</sub>*Palladium dichloride, Hydrochloric acid palladium salt, Palladium Chloride*

■ CAS-No. 7647-10-1 ■ EC-No. 231-596-2  
 ■ Spec. density 4.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 177.33 g/mol  
 ■ Melting point 680 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Skin

sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 2704 mg/kg  
 ■ LGK 8B  
 ■ HS-No. 2843 90 90  
 ■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(PALLADIUM(II)-CHLORID), 8, III ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(PALLADIUMCHLORIDE), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(PALLADIUMCHLORIDE), 8, III  
**Specification**  
 Assay (of Pd).....≥ 59,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.07110.0001	Glass bottle	1 g	inquire
8.07110.0005	Glass bottle	5 g	inquire
8.07110.0010	Glass bottle	10 g	inquire
8.07110.8500	Glass bottle	500 mg	inquire

**Palladium, determination**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
776	103059	5-(4-Dimethylaminobenzylidene)-rhodanine	172	103092	Dithizone	1551	100700	Thioglycolic acid
791	103062	Dimethylglyoxime	1287	107223	1,10-Phenanthroline chloride monohydrate			
791	103061	Dimethylglyoxime disodium salt octahydrate	1432	106689	Sodium diethylthiocarbamate trihydrate			

Palladium diacetate → Palladium(II) acetate (47% Pd) page 1258

Palladium dichloride → Palladium(II) chloride (59% Pd) page 1259

**107289 Palladium matrix modifier for graphite furnace AAS c(Pd) = 10.0 ± 0.2 g/l (Pd(NO<sub>3</sub>)<sub>2</sub> / HNO<sub>3</sub> ca. 15%)**

■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 25 °C) acidic  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2843 90 90 ■ Disposal 12

■ ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2031 NITRIC ACID, 8, II

**Specification**

Ag (Silver).....≤ 0.00002 g/l  
 As (Arsenic).....≤ 0.00001 g/l  
 Cd (Cadmium).....≤ 0.000001 g/l

Pb (Lead).....≤ 0.00001 g/l  
 Se (Selenium).....≤ 0.0001 g/l  
 Tl (Thallium).....≤ 0.00002 g/l

Ord.No.	Packaging	Quantity	Price
1.07289.0050	Plastic bottle	50 ml	inquire

**814573 Palladium(II) nitrate dihydrate (40% Pd) for synthesis**N<sub>2</sub>O<sub>6</sub>Pd \* 2 H<sub>2</sub>OPd(NO<sub>3</sub>)<sub>2</sub> \* 2 H<sub>2</sub>O

■ CAS-No. 32916-07-7 ■ EC-No. 233-265-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition)  
 ■ M = 266.44 g/mol ■ pH value 1 (1 g/l, H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic

toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 200 - 2000 mg/kg  
 ■ LGK 5.1 B  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 3085 Entzündend (oxidierend) wirkender fester Stoff, ätzend, n.a.g.(PALLADIUM(II)-NITRAT), 5.1 (8), II ■ IMDG-Code UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(PALLADIUM(II)NITRATE DIHYDRATE), 5.1 (8), II

■ IATA-DGR UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(PALLADIUM(II)NITRATE DIHYDRATE), 5.1 (8), II  
**Specification**

Assay Pd.....39,0 - 42,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.14573.0001	Glass bottle	1 g	inquire
8.14573.8500	Glass bottle	500 mg	inquire

**807107 Palladium(II) oxide (85% Pd) hydrogenation catalyst for synthesis**

OPd

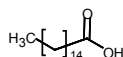
PdO

■ CAS-No. 1314-08-5 ■ EC-No. 215-218-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 122.42 g/mol  
 ■ WGK nwg  
 ■ GHS: Danger, Oxidising solid, Category 2, H272  
 ■ LGK 5.1 B

■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 1479 Entzündend (oxidierend) wirkender fester Stoff, n.a.g.(PALLADIUM(II)-OXID), 5.1, II ■ IMDG-Code UN 1479 OXIDIZING SOLID, N.O.S.(PALLADIUM2-OXIDE), 5.1, II  
 ■ IATA-DGR UN 1479 OXIDIZING SOLID, N.O.S.(PALLADIUM2-OXIDE), 5.1, II

**Specification**  
 Assay Pd.....≥ 85,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.07107.0001	Glass bottle	1 g	inquire
8.07107.8500	Glass bottle	500 mg	inquire

**800508 Palmitic acid for synthesis**C<sub>16</sub>H<sub>32</sub>O<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>14</sub>COOH*Hexadecanoic acid*

■ CAS-No. 57-10-3 ■ EC-No. 200-312-9  
 ■ Spec. density 0.852 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 206 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 256.42 g/mol  
 ■ Melting point 61 - 63 °C ■ Bulk density 415 kg/m<sup>3</sup> ■ Boiling point 271.5 °C (133 hPa)  
 ■ WGK nwg  
 ■ LD50 oral rat > 10000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 70 40 ■ Disposal 3

**Specification**

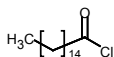
Assay (GC, area%).....≥ 98 %  
 Melting range

- (lower value).....≥ 62 °C  
 - (upper value).....≤ 64 °C  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.00508.0100	Plastic bottle	100 g	inquire
8.00508.1000	Plastic bottle	1 kg	inquire

Palmitic acid ethyl ester → Ethyl palmitate page 879

## 800510 Palmitoyl chloride for synthesis



$C_{16}H_{31}ClO$   
 $CH_3(CH_2)_{14}COCl$   
**Hexadecanoyl chloride**  
 ■ CAS-No. 112-67-4 ■ EC-No. 203-996-7  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 182 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 274.87 g/mol  
 ■ pH value (H<sub>2</sub>O) strongly acid

■ Melting point 12 °C ■ Boiling point 174 °C (5.1 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(PALMITINSÄURECHLORID),

8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PALMITOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PALMITOYL CHLORIDE), 8, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,905 - 0,907  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00510.0250	Glass bottle	250 ml	inquire

PAL-NovaPEG resin → page 265  
 PAL-NovaSyn TG resin → page 265

PAN → 1-(2-Pyridylazo)-2-naphthol (PAN) page 172  
 Panflavin → page 109

## 107144 Papain (from *Carica papaya*) water-soluble 30000 USP-U/mg for biochemistry EC 3.4.22.2

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4 - 7 (1 g/l, H<sub>2</sub>O, 25 °C) ■ Bulk density 800 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P304 + P341, P305 + P351 + P338  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 3507 90 90 ■ Disposal 3

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Catalysed reaction: Hydrolysis of proteins, peptides, amides and esters of amino acids, preferentially at bonds involving basic amino acids, leucine or glycine. Endopeptidatic cleavage of proteins and peptides. Other activity value: 24U/mg (acc. to FIP, with BAEE as substrate).

Appearance (colour) ..... yellowish-brown  
 Appearance (description) ..... fine powder  
 Activity (Casein, pH 6.0, 40 °C) .....  
 ..... ≥ 30000 USP-U/mg  
 USP reference standard ..... calculated on USP reference standard  
 J0H138 (activity):  
 6800 USP-U/mg

### Specification

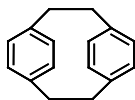
Ord.No.	Packaging	Quantity	Price
1.07144.0025	Glass bottle	25 g	inquire

Papanicolaou's solution 1a Harris' hematoxylin solution → page 195  
 Papanicolaou's solution 1b Hematoxylin solution S → page 195  
 Papanicolaou's solution 2a Orange G solution (OG 6) → page 195  
 Papanicolaou's solution 2b Orange II solution → page 195

Papanicolaou's solution 3a polychromatic solution EA 31 → page 195  
 Papanicolaou's solution 3b polychromatic solution EA 50 → page 195  
 Papanicolaou's solution 3c Polychromatic solution EA 65 → page 195  
 Papanicolaou's solution 3d polychromatic solution EA 65 → page 195

PAR → 4-(2-Pyridylazo)resorcinol monosodium salt monohydrate page 172  
 Paracetamol → 4'-Hydroxyacetanilide page 976

## 841687 [2.2]-Paracyclophane for synthesis



$C_{16}H_{16}$   
 ■ CAS-No. 1633-22-3 ■ EC-No. 216-644-2

■ M = 208.3 g/mol ■ Melting point 282 - 287 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3

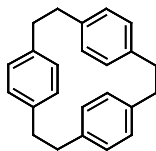
Melting range (upper value) ..... ≤ 287 °C  
 Identity (IR) ..... conforms

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 282 °C

Ord.No.	Packaging	Quantity	Price
8.41687.0001	Plastic bottle	1 g	inquire

## 818344 [2,2,2]-Paracyclophane for synthesis



$C_{24}H_{24}$

**Tricyclophane**  
 ■ CAS-No. 283-80-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 312.45 g/mol ■ Melting point 161 - 164 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 161 °C  
 Melting range (upper value) ..... ≤ 164 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18344.0001	Glass bottle	1 g	inquire

## 107150 Paraffin 42-44, in block form

■ CAS-No. 8002-74-2 ■ EC-No. 232-315-6  
 ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value (H<sub>2</sub>O) neutral  
 ■ Melting point 42 - 72 °C  
 ■ Boiling point >300 °C (1013 hPa)  
 ■ Ignition temp. >300 °C  
 ■ WGK nwg  
 ■ LD50 oral rat > 5000 mg/kg

■ LD50 dermal rabbit > 3600 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2712 90 99 ■ Disposal 3

Sulphate (SO<sub>4</sub>) ..... ≤ 0.015 %

### Specification

Identity (IR-spectrum) ..... passes test  
 Acidity or alkalinity ..... passes test  
 Solidification point ..... 42 - 44 °C

Ord.No.	Packaging	Quantity	Price
1.07150.1000	Plastic bottle	1 kg	inquire
1.07150.2500	Plastic bottle	2.5 kg	inquire
1.07150.9025	Fibre carton	25 kg	inquire

**107151 Paraffin 46-48, in block form**

- CAS-No. 8002-74-2 ■ EC-No. 232-315-6
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value (H<sub>2</sub>O) neutral
- Melting point 42 - 72 °C
- Boiling point >300 °C (1013 hPa)
- Ignition temp. >300 °C
- WGK nwg
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 3600 mg/kg
- LGK 10 - 13
- HS-No. 2712 20 90 ■ Disposal 3

**Specification**

Identity (IR-spectrum) ..... passes test  
 Acidity or alkalinity ..... passes test  
 Solidification point ..... 46 - 48 °C

Sulphate (SO<sub>4</sub>) ..... ≤ 0.015 %

Ord.No.	Packaging	Quantity	Price
1.07151.1000	Plastic bottle	1 kg	inquire
1.07151.9025	Fibre carton	25 kg	inquire

**107157 Paraffin 51-53, in pastille form Ph Eur,BP,NF**

- CAS-No. 8002-74-2 ■ EC-No. 232-315-6
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value (H<sub>2</sub>O) neutral
- Melting point 42 - 72 °C
- Boiling point >300 °C (1013 hPa)
- Ignition temp. >300 °C
- WGK nwg
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 3600 mg/kg
- LGK 10 - 13
- HS-No. 2712 20 90 ■ Disposal 3

**Specification**

Identity ..... passes test  
 Acidity or alkalinity ..... passes test  
 Solidification point ..... 51 - 53 °C  
 Aromatic, polycyclic Hydrocarbons ..... conforms  
 Residual solvents (Ph.Eur./ICH) ..... excluded by manufacturing process  
 Readily carbonisable substance ..... passes test

Sulphate (SO<sub>4</sub>) ..... ≤ 0.015 %

Sulphur compounds ..... passes test

Corresponds to Ph Eur,BP,NF

Ord.No.	Packaging	Quantity	Price
1.07157.1000	Plastic bottle	1 kg	inquire
1.07157.2500	Plastic bottle	2.5 kg	inquire
1.07157.9025	Fibre carton	25 kg	inquire

**107300 Paraffin 52-54, in pastille form Ph Eur,BP,NF**

- CAS-No. 8002-74-2 ■ EC-No. 232-315-6
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value (H<sub>2</sub>O) neutral
- Melting point 42 - 72 °C
- Boiling point >300 °C (1013 hPa)
- Ignition temp. >300 °C
- WGK nwg
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 3600 mg/kg
- LGK 10 - 13
- HS-No. 2712 90 99 ■ Disposal 3

**Specification**

Identity ..... passes test  
 Acidity or alkalinity ..... passes test  
 Solidification point ..... 52 - 54 °C  
 Aromatic, polycyclic Hydrocarbons ..... conforms  
 Residual solvents (Ph.Eur./ICH) ..... excluded by manufacturing process  
 Readily carbonisable substance ..... passes test

Sulphate (SO<sub>4</sub>) ..... ≤ 0.015 %

Sulphur compounds ..... passes test

Corresponds to Ph Eur,BP,NF

Ord.No.	Packaging	Quantity	Price
1.07300.1000	Plastic bottle	1 kg	inquire
1.07300.9020	Fibre carton	20 kg	inquire

**107337 Paraffin 56-58, in pastille form Ph Eur,BP,NF**

- CAS-No. 8002-74-2 ■ EC-No. 232-315-6
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value (H<sub>2</sub>O) neutral
- Melting point 42 - 72 °C
- Boiling point >300 °C (1013 hPa)
- Ignition temp. >300 °C
- WGK nwg
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 3600 mg/kg
- LGK 10 - 13
- HS-No. 2712 20 90 ■ Disposal 3

**Specification**

Identity ..... passes test  
 Acidity or alkalinity ..... passes test  
 Solidification point ..... 56 - 58 °C  
 Aromatic, polycyclic Hydrocarbons ..... conforms  
 Residual solvents (Ph.Eur./ICH) ..... excluded by manufacturing process  
 Readily carbonisable substance ..... passes test

Sulphate (SO<sub>4</sub>) ..... ≤ 0.015 %

Sulphur compounds ..... passes test

corresponds to Ph Eur,BP,NF

Ord.No.	Packaging	Quantity	Price
1.07337.1000	Plastic bottle	1 kg	inquire
1.07337.2500	Plastic bottle	2.5 kg	inquire
1.07337.9020	Fibre carton	20 kg	inquire

**107158 Paraffin 57-60, in pastille form Ph Eur,BP,NF**

- CAS-No. 8002-74-2 ■ EC-No. 232-315-6
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value (H<sub>2</sub>O) neutral
- Melting point 42 - 72 °C
- Boiling point >300 °C (1013 hPa)
- Ignition temp. >300 °C
- WGK nwg
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 3600 mg/kg
- LGK 10 - 13
- HS-No. 2712 90 99 ■ Disposal 3

**Specification**

Identity ..... passes test  
 Acidity or alkalinity ..... passes test  
 Solidification point ..... 57 - 60 °C  
 Aromatic, polycyclic Hydrocarbons ..... conforms  
 Residual solvents (Ph.Eur./ICH) ..... excluded by manufacturing process  
 Readily carbonisable substance ..... passes test

Sulphate (SO<sub>4</sub>) ..... ≤ 0.015 %

Sulphur compounds ..... passes test

Corresponds to Ph Eur,BP,NF

Ord.No.	Packaging	Quantity	Price
1.07158.1000	Plastic bottle	1 kg	inquire
1.07158.9025	Fibre carton	25 kg	inquire

**107162 Paraffin liquid Reag. Ph Eur**

- CAS-No. 8042-47-5 ■ EC-No. 232-455-8
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point 200 °C ■ Kin. viscosity >22.5 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ pH value (H<sub>2</sub>O) not applicable
- Ignition temp. 300 °C
- WGK 1
- LC50 rat > 5 mg/l
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 10
- HS-No. 2710 19 85 ■ Disposal 3

**Specification**

Identity (IR-spectrum) ..... passes test  
 Acidity or alkalinity ..... passes test  
 Density (d 20 °C/20 °C) ..... 0.845 - 0.890  
 Dynamic viscosity (20 °C) ..... 110 - 230 mPa·s  
 Kinematic Viscosity (40 °C) ..... ≥ 34.5 mm<sup>2</sup>/s

Aromatic, polycyclic Hydrocarbons ..... conforms

Solid Paraffines ..... passes test

Readily carbonisable substance ..... passes test

Ord.No.	Packaging	Quantity	Price
1.07162.1000	Plastic bottle	1 l	inquire
1.07162.2500	Plastic bottle	2.5 l	inquire
1.07162.9025	Plastic container	25 l	inquire

## 107160 Paraffin viscous Ph Eur, BP, USP

- CAS-No. 8042-47-5 ■ EC-No. 232-455-8
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point 200 °C ■ Kin. viscosity >22.5 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ pH value (H<sub>2</sub>O) not applicable
- Ignition temp. 300 °C
- WGK 1
- LC50 rat > 5 mg/l
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg

- LGK 10
- HS-No. 2710 19 85 ■ Disposal 3

## Specification

Identity (IR-spectrum)..... passes test  
 Acidity or alkalinity..... passes test  
 Density (d 20 °C/20 °C)..... 0.845 - 0.890  
 Dynamic viscosity (20 °C)..... 110 - 230 mPa·s  
 Kinematic Viscosity (40 °C)..... ≥ 34.5 mm<sup>2</sup>/s  
 Residual solvents (Ph.Eur./ICH)..... excluded by manufacturing process

Aromatic, polycyclic Hydrocarbons..... conforms  
 Solid Paraffines..... passes test  
 Readily carbonisable substance..... passes test  
 Sulphur compounds..... passes test  
 Corresponds Ph Eur, BP, USP

Ord.No.	Packaging	Quantity	Price
1.07160.1000	Plastic bottle	1 l	inquire
1.07160.2500	Plastic bottle	2.5 l	inquire
1.07160.9026	Plastic container	25 l	inquire

Paraffin for Histology → page 187

Paraffin pastilles → page 187

Paraffin pastilles solidification point → page 187

## 818715 Paraformaldehyde for synthesis

(CH<sub>2</sub>O)<sub>n</sub>

- CAS-No. 30525-89-4
- Vapour pressure 1.93 hPa (25 °C)
- Spec. density 1.4 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 7 - 73 % (V) ■ Flash point 70 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ pH value 5.5 (H<sub>2</sub>O, 20 °C) (saturated solution)
- Melting point 100 - 130 °C
- Ignition temp. 300 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4,

Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Carcinogenicity, Category 2, H351; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Flammable solid, Category 2, H228; Specific target organ toxicity - single exposure, Category 3, H335, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313, P370 + P378

- LC50 rat 1.07 mg/l
- LD50 oral rat 592 mg/kg
- LGK 4.1B ■ Store below +15°C.
- HS-No. 2912 60 00 ■ Disposal 3
- ADR-RID UN 2213 Paraformaldehyd, 4.1, III
- IMDG-Code UN 2213 PARAFORMALDEHYDE,

4.1, III

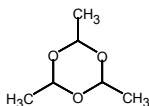
- IATA-DGR UN 2213 PARAFORMALDEHYDE, 4.1, III

## Specification

Assay (acidimetric)..... ≥ 95.0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18715.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
8.18715.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

## 818255 Paraldehyde for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>3</sub>

2,4,6-Trimethyl-1,3,5-trioxane

- CAS-No. 123-63-7 ■ EC-No. 204-639-8
- Refractive index 1.4049 (20 °C) ■ Vapour pressure 13.3 hPa (20 °C) ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 17.0 % (V)

- Flash point 27 °C ■ Solub. in H<sub>2</sub>O 120 g/l (13 °C)
- M = 132.15 g/mol ■ Melting point 12 °C
- Boiling point 124 °C (1013 hPa)
- Ignition temp. 235 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LD50 oral rat 2711 mg/kg ■ LD50 dermal rabbit 13959 mg/kg
- EC-Index-No. 605-004-00-1 ■ LGK 3
- HS-No. 2912 50 00 ■ Disposal 3
- ADR-RID UN 1264 Paraldehyd, 3, III ■ IMDG-

Code UN 1264 PARALDEHYDE, 3, III

- IATA-DGR UN 1264 PARALDEHYDE, 3, III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.992 - 0.994  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18255.0100	Glass bottle	100 ml	inquire
8.18255.1000	Glass bottle	1 l	inquire

Paranaphthalene → Anthracene page 420

Pararosaniline (chloride) (C.I. 42500) → page 190

PAS → 4-Amino-2-hydroxybenzoic acid page 389

PASAM → page 1567

PAS-Na → 4-Amino-2-hydroxybenzoic acid sodium salt dihydrate page 390

PAS staining kit → page 202

Patton and Reeders Reagent → Calconcarboxylic acid page 172

PC cable → page 92

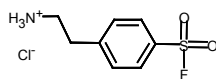
PCMB → 4-(Hydroxymethyl)benzoic acid sodium salt page 985

PDEA → N-Phenyl-2,2'-iminodiethanol page 1307

Pear oil → n-Amyl acetate page 298

PE canister, 25 l → page 329

## 124839 Pefabloc® SC (4-(2-Aminoethyl)-benzolsulfonylfluorid-hydrochloride) (AEBSF) for biochemistry

C<sub>8</sub>H<sub>11</sub>ClFNO<sub>2</sub>S

(4-(2-aminoethyl)-benzenesulfonyl fluorid hydrochloride)

- CAS-No. 30827-99-7
- Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 239.70 g/mol

- Melting point 175 - 177 °C
- Bulk density 200 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good
- Proteinase inhibitor with broad specificity. Stable at neutral pH, highly soluble in water, low toxicity.

The alternative to PMSF and DFP. Usual concentration: 1-5 mM.

## Specification

Assay (HPLC)..... ≥ 98 %  
 Identity (IR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.24839.0100	Glass bottle	100 mg	inquire
1.24839.0500	Glass bottle	500 mg	inquire

PEG → Polyethylene glycol 200 page 307

PEG 200 → Polyethylene glycol 200 page 307

PEG 300 → Polyethylene glycol 300 page 307

PEG 400 → page 307

PEG 600 → Polyethylene glycol 600 page 307

PEG 1000 → page 1337

PEG 1500 → Polyethylene glycol 1500 page 1337

PEG 4000 → page 1338

PEG 6000 → Polyethylene glycol 6000 page 1338

PEG 35000 → Polyethylene glycol 35000 page 1339

N3-PEG-COOK (8 atom) → page 259

Pelargonaldehyde → Nonanal page 1233

Pelargonic acid → Nonanoic acid page 1233

Pelargonic acid chloride → Nonanoyl chloride page 1235

Pelargonic acid ethyl ester → Ethyl nonanoate page 878

Pelargonic acid methyl ester → Methyl nonanoate page 1165

Pelargonyl chloride → Nonanoyl chloride page 1235

1,2,3,4,6-Penta-O-acetyl-β-D-glucopyranose → β-D-Glucose pentaacetate page 923

1,2,3,4,6-Penta-O-acetyl-β-D-glucopyranose → β-D-Glucose pentaacetate page 923

Pentaacetyl-β-D-glucose → β-D-Glucose pentaacetate page 923



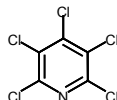
**840022 1,2,3,4,6-Penta-O-acetyl- $\alpha$ -D-glycopyranose** for synthesisC<sub>16</sub>H<sub>22</sub>O<sub>11</sub> $\alpha$ -D-Glucose pentaacetate

- CAS-No. 604-68-2 ■ EC-No. 210-073-2
- Flash point >150 °C ■ Solub. in H<sub>2</sub>O 1 g/l (25 °C)
- M = 390.35 g/mol ■ Melting point 110 - 113 °C

- Bulk density 400 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2940 00 00

Ord.No.	Packaging	Quantity	Price
8.40022.0005	Plastic bottle	5 g	inquire

1,4,7,10,13-Pentaazatridecane → Tetraethylene pentamine page 1530

**841070 Pentachloropyridine** for synthesisC<sub>5</sub>Cl<sub>5</sub>N

Perchloropyridine

- CAS-No. 2176-62-7 ■ EC-No. 218-535-5
- Solub. in H<sub>2</sub>O 0.009 g/l (25 °C) ■ M = 251.32 g/mol
- Melting point 124 - 126 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral,

- H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P260, P262, P273
- LD50 oral rat 435 mg/kg
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(PENTACHLOROPYRIDIN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(PENTACHLOROPYRIDINE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(PENTACHLOROPYRIDINE), 9, III

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 123 °C  
 Melting range (upper value)..... ≤ 126 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41070.0025	Plastic bottle	25 g	inquire

**807114 Pentadecafluorooctanoic acid** for synthesisC<sub>8</sub>HF<sub>15</sub>O<sub>2</sub>CF<sub>3</sub>(CF<sub>2</sub>)<sub>6</sub>COOH

Perfluorooctanoic acid

- CAS-No. 335-67-1 ■ EC-No. 206-397-9
- Spec. density 1.8 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 3.4 g/l (20 °C) ■ M = 414.06 g/mol
- pH value 2.6 (1 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 45 - 50 °C

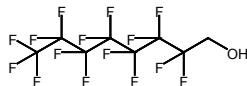
- Boiling point 189 - 192 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(PENTADEC AFLUOROCTANSAEURE), 8, III
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(PENTADEC AFLUOROCTANOIC ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(PENTADEC AFLUOROCTANOIC ACID), 8, III

**Specification**

Assay (acidimetric, calc. on anhydrous substance)..... ≥ 97.0 % (m)  
 Water (K. F.)..... ≤ 5.0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07114.0010	Plastic bottle	10 g	inquire

**841165 2,2,3,3,4,4,5,5,6,6,7,7,8,8-Pentadecafluoro-1-octanol** for synthesisC<sub>8</sub>H<sub>3</sub>F<sub>15</sub>O

1H,1H-Perfluoro-1-octanol

- CAS-No. 307-30-2 ■ EC-No. 206-197-1
- Flash point >110 °C ■ M = 400.08 g/mol
- Melting point 42 - 46 °C

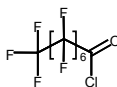
- Boiling point 160 - 162 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2905 59 98 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 42 °C  
 Melting range (upper value)..... ≤ 46 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41165.0005	Glass bottle	5 g	inquire

**841174 Pentadecafluorooctanoyl chloride** for synthesisC<sub>8</sub>ClF<sub>15</sub>O

Perfluorooctanoyl chloride, Perfluorocapryloyl chloride

- CAS-No. 335-64-8 ■ EC-No. 206-394-2
- Spec. density 1.744 g/cm<sup>3</sup> (20 °C)
- M = 432.51 g/mol ■ Boiling point 130 - 132 °C
- WGK 3

- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(PENTADEC AFLUOROCTANSAEURECHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PERFLUOROCTANOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PERFLUOROCTANOYL CHLORIDE), 8, II

**Specification**

Assay (GC, area%)..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.754 - 1.762  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41174.0001	Glass bottle	1 ml	inquire

# Pentad

## n-Pentadecane



C<sub>15</sub>H<sub>32</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>13</sub>CH<sub>3</sub>  
 ■ CAS-No. 629-62-9 ■ EC-No. 211-098-1  
 ■ Vapour pressure < 0.2 hPa (20 °C)

■ Spec. density 0.77 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.45 - 6.5 % (V) ■ Flash point 132 °C  
 ■ Kin. viscosity < 7 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 212.41 g/mol  
 ■ Melting point 10 °C ■ Boiling point 270 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Aspiration hazard, Category 1, H304, P260, P262, P301 + P310, P331  
 ■ LGK 10  
 ■ HS-No. 2901 10 00 ■ Disposal 3



### 820953 n-Pentadecane for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,768 - 0,769  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20953.0010	Glass bottle	10 ml	inquire
8.20953.0050	Glass bottle	50 ml	inquire

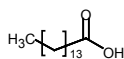
### 109607 n-Pentadecane reference substance for gas chromatography

#### Specification

Assay (GC) ..... ≥ 99.5 %  
 Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09607.0005	Glass bottle	5 ml	inquire

## 800661 Pentadecanoic acid for synthesis



C<sub>15</sub>H<sub>30</sub>O<sub>2</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>13</sub>COOH  
 ■ CAS-No. 1002-84-2 ■ EC-No. 213-693-1  
 ■ Flash point 110 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 242.4 g/mol  
 ■ Melting point 51 - 53 °C ■ Boiling point 257 °C (133 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 90 70 ■ Disposal 3

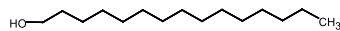
Melting range (lower value) ..... ≥ 51 °C  
 Melting range (upper value) ..... ≤ 53 °C  
 Identity (IR) ..... conforms

#### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %

Ord.No.	Packaging	Quantity	Price
8.00661.0010	Plastic bottle	10 g	inquire

## 820954 1-Pentadecanol for synthesis



C<sub>15</sub>H<sub>32</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>14</sub>OH  
 ■ CAS-No. 629-76-5 ■ EC-No. 211-107-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 228.41 g/mol  
 ■ Melting point 41 - 44 °C  
 ■ Boiling point 118 °C (4 hPa)

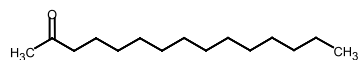
■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 19 00 ■ Disposal 3

#### Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Melting range (lower value) ..... ≥ 42 °C  
 Melting range (upper value) ..... ≤ 45 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20954.0010	Plastic bottle	10 g	inquire

## 818771 2-Pentadecanone for synthesis



C<sub>15</sub>H<sub>30</sub>O  
 CH<sub>3</sub>-C(O)-(CH<sub>2</sub>)<sub>12</sub>-CH<sub>3</sub>  
 ■ CAS-No. 2345-28-0 ■ EC-No. 219-064-8

■ Spec. density 0.82 g/cm<sup>3</sup> (39 °C)  
 ■ Flash point 144 °C ■ M = 226.41 g/mol  
 ■ Melting point 37 - 41 °C ■ Boiling point 294 °C (1013 hPa)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 19 90 ■ Disposal 3

#### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18771.0100	Plastic bottle	100 g	inquire
8.18771.0500	Plastic bottle	500 g	inquire

## 807331 Pentaerythritol for synthesis



C<sub>5</sub>H<sub>12</sub>O<sub>4</sub>  
 C(CH<sub>2</sub>OH)<sub>4</sub>  
 2,2-Bis(hydroxymethyl)-1,3-propanediol  
 ■ CAS-No. 115-77-5 ■ EC-No. 204-104-9  
 ■ Vapour pressure < 0.00001 hPa (20 °C)  
 ■ Spec. density 1.39 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 72.3 g/l (25 °C) ■ M = 136.14 g/mol

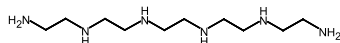
■ pH value 3.5 - 4.5 (100 g/l, H<sub>2</sub>O, 35 °C)  
 ■ Melting point 256 - 258 °C  
 ■ Bulk density 750 - 850 kg/m<sup>3</sup>  
 ■ Boiling point 276 °C (40 hPa)  
 ■ Ignition temp. 490 °C  
 ■ WGK 1  
 ■ LD50 oral rat > 5110 mg/kg  
 ■ LD50 dermal rabbit > 10000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 42 00 ■ Disposal 3

#### Specification

Assay (DSC) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 255 °C  
 Melting range (upper value) ..... ≤ 261 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07331.0100	Plastic bottle	100 g	inquire
8.07331.1000	Plastic bottle	1 kg	inquire

## 840076 Pentaethylenhexamine (mixture of isomers) for synthesis

C<sub>10</sub>H<sub>28</sub>N<sub>6</sub>

3,6,9,12-Tetraazatetradecane-1,14-diamine

- CAS-No. 4067-16-7 ■ EC-No. 223-775-9
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 1.003 g/cm<sup>3</sup> (20 °C)
- Flash point 175 °C ■ M = 232.37 g/mol
- pH value 11 (10 g/l, H<sub>2</sub>O) ■ Melting point -35 °C
- Boiling point 380 °C ■ Ignition temp. 360 °C
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314;

Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310

- LD50 oral rat 1600 mg/kg
- EC-Index-No. 612-064-00-2 ■ LGK 8A
- HS-No. 2921 29 00 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(PENTAETHYLENHXAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(PENTAETHYLENHXAMINE), 8, III, Segregation Group: 18 (Alkalis)

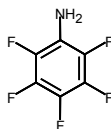
■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(PENTAETHYLENHXAMINE), 8, III

**Specification**

Assay of N..... 33,0 - 35,0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40076.0025	Glass bottle	25 ml	inquire
8.40076.1000	Glass bottle	1 l	inquire

## 841520 Pentafluoroaniline for synthesis

C<sub>6</sub>H<sub>2</sub>F<sub>5</sub>N

Aminopentafluorobenzene

- CAS-No. 771-60-8 ■ EC-No. 212-234-2
- Flash point 73 °C ■ M = 183.08 g/mol
- Melting point 34 - 37 °C
- Boiling point 156 - 157 °C (1013 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

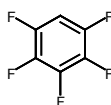
■ HS-No. 2921 42 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 34 °C  
Melting range (upper value)..... ≤ 37 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41520.0005	Glass bottle	5 g	inquire

## 820955 Pentafluorobenzene for synthesis

C<sub>6</sub>HF<sub>5</sub>

CAS-No. 363-72-4 ■ EC-No. 206-658-7

- Refractive index 1.3931 (18 °C, 589 nm)
- Vapour pressure 90 hPa (25 °C)
- Spec. density 1.52 g/cm<sup>3</sup> (20 °C)
- Flash point 14 °C ■ Solub. in H<sub>2</sub>O 0.4 g/l (25 °C)

- M = 168.06 g/mol ■ Melting point -48 °C
- Boiling point 85 - 86 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302, P210, P223, P262
- LD50 oral rat 2000 mg/kg
- LGK 3
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(PENTAFLUORBENZOL), 3, II ■ IMDG-

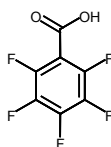
Code UN 1993 FLAMMABLE LIQUID, N.O.S.(PENTAFLUORBENZENE), 3, II  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(PENTAFLUORBENZENE), 3, II

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.522 - 1.525  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20955.0005	Glass bottle	5 ml	inquire

## 841434 2,3,4,5,6-Pentafluorobenzoic acid for synthesis

C<sub>7</sub>HF<sub>5</sub>O<sub>2</sub>(C<sub>6</sub>F<sub>5</sub>)COOH

CAS-No. 602-94-8 ■ EC-No. 210-026-6

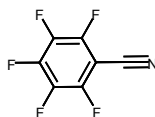
- M = 212.07 g/mol ■ Melting point 100 - 102 °C
- Boiling point 220 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 99,0 %  
Melting range (lower value)..... ≥ 100 °C  
Melting range (upper value)..... ≤ 103 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41434.0005	Plastic bottle	5 g	inquire

## 841508 Pentafluorobenzonitrile for synthesis

C<sub>7</sub>F<sub>5</sub>N

CAS-No. 773-82-0 ■ EC-No. 212-259-9

- Spec. density 1.566 g/cm<sup>3</sup> (20 °C)
- Flash point 29 °C ■ M = 193.07 g/mol
- Melting point 1.6 °C
- Boiling point 161 - 162 °C

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3275 Nitrile, giftig, entzündbar, n.a.g.(PENTAFLUORBENZONITRIL), 6.1 (3), II
- IMDG-Code UN 3275 NITRILES, TOXIC, FLAMMABLE, N.O.S.(PENTAFLUORBENZONITRILE), 6.1 (3), II
- IATA-DGR UN 3275 NITRILES, TOXIC, FLAMMABLE, N.O.S.(PENTAFLUORBENZONITRILE),

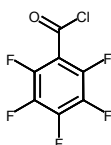
6.1 (3), II

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.566 - 1.570  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41508.0005	Glass bottle	5 ml	inquire
8.41508.0025	Glass bottle	25 ml	inquire

## 841331 Pentafluorobenzoyl chloride for synthesis

C<sub>7</sub>ClF<sub>5</sub>O

Perfluorobenzoyl chloride

- CAS-No. 2251-50-5 ■ EC-No. 218-842-4
- Spec. density 1.664 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) decomposes ■ M = 230.52 g/mol
- pH value (H<sub>2</sub>O, 20 °C) acidic

- Boiling point 158 - 159 °C (1013 hPa)
- WGK 3
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2916 39 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(PENTAFLUORBENZOYLCHLORID), 8, II
- IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PENTAFLUORBENZOYL

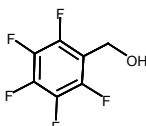
CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PENTAFLUORBENZOYL CHLORIDE), 8, II

**Specification**

Assay (GC, area%)..... ≥ 98,5 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,661 - 1,667  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41331.0005	Glass bottle	5 ml	inquire
8.41331.0025	Glass bottle	25 ml	inquire

## 814556 2,3,4,5,6-Pentafluorobenzylalcohol for synthesis

C<sub>7</sub>H<sub>3</sub>F<sub>5</sub>O

■ CAS-No. 440-60-8 ■ EC-No. 207-126-7

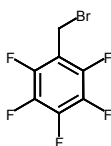
- Flash point 86 °C ■ M = 198.09 g/mol
- Melting point 30 - 33 °C
- Boiling point 114 - 115 °C (80 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 900 mg/kg
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 30 °C  
 Melting range (upper value)..... ≤ 33 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14556.0005	Glass bottle	5 g	inquire

## 841643 2,3,4,5,6-Pentafluorobenzylbromide for synthesis

C<sub>7</sub>H<sub>2</sub>BrF<sub>5</sub>

Bromomethylpentafluorobenzene

- CAS-No. 1765-40-8 ■ EC-No. 217-182-4
- Spec. density 1.85 g/cm<sup>3</sup> (20 °C)
- Flash point 83 °C ■ M = 260.99 g/mol
- Boiling point 174 - 175 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2,3,4,5,6-PENTAFLUORBENZYLBRÖMID), 6.1, II ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2,3,4,5,6-PENTAFLUORBENZYL BROMIDE), 6.1, II

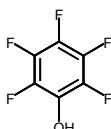
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2,3,4,5,6-PENTAFLUORBENZYL BROMIDE), 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,845 - 1,855  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41643.0005	Glass bottle	5 ml	inquire

## 818100 Pentafluorophenol for synthesis

C<sub>6</sub>HF<sub>5</sub>OF<sub>5</sub>C<sub>6</sub>OH

- CAS-No. 771-61-9 ■ EC-No. 212-235-8
- Refractive index 1.427 (20 °C, 589 nm)
- Flash point 72 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

- M = 184.07 g/mol ■ Melting point 34 - 36 °C
- Boiling point 143 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352
- LGK 10 - 13
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(PENTAFLUORPHENOL), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(PENTAFLUORPHENOL), 6.1, III

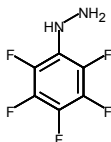
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(PENTAFLUORPHENOL), 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 32 °C  
 Melting range (upper value)..... ≤ 35 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18100.0005	Glass bottle	5 g	inquire
8.18100.0025	Glass bottle	25 g	inquire
8.18100.0100	Glass bottle	100 g	inquire

## 841572 Pentafluorophenyl hydrazine for synthesis

C<sub>6</sub>H<sub>3</sub>F<sub>5</sub>N<sub>2</sub>(C<sub>6</sub>F<sub>5</sub>)NHNH<sub>2</sub>

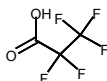
- CAS-No. 828-73-9 ■ EC-No. 212-586-7
- M = 198.09 g/mol ■ Melting point 73 - 76 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2928 00 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Melting range (lower value)..... ≥ 75 °C  
 Melting range (upper value)..... ≤ 77 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41572.0005	Plastic bottle	5 g	inquire

## 820956 2,2,3,3,3-Pentafluoropropionic acid for synthesis

C<sub>3</sub>H<sub>2</sub>F<sub>5</sub>O<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>COOH

Perfluoropropionic acid

- CAS-No. 422-64-0 ■ EC-No. 207-021-6
- Refractive index 1.2838 (25 °C, 589 nm)
- Vapour pressure 52 hPa (25 °C)
- Spec. density 1.57 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 164.03 g/mol
- Boiling point 96 - 97 °C (984 hPa)

- WGK 3
- GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 3, Inhalation, H331; Skin corrosion, Category 1B, H314, P280, P304 + P340, P301 + P330 + P331, P305, P309 + P310
- LC50 rat 7.75 mg/l
- LGK 8 B
- HS-No. 2915 90 70 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2,2,3,3,3-PENTAFLUORPROPIONSÄURE), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,2,3,3,3-PENTAFLUORO

PROPIONIC ACID), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,2,3,3,3-PENTAFLUORO PROPIONIC ACID), 8, II

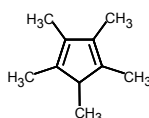
## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.571 - 1.575  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20956.0010	Glass bottle	10 ml	inquire
8.20956.0050	Glass bottle	50 ml	inquire

Pentaglycerol → 2-Hydroxymethyl-2-methyl-1,3-propanediol page 988

## 818534 1,2,3,4,5-Pentamethylcyclopentadiene for synthesis

C<sub>10</sub>H<sub>16</sub>

- CAS-No. 4045-44-7 ■ EC-No. 223-743-4
- Refractive index 1.474 (20 °C, 589 nm)
- Spec. density 0.84 g/cm<sup>3</sup> (20 °C)
- Flash point 44 °C ■ M = 136.23 g/mol
- Boiling point 58 °C (17 hPa)

- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2902 19 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,2,3,4,5-PENTAMETHYLCYCLOPENTADIENE), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,2,3,4,5-PENTAMETHYLCYCLOPENTADIENE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,2,3,4,5-PENTAMETHYLCYCLO-

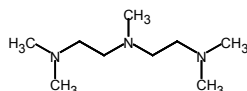
PENTADIENE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 88.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.837 - 0.843  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18534.0001	Glass bottle	1 ml	inquire
8.18534.0005	Glass bottle	5 ml	inquire

## 841692 N,N,N',N',N''-Pentamethyldiethylenetriamine for synthesis

C<sub>9</sub>H<sub>23</sub>N<sub>3</sub>

- CAS-No. 3030-47-5 ■ EC-No. 221-201-1
- Vapour pressure 0.3 hPa (20 °C)
- Spec. density 0.828 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 5.7 % (V) ■ Flash point 77 °C ■ Solub. in H<sub>2</sub>O (20 °C) miscible ■ M = 173.3 g/mol
- pH value 11.9 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point < -18 °C ■ Boiling point 199 °C (1013 hPa) ■ Ignition temp. 155 °C

- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1330 mg/kg ■ LD50 dermal rabbit 230 mg/kg
- EC-Index-No. 612-109-00-6 ■ LGK 6.1A
- HS-No. 2921 29 00 ■ Disposal 9
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(N,N,N',N',N''-PENTAMETHYLDIETHYLENTRIAMIN), 8 (6.1), II
- IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC,

N.O.S.(N,N,N',N',N''-PENTAMETHYLDIETHYLENE TRIAMINE), 8 (6.1), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(N,N,N',N',N''-PENTAMETHYLDIETHYLENE TRIAMINE), 8 (6.1), II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41692.0100	Glass bottle	100 ml	inquire
8.41692.0500	Glass bottle	500 ml	inquire

1,1,4,7,7-Pentamethyldiethylenetriamine → N,N,N',N',N''-Pentamethyldiethylenetriamine page 1267

Pentamethyldiethylenetriamine → N,N,N',N',N''-Pentamethyldiethylenetriamine page 1267

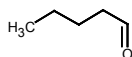
Pentamethylene → page 677

Pentamethylene bromide → 1,5-Dibromopentane page 705

Pentamethylene glycol → 1,5-Pentanediol page 1269

Pentamethyleneimine → page 320

## 808504 Pentanal for synthesis

C<sub>5</sub>H<sub>10</sub>OCH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CHO

Valeraldehyde, Amylaldehyde

- CAS-No. 110-62-3 ■ EC-No. 203-784-4
- Refractive index 1.3942 (20 °C, 589 nm)
- Vapour pressure 36 hPa (20 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 6.8 % (V) ■ Flash point 7 °C ■ Solub. in H<sub>2</sub>O 14 g/l (20 °C) ■ M = 86.13 g/mol
- pH value (H<sub>2</sub>O) neutral ■ Melting point -92 °C
- Boiling point 102 °C (1013 hPa)

- Ignition temp. 205 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P233, P302 + P352, P304 + P340, P305 + P351 + P338
- LC50 rat 14.3 mg/l
- LD50 oral rat 3200 mg/kg ■ LD50 dermal rabbit 4850 mg/kg
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2912 19 00 ■ Disposal 3

■ ADR-RID UN 2058 Valeraldehyd, 3, II ■ IMDG-Code UN 2058 VALERALDEHYDE, 3, II

■ IATA-DGR UN 2058 VALERALDEHYDE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,808 - 0,815  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08504.0100	Glass bottle	100 ml	inquire
8.08504.0500	Glass bottle	500 ml	inquire



# Pentan

## n-Pentane



C<sub>5</sub>H<sub>12</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>  
 ■ CAS-No. 109-66-0 ■ EC-No. 203-692-4  
 ■ Refractive index 1.358 ■ Vapour pressure 570 hPa (20 °C) ■ Spec. density 0.63 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 1.8  
 ■ Explosive limit 1.4 - 8 % (V) ■ Flash point -

48 °C (refers to pure substance) ■ Solub. in H<sub>2</sub>O 0.04 g/l (25 °C) ■ M = 72.15 g/mol  
 ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point -130 °C ■ Boiling point 36 °C (1013 hPa) ■ Ignition temp. 285 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336; Aspiration hazard,

Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P273, P301 + P310, P331  
 ■ LC50 rat 364 mg/l  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ EC-Index-No. 601-006-00-1 ■ LGK 3  
 ■ HS-No. 2901 10 00 ■ Disposal 1  
 ■ ADR-RID UN 1265 Pentane, 3, II ■ IMDG-Code UN 1265 PENTANES, 3, II  
 ■ IATA-DGR UN 1265 PENTANES, 3, II



### 107176 n-Pentane about 95% EMPLURA®

**Specification**  
 Purity (GC)..... ≥ 95.0 %  
 Identity (IR)..... conforms  
 Free acid (as CH<sub>3</sub>COOH)..... ≤ 0.001 %  
 Density (d 20 °C/ 4 °C)..... 0.626 - 0.628  
 Readily carbonizable substances..... conforms

Evaporation residue..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.07176.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.07176.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.07176.6025	Drum stainl. st.	25 l	inquire
1.07176.9190	Steel barrel	190 l	inquire

### 820957 n-Pentane EMPLURA®

**Specification**  
 Purity (GC)..... ≥ 99.0 %  
 Identity (IR)..... conforms  
 Density (d 20 °C/ 4 °C)..... 0.625 - 0.627

Ord.No.	Packaging	Quantity	Price
8.20957.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.20957.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.20957.9025	Steel barrel	25 l	inquire

### 107177 n-Pentane for analysis EMSURE®

**Specification**  
 Purity (GC)..... ≥ 99.0 %  
 Identity (IR)..... conforms  
 Colour..... ≤ 10 Hazen  
 Acidity..... ≤ 0.0002 meq/g  
 Matter discoloured by H<sub>2</sub>SO<sub>4</sub>..... ≤ 10 Hazen  
 Sulfur compounds (as S)..... ≤ 0.005 %  
 Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.01 %  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.000002 %  
 Ba (Barium)..... ≤ 0.00001 %

Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00001 %  
 Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.00001 %  
 Sn (Tin)..... ≤ 0.00001 %

Zn (Zinc)..... ≤ 0.00001 %

Ord.No.	Packaging	Quantity	Price
1.07177.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.07177.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.07177.4000	Glass bottle	4 l	inquire
1.07177.6010	Drum stainl. st.	10 l	inquire
1.07177.9190	Steel barrel	190 l	inquire

### 107179 n-Pentane for spectroscopy Uvasol®

**Specification**  
 Purity (GC)..... ≥ 99.5 %  
 Evaporation residue..... ≤ 0.0002 %  
 Water..... ≤ 0.005 %  
 Colour..... ≤ 10 Hazen  
 Acidity..... ≤ 0.0002 meq/g  
 Alkalinity..... ≤ 0.0002 meq/g  
 Fluorescence (as quinine at 254 nm)..... ≤ 1.0 ppb  
 Fluorescence (as quinine at 365 nm)..... ≤ 1.0 ppb

Transmission (at 200 nm)..... ≥ 50 %  
 Transmission (at 210 nm)..... ≥ 70 %  
 Transmission (at 215 nm)..... ≥ 85 %  
 Transmission (at 225 nm)..... ≥ 95 %  
 Transmission (from 240 nm)..... ≥ 98 %  
 Absorbance (at 200 nm)..... ≤ 0.30  
 Absorbance (at 210 nm)..... ≤ 0.16  
 Absorbance (at 215 nm)..... ≤ 0.07

Absorbance (at 225 nm)..... ≤ 0.02  
 Absorbance (from 240 nm)..... ≤ 0.01  
 Meet the requirements of "Specific use spectroscopy" according Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.07179.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

### 107288 n-Pentane for organic trace analysis UniSolv®

**Specification**  
 Purity (GC)..... ≥ 99.9 %  
 Identity (IR)..... conforms  
 Evaporation residue..... ≤ 3.0 mg/l  
 Water..... ≤ 0.01 %  
 Colour..... ≤ 10 Hazen  
 GC/ECD (retention range 1,2,4-trichlorobenzene to decachlorobiphenyle, individual signals (lindane standard))..... ≤ 2 pg/ml  
 GC/ECD (retention range dichloromethane to 1,2,4-trichlorobenzene individual signals (tetrachloromethane))..... ≤ 1 ng/ml  
 GC/FID (retention range n-undecane to n-tetracontane, individual signals (n-tetradecane standard))..... ≤ 2 ng/ml  
 GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n-tetradecane standard))..... ≤ 2 ng/ml

suitable for residue analysis

Ord.No.	Packaging	Quantity	Price
1.07288.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.07288.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

### 109719 n-Pentane reference substance for gas chromatography

**Specification**  
 Assay (GC)..... ≥ 99.7 %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09719.0005	Glass bottle	5 ml	inquire

## 107054 n-Pentane for analysis EMPARTA®



C<sub>5</sub>H<sub>12</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>  
 ■ CAS-No. 109-66-0 ■ EC-No. 203-692-4  
 ■ Refractive index 1.358 ■ Vapour pressure 570 hPa (20 °C) ■ Spec. density 0.63 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 1.8  
 ■ Explosive limit 1.4 - 8 % (V) ■ Flash point -48 °C (refers to pure substance) ■ Solub. in H<sub>2</sub>O 0.04 g/l (25 °C) ■ M = 72.15 g/mol  
 ■ Melting point -130 °C ■ Boiling point 36 °C

(1013 hPa) ■ Ignition temp. 285 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P273, P301 + P310, P331  
 ■ LC50 rat 364 mg/l  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ EC-Index-No. 601-006-00-1 ■ LGK 3

■ Disposal 1  
 ■ ADR-RID UN 1265 Pentane, 3, II ■ IMDG-Code UN 1265 PENTANES, 3, II  
 ■ IATA-DGR UN 1265 PENTANES, 3, II

Ord.No.	Packaging	Quantity	Price
1.07054.4000		4 l	inquire

## 100882 n-Pentane for gas chromatography ECD and FID SupraSol®



C<sub>5</sub>H<sub>12</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>  
 ■ CAS-No. 109-66-0 ■ EC-No. 203-692-4  
 ■ Refractive index 1.358 ■ Vapour pressure 570 hPa (20 °C) ■ Spec. density 0.63 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 1.8  
 ■ Explosive limit 1.4 - 8 % (V) ■ Flash point -48 °C (refers to pure substance) ■ Solub. in H<sub>2</sub>O 0.04 g/l (25 °C) ■ M = 72.15 g/mol  
 ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point -130 °C ■ Boiling point 36 °C

(1013 hPa) ■ Ignition temp. 285 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P273, P301 + P310, P331  
 ■ LC50 rat 364 mg/l  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ EC-Index-No. 601-006-00-1 ■ LGK 3  
 ■ HS-No. 2901 10 00 ■ Disposal 1

■ ADR-RID UN 1265 Pentane, 3, II ■ IMDG-Code UN 1265 PENTANES, 3, II  
 ■ IATA-DGR UN 1265 PENTANES, 3, II

Ord.No.	Packaging	Quantity	Price
1.00882.1000	Glass bottle	1 l	inquire
1.00882.2500	Glass bottle	2.5 l	inquire
1.00882.4000		4 l	inquire

iso-Pentane → page 293

Pentanedial → page 925

Pentane-1,5-dial-bis(sodium bisulfite) →  
 Glutardialdehyde bis (sodium hydrogen sulfite)  
 page 925

Pentanedinitrile → Glutaronitrile page 926

Pentanedioic acid → Glutaric acid page 926

Pentanedioic acid dimethyl ester → Dimethyl glutarate page 790

## 807061 1,5-Pentandiol for synthesis



C<sub>5</sub>H<sub>12</sub>O<sub>2</sub>  
 Pentamethylene glycol  
 ■ CAS-No. 111-29-5 ■ EC-No. 203-854-4  
 ■ Refractive index 1.4494 (20 °C, 589 nm)  
 ■ Vapour pressure >0.01 hPa (20 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 13.1 % (V) ■ Flash point 136 °C ■ Solub.

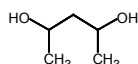
in H<sub>2</sub>O (20 °C) soluble ■ M = 104.15 g/mol  
 ■ pH value 7.5 (H<sub>2</sub>O) ■ Melting point -16 °C  
 ■ Boiling point 240 - 242 °C (1013 hPa)  
 ■ Ignition temp. 330 °C  
 ■ WGK 1  
 ■ LD50 oral rat 10000 mg/kg  
 ■ LD50 dermal rabbit > 19800 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2905 39 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 0.988 - 0.991  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.07061.0100	Plastic bottle	100 ml	inquire
8.07061.0500	Plastic bottle	500 ml	inquire

## 841677 2,4-Pentandiol for synthesis



C<sub>5</sub>H<sub>12</sub>O<sub>2</sub>  
 ■ CAS-No. 625-69-4 ■ EC-No. 210-907-5  
 ■ Spec. density 0.960 g/cm<sup>3</sup> (20 °C)

■ Flash point 101 °C ■ M = 104.14 g/mol  
 ■ Boiling point 114 - 115 °C (33.3 hPa)  
 ■ WGK 2  
 ■ LGK 10  
 ■ HS-No. 2905 39 95 ■ Disposal 3

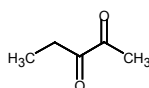
## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %

Density (d 20 °C / 4 °C) ..... 0,958 - 0,962  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41677.0025	Glass bottle	25 ml	inquire

## 818555 2,3-Pentanedione for synthesis



C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>  
 CH<sub>3</sub>COCOCH<sub>2</sub>CH<sub>3</sub>  
 ■ CAS-No. 600-14-6 ■ EC-No. 209-984-8  
 ■ Refractive index 1.4013 (19 °C, 589 nm)  
 ■ Vapour pressure 28.5 hPa (20 °C)  
 ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 10.9 % (V) ■ Flash point 18 °C ■ Solub.

in H<sub>2</sub>O 60 g/l (15 °C) ■ M = 100.12 g/mol  
 ■ pH value 4 (H<sub>2</sub>O) ■ Melting point -52 °C  
 ■ Boiling point 110 - 112 °C  
 ■ Ignition temp. 265 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P233  
 ■ LD50 oral rat 3000 mg/kg ■ LD50 dermal rabbit > 2500 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2914 19 90 ■ Disposal 3  
 ■ ADR-RID UN 1224 Ketone, flüssig, n.a.g.(2,3-

PENTANDION), 3, II ■ IMDG-Code UN 1224 KETONES, LIQUID, N.O.S.(2,3-PENTANDIONE), 3, II  
 ■ IATA-DGR UN 1224 KETONES, LIQUID, N.O.S.(2,3-PENTANDIONE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 97.5 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 0.958 - 0.964  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18555.0025	Glass bottle	25 ml	inquire
8.18555.0100	Glass bottle	100 ml	inquire

2,4-Pentanedione → page 315

## 841552 1,5-Pentanedithiol for synthesis



C<sub>5</sub>H<sub>12</sub>S<sub>2</sub>  
 1,5-Dimercaptopentane  
 ■ CAS-No. 928-98-3 ■ EC-No. 213-194-9  
 ■ Spec. density 1.016 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 95 °C ■ M = 136.26 g/mol  
 ■ Boiling point 216 - 218 °C  
 ■ WGK 3

■ LGK 10  
 ■ HS-No. 2930 90 99 ■ Disposal 6  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1,5-PENTANDITHIOL), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,5-PENTANEDITHIOL), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,5-PENTANEDITHIOL), 6.1, III

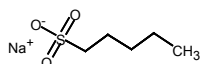
## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 1.014 - 1.018  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41552.0005	Glass bottle	5 ml	inquire

# Pentan

## 118304 Pentane-1-sulfonic acid sodium salt for ion pair chromatography LiChropur®



C<sub>5</sub>H<sub>11</sub>NaO<sub>3</sub>S

- CAS-No. 22767-49-3 ■ EC-No. 245-208-4
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 174.20 g/mol
- pH value 5.5 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 390 kg/m<sup>3</sup>
- WGK 3

- LGK 10 - 13
- HS-No. 2904 10 00 ■ Disposal 3

### Specification

Assay (alkalimetric, calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... conforms  
 pH (100 g/l, water) ..... 5.5 - 7.5  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at 200 nm) ..... ≥ 70 %  
 UV-transmission (0.005 mol/l; 1 cm; Water) (at 220 nm) ..... ≥ 90 %

UV-transmission (0.005 mol/l; 1 cm; Water) (at 250 nm) ..... ≥ 98 %  
 Loss on drying (120 °C; 4h; Vacuum) ..... ≤ 2.0 %

Ord.No.	Packaging	Quantity	Price
1.18304.0025	Glass bottle	25 g	inquire

## 841749 1-Pentanethiol for synthesis



C<sub>5</sub>H<sub>12</sub>S

*Amyl mercaptan, Pentyl mercaptan*

- CAS-No. 110-66-7 ■ EC-No. 203-789-1
- Vapour pressure 18.5 hPa (25 °C)
- Spec. density 0.841 g/cm<sup>3</sup> (20 °C)
- Flash point 18 °C ■ Solub. in H<sub>2</sub>O 0.16 g/l (20 °C) ■ M = 104.2 g/mol
- Melting point -76 °C

- Boiling point 125 - 126 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332, P210, P223
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 1111 Amylmercaptan, 3, II
- IMDG-Code UN 1111 AMYL MERCAPTANS, 3, II

Marine Pollutant: P

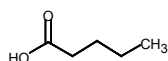
- IATA-DGR UN 1111 AMYL MERCAPTAN, 3, II

### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,840 - 0,844  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41749.0050	Glass bottle	50 ml	inquire

## 800821 Pentanoic acid for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>

CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>COOH

*Valeric acid*

- CAS-No. 109-52-4 ■ EC-No. 203-677-2
- Refractive index 1.4076 (20 °C, 589 nm)
- Vapour pressure 0.3 hPa (20 °C)
- Spec. density 0.938 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.8 - 7.3 % (V) ■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O 40 g/l (20 °C) ■ M = 102.13 g/mol
- pH value 2.7 (40 g/l, H<sub>2</sub>O, 20 °C)

- Melting point -32 °C ■ Boiling point 186 °C (1013 hPa) ■ Ignition temp. 360 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412, P273, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1720 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 607-143-00-3 ■ LGK 8A
- HS-No. 2915 60 90 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(VALERIANSAEURE), 8, II
- IMDG-Code UN 3265 CORROSIVE LIQUID,

ACIDIC, ORGANIC, N.O.S.(VALERIC ACID), 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(VALERIC ACID), 8, II

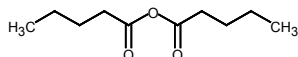
### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,938 - 0,940  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00821.0100	Glass bottle	100 ml	inquire
8.00821.0500	Glass bottle	500 ml	inquire
8.00821.1000	Glass bottle	1 l	inquire

Pentanoic acid ethyl ester → Ethyl pentanoate page 880

## 808543 Pentanoic anhydride for synthesis



C<sub>10</sub>H<sub>18</sub>O<sub>3</sub>

[CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CO]<sub>2</sub>O

*Valeric anhydride*

- CAS-No. 2082-59-9 ■ EC-No. 218-212-9
- Refractive index 1.417 (20 °C, 589 nm)
- Spec. density 0.94 g/cm<sup>3</sup> (20 °C)
- Flash point 102 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) (decomposition) ■ M = 186.25 g/mol
- Melting point -56 °C ■ Boiling point 228 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(VALERIANSAEUREANHYDRID), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID,

ACIDIC, ORGANIC, N.O.S.(PENTANOIC ANHYDRIDE), 8, III, Segregation Group: 1 (Acids)

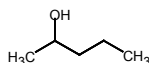
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PENTANOIC ANHYDRIDE), 8, III

### Specification

Assay (GC, area%) ..... ≥ 95.0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,942 - 0,944  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08543.0100	Glass bottle	100 ml	inquire

## 807501 2-Pentanol for synthesis



C<sub>5</sub>H<sub>12</sub>O

CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH(OH)CH<sub>3</sub>

*Methyl propyl carbinol, sec-n-Amyl alcohol*

- CAS-No. 6032-29-7 ■ EC-No. 227-907-6
- Refractive index 1.4055 (20 °C, 589 nm)
- Vapour pressure 3 hPa (20 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 10.5 % (V) ■ Flash point 41 °C ■ Solub. in H<sub>2</sub>O 166 g/l (20 °C) ■ M = 88.14 g/mol

- Melting point -50 °C ■ Boiling point 119 °C (1013 hPa) ■ Ignition temp. 330 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335, P210
- LD50 oral rat 1470 mg/kg ■ LD50 dermal rabbit 5250 mg/kg
- EC-Index-No. 603-006-00-7 ■ LGK 3
- HS-No. 2905 19 00 ■ Disposal 1
- ADR-RID UN 1105 Pentanole, 3, III ■ IMDG-Code UN 1105 PENTANOLS, 3, III

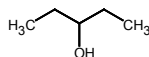
- IATA-DGR UN 1105 PENTANOLS, 3, III

### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,808 - 0,809  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07501.0100	Plastic bottle	100 ml	inquire
8.07501.0500	Plastic bottle	500 ml	inquire

## 807502 3-Pentanol for synthesis

C<sub>5</sub>H<sub>12</sub>O(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>CHOH

Diethyl carbinol

- CAS-No. 584-02-1 ■ EC-No. 209-526-7
- Refractive index 1.4096 (20 °C, 589 nm)
- Vapour pressure 11.69 hPa (25 °C)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 8 % (V) ■ Flash point 33 °C ■ Solub. in H<sub>2</sub>O 55 g/l (30 °C) ■ M = 88.14 g/mol

- Melting point -8 °C ■ Boiling point 115 - 116 °C (1013 hPa) ■ Ignition temp. 360 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P302 + P352
- LD50 oral rat 1870 mg/kg ■ LD50 dermal rabbit 2066 mg/kg
- EC-Index-No. 603-200-00-1 ■ LGK 3
- HS-No. 2905 19 00 ■ Disposal 1

- ADR-RID UN 1105 Pentanole, 3, III ■ IMDG-Code UN 1105 PENTANOLS, 3, III
- IATA-DGR UN 1105 PENTANOLS, 3, III

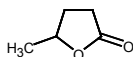
## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,820 - 0,821  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07502.0100	Glass bottle	100 ml	inquire
8.07502.0500	Glass bottle	500 ml	inquire

1-Pentanol → page 315

## 808516 γ-Pentanolactone for synthesis

C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>

4-Pentanolide, γ-Valerolactone

- CAS-No. 108-29-2 ■ EC-No. 203-569-5
- Refractive index 1.433 (20 °C, 589 nm) ■ Vapour pressure 1 hPa (20 °C) ■ Spec. density 1.05 g/cm<sup>3</sup>

- (20 °C) ■ Flash point 81 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 100.12 g/mol
- pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point -31 °C
- Boiling point 205 - 206 °C
- WGK 2
- LD50 oral rat 8800 mg/kg
- LGK 10
- HS-No. 2932 20 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,053 - 1,055  
 Identity (IR) ..... conforms

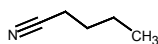
Ord.No.	Packaging	Quantity	Price
8.08516.0100	Glass bottle	100 ml	inquire

4-Pentanolide → γ-Pentanolactone page 1271

2-Pentanone → page 306

3-Pentanone → Diethyl ketone page 302

## 808514 Pentanonitrile for synthesis

C<sub>5</sub>H<sub>9</sub>NCH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CN

Butyl cyanide, Valeronitrile

- CAS-No. 110-59-8 ■ EC-No. 203-781-8
- Refractive index 1.3973 (20 °C, 589 nm)
- Vapour pressure 7.0 hPa (20 °C)
- Spec. density 0.799 g/cm<sup>3</sup> (20 °C)
- Flash point 38 °C ■ Solub. in H<sub>2</sub>O 10.0 g/l (20 °C) ■ M = 83.13 g/mol ■ Melting point -96 °C

- Boiling point 141 °C (1013 mbar)
- Ignition temp. 520 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302, P210
- LD50 oral rat 332 mg/kg
- LGK 3
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(VALERONITRIL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(VALERONITRILE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

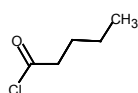
N.O.S.(VALERONITRILE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,798 - 0,800  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08514.0100	Glass bottle	100 ml	inquire

## 808544 Pentanoyl chloride for synthesis

C<sub>5</sub>H<sub>9</sub>ClOCH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>COCl

- CAS-No. 638-29-9 ■ EC-No. 211-330-1
- Vapour pressure 11.4 hPa (20 °C)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C)
- Flash point 32 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 120.58 g/mol
- pH value (H<sub>2</sub>O, 20 °C) strongly acid

- Melting point -110 °C
- Boiling point 125 - 127 °C
- Ignition temp. 265 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412, P210, P273, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 2.07 mg/l
- LGK 3
- HS-No. 2915 90 70

- ADR-RID UN 2502 Valerylchlorid, 8 (3), II
- IMDG-Code UN 2502 VALERYL CHLORIDE, 8 (3), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2502 VALERYL CHLORIDE, 8 (3), II

## Specification

Assay (morpholine method) ..... ≥ 97,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,992 - 0,996  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08544.0100	Glass bottle	100 ml	inquire

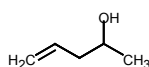
1,4,7,10,13-Pentaoxacyclopentadecane → Crown ether/15-Crown-5 page 660

4,7,13,16,21-Pentaoxa-1,10-diazabicyclo[8.8.5]tricosane → Kryptofix® 221 page 1069

1,4,7,10,13-Pentaoxa(13)orthocyclophane → Crown ether/Benzo-15-crown-5 page 660

8,8-(1,4,7,10,13-Pentaoxatridecylene)-diquinoline → Kryptofix® 5 page 1068

## 841782 4-Pentene-2-ol for synthesis

C<sub>5</sub>H<sub>10</sub>O

- CAS-No. 625-31-0 ■ EC-No. 210-887-8
- Spec. density 0.837 g/cm<sup>3</sup> (20 °C)
- Flash point 30 °C ■ M = 86.13 g/mol
- Boiling point 115 - 116 °C

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2905 29 90 ■ Disposal 3
- ADR-RID UN 1987 Alkohole, n.a.g.(4-PENTEN-2-OL), 3, III ■ IMDG-Code UN 1987 ALCOHOLS, N.O.S.(4-PENTEN-2-OL), 3, III
- IATA-DGR UN 1987 ALCOHOLS, N.O.S.(4-

PENTEN-2-OL), 3, III

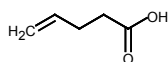
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,836 - 0,840  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41782.0005	Glass bottle	5 ml	inquire

# Penten

## 841468 4-Pentenoic acid for synthesis



C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>

*Allyl acetic acid, 3-Vinylpropionic acid*

- CAS-No. 591-80-0 ■ EC-No. 209-732-7
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.58 % (V) ■ Flash point 89 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 100.11 g/mol
- Melting point -22 °C
- Boiling point 187 - 189 °C

- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 470 mg/kg
- LGK 8A
- HS-No. 2916 19 95 ■ Disposal 4
- ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(4-PENTENSAEURE), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(PENT-4-ENOIC ACID), 8, II

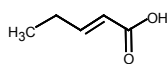
■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(PENT-4-ENOIC ACID), 8, II

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.977 - 0.983  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41468.0005	Glass bottle	5 ml	inquire

## 818439 trans-2-Pentenoic acid for synthesis



C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>

C<sub>2</sub>H<sub>5</sub>CH=CHCOOH

- CAS-No. 13991-37-2 ■ EC-No. 237-791-9
- Refractive index 1.451 (20 °C, 589 nm)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 % (V) ■ Flash point 102 °C ■ Solub. in H<sub>2</sub>O 60 g/l (20 °C) ■ M = 100.11 g/mol

- Melting point 8 - 10 °C
- Boiling point 200 - 203 °C (1013 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2916 19 95 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(TRANS-2-PENTENSAEURE), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID,

ACIDIC, ORGANIC, N.O.S.(TRANS-2-PENTENOIC ACID), 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(TRANS-2-PENTENOIC ACID), 8, III

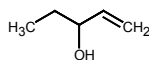
### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.987 - 0.989  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18439.0010	Glass bottle	10 ml	inquire

cis-2-Pentenoic acid nitrile → cis-2-Pentenitrile page 1272

## 841317 1-Penten-3-ol for synthesis



C<sub>5</sub>H<sub>10</sub>O

*Ethyl vinyl carbinol*

- CAS-No. 616-25-1 ■ EC-No. 210-472-1
- Spec. density 0.838 g/cm<sup>3</sup> (20 °C)
- Flash point 25 °C ■ Solub. in H<sub>2</sub>O 90.1 g/l (25 °C) ■ M = 86.13 g/mol

- Boiling point 114 - 115 °C (1013 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2905 29 90 ■ Disposal 3
- ADR-RID UN 1987 Alkohole, n.a.g.(1-PENTEN-3-OL), 3, III ■ IMDG-Code UN 1987 ALCOHOLS, N.O.S.(1-PENTEN-3-OL), 3, III
- IATA-DGR UN 1987 ALCOHOLS, N.O.S.(1-

PENTEN-3-OL), 3, III

### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.835 - 0.840  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41317.0005	Glass bottle	5 ml	inquire

## 841588 4-Penten-1-ol for synthesis



C<sub>5</sub>H<sub>10</sub>O

*2-Allylethanol*

- CAS-No. 821-09-0 ■ EC-No. 212-473-2
- Spec. density 0.84 g/cm<sup>3</sup> (20 °C)
- Flash point 48 °C ■ Solub. in H<sub>2</sub>O 57 g/l (25 °C) (experimental) ■ M = 86.13 g/mol
- Boiling point 134 - 137 °C

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2905 29 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4-PENTEN-1-OL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(4-PENTEN-1-OL), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

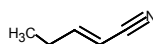
N.O.S.(4-PENTEN-1-OL), 3, III

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.844 - 0.851  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41588.0005	Glass bottle	5 ml	inquire

## 814700 cis-2-Pentenitrile (stabilised) for synthesis



C<sub>5</sub>H<sub>7</sub>N

*cis-2-Pentenoic acid nitrile*

- CAS-No. 25899-50-7 ■ EC-No. 247-323-5
- Vapour pressure 14 hPa (20 °C)
- Spec. density 0.82 g/cm<sup>3</sup> ■ Explosive limit 1.4 - 11.0 % (V) ■ Flash point 26 °C ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 81.12 g/mol
- Melting point -12 °C ■ Boiling point 127 °C (1013 hPa) ■ Ignition temp. 492 °C

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302, P210, P280, P302 + P352, P304 + P340, P309 + P310
- LC50 rat 2.5 mg/l
- LGK 3
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 3275 Nitrile, giftig, entzündbar, n.a.g.(CIS-2-PENTENNITRIL), 6.1 (3), II ■ IMDG-Code UN 3275 NITRILES, TOXIC, FLAMMABLE, N.O.S.(CIS-2-PENTEN NITRILE), 6.1 (3), II

■ IATA-DGR UN 3275 NITRILES, TOXIC, FLAMMABLE, N.O.S.(CIS-2-PENTEN NITRILE), 6.1 (3), II

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.818 - 0.822  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14700.0025	Glass bottle	25 ml	inquire
8.14700.1000	Glass bottle	1 l	inquire

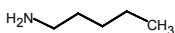
n-Pentyl acetate → n-Amyl acetate page 298

Pentyl alcohol → page 315

tert-Pentyl alcohol → tert-Amyl alcohol page 299



## 807333 n-Pentylamine for synthesis

C<sub>5</sub>H<sub>13</sub>NCH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>NH<sub>2</sub>

1-Aminopentane, n-Amylamine

- CAS-No. 110-58-7 ■ EC-No. 203-780-2
- Refractive index 1.411 (20 °C, 589 nm) ■ Vapour pressure 120.9 hPa (47 °C) ■ Spec. density 0.75 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.2 - 22 % (V)
- Flash point 7 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 87.16 g/mol ■ Melting point -50 °C
- Boiling point 103 °C (1013 hPa)

- Ignition temp. 305 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P233, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 470 mg/kg ■ LD50 dermal rabbit 1120 mg/kg
- LGK 3
- HS-No. 2921 19 99 ■ Disposal 3

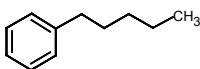
- ADR-RID UN 1106 Amylamine, 3 (8), II ■ IMDG-Code UN 1106 AMYLAMINES, 3 (8), II
- IATA-DGR UN 1106 AMYLAMINE, 3 (8), II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,753 - 0,757  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07333.0025	Glass bottle	25 ml	inquire
8.07333.0100	Glass bottle	100 ml	inquire

## 820965 n-Pentylbenzene for synthesis

C<sub>11</sub>H<sub>16</sub>C<sub>6</sub>H<sub>5</sub>(CH<sub>2</sub>)<sub>5</sub>CH<sub>3</sub>

n-Amylbenzene, 1-Phenylpentane

- CAS-No. 538-68-1 ■ EC-No. 208-701-5
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 % (V) ■ Flash point 65 °C ■ Solub. in H<sub>2</sub>O 3.37 mg/l (25 °C) ■ M = 148.24 g/mol

- Melting point -75 °C ■ Boiling point 205 °C (1013 hPa)
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 2902 90 00
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(N-PENTYLBENZOL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(N-PENTYLBENZENE),

- 9, III, Marine Pollutant: P
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(N-PENTYLBENZENE), 9, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.858 - 0.860  
 Identity (IR) ..... passes test

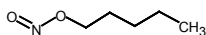
Ord.No.	Packaging	Quantity	Price
8.20965.0025	Glass bottle	25 ml	inquire

Pentyl bromide → 1-Bromopentane page 509  
 iso-Pentyl bromide → 1-Bromo-3-methylbutane page 506  
 Pentyl chloride → 1-Chloropentane page 626

n-Pentyl ether → Di-n-amy ether page 699  
 Pentyl formate → Amyl formate page 417  
 Pentyl iodide → 1-Iodopentane page 1012

Pentyl mercaptan → 1-Pentanethiol page 1270

## 820966 n-Pentyl nitrite for synthesis

C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>4</sub>ONO

n-Amyl nitrite, Nitrous acid n-pentyl ester

- CAS-No. 463-04-7 ■ EC-No. 207-332-7
- Vapour pressure 65 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Flash point -40 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 117.14 g/mol ■ Boiling point 104 °C

- (1013 hPa) ■ Ignition temp. 205 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302, P210, P233
- EC-Index-No. 007-020-00-9 ■ LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2920 90 85 ■ Disposal 3
- ADR-RID UN 1113 Amylnitrite, 3, II ■ IMDG-Code UN 1113 AMYL NITRITE, 3, II

- IATA-DGR UN 1113 AMYL NITRITE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 96.5 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.879 - 0.882  
 Identity (IR) ..... passes test

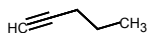
Ord.No.	Packaging	Quantity	Price
8.20966.0005	Glass bottle	5 ml	inquire
8.20966.0250	Glass btl. pl.coat.	250 ml	inquire

iso-Pentyl nitrite → Isopentyl nitrite page 1050

Pentyl propyl carbinol → 4-Nonanol page 1234

Pentyl vinyl carbinol → 1-Octen-3-ol page 1243

## 820963 1-Pentyne for synthesis

C<sub>5</sub>H<sub>8</sub>

Propylacetylene

- CAS-No. 627-19-0 ■ EC-No. 210-987-1
- Vapour pressure 467 hPa (20 °C)
- Spec. density 0.69 - 0.7 g/cm<sup>3</sup> (20 °C)
- Flash point -20 °C ■ Solub. in H<sub>2</sub>O 1.05 g/l (25 °C) ■ M = 68.11 g/mol ■ Melting point -106 °C ■ Boiling point 39 - 41 °C (1013 hPa)

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P223
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1-PENTIN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1-PENTYNE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1-PENTYNE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.690 - 0.700  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20963.0025	Glass bottle	25 ml	inquire

## 822120 2-Pentyne for synthesis

C<sub>5</sub>H<sub>8</sub>

Ethylmethylacetylene

- CAS-No. 627-21-4 ■ EC-No. 210-989-2
- Refractive index 1.4033 (20 °C, 589 nm)
- Vapour pressure 254 hPa (20 °C)
- Spec. density 0.71 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 8.8 % (V) ■ Flash point -20 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 68.11 g/mol

- Melting point -109 °C ■ Boiling point 55 - 57 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2901 29 00 ■ Disposal 1
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-PENTIN), 3, II ■ IMDG-Code UN 1993

- FLAMMABLE LIQUID, N.O.S.(2-PENTENE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2-PENTENE), 3, II

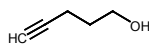
## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,710 - 0,712  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22120.0010	Glass bottle	10 ml	inquire

# Pentyn

## 841385 4-Pentyn-1-ol for synthesis



C<sub>5</sub>H<sub>8</sub>O

- CAS-No. 5390-04-5 ■ EC-No. 226-383-6
- Spec. density 0.91 g/cm<sup>3</sup> (20 °C)
- Flash point 61 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 84.11 g/mol ■ Boiling point 153 - 159 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2905 29 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.909 - 0.915  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41385.0001	Glass bottle	1 ml	inquire

2,2'-(1,2-Phenylenebisoxo)bisacetic acid → o-Phenylenedioxydiacetic acid page 1301  
 (-)-N-(1-Phenylethyl)phthalic acid monoamide → (S)-(-)-N-(1-Phenylethyl)phthalamic acid page 1304

(+)-N-(1-Phenylethyl)succinic acid monoamide → (R)-(+)-N-(1-Phenylethyl)succinamic acid page 1305  
 (-)-N-(1-Phenylethyl)succinic acid monoamide → (S)-(-)-N-(1-Phenylethyl)succinamic acid page 1305

## Pepsin

- CAS-No. 9001-75-6 ■ EC-No. 232-629-3
- Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 35000 g/mol
- pH value 4.0 - 5.0 (10 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 380 - 420 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2,

- H315; Respiratory sensitisation, Category 1, H334, P302 + P352, P304 + P341, P305 + P351 + P338
- EC-Index-No. 647-008-00-6 ■ LGK 10 - 13
- Store below +15°C.
- HS-No. 3507 90 90
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

Catalysed reaction: Hydrolysis of proteins and peptides, preferentially at the carboxyl or amino end of aromatic amino acids; hydrolysis of synthetic oligopeptides. Hydrolysis of peptides and proteins; synthesis of oligopeptides. Other activity value: 1 mAnson-unit/mg.

### 107185 Pepsin (from porcine gastric mucosa) 0.7 FIP-U/mg for biochemistry EC 3.4.23.1

**Specification**  
 Appearance..... fine, slightly yellow powder  
 Activity/FIP (Hemoglobin; pH 1.6; 25 °C)..... ≥ 0.70 FIP-U/mg

pH-value (1 %; water)..... 4.0 - 5.0  
 Water (according to Karl Fischer)..... ≤ 6.0 %

Ord.No.	Packaging	Quantity	Price
1.07185.0100	Glass bottle	100 g	inquire

### 107192 Pepsin (from porcine gastric mucosa) cryst. lyophilized 10 FIP-U/mg for biochemistry EC 3.4.23.1

**Specification**  
 Appearance (description).... fine-crystalline powder  
 Appearance (colour)..... almost white  
 Activity (Hemoglobin; pH 1.6; 25 °C)..... ≥ 10 FIP-U/mg  
 pH-value (1 %; water)..... 3.5 - 4.5

Water (according to Karl Fischer)..... ≤ 8 %  
 Microbiological test..... passes test  
 Colony count (aerobic bacteria)..... ≤ 10000 CFU/g  
 Colony count (Yeasts and moulds)..... ≤ 500 CFU/g  
 Salmonella species..... absent in 1 g

E.coli..... absent in 1 g

Ord.No.	Packaging	Quantity	Price
1.07192.0001	Glass bottle	1 g	inquire

## Peptide synthesis

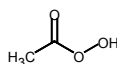
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
355	843951	Adipyl chloride	867	801241	Ethyl 2-ethoxy-1,2-dihydro-1-quinolinecarboxylate	1221	820212	4-Nitrobenzyl bromide
479	814644	(S)-(-)-BOC-Phenylalaninol			(9-Fluorenylmethyl)chloroformate	1230	818165	β-Nitrostyrene
299	802189	tert-Butyl acetate	895	818203	9-Fluorenylmethyl-succinimidyl-carbonate	1266	818100	Pentafluorophenol
543	801656	tert-Butyl carbazate			1,1,1,3,3,3-Hexamethyldisilazane	1289	843984	Phenol (90% solution in water)
571	802301	1,1'-Carbonyldiimidazole	895	814307	Hydrazin hydrate	1299	802353	Phenyl chloroformate
595	802604	Chloroacetonitrile			Hydrazinium hydroxide	1306	807250	Phenylhydrazine
620	807037	4-(Chloromethyl)-pyridinium chloride	950	804324	Hydrogen bromide	1326	800592	Phthalic anhydride
638	808348	Chlorotriphenylmethane	963	804604	N-Hydroxyphthalimide	1333	801276	Pivaloyl chloride
707	818282	Di-tert-butyl dicarbonate	963	804608	2-Hydroxypyridine	1389	807036	3-Pyridinol
734	802954	N,N'-Dicyclohexylcarbodiimide	972	818856	2-Hydroxyquinoline	1446	810595	Sodium 2-mercaptoethanesulfonate
767	803649	N,N'-Diisopropylcarbodiimide	993	804528	N-Hydroxysuccinimide	1553	808159	Thiophenol
779	800907	N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride	994	807035	Isobutyl chloroformate	1567	808326	4-Toluenesulfonyl chloride
814	818066	Diphenyl azidophosphate	995	820261	Methyl chloroformate	1573	808388	1,2,4-Triazole
816	818088	4,5-Diphenyl-1,3-dioxol-2-one	996	804518	4-Nitrobenzyl alcohol	1578	808610	2,2,2-Trichloroethanol
856	800881	Ethyl chloroformate	1043	802358		1589	808260	Trifluoroacetic acid
			1101	805740				
			1142	802357				
			1221	820889				

PeptiSCREEN® → ChiroSCREEN®

Peptone → page 112

Peptone water → page 103

## 107222 Peracetic acid about 38–40%



- Vapour pressure 14 hPa (20 °C)
- Spec. density 1.14 g/cm<sup>3</sup> (20 °C)
- Flash point 62 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 1 (H<sub>2</sub>O, 20 °C) ■ Melting point -37 °C
- Ignition temp. 225 °C
- WGK 2
- GHS: Danger, Self reactive substances, Type D, H242; Acute toxicity, Category 3, Oral, H301; Skin

corrosion, Category 1A, H314; Acute aquatic toxicity, Category 1, H400, P210, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310, P370 + P378

- LD50 oral rat 263 mg/kg
- LGK 5.2
- HS-No. 3824 90 97 ■ Disposal 22
- ADR-RID UN 3105 Organisches Peroxid Typ D, flüssig(PEROXYESSIGSAEURE TYP D, STABILISIERT), 5.2 (8), ■ IMDG-Code UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID(PEROXYACETIC ACID, TYPE D, STABILIZED), 5.2 (8),

■ IATA-DGR UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID(PEROXYACETIC ACID, TYPE D, STABILIZED), 5.2 (8),

**Specification**

Assay (peracetic acid) ..... 37.5 - 40.5 %  
Identity (IR-spectrum) ..... passes test  
Date of expiry: see product label

Ord.No.	Packaging	Quantity	Price
1.07222.1000	Plastic bottle	1 l	inquire

Peracetic Acid Test → page 75

Perbenzoic acid tert-butyl ester → tert-Butyl perbenzoate page 553

Perbromodiphenylether → Decabromodiphenyl ether page 683

Percarbamide → Hydrogen peroxide urea page 974

109065 Perchloric acid in anhydrous acetic acid, for titrations in non-aqueous media c(HClO<sub>4</sub>) = 0.1 mol/l (0.1 N)

Titripur®

- EC-No. 200-580-7
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)
- Flash point 40 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 0.1 (H<sub>2</sub>O, 20 °C)
- Ignition temp. 485 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- EC-Index-No. 607-002-00-6 ■ LGK 3
- HS-No. 3822 00 00 ■ Disposal 22
- ADR-RID UN 2789 Eisessig, 8 (3), II ■ IMDG-Code UN 2789 ACETIC ACID, GLACIAL, 8 (3), II,

Segregation Group: 1 (Acids)

- IATA-DGR UN 2789 ACETIC ACID, GLACIAL, 8 (3), II

**Specification**

Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP). Amount-of-substance concentration .0.1000 mol/l  
Water content (according to Karl Fischer) ..... 0.1 - 0.2 %

The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C

was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09065.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 100518 Perchloric acid 60% for analysis EMSURE® ACS

- Spec. density 1.53 g/cm<sup>3</sup> (15 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid ■ Boiling point 160 °C
  - WGK 1
  - GHS: Danger, Oxidising liquid, Category 1, H271; Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P210, P221, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
  - LGK 5.1A
  - HS-No. 2811 19 80 ■ Disposal 22
  - ADR-RID UN 1873 Perchlorsäure, 5.1 (8), I
  - IMDG-Code UN 1873 PERCHLORIC ACID MORE THAN 50% BUT NOT MORE THAN 72%, 5.1 (8), I,
- Segregation Group: 1 (Acids)
- IATA-DGR UN 1873 PERCHLORIC ACID, 5.1 (8), I
- Specification**
- Assay (acidimetric)..... 60.0 - 62.0 %  
Colour..... ≤ 10 Hazen  
Chlorate (ClO<sub>3</sub>)..... ≤ 10 ppm  
Chloride (Cl)..... ≤ 3 ppm

Phosphate and Silicate (as SiO<sub>2</sub>)..... ≤ 5 ppm  
Free chlorine (Cl)..... ≤ 0.5 ppm  
Sulphate (SO<sub>4</sub>)..... ≤ 10 ppm  
Total nitrogen (N)..... ≤ 10 ppm  
Heavy metals (as Pb)..... ≤ 1 ppm  
Ag (Silver)..... ≤ 0.1 ppm  
Al (Aluminium)..... ≤ 0.05 ppm  
As (Arsenic)..... ≤ 0.05 ppm  
Ba (Barium)..... ≤ 0.02 ppm  
Be (Beryllium)..... ≤ 0.02 ppm  
Bi (Bismuth)..... ≤ 0.1 ppm  
Ca (Calcium)..... ≤ 0.5 ppm  
Cd (Cadmium)..... ≤ 0.05 ppm  
Co (Cobalt)..... ≤ 0.05 ppm  
Cu (Copper)..... ≤ 0.1 ppm  
Fe (Iron)..... ≤ 1.0 ppm  
Ge (Germanium)..... ≤ 0.05 ppm  
K (Potassium)..... ≤ 0.1 ppm  
Li (Lithium)..... ≤ 0.02 ppm  
Mg (Magnesium)..... ≤ 0.5 ppm  
Mn (Manganese)..... ≤ 0.02 ppm

Mo (Molybdenum)..... ≤ 0.05 ppm  
Na (Sodium)..... ≤ 0.5 ppm  
Ni (Nickel)..... ≤ 0.1 ppm  
Pb (Lead)..... ≤ 0.05 ppm  
Sr (Strontium)..... ≤ 0.02 ppm  
Ti (Titanium)..... ≤ 0.1 ppm  
Tl (Thallium)..... ≤ 0.05 ppm  
V (Vanadium)..... ≤ 0.05 ppm  
Zn (Zinc)..... ≤ 0.1 ppm  
Zr (Zirconium)..... ≤ 0.1 ppm  
Residue on ignition (as sulphate)..... ≤ 30 ppm  
conforms to ACS

Ord.No.	Packaging	Quantity	Price
1.00518.1001	Glass bottle	1 l	inquire
1.00518.1016	Glass bottle	6 x 1 l	inquire
1.00518.2501	Glass bottle	2.5 l	inquire
1.00518.2514	Glass bottle	4 x 2.5 l	inquire

# Perchl

## Perchloric acid 70%

- Spec. density 1.68 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid ■ Melting point -18 °C
- Boiling point 198.7 °C (1013 hPa)
- WGK 1
- GHS: Danger, Oxidising liquid, Category 1, H271;

- Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P210, P221, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 5.1A
- HS-No. 2811 19 80 ■ Disposal 22

- ADR-RID UN 1873 Perchlorsäure, 5.1 (8), I
- IMDG-Code UN 1873 PERCHLORIC ACID MORE THAN 50% BUT NOT MORE THAN 72%, 5.1 (8), I, Segregation Group: 1 (Acids)
- IATA-DGR UN 1873 PERCHLORIC ACID, 5.1 (8), I



### 100514 Perchloric acid 70% for analysis (max. 0.000005% Hg) EMSURE® ACS,ISO,Reag. Ph Eur

#### Specification

Assay (acidimetric).....	70.0 - 72.0 %
Colour.....	≤ 10 Hazen
Chlorate (ClO <sub>3</sub> ).....	≤ 10 ppm
Chloride (Cl).....	≤ 3 ppm
Free chlorine.....	≤ 0.5 ppm
Phosphate and Silicate (as SiO <sub>2</sub> ).....	≤ 5 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 10 ppm
Total nitrogen (N).....	≤ 10 ppm
Heavy metals (as Pb).....	≤ 1 ppm
Ag (Silver).....	≤ 0.1 ppm
Al (Aluminium).....	≤ 0.05 ppm
As (Arsenic).....	≤ 0.05 ppm
Ba (Barium).....	≤ 0.02 ppm
Be (Beryllium).....	≤ 0.02 ppm
Bi (Bismuth).....	≤ 0.1 ppm

Ca (Calcium).....	≤ 0.5 ppm
Cd (Cadmium).....	≤ 0.05 ppm
Co (Cobalt).....	≤ 0.05 ppm
Cu (Copper).....	≤ 0.1 ppm
Fe (Iron).....	≤ 1.0 ppm
Ge (Germanium).....	≤ 0.05 ppm
Hg (Mercury).....	≤ 0.005 ppm
K (Potassium).....	≤ 0.1 ppm
Li (Lithium).....	≤ 0.02 ppm
Mg (Magnesium).....	≤ 0.5 ppm
Mn (Manganese).....	≤ 0.02 ppm
Mo (Molybdenum).....	≤ 0.05 ppm
Na (Sodium).....	≤ 0.5 ppm
Ni (Nickel).....	≤ 0.1 ppm
Pb (Lead).....	≤ 0.05 ppm

Sr (Strontium).....	≤ 0.02 ppm
Ti (Titanium).....	≤ 0.1 ppm
Tl (Thallium).....	≤ 0.05 ppm
V (Vanadium).....	≤ 0.05 ppm
Zn (Zinc).....	≤ 0.1 ppm
Zr (Zirconium).....	≤ 0.1 ppm
Residue on ignition (as sulphate).....	≤ 30 ppm
Identity.....	passes test
Density (d 20/20).....	approx. 1.7g/ml
Conform to ACS, ISO, Reag.Ph Eur.	

Ord.No.	Packaging	Quantity	Price
1.00514.1000	Glass bottle	1 l	inquire
1.00514.1006	Glass bottle	6 x 1 l	inquire

### 100517 Perchloric acid 70% Suprapur®

#### Specification

Assay (acidimetric).....	≥ 70 %
Colour.....	≤ 10 Hazen
Chloride (Cl).....	≤ 1000 ppb
Phosphate (PO <sub>4</sub> ).....	≤ 100 ppb
Sulphate (SO <sub>4</sub> ).....	≤ 1000 ppb
Total nitrogen (N).....	≤ 5000 ppb
Ag (Silver).....	≤ 1 ppb
Al (Aluminium).....	≤ 5 ppb
As (Arsenic).....	≤ 0.5 ppb
Au (Gold).....	≤ 0.5 ppb
Ba (Barium).....	≤ 1 ppb
Be (Beryllium).....	≤ 0.5 ppb
Bi (Bismuth).....	≤ 0.5 ppb
Ca (Calcium).....	≤ 30 ppb
Cd (Cadmium).....	≤ 1 ppb
Co (Cobalt).....	≤ 0.5 ppb
Cr (Chromium).....	≤ 5.0 ppb

Cu (Copper).....	≤ 0.5 ppb
Fe (Iron).....	≤ 20 ppb
Ga (Gallium).....	≤ 0.5 ppb
Ge (Germanium).....	≤ 0.5 ppb
Hg (Mercury).....	≤ 5 ppb
In (Indium).....	≤ 0.5 ppb
K (Potassium).....	≤ 5 ppb
Li (Lithium).....	≤ 0.5 ppb
Mg (Magnesium).....	≤ 5 ppb
Mn (Manganese).....	≤ 1 ppb
Mo (Molybdenum).....	≤ 0.5 ppb
Na (Sodium).....	≤ 20 ppb
Ni (Nickel).....	≤ 2 ppb
Pb (Lead).....	≤ 1 ppb
Pd (Palladium).....	≤ 1 ppb
Pt (Platinum).....	≤ 5 ppb
Sb (Antimony).....	≤ 0.5 ppb

Sn (Tin).....	≤ 1 ppb
Sr (Strontium).....	≤ 0.5 ppb
Ti (Titanium).....	≤ 1 ppb
Tl (Thallium).....	≤ 0.5 ppb
U (Uranium).....	≤ 0.5 ppb
V (Vanadium).....	≤ 0.5 ppb
Zn (Zinc).....	≤ 5 ppb
Zr (Zirconium).....	≤ 0.5 ppb
Residue on ignition (as sulphate).....	≤ 2000 ppb
Actual analysis values are subject to unavoidable systematic variations in this concentration range	

Ord.No.	Packaging	Quantity	Price
1.00517.0250	Glass bottle	250 ml	inquire
1.00517.1000	Glass bottle	1 l	inquire

### 100519 Perchloric acid 70-72% for analysis EMSURE® ACS,ISO,Reag. Ph Eur

- Spec. density 1.68 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid ■ Melting point -18 °C
- Boiling point 198.7 °C (1013 hPa)
- WGK 1
- GHS: Danger, Oxidising liquid, Category 1, H271;

Chlorate (ClO <sub>3</sub> ).....	≤ 10 ppm
Chloride (Cl).....	≤ 3 ppm
Free chlorine (Cl).....	≤ 0.5 ppm
Phosphate and Silicate (as SiO <sub>2</sub> ).....	≤ 5 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 10 ppm
Total nitrogen (N).....	≤ 10 ppm
Heavy metals (as Pb).....	≤ 1 ppm
Ag (Silver).....	≤ 0.1 ppm
Al (Aluminium).....	≤ 0.05 ppm
As (Arsenic).....	≤ 0.05 ppm
Ba (Barium).....	≤ 0.02 ppm
Be (Beryllium).....	≤ 0.02 ppm
Bi (Bismuth).....	≤ 0.1 ppm
Ca (Calcium).....	≤ 0.5 ppm
Cd (Cadmium).....	≤ 0.05 ppm
Co (Cobalt).....	≤ 0.05 ppm
Cu (Copper).....	≤ 0.1 ppm
Fe (Iron).....	≤ 1.0 ppm
Ge (Germanium).....	≤ 0.05 ppm
K (Potassium).....	≤ 0.1 ppm
Li (Lithium).....	≤ 0.02 ppm
Mg (Magnesium).....	≤ 0.5 ppm

Mn (Manganese).....	≤ 0.02 ppm
Mo (Molybdenum).....	≤ 0.05 ppm
Na (Sodium).....	≤ 0.5 ppm
Ni (Nickel).....	≤ 0.1 ppm
Pb (Lead).....	≤ 0.05 ppm
Sr (Strontium).....	≤ 0.02 ppm
Ti (Titanium).....	≤ 0.1 ppm
Tl (Thallium).....	≤ 0.05 ppm
V (Vanadium).....	≤ 0.05 ppm
Zn (Zinc).....	≤ 0.1 ppm
Zr (Zirconium).....	≤ 0.1 ppm
Residue on ignition (as sulphate).....	≤ 0.003 %
conforms to ACS, ISO, Reag. Ph Eur	

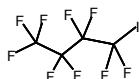
Ord.No.	Packaging	Quantity	Price
1.00519.1001	Glass bottle	1 l	inquire
1.00519.1016	Glass bottle	6 x 1 l	inquire
1.00519.2501	Glass bottle	2.5 l	inquire
1.00519.2510	Safebreak btl.	2.5 l	inquire
1.00519.2514	Glass bottle	4 x 2.5 l	inquire

Perchloroacetone → Hexachloroacetone page 945  
 Perchloroethylene → page 308  
 Perchloropyridine → Pentachloropyridine page 1263

Percyanoethylene → Tetracyanoethylene page 1528  
 Perfluorocapryloyl chloride →  
 Pentadecafluorooctanoyl chloride page 1263  
 Perfluorobenzene → Hexafluorobenzene page 949

Perfluorobenzoyl chloride → Pentafluorobenzoyl chloride page 1266

## 818398 Perfluorobutyl iodide (stabilised with silver platelets) for synthesis



C<sub>4</sub>F<sub>9</sub>I  
 CF<sub>3</sub>(CF<sub>2</sub>)<sub>2</sub>CF<sub>2</sub>I  
 1,1,1,2,2,3,3,4,4,4-Nonafluoro-4-iodobutane  
 ■ CAS-No. 423-39-2 ■ EC-No. 207-025-8  
 ■ Refractive index 1.329 (20 °C, 589 nm) ■ Vapour pressure 133 hPa (19 °C) ■ Spec. density 2.05 g/cm<sup>3</sup> (20 °C) ■ Flash point >115 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 345.93 g/mol

■ Melting point -89 - -87 °C  
 ■ Boiling point 64 - 66 °C (973 hPa)  
 ■ WGK 3  
 ■ GHS: Chronic aquatic toxicity, Category 2, H411, P262, P273  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 78 00 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(PERFLUOROBUTYLIODID (STABILISIERT)), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(PERFLUOROBUTYL IODIDE (STABILISED)), 9, III, Marine Pollutant: P

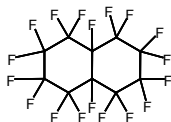
■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(PERFLUOROBUTYL IODIDE (STABILISED)), 9, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 2.050 - 2.051  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18398.0010	Glass bottle	10 ml	inquire

## 841401 Perfluorodecahydronaphthalene (mixture of isomers) for synthesis



C<sub>10</sub>F<sub>18</sub>  
 Perfluorodecalin  
 ■ CAS-No. 306-94-5 ■ EC-No. 206-192-4  
 ■ Spec. density 1.94 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 59 °C ■ M = 462.08 g/mol

■ Melting point -10 °C  
 ■ Boiling point 141 - 142 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LGK 3  
 ■ HS-No. 2903 89 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(PERFLUORDECAHYDRONAPHTHALIN), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(PERFLUORODECALIN), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(PERFLUORODECALIN), 3, III

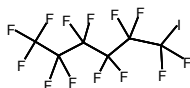
## Specification

Assay isomers (GC, area%) ..... ≥ 92.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.939 - 1.944  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41401.0010	Glass bottle	10 ml	inquire

Perfluorodecalin → Perfluorodecahydronaphthalene page 1277

## 818399 Perfluorohexyl iodide for synthesis



C<sub>6</sub>F<sub>13</sub>I  
 CF<sub>3</sub>(CF<sub>2</sub>)<sub>4</sub>CF<sub>2</sub>I  
 1,1,1,2,2,3,3,4,4,5,5,6,6-Tridecafluoro-6-iodohexane

■ CAS-No. 355-43-1 ■ EC-No. 206-586-6  
 ■ Refractive index 1.322 (20 °C, 589 nm) ■ Vapour pressure 133 hPa (60 °C) ■ Spec. density 2.05 g/cm<sup>3</sup> (20 °C) ■ Flash point >115 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 445.94 g/mol  
 ■ Melting point -45 °C  
 ■ Boiling point 111 - 113 °C (973 hPa)  
 ■ WGK 2  
 ■ LGK 10

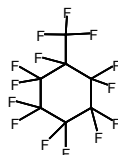
■ HS-No. 2903 78 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 2.048 - 2.052  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18399.0010	Glass bottle	10 ml	inquire

## 841163 Perfluoromethylcyclohexane for synthesis



C<sub>7</sub>F<sub>14</sub>  
 (Trifluoromethyl)undecafluorocyclohexane  
 ■ CAS-No. 355-02-2 ■ EC-No. 206-573-5  
 ■ Spec. density 1.8 g/cm<sup>3</sup> (20 °C) ■ M = 350.05 g/mol  
 ■ Boiling point 75 - 76 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 89 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.798 - 1.802  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41163.0025	Glass bottle	25 ml	inquire

Perfluorooctanoic acid → Pentadecafluorooctanoic acid page 1263

1H,1H-Perfluoro-1-octanol →

2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-Pentadecafluoro-1-octanol page 1263

Perfluorooctanoyl chloride →

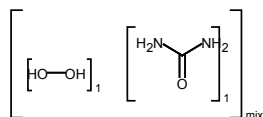
Pentadecafluorooctanoyl chloride page 1263

Perfluoropropionic acid → 2,2,3,3,3-

Pentafluoropropionic acid page 1267

Perfringens medium → page 104

## 107201 Perhydrit® tablets 1 g (Hydrogen peroxide - Urea)



CH<sub>6</sub>N<sub>2</sub>O<sub>3</sub>  
 CH<sub>4</sub>N<sub>2</sub>O \* H<sub>2</sub>O<sub>2</sub>  
 Carbamide peroxide tablets, Hydrogen peroxide urea tablets  
 ■ CAS-No. 124-43-6 ■ EC-No. 204-701-4  
 ■ Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 94.07 g/mol  
 ■ pH value 6.3 (H<sub>2</sub>O, 20 °C)

■ Melting point 75 - 85 °C (decomposition)  
 ■ WGK 2  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Oxidising solid, Category 3, H272, P280, P302 + P352, P305 + P351 + P338, P313  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2847 00 00 ■ Disposal 22  
 ■ ADR-RID UN 1511 Harnstoffwasserstoffperoxid, 5.1 (8), III ■ IMDG-Code UN 1511 UREA HYDROGEN PEROXIDE, 5.1 (8), III

■ IATA-DGR UN 1511 UREA HYDROGEN PEROXIDE, 5.1 (8), III  
 Oxidant

## Specification

Assay (H<sub>2</sub>O<sub>2</sub>) ..... 33.5 - 36.5 %  
 Identity ..... passes test  
 Dissolution rate ..... passes test  
 Weight ..... about 1 g

Ord.No.	Packaging	Quantity	Price
1.07201.0100	Plastic bottle	100 g	inquire
1.07201.4000	Plastic bottle	4 kg	inquire

Perhydrol® → page 165

Perhydrol → Hydrogen peroxide 35% page 973

Periodethylene → Tetraiodoethylene page 1537



# Period

## Periodic acid

H<sub>5</sub>IO<sub>6</sub>  
 ■ CAS-No. 10450-60-9 ■ EC-No. 233-937-0  
 ■ Solub. in H<sub>2</sub>O 2430 g/l (20 °C) ■ M = 227.94 g/mol  
 ■ pH value 1.2 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 122 °C ■ Bulk density 1400 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 1, H271;

Skin corrosion, Category 1B, H314, P210, P221, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 5.1A  
 ■ HS-No. 2811 19 80 ■ Disposal 22  
 ■ ADR-RID UN 3085 Entzündend (oxidierend) wirkender fester Stoff, ätzend,

n.a.g.(PERIODSAEURE), 5.1 (8), I ■ IMDG-Code UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(PERIODIC ACID), 5.1 (8), I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(PERIODIC ACID), 5.1 (8), I



### 822288 Periodic acid for synthesis

#### Specification

Assay (iodometric) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 124 °C  
 Melting range (upper value) ..... ≤ 129 °C

Ord.No.	Packaging	Quantity	Price
8.22288.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire
8.22288.0500	Glass bottle	500 g	inquire

### 100524 Periodic acid for analysis EMSURE®

#### Specification

Assay (iodometric) ..... ≥ 99.5 %  
 Iodic acid (acidimetric) ..... ≤ 0.5 %  
 Chloride, Chlorate, Bromide, Bromate (as Cl) ..... ≤ 100 ppm  
 Iodide (I) ..... ≤ 10 ppm

Nitrate (NO<sub>3</sub>) ..... ≤ 10 ppm  
 Sulphate (SO<sub>4</sub>) ..... ≤ 100 ppm  
 Fe (Iron) ..... ≤ 5 ppm  
 Residue on ignition (as sulphates) ..... ≤ 500 ppm

Ord.No.	Packaging	Quantity	Price
1.00524.0025	Glass bottle	25 g	inquire
1.00524.0100	Glass bottle	100 g	inquire

Permanent hardness, determination → page 81

Permanganic acid potassium salt → page 1361

### 116216 Peroxidase (from horse radish) 10000 U/vial for biochemistry EC 1.11.1.7

■ CAS-No. 9003-99-0 ■ EC-No. 232-668-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ pH value 6.5 - 7.5 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P341, P342 + P311  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 3507 90 90  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Catalysed reaction: Donor + H<sub>2</sub>O<sub>2</sub> → oxydized donor + 2H<sub>2</sub>O. Possible donors: phenols (e.g. guajacol), diamines, leuco dyes, ascorbate.  
 Determination of H<sub>2</sub>O<sub>2</sub>; indicator enzyme for the determination of numerous substrates, e.g. of glucose cholesterol, creatinine, phospholipids, triglycerides and uric acid.

#### Specification

Activity (Hydrogen peroxide and guajacol; pH 7.0; 25 °C) ..... about 170 U/mg  
 - ..... ≥ 10000 U/Glas  
 Catalase ..... ≤ 1 U/mg

Ord.No.	Packaging	Quantity	Price
1.16216.0001	Glass bottle	1 vial	inquire

Peroxidase Test → page 75

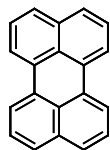
Peroxide Test → page 75

Peroxide, determination → page 75

Peroxidisulfuric acid diammonium salt → page 414

Peroxybenzoic acid tert-butyl ester → tert-Butyl perbenzoate page 553

### 820969 Perylene for synthesis



C<sub>20</sub>H<sub>12</sub>

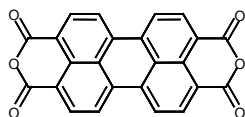
■ CAS-No. 198-55-0 ■ EC-No. 205-900-9  
 ■ Vapour pressure < 0.001 hPa (20 °C) ■ Solub. in H<sub>2</sub>O < 0.0001 g/l (25 °C) ■ M = 252.31 g/mol  
 ■ Melting point 273 - 278 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3

#### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 273 °C  
 Melting range (upper value) ..... ≤ 278 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20969.0001	Glass bottle	1 g	inquire
8.20969.0005	Glass bottle	5 g	inquire

### 820970 3,4,9,10-Perylenetetracarboxylic 3,4:9,10-dianhydride for synthesis



C<sub>24</sub>H<sub>8</sub>O<sub>6</sub>

■ CAS-No. 128-69-8 ■ EC-No. 204-905-3

■ Flash point >400 °C ■ Solub. in H<sub>2</sub>O 0.87 g/l (20 °C) ■ M = 392.33 g/mol ■ pH value 6 - 7 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point >350 °C  
 ■ Bulk density 300 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LD50 oral rat > 10000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 39 95 ■ Disposal 3

#### Specification

Assay (acidimetric) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20970.0025	Glass bottle	25 g	inquire
8.20970.0100	Glass bottle	100 g	inquire

Petroleum ehter → Petroleum benzine boiling range 60-80°C page 320

109718 Petroleum for analysis EMSURE®



*Petroleum spirit, Petroleum ether*  
 ■ CAS-No. 64741-65-7 ■ EC-No. 265-067-2  
 ■ Vapour pressure 1.0 hPa (20 °C)  
 ■ Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.6 - 8 % (V) ■ Flash point 56 °C  
 ■ Kin. viscosity 1.85 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ Melting point < -30 °C  
 ■ Boiling point 172 - 215 °C (1013 hPa)  
 ■ Ignition temp. 355 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304, P260, P301 + P310, P331  
 ■ LC50 rat > 5 mg/l  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ EC-Index-No. 649-275-00-4 ■ LGK 3  
 ■ HS-No. 2710 12 21 ■ Disposal 1

■ ADR-RID UN 1268 Erdölprodukte, n.a.g., 3, III  
 ■ IMDG-Code UN 1268 PETROLEUM PRODUCTS, N.O.S., 3, III  
 ■ IATA-DGR UN 1268 PETROLEUM PRODUCTS, N.O.S., 3, III  
**Specification**  
 Identity (IR)..... conforms  
 Acidity..... ≤ 0.0002 meq/g  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.00002 %  
 Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00001 %

Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.00001 %  
 Sn (Tin)..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %  
 Aromatics (as naphthalene)..... ≤ 0.2 %  
 Sulfur compounds (as S)..... ≤ 0.005 %  
 Water..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.09718.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09718.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09718.6025	Drum stainl. st.	25 l	inquire

159542 Petroleum benzine boiling range 50-70°C EMSURE® Reag. Ph Eur



*Petroleum spirit, Petroleum ether*  
 ■ Vapour pressure 350 hPa (20 °C)  
 ■ Spec. density 0.654 - 0.670 g/cm<sup>3</sup> (20 °C)  
 ■ Explosive limit 1.0 - 7.4 % (V) ■ Flash point < -21 °C ■ Kin. viscosity 0.5 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.01 g/l (20 °C) ■ Melting point < -80 °C  
 ■ Boiling point 50 - 70 °C (1013 hPa)  
 ■ Ignition temp. 260 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Reproductive toxicity, Category 2, H361f; Specific

target organ toxicity - repeated exposure, Category 2, H373; Specific target organ toxicity - single exposure, Category 3, H336; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P240, P273, P281, P302 + P352, P301 + P310, P331  
 ■ LGK 3  
 ■ HS-No. 2710 12 25 ■ Disposal 1  
 ■ ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM SPIRIT), 3, II

■ IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II  
**Specification**  
 Appearance (colour)..... passes test  
 Appearance (clearness)..... passes test  
 Density (d 20 °C/20 °C)..... 0.661 - 0.664  
 Boiling range..... 50 - 70 °C

Ord.No.	Packaging	Quantity	Price
1.59542.0500	Glass bottle	500 ml	inquire

100915 Petroleum benzine boiling range to about 40°C EEMPLURA®



*Petroleum spirit, Petroleum ether*  
 ■ CAS-No. 64742-49-0 ■ EC-No. 265-151-9  
 ■ Spec. density 0.63 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 7.8 % (V) ■ Flash point -56 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ Boiling point < 40 °C (1013 hPa)  
 ■ Ignition temp. 245 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 1, H224; Aspiration hazard, Category 1, H304; Specific target organ toxicity - single exposure, Category 3, H336; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P210, P240, P273, P301 + P310, P302 + P352, P331  
 ■ EC-Index-No. 649-328-00-1 ■ LGK 3  
 ■ HS-No. 2710 12 25 ■ Disposal 1  
 ■ ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, I ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM

SPIRIT), 3, I  
 ■ IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, I  
**Specification**  
 Boiling range (30-40°C)..... ≥ 90 % (v/v)  
 Free acid (as CH<sub>3</sub>COOH)..... ≤ 0.0005 %  
 Density (d 20 °C/ 4 °C)..... 0.623 - 0.627  
 Readily carbonizable substances..... conforms  
 Evaporation residue..... ≤ 0.0020 %  
 Water..... ≤ 0.010 %  
 Aromatics (as benzene)..... ≤ 0.01 %  
 Sulfur compounds (as S)..... ≤ 0.01 %  
 Bromine number..... ≤ 3  
 Al (Aluminium)..... ≤ 0.00002 %  
 Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.0001 %  
 Cd (Cadmium)..... ≤ 0.00001 %  
 Co (Cobalt)..... ≤ 0.00001 %  
 Cr (Chromium)..... ≤ 0.000003 %

Cu (Copper)..... ≤ 0.000003 %  
 Fe (Iron)..... ≤ 0.000003 %  
 K (Potassium)..... ≤ 0.00003 %  
 Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000003 %  
 Na (Sodium)..... ≤ 0.0001 %  
 Ni (Nickel)..... ≤ 0.000003 %  
 Pb (Lead)..... ≤ 0.00001 %  
 Sr (Strontium)..... ≤ 0.000003 %  
 Zn (Zinc)..... ≤ 0.00003 %

Ord.No.	Packaging	Quantity	Price
1.00915.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00915.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.00915.6025	Drum stainl. st.	25 l	inquire

101775 Petroleum benzine for analysis boiling range 40-60°C EMSURE® ACS,ISO



■ CAS-No. 64742-49-0  
 ■ Vapour pressure 370 hPa (25 °C)  
 ■ Spec. density 0.645 - 0.665 g/cm<sup>3</sup> (15 °C)  
 ■ Explosive limit 1.0 - 7.4 % (V) ■ Flash point < -21 °C ■ Kin. viscosity 0.45 mm<sup>2</sup>/s (20 °C)  
 ■ pH value (H<sub>2</sub>O) not applicable  
 ■ Melting point < -80 °C  
 ■ Boiling point 36 - 83 °C (1013 hPa)  
 ■ Ignition temp. 260 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336; Chronic aquatic toxicity, Category 2, H411, P210, P233, P240, P273, P301 + P310, P302 + P352, P331  
 ■ LC50 rat > 5 mg/l  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2710 12 25  
 ■ ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM

SPIRIT), 3, II  
 ■ IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II  
**Specification**  
 Acidity..... ≤ 0.0003 meq/g  
 Colour..... ≤ 10 Hazen  
 Density (d 20 °C/ 4 °C)..... 0.642 - 0.655  
 Boiling range (40-60°C)..... ≥ 90 % (v/v)  
 Aromatics (as benzene)..... ≤ 0.02 %  
 Sulfur compounds (as S)..... ≤ 0.005 %  
 Matter discoloured by H<sub>2</sub>SO<sub>4</sub>..... ≤ 10 Hazen  
 Iodine number..... ≤ 0.3  
 Peroxide value (by Wheeler)..... ≤ 0.8  
 Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.01 %  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.000002 %  
 Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00001 %

Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.00001 %  
 Sn (Tin)..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %  
 ACS, ISO reagent

Ord.No.	Packaging	Quantity	Price
1.01775.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01775.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01775.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.01775.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.01775.6010	Drum stainl. st.	10 l	inquire
1.01775.6025	Drum stainl. st.	25 l	inquire
1.01775.9025	Steel barrel	25 l	inquire
1.01775.9190	Steel barrel	190 l	inquire

# Petrol

## 101786 Petroleum benzine boiling range 30–50°C for analysis EMSURE®



*Petroleum spirit, Petroleum ether*

- CAS-No. 64742-49-0 ■ EC-No. 265-151-9
- Spec. density 0.65 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 7.5 % (V) ■ Flash point < -30 °C
- Solub. in H<sub>2</sub>O (25 °C) insoluble
- Boiling point 30 - 50 °C (1013 hPa)
- Ignition temp. 285 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 1, H224; Aspiration hazard, Category 1, H304, P210, P240, P301 + P310, P331
- EC-Index-No. 649-328-00-1 ■ LGK 3
- HS-No. 2710 12 25 ■ Disposal 1
- ADR-RID UN 1268 Erdöldestillate, n.a.g., 3, I
- IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, I
- IATA-DGR UN 1268 PETROLEUM DISTILLATES,

N.O.S., 3, I

### Specification

Acidity	≤ 0.0002 meq/g
Colour	≤ 10 Hazen
Boiling range	30 - 50 °C
Aromatics (as benzene)	≤ 0.01 %
Sulfur compounds (as S)	≤ 0.005 %
Iodine number	≤ 0.3
Evaporation residue	≤ 0.003 %
Water	≤ 0.01 %
Al (Aluminium)	≤ 0.00005 %
B (Boron)	≤ 0.000002 %
Ba (Barium)	≤ 0.00001 %
Ca (Calcium)	≤ 0.00005 %
Cd (Cadmium)	≤ 0.000005 %
Co (Cobalt)	≤ 0.000002 %

Cr (Chromium)	≤ 0.000002 %
Cu (Copper)	≤ 0.000002 %
Fe (Iron)	≤ 0.00001 %
Mg (Magnesium)	≤ 0.00001 %
Mn (Manganese)	≤ 0.000002 %
Ni (Nickel)	≤ 0.000002 %
Pb (Lead)	≤ 0.00001 %
Sn (Tin)	≤ 0.00001 %
Zn (Zinc)	≤ 0.00001 %

Ord.No.	Packaging	Quantity	Price
1.01786.1000	Glass bottle	1 l	inquire
1.01786.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 101772 Petroleum benzine boiling range 40–60°C for gas chromatography ECD and FID SupraSolv®



*Petroleum spirit, Petroleum ether*

- CAS-No. 64742-49-0 ■ EC-No. 265-151-9
- Vapour pressure 350 hPa (20 °C)
- Spec. density 0.645 - 0.665 g/cm<sup>3</sup> (15 °C)
- Explosive limit 0.8 - 7.4 % (V) ■ Flash point < -21 °C ■ Kin. viscosity 0.45 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.01 g/l (20 °C) practically insoluble
- pH value (H<sub>2</sub>O) not applicable
- Melting point < -80 °C
- Boiling point 36 - 83 °C
- Ignition temp. 250 °C DIN 51794
- WGK 1
- GHS: Danger, Chronic aquatic toxicity, Category 2, H411; Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336; Aspiration hazard, Category 1, H304, P210, P233, P240, P273, P301 + P310, P331
- LC50 rat 54 mg/l

- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 649-328-00-1 ■ LGK 3
- HS-No. 2710 12 25 ■ Disposal 1
- ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM SPIRIT), 3, II
- IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II

### Specification

Boiling range (40–60°C)	≥ 90 % (v/v)
Evaporation residue	≤ 3.0 mg/l
Water	≤ 0.01 %
Colour	≤ 10 Hazen

GC/ECD (retention range 1,2,4-tri-chlorobenzene to decachlorobiphenyle,

individual signals (lindane standard)) ..... ≤ 3 pg/ml  
GC/FID (retention range n-undecane to n-tetracontane, individual signals (n-tetradecane standard)) ..... ≤ 3 mg/ml  
suitable for residue analysis

Ord.No.	Packaging	Quantity	Price
1.01772.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01772.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01772.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.01772.9010	Barrel stainl. st.	10 l	inquire
1.01772.9030	Barrel stainl. st.	30 l	inquire

## 116740 Petroleum benzine boiling range 40–60°C for organic trace analysis UniSolv®



*Petroleum spirit, Petroleum ether*

- CAS-No. 64742-49-0 ■ EC-No. 265-151-9
- Vapour pressure 350 hPa (20 °C)
- Spec. density 0.645 - 0.665 g/cm<sup>3</sup> (15 °C)
- Explosive limit 0.8 - 7.4 % (V) ■ Flash point < -21 °C ■ Kin. viscosity 0.45 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.01 g/l (20 °C) ■ Melting point < -80 °C
- Boiling point 36 - 83 °C
- Ignition temp. 250 °C DIN 51794
- highly flammable, dangerous for the environment, harmful ■ WGK 1
- GHS: Danger, Chronic aquatic toxicity, Category 2, H411; Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336; Aspiration hazard, Category 1, H304, P210, P233, P240, P273, P301 + P310, P331
- LC50 rat 54 mg/l
- LD50 oral rat > 2000 mg/kg

- LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 649-328-00-1 ■ LGK 3
- HS-No. 2710 12 25 ■ Disposal 1
- ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM SPIRIT), 3, II
- IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II

### Specification

Boiling range	40 - 60 °C
Evaporation residue	≤ 3.0 mg/l
Water	≤ 0.005 %
Colour	≤ 10 Hazen

GC/ECD (retention range 1,2,4-tri-chlorobenzene to decachlorobiphenyle, individual signals (lindane standard)) ..... ≤ 2 pg/ml

GC/FID (retention range n-undecane to n-tetracontane, individual signals (n-tetradecane standard)) ..... ≤ 2 mg/ml  
GC/MSD (retention range n-undecane to n-tetracontane, scanning area 30 - 600 amu, individual signals (n-tetradecane standard)) ..... ≤ 2 mg/ml

Ord.No.	Packaging	Quantity	Price
1.16740.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.16740.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 101773 Petroleum benzine boiling range 40–80°C EMLURA®



*Petroleum spirit, Petroleum ether*

- Vapour pressure 400 hPa (20 °C)
- Spec. density 0.670 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 7 % (V) ■ Flash point < -30 °C ■ Solub. in H<sub>2</sub>O (25 °C) practically insoluble
- Boiling point 40 - 80 °C ■ Ignition temp. 280 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity,

- Category 2, H411, P210, P233, P240, P273, P281, P301 + P310, P302 + P352, P304 + P340, P308 + P313, P331
- LGK 3
- HS-No. 2710 12 25 ■ Disposal 1
- ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM SPIRIT), 3, II
- IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II

### Specification

Free acid (as CH <sub>3</sub> COOH)	≤ 0.0005 %
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Density (d 20 °C/ 4 °C) ..... 0.640 - 0.670  
Boiling range (40–80°C) ..... ≥ 95 % (v/v)  
Readily carbonizable substances ..... conforms  
Evaporation residue ..... ≤ 0.001 %  
Water ..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.01773.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01773.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.01773.6010	Drum stainl. st.	10 l	inquire
1.01773.6025	Drum stainl. st.	25 l	inquire

100910 Petroleum benzine boiling range 50–70°C EEMPLURA®



Petroleum spirit, Petroleum ether

- Vapour pressure 350 hPa (20 °C)
- Spec. density 0.654 - 0.670 g/cm<sup>3</sup> (20 °C)
- Explosive limit 1.0 - 7.4 % (V) ■ Flash point < -21 °C ■ Kin. viscosity 0.5 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.01 g/l (20 °C) ■ Melting point < -80 °C
- Boiling point 50 - 70 °C (1013 hPa)
- Ignition temp. 260 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - repeated exposure, Category 2, H373; Specific target organ toxicity -

single exposure, Category 3, H336; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P240, P273, P281, P302 + P352, P301 + P310, P331

- LGK 3
- HS-No. 2710 12 25 ■ Disposal 1
- ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM SPIRIT), 3, II
- IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II

Specification

Free acid (as CH<sub>3</sub>COOH)..... ≤ 0.0005 %  
 Boiling range (50–70°C)..... ≥ 90 % (v/v)  
 Density (d 20 °C/ 4 °C)..... 0.654 - 0.670  
 Readily carbonizable substances..... conforms  
 Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.00910.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00910.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.00910.6025	Drum stainl. st.	25 l	inquire

101774 Petroleum benzine boiling range 60–80°C for analysis EMSURE®



Petroleum spirit, Petroleum ether

- Vapour pressure 200 hPa (20 °C)
- Spec. density 0.68 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 7.4 % (V) ■ Flash point -26 °C ■ Solub. in H<sub>2</sub>O (25 °C) practically insoluble
- Boiling point 60 - 80 °C ■ Ignition temp. 240 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412; Aspiration hazard, Category 1, H304, P210, P233, P240, P273, P281, P301 + P310, P302 + P352, P308 + P313, P331
- LGK 3
- HS-No. 2710 12 25 ■ Disposal 1
- ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM

SPIRIT), 3, II

- IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II

**Specification**

Acidity..... ≤ 0.0003 meq/g  
 Density (d 20 °C/ 4 °C)..... 0.650 - 0.710  
 Boiling range..... 60 - 80 °C  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.000002 %  
 Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00001 %  
 Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.00001 %

Sn (Tin)..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %  
 Aromatics (as benzene)..... ≤ 0.005 %  
 Sulfur compounds (as S)..... ≤ 0.005 %  
 Iodine number..... ≤ 0.3  
 Readily carbonizable substances..... conforms  
 Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.01774.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01774.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01774.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.01774.6010	Drum stainl. st.	10 l	inquire
1.01774.6025	Drum stainl. st.	25 l	inquire

814562 Petroleum benzine boiling range 70–90°C EEMPLURA®



Petroleum spirit, Petroleum ether

- CAS-No. 92062-15-2 ■ EC-No. 295-529-9
- Spec. density 0.757 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 8.3 % (V) ■ Flash point -20 °C
- Kin. viscosity 0.89 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ Melting point < -20 °C
- Boiling point 70 - 90 °C (1013 hPa)
- Ignition temp. >200 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Specific target organ toxicity - single exposure,

Category 3, H336; Chronic aquatic toxicity, Category 2, H411, P210, P273, P243, P301 + P310, P331

- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 649-341-00-2 ■ LGK 3
- HS-No. 2710 12 25 ■ Disposal 1
- ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM SPIRIT), 3, II
- IATA-DGR UN 1268 PETROLEUM DISTILLATES,

N.O.S., 3, II

Specification

Density (d 20 °C/ 4 °C)..... 0,755 - 0,765  
 Boiling range..... 70 - 90 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14562.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

101777 Petroleum benzine boiling range 80–100°C for analysis EMSURE®



Petroleum spirit, Petroleum ether

- CAS-No. 64742-49-0 ■ EC-No. 265-151-9
- Vapour pressure 60 hPa (20 °C)
- Spec. density 0.69 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 6.5 % (V) ■ Flash point < -21 °C
- Kin. viscosity 0.6 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (25 °C) insoluble ■ Boiling point 80 - 100 °C (1013 hPa) ■ Ignition temp. 250 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P273, P301 + P310, P331
- LC50 rat
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 3000 mg/kg
- EC-Index-No. 649-328-00-1 ■ LGK 3
- HS-No. 2710 12 25
- ADR-RID UN 1268 Erdöldestillate,

n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM SPIRIT), 3, II

- IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II

Specification

Acidity..... ≤ 0.0003 meq/g  
 Density (d 20 °C/ 4 °C)..... 0.69 - 0.71  
 Boiling range..... 80.0 - 100.0 °C  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.000002 %  
 Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00001 %

Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.00001 %  
 Sn (Tin)..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %  
 Aromatics (as C<sub>6</sub>H<sub>6</sub>)..... ≤ 0.005 %  
 Iodine number..... ≤ 0.3  
 Sulfur compounds (as S)..... ≤ 0.005 %  
 Matter discoloured by H<sub>2</sub>SO<sub>4</sub>..... ≤ 10 Hazen  
 Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.01777.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire



# Petrol

## 101781 Petroleum benzine boiling range 100–120°C for analysis EMSURE® Reag. Ph Eur



### Petroleum spirit, Petroleum ether

■ CAS-No. 64742-49-0 ■ EC-No. 265-151-9  
 ■ Vapour pressure 30 - 40 hPa (20 °C)  
 ■ Spec. density 0.70 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 6.5 % (V) ■ Flash point < -10 °C  
 ■ Kin. viscosity 0.6 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (25 °C) insoluble ■ Boiling point 100 - 125 °C  
 ■ Ignition temp. 250 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P273, P301 + P310, P331  
 ■ LC50 rat  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ EC-Index-No. 649-328-00-1 ■ LGK 3  
 ■ HS-No. 2710 12 25  
 ■ ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN

1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM SPIRIT), 3, II  
 ■ IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II

### Specification

Acidity ..... ≤ 0.0003 meq/g  
 Boiling range ..... 100 - 120 °C  
 Density (d 20 °C/20 °C) ..... 0.700 - 0.730  
 Al (Aluminium) ..... ≤ 0.00005 %  
 B (Boron) ..... ≤ 0.000002 %  
 Ba (Barium) ..... ≤ 0.00001 %  
 Ca (Calcium) ..... ≤ 0.00005 %  
 Cd (Cadmium) ..... ≤ 0.000005 %  
 Co (Cobalt) ..... ≤ 0.000002 %  
 Cr (Chromium) ..... ≤ 0.000002 %  
 Cu (Copper) ..... ≤ 0.000002 %  
 Fe (Iron) ..... ≤ 0.00001 %  
 Mg (Magnesium) ..... ≤ 0.00001 %

Mn (Manganese) ..... ≤ 0.000002 %  
 Ni (Nickel) ..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.00001 %  
 Sn (Tin) ..... ≤ 0.00001 %  
 Zn (Zinc) ..... ≤ 0.00001 %  
 Aromatics (as C<sub>6</sub>H<sub>6</sub>) ..... ≤ 0.002 %  
 Iodine number ..... ≤ 0.3  
 Sulfur compounds (as S) ..... ≤ 0.005 %  
 Matter discoloured by H<sub>2</sub>SO<sub>4</sub> ..... ≤ 10 Hazen  
 Evaporation residue ..... ≤ 0.001 %  
 Water ..... ≤ 0.01 %  
 Conforms Petroleum light (R3)

Ord.No.	Packaging	Quantity	Price
1.01781.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 101770 Petroleum benzine boiling range 100–140°C (naphtha benzine) EMPLURA®



### Petroleum spirit, Petroleum ether

■ CAS-No. 64742-49-0 ■ EC-No. 265-151-9  
 ■ Vapour pressure 30 - 40 hPa (20 °C)  
 ■ Spec. density 0.728 g/cm<sup>3</sup> (15 °C) ■ Explosive limit 0.8 - 6.5 % (V) ■ Flash point < -10 °C  
 ■ Kin. viscosity 0.6 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (25 °C) insoluble ■ Boiling point 107 - 137 °C (1013 hPa) ■ Ignition temp. 250 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Aspiration hazard, Category 1, H304; Specific target organ toxicity - single exposure, Category 3, H336; Chronic aquatic toxicity, Category 2, H411, P210,

P273, P302 + P352, P301 + P310, P331  
 ■ EC-Index-No. 649-328-00-1 ■ LGK 3  
 ■ HS-No. 2710 12 25  
 ■ ADR-RID UN 1268 Erdöldestillate, n.a.g., 3, II  
 ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II  
 ■ IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II

### Specification

Free acid (as CH<sub>3</sub>COOH) ..... ≤ 0.0005 %  
 Boiling range (lower value) ..... ≥ 100.0 °C  
 Boiling range (upper value) ..... ≤ 140.0 °C  
 Density (d 20 °C/ 4 °C) ..... 0.720 - 0.733

Aromatics (as toluol) ..... ≤ 0.05 %  
 Readily carbonizable substances ..... conforms  
 Evaporation residue ..... ≤ 0.005 %  
 Water ..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.01770.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01770.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.01770.6025	Drum stainl. st.	25 l	inquire

## 814563 Petroleum benzine boiling range 140–180°C EMPLURA®



### Petroleum spirit, Petroleum ether

■ CAS-No. 64742-82-1 ■ EC-No. 265-185-4  
 ■ Vapour pressure 8 hPa (20 °C)  
 ■ Spec. density 0.77 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 6.5 % (V) ■ Flash point 23 °C  
 ■ Kin. viscosity 0.91 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O 0.04 g/l (20 °C) ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point < -15 °C  
 ■ Boiling point 140 - 180 °C (1013 hPa)  
 ■ Ignition temp. 240 °C  
 ■ flammable, harmful ■ WGK 1

■ GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304, P210, P301 + P310, P331  
 ■ LC50 rat  
 ■ EC-Index-No. 649-330-00-2 ■ LGK 3  
 ■ HS-No. 2710 12 21 ■ Disposal 1  
 ■ ADR-RID UN 1268 Erdölprodukte, n.a.g., 3, III  
 ■ IMDG-Code UN 1268 PETROLEUM PRODUCTS, N.O.S., 3, III  
 ■ IATA-DGR UN 1268 PETROLEUM PRODUCTS, N.O.S., 3, III

### Specification

Density (d 20 °C/ 4 °C) ..... 0.765 - 0.775  
 Boiling range ..... 140 - 180 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14563.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

Petroleum ether → Petroleum benzine boiling range 40–60°C page 43

## 107927 Petroleum Ether boiling range 35–60°C for analysis EMSURE® ACS

■ CAS-No. 8032-32-4 ■ EC-No. 232-453-7  
 ■ EC-Index-No. 649-263-00-9  
 ■ Disposal 1

Ord.No.	Packaging	Quantity	Price
1.07927.4000		4 l	inquire

## 101769 Petroleum ether for denaturation



### Petroleum spirit, Petroleum ether

■ Vapour pressure 400 hPa (20 °C)  
 ■ Spec. density 0.670 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 7 % (V) ■ Flash point < -30 °C ■ Solub. in H<sub>2</sub>O (25 °C) practically insoluble  
 ■ Boiling point 40 - 80 °C ■ Ignition temp. 280 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P233, P240, P273, P281,

P301 + P310, P302 + P352, P304 + P340, P308 + P313, P331  
 ■ LGK 3  
 ■ HS-No. 2710 12 25 ■ Disposal 1  
 ■ ADR-RID UN 1268 Erdöldestillate, n.a.g.(PETROLEUMBENZIN), 3, II ■ IMDG-Code UN 1268 PETROLEUM DISTILLATES, N.O.S.(PETROLEUM SPIRIT), 3, II  
 ■ IATA-DGR UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, II

### Specification

Density (d 20 °C/20 °C) ..... 0.600 - 0.700  
 Miscibility with ethanol ..... conforms  
 Miscibility with water ..... conforms

Course of the distillation analysis ..... conforms  
 Petroleum ether has been tested as denaturant by authorities.

Ord.No.	Packaging	Quantity	Price
1.01769.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01769.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.01769.6010	Drum stainl. st.	10 l	inquire
1.01769.6025	Drum stainl. st.	25 l	inquire
1.01769.9190	Steel barrel	190 l	inquire

Petroleum spirit → Petroleum benzine boiling range 40–60°C page 43

Petrouleum spirit → Petroleum benzine boiling range 80–100°C page 320

Phage → Molecular biology, reagents and reagent kits

Pharmaceutical production → Hygiene monitoring



## Pharmacopoeia Analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
334	159166	Acetic acid 30%	995	107098	8-Hydroxyquinoline	1361	105076	Potassium perchlorate
336	100063	Acetic acid (glacial) 100%	998	104716	Imidazole	1362	105082	Potassium permanganate
337	100042	Acetic anhydride	1005	104761	Iodine	166	105084	Potassium permanganate
362	109196	Alkali blue (C.I. 42765)	1006	104764	Iodine indicator	1363	105092	Potassium peroxodisulfate
362	109198	Alkali blue solution	8	104765	Ion exchanger I	1363	108087	Potassium sodium tartrate tetrahydrate
370	101047	Aluminium potassium sulfate dodecahydrate	8	104835	Ion exchanger IV			
			1038	103943	Iron(III) chloride hexahydrate	1364	105153	Potassium sulfate
407	105423	Ammonia solution 28-30%	1039	103883	Iron(III) nitrate nonahydrate	1365	105125	Potassium thiocyanate
407	101116	Ammonium acetate	1039	103965	Iron(II) sulfate heptahydrate	320	109728	Pyridine
408	101220	Ammonium amidosulfonate	9	107910	Kieselguhr	172	107531	1-(2-Pyridylazo)-2-naphthol (PAN)
408	101125	Ammonium bromide	1074	107375	Lead(II) acetate trihydrate			
409	159504	Ammonium carbonate	1074	107381	Lead(II) carbonate	172	107533	4-(2-Pyridylazo)resorcinol monosodium salt monohydrate
409	102276	Ammonium cerium(IV) nitrate	1075	107414	Lead(II) hydroxide acetate			
410	101145	Ammonium chloride	1075	107398	Lead(II) nitrate	1392	100612	Pyrogallol
410	101126	Ammonium dihydrogen phosphate	1081	105680	Lithium carbonate	1396	102282	Quinaldine red
			1081	105679	Lithium chloride	1497	108962	Refractive index standard kit 1
411	101164	Ammonium fluoride	1084	105694	Lithium sulfate monohydrate	1497	108961	Refractive index standard kit 2
411	101182	Ammonium heptamolybdate tetrahydrate	1086	105819	Magnesium acetate tetrahydrate	1497	108963	Refractive index standard kit 3
						1421	101515	Silver diethyldithiocarbamate
411	101154	di-Ammonium hydrogen citrate	1087	105833	Magnesium chloride hexahydrate	1421	101512	Silver nitrate
412	101207	di-Ammonium hydrogen phosphate	1088	105853	Magnesium nitrate hexahydrate	1423	101509	Silver sulfate
			1088	105866	Magnesium oxide	1425	106268	Sodium acetate
412	103776	Ammonium iron(III) sulfate dodecahydrate	1089	105886	Magnesium sulfate heptahydrate	1425	106267	Sodium acetate trihydrate
						1429	106393	Sodium carbonate
412	101226	Ammonium monovanadate				1429	106391	Sodium carbonate decahydrate
413	101192	di-Ammonium oxalate monohydrate	1095	105927	Manganese(II) chloride tetrahydrate	1430	106404	Sodium chloride
						1431	106448	tri-Sodium citrate dihydrate
414	101201	Ammonium peroxodisulfate	1096	105941	Manganese(II) sulfate monohydrate	1432	106336	Sodium dichromate dihydrate
414	101217	Ammonium sulfate				1432	106689	Sodium diethyldithiocarbamate trihydrate
415	101213	Ammonium thiocyanate	1103	104410	Mercury(II) acetate			
421	101468	Anthrone	1103	104421	Mercury(II) bromide	1433	106342	Sodium dihydrogen phosphate dihydrate
426	100128	Aurin tricarboxylic acid ammonium salt	1104	104419	Mercury(II) chloride			
			1105	104428	Mercury(II) iodide	1433	106346	Sodium dihydrogen phosphate monohydrate
430	101704	Barium acetate	1105	104439	Mercury(II) nitrate monohydrate			
431	101714	Barium carbonate				1433	106591	tetra-Sodium diphosphate decahydrate
431	101719	Barium chloride dihydrate	1106	104480	Mercury(II) sulfate			
432	101737	Barium hydroxide octahydrate				1434	106528	Sodium disulfite

# Pharma

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
432	101729	Barium nitrate	1107	104484	Mercury(II) thiocyanate	1435	106449	Sodium fluoride
441	100136	Benzoic acid	1108	159267	Metanil yellow	1435	106443	Sodium formate
475	101878	Bismuth(III) nitrate	1113	104343	Methenamine	1436	102521	Sodium hexanitrocobaltate(III)
480	100165	Boric acid	1123	159712	Methoxyphenylacetic acid	1436	106329	Sodium hydrogen carbonate
486	101948	Bromine	1134	104527	3-Methyl-2-benzothiazolinone-hydrazonehydrochloride	1437	106586	di-Sodium hydrogen phosphate
496	101541	Bromocresol green sodium salt				1438	106579	di-Sodium hydrogen phosphate dodecahydrate
497	103025	Bromocresol purple	1149	159270	Methylene blue (C.I. 52015)	1438	106575	di-Sodium hydrogen phosphate heptahydrate
511	103023	Bromophenol red	1166	101322	Methyl orange (C.I. 13025)	1439	106495	Sodium hydroxide
516	103026	Bromothymol blue	1179	106076	Methyl red (C.I. 13020)	1439	106469	Sodium hydroxide
516	101895	Bromothymol blue sodium salt	1189	105708	Molecular sieve 0.4 nm	1445	106523	Sodium iodide
560	102027	Cadmium sulfate hydrate	1190	100532	Molybdato-phosphoric acid hydrate	1446	106597	Sodium metaperiodate
561	102066	Calcium carbonate	172	106161	Murexide	1447	106537	Sodium nitrate
562	102378	Calcium chloride	1200	106202	1-Naphtholbenzein	1448	106549	Sodium nitrite
562	102382	Calcium chloride dihydrate	1200	106246	1-Naphtholphthalein	1448	106541	Sodium nitroprusside dihydrate
563	102047	Calcium hydroxide	1208	106762	Ninhydrin	167	106563	Sodium peroxide
564	102121	Calcium nitrate tetrahydrate	1212	101799	Nitric acid 69%	1450	106578	tri-Sodium phosphate dodecahydrate
592	102426	Chloramine T trihydrate	1212	100455	Nitric acid fuming 100%	1452	106649	Sodium sulfate
627	103024	Chlorophenol red	1225	106794	3-Nitrophenol	1452	106648	Sodium sulfate decahydrate
641	101036	Chromium(III) potassium sulfate dodecahydrate	1226	106798	4-Nitrophenol	1452	106657	Sodium sulfite
172	102498	Chromotropic acid disodium salt dihydrate	1245	101487	Oracet blue 2R (C.I. 61110)	167	106308	di-Sodium tetraborate decahydrate
646	100244	Citric acid monohydrate	1253	100495	Oxalic acid dihydrate	1454	106669	Sodium tetraphenyl borate
648	102539	Cobalt(II) chloride hexahydrate	1261	107162	Paraffin	1455	106516	Sodium thiosulfate pentahydrate
649	102554	Cobalt(II) nitrate hexahydrate	1275	100518	Perchloric acid 60%	1502	107865	Strontium chloride hexahydrate
587	100269	Colour Reference Solutions R	166	100514	Perchloric acid 70%	1505	107687	Sucrose (saccharose)
587	100265	Colour Reference Solutions B	1276	100519	Perchloric acid 70-72%	1505	111747	Sudan III, C.I. 26100
587	100266	Colour Reference Solutions BY	1287	107223	1,10-Phenanthroline chloride monohydrate	1505	111799	Sulfanilamide
587	100268	Colour Reference Solutions GY	1289	100206	Phenol	1506	100686	Sulfanilic acid
587	100267	Colour Reference Solutions Y	1290	107233	Phenolphthalein	167	100732	Sulfuric acid 95-97%
651	101340	Congo red (C.I. 22120)	1290	107238	Phenolphthalein solution 0.375% in methanol	1519	100804	L(+)-Tartaric acid
653	102739	Copper(I) chloride	1290	107227	Phenolphthalein solution 1% in ethanol	320	109731	Tetrahydrofuran
			1290	107241	Phenol red			

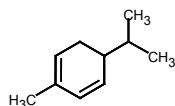
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
653	102733	Copper(II) chloride dihydrate	1290	159375	Phenol red	1539	108123	Tetramethylammonium hydroxide solution 10%
173	102767	Copper oxide	1290	111748	Phenol red sodium salt			
173	102765	Copper oxide	1291	107242	Phenol red solution	1549	108170	Thioacetamide
656	102790	Copper(II) sulfate pentahydrate	1306	107253	Phenylhydrazinium chloride	1551	100700	Thioglycolic acid
659	105225	Cresol red	76	109514	pH-indicator paper Congo red paper	1554	107979	Thiourea
663	105227	Cupferron				1556	108176	Thymol blue
722	109676	2',7'-Dichlorofluorescein	1320	107069	Phloroglucinol	1556	108175	Thymolphthalein
732	103037	2,6-Dichloroquinone-4-chloroimide	1321	100573	ortho-Phosphoric acid 85%	1557	107806	Tin
			1323	100570	di-Phosphorus pentoxide	1558	107815	Tin(II) chloride dihydrate
776	103058	4-(Dimethylamino) benzaldehyde	172	107297	Phthalein purple	1559	110789	Titanium(III) chloride solution about 15%
317	103053	N,N-Dimethylformamide	1344	104912	Potassium bromate	1560	100808	Titanium(IV) oxide
791	103062	Dimethylglyoxime	1344	104905	Potassium bromide	1560	101307	Titan yellow (C.I. 19540)
317	102952	Dimethyl sulfoxide	1345	104928	Potassium carbonate	172	108417	Titriplex® II
808	112130	Dimidion bromide	1346	104933	Potassium chloride	172	108418	Titriplex® III
815	103091	1,5-Diphenylcarbazine	1347	104952	Potassium chromate	1576	100807	Trichloroacetic acid
815	103087	1,5-Diphenylcarbazone	1347	104967	Potassium cyanide	1616	108382	Tris(hydroxymethyl) aminomethane
824	112144	Disulfine blue VN 150 (C.I.42045)	1348	104864	Potassium dichromate			
			166	104865	Potassium dichromate	1625	108462	Uranine AP (C.I. 45350)
172	103092	Dithizone	1349	104877	Potassium dihydrogen phosphate	1625	108487	Urea
172	103170	Eriochrome black T (C.I. 14645)	1350	105107	Potassium disulfate (Potassium pyrosulfate)	1493	108160	UV-VIS Standard 1: Potassium dichromate solution
895	103887	Fluorescein sodium (C.I. 45350)	1351	104973	Potassium hexacyanoferrate(III)	1493	108161	UV-VIS Standard 2: Sodium nitrite solution
			1351	104984	Potassium hexacyanoferrate(II) trihydrate	1493	108163	UV-VIS Standard 3: Sodium iodide solution
896	109182	Fluorescent indicator F <sub>254</sub>	1353	104874	Potassium hydrogen phthalate	1493	108164	UV-VIS Standard 4: Potassium chloride solution
185	104003	Formaldehyde solution min. 37%	1354	104885	Potassium hydrogen sulfate	1493	108165	UV-VIS Standard 5: Toluene solution in n-hexane
318	109684	Formamide	1354	105021	Potassium hydroxide	1493	108166	UV-VIS Standard 6: holmium oxide solution
913	100253	Formic acid 89-91%	1354	105029	Potassium hydroxide	1493	104660	UV-VIS Standard 1a: Potassium dichromate solution (600 mg/l)
913	100264	Formic acid 98-100%	1354	105029	Potassium hydroxide	173	108677	Xylenol orange tetrasodium salt
918	104013	Furfural	1358	105051	Potassium iodate	1639	108756	Zinc
923	108337	D(+)-Glucose	81	159225	Potassium iodate-starch paper	1641	108816	Zinc chloride
930	104191	Glyoxalbis(2-hydroxyanil)	1359	105043	Potassium iodide	1642	108849	Zinc oxide
963	104603	Hydrazinium sulfate	81	109512	Potassium iodide-starch paper	1642	108883	Zinc sulfate heptahydrate
968	100317	Hydrochloric acid fuming 37%	1360	105063	Potassium nitrate			
166	104619	Hydroxylammonium chloride	1361	105073	di-Potassium oxalate monohydrate			
985	104616	Hydroxylammonium chloride						

## Pharma synthesis, non-GMP products

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
331	845001	Acetaldehyde	766	845036	Diisopropyl amine	1199	845086	1-Naphthol
331	845087	Acetaldehyde dimethyl acetal	767	845123	Diisopropyl ether (stabilised with BHT)	1218	845114	3-Nitro-benzeneboronic acid
369	845019	Aluminium chloride	771	845140	3,4-Dimethoxybenzoic acid	1300	845071	1,2-Phenyldiamine
399	845129	p-Aminophenol	780	845029	Dimethylammonium chloride	1322	845138	Phosphorus pentachloride
400	845049	Aminopropanol	782	845116	3,4-Dimethylanisole	1324	845113	Phosphoryl chloride
419	845003	p-Anisidine	785	845152	Dimethyl carbonate	1329	845120	Piperazine (anhydrous)
435	845091	Benzamidine hydrochloride hydrate	792	845034	1,2-Dimethylimidazole	1330	845111	Piperidine
437	845004	Benzenesulfonic acid	827	845097	N-Dodecane	1393	845055	Pyrrole
437	845005	Benzenesulfonyl chloride	839	845104	Ethanesulfonyl chloride	1414	845008	Selenium dioxide
439	845092	Benzhydrazide	842	845014	Ethanolamine	1427	845048	Sodium borohydride (fine granular)
449	845024	Benzyl chloride	850	845088	Ethylamine (70% solution in water)	1428	845066	Sodium bromate
456	845065	Benzyltriethylammonium chloride	859	845017	N-Ethyldiisopropylamine	1429	845144	Sodium butyrate
496	845147	1-Bromo-3-chloropropane	861	845018	Ethylenediamine	1435	845101	Sodium ethylate
532	845154	1,3-Butanediol	866	845155	Ethylene glycol monophenyl ether	1438	845119	Sodium hydrogen sulfite
539	845021	Butylamine	929	845073	Glycolic acid	1456	845143	Sodium tungstate dihydrate
572	845134	4-Carboxybutyltriphenyl-phosphonium bromide	949	845157	1,1,1,3,3,3-Hexafluoro-2-propanol	1504	845010	Succinic anhydride
594	845148	2-Chloroacetamide	984	845068	Hydroxylamine (50% solution in water)	1524	845083	Tetra-n-butylammonium hydrogensulfate
596	845141	Chloroacetyl chloride	999	845040	2-Imidazolidinone hemihydrate	1538	845151	Tetramethylammonium hydroxide
598	845095	2-Chlorobenzaldehyde	1010	845146	2-Iodoethanol (stabilised)	1567	845136	4-Toluenesulfonyl chloride
635	845027	N-Chlorosuccinimide	1011	845045	Iodomethane	1585	845061	Triethylamine
635	845127	Chlorosulfonic acid	1038	845124	Iron(III) chloride	1588	845145	Triethylsilane
687	845142	Dehydracetic acid sodium salt	1052	845053	Isopropylamine	1590	845060	Trifluoroacetic anhydride
711	845035	Dibutyltin oxide	1086	845042	Magnesium	1597	845150	Triisopropyl borate
722	845033	1,1-Dichloroethylene (stabilised with hydroquinone monomethyl ether)	1091	845002	Maleic acid	1609	845064	Trioctylamine
728	845149	2,5-Dichlorophenol	1091	845122	Maleic anhydride	1619	845130	Tropolone
738	845028	Diethylamine	1110	845044	Methanesulfonic acid	1624	845139	Undecanoyl chloride
748	845051	Diethyl oxalate	1110	845043	Methanesulfonyl chloride			
750	845009	Diethyl succinate	1181	845103	2-Methyltetrahydrofuran			

pH Box → page 75

pH Cell Test → page 77

814893  $\alpha$ -Phellandrene for synthesisC<sub>10</sub>H<sub>16</sub>

5-Isopropyl-2-methyl-1,3-cyclohexadiene

■ CAS-No. 99-83-2 ■ EC-No. 202-792-5

■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C)■ Flash point 47 °C ■ Solub. in H<sub>2</sub>O 2.86 mg/l (25 °C) ■ M = 136.23 g/mol ■ pH value (H<sub>2</sub>O,

20 °C) neutral ■ Boiling point 175 °C (1013 hPa)

■ WGK 2

■ GHS: Danger, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 3, H412, P210, P273, P280, P301 + P310, P302 + P352, P331

■ LD50 oral rat 5700 mg/kg

■ LGK 3

■ HS-No. 3301 90 10 ■ Disposal 3

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(A-PHELLANDREN), 3, III ■ IMDG-Code UN

1993 FLAMMABLE LIQUID, N.O.S.(A-

PHELLANDRENE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(A-PHELLANDRENE), 3, III

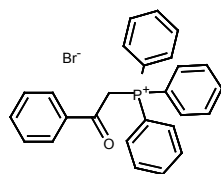
**Specification**

Assay (GC, area%) ..... ≥ 60,0 Area %

Density (d 20 °C/ 4 °C) ..... 0,835 - 0,850

Ord.No.	Packaging	Quantity	Price
8.14893.0100	Glass bottle	100 ml	inquire

## 840167 Phenacyltriphenylphosphonium bromide for synthesis

C<sub>26</sub>H<sub>22</sub>BrOP

Benzoylmethyltriphenylphosphonium bromide

■ CAS-No. 6048-29-9 ■ EC-No. 227-945-3

■ Spec. density 1 g/cm<sup>3</sup> ■ M = 461.33 g/mol

■ Melting point 266 °C

■ WGK 3

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 96,0 % (a/a)

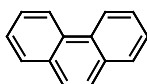
Melting range (lower value) ..... ≥ 264 °C

Melting range (upper value) ..... ≤ 268 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40167.0005	Glass bottle	5 g	inquire

## 822122 Phenanthrene for synthesis

C<sub>14</sub>H<sub>10</sub>

- CAS-No. 85-01-8 ■ EC-No. 201-581-5
- Vapour pressure 0.00012 hPa (20 °C)
- Spec. density 1.18 g/cm<sup>3</sup> (25 °C)
- Flash point 171 °C ■ Solub. in H<sub>2</sub>O 1.15 mg/l (25 °C) ■ M = 178.23 g/mol
- Melting point 97 - 100 °C
- Bulk density 690 kg/m<sup>3</sup> ■ Boiling point 336 °C (1013 hPa) ■ Ignition temp. >450 °C

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P272
- LD50 oral rat 1800 mg/kg
- LGK 10 - 13
- HS-No. 2902 90 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(PHENANTHREN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(PHENANTHRENE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(PHENANTHRENE), 9, III

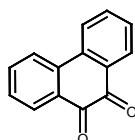
## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Melting range (lower value) ..... ≥ 97 °C  
 Melting range (upper value) ..... ≤ 100 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22122.0100	Plastic bottle	100 g	inquire
8.22122.0250	Plastic bottle	250 g	inquire

9,10-Phenanthrenedione → 9,10-Phenanthrenequinone page 1287

## 807564 9,10-Phenanthrenequinone for synthesis

C<sub>14</sub>H<sub>8</sub>O<sub>2</sub>

9,10-Phenanthrenedione

- CAS-No. 84-11-7 ■ EC-No. 201-515-5
- Flash point 245 °C ■ Solub. in H<sub>2</sub>O 7.5 mg/l (25 °C) ■ M = 208.21 g/mol
- Melting point 203 - 206 °C
- Bulk density 350 kg/m<sup>3</sup> ■ Boiling point >360 °C

- Ignition temp. 630 °C DIN 51794
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P262, P273, P305 + P351 + P338
- LD50 oral rat > 16000 mg/kg
- LGK 10 - 13
- HS-No. 2914 69 90 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(9,10-PHENANTHRENEQUINON), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(9,10-PHENANTHRENEQUINONE), 9, III, Marine Pollutant: P

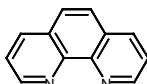
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(9,10-PHENANTHRENEQUINONE), 9, III

## Specification

Assay (HPLC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 206 °C  
 Melting range (upper value) ..... ≤ 210 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07564.0025	Glass bottle	25 g	inquire
8.07564.0100	Glass bottle	100 g	inquire

## 841491 1,10-Phenanthroline (anhydrous) for synthesis

C<sub>12</sub>H<sub>8</sub>N<sub>2</sub>

- CAS-No. 66-71-7 ■ EC-No. 200-629-2
- Solub. in H<sub>2</sub>O 2.69 g/l (25 °C) ■ M = 180.21 g/mol
- Melting point 117 - 119 °C
- Boiling point >330 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral,

- H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P309 + P310
- LD50 oral rat 132 mg/kg
- EC-Index-No. 613-092-00-8 ■ LGK 6.1C
- HS-No. 2933 99 80 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,10-PHENANTHROLIN WASSERFREI), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,10-PHENANTHROLINE ANHYDROUS), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

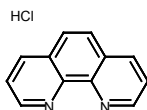
N.O.S.(1,10-PHENANTHROLINE ANHYDROUS), 6.1, III

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99,0 % (m)  
 Melting range (lower value) ..... ≥ 115 °C  
 Melting range (upper value) ..... ≤ 119 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41491.0005	Plastic bottle	5 g	inquire
8.41491.0025	Glass bottle	25 g	inquire

## 107223 1,10-Phenanthroline chloride monohydrate GR for analysis and redox indicator [reagent for iron(II)] Reag. Ph Eur

C<sub>12</sub>H<sub>9</sub>ClN<sub>2</sub> · H<sub>2</sub>O

o-Phenanthroline hydrochloride monohydrate

- CAS-No. 18851-33-7 ■ EC-No. 223-325-1
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 234.69 g/mol
- Melting point 215 - 220 °C (decomposition)
- Bulk density 370 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400;

- Chronic aquatic toxicity, Category 1, H410, P273, P309 + P310
- LD50 oral rat 132 mg/kg
- LGK 6.1A
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,10-PHENANTHROLINIUMCHLORID-MONOHYDRAT), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,10-PHENANTHROLINE-HYDROCHLORIDE-MONOHYDRATE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,10-PHENANTHROLINE-HYDROCHLORIDE-MONOHYDRATE), 6.1, II

Assay (alcalimetric, calculated on anhydrous substance) ..... ≥ 99.5 %  
 Identity (IR-spectrum) ..... passes test  
 Melting point .... about 215 °C, with decomposition  
 Substances insoluble in water ..... passes test  
 Sulfated ash ..... ≤ 0.2 %  
 Water (according to Karl Fischer) ..... 7.0 - 8.5 %  
 Suitability as indicator ..... passes test  
 Sensitivity test (at Iron II ions) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.07223.0010	Plastic bottle	10 g	inquire
1.07223.0100	Plastic bottle	100 g	inquire

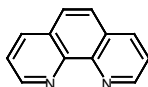
o-Phenanthroline hydrochloride monohydrate →  
 1,10-Phenanthroline chloride monohydrate page  
 1287

1,10-Phenanthroline iron(II) salt solution →  
 Ferriin solution page 892



# Phenan

## 107225 1,10-Phenanthroline monohydrate GR ACS



C<sub>12</sub>H<sub>8</sub>N<sub>2</sub> · H<sub>2</sub>O

*o*-Phenanthroline monohydrate

- CAS-No. 5144-89-8 ■ EC-No. 200-629-2
- Solub. in H<sub>2</sub>O 3.3 g/l (20 °C) ■ M = 198.24 g/mol
- Melting point 93 - 94 °C ■ Bulk density 300 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral,

H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P309 + P310

- LD50 oral rat 132 mg/kg
- EC-Index-No. 613-092-00-8 ■ LGK 6.1C
- HS-No. 2933 99 80 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,10-PHENANTHROLINEHYDRAT), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,10-PHENANTHROLINE HYDRATE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,10-PHENANTHROLINE HYDRATE), 6.1, III

**Specification**

Assay (Perchloric acid titration, calc. on anhydrous substance) ..... ≥ 99.5 %

Identity (IR-spectrum) ..... conforms

Suitability as redox indicator ..... conforms

Suitability for determining iron ..... conforms

Melting point (anhydrous substance) .117 - 120 °C

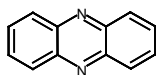
substances insoluble in ethanol ..... conforms

Water (according to Karl Fischer) ..... 8.5 - 11.0 %

Ord.No.	Packaging	Quantity	Price
1.07225.0005	Glass bottle	5 g	inquire
1.07225.0010	Plastic bottle	10 g	inquire
1.07225.0100	Plastic bottle	100 g	inquire

*o*-Phenanthroline monohydrate → 1,10-Phenanthroline monohydrate page 1288

## 820973 Phenazine for synthesis



C<sub>12</sub>H<sub>8</sub>N<sub>2</sub>

*Dibenzopyrazine*

- CAS-No. 92-82-0 ■ EC-No. 202-193-9
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 180.21 g/mol

mol ■ Melting point 173 - 175 °C

- Boiling point >360 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>) ..... ≥ 99.0 %

Melting range (lower value) ..... ≥ 173 °C

Melting range (upper value) ..... ≤ 175 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20973.0005	Glass bottle	5 g	inquire

Phenethyl alcohol → 2-Phenylethanol page 307

Phenethylamine → 2-Phenylethylamine page 1303

Phenethyl bromide → 2-Phenylethyl bromide page

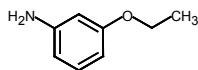
1304

Phenethyl chloride → 2-Phenylethyl chloride page

1304

N-Phenethyl-4-piperidone → 1-(2-Phenylethyl)-4-piperidonone page 1305

## 820974 m-Phenetidine for synthesis



C<sub>8</sub>H<sub>11</sub>NO

3-(C<sub>2</sub>H<sub>5</sub>O)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>

*3-Ethoxyaniline, 3'-Aminophenetol*

- CAS-No. 621-33-0 ■ EC-No. 210-680-2
- Refractive index 1.5655 (20 °C, 589 nm)
- Vapour pressure 30 hPa (50 °C)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in

H<sub>2</sub>O (20 °C) slightly soluble ■ M = 137.18 g/mol

- Boiling point 127 °C (15 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - repeated exposure, Category 2, H373, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1C
- HS-No. 2922 29 00 ■ Disposal 3
- ADR-RID UN 2311 Phenetidine, 6.1, III ■ IMDG-

Code UN 2311 PHENETIDINES, 6.1, III

■ IATA-DGR UN 2311 PHENETIDINES, 6.1, III

**Specification**

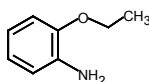
Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 1.065 - 1.067

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20974.0010	Glass bottle	10 ml	inquire
8.20974.0050	Glass bottle	50 ml	inquire

## 807000 o-Phenetidine for synthesis



C<sub>8</sub>H<sub>11</sub>NO

2-(C<sub>2</sub>H<sub>5</sub>O)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>

*2-Ethoxyaniline, 2'-Aminophenetol*

- CAS-No. 94-70-2 ■ EC-No. 202-356-4
- Vapour pressure 1 hPa (67 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C)
- Flash point 112 °C ■ Solub. in H<sub>2</sub>O 7 g/l (20 °C)

- M = 137.18 g/mol ■ Melting point -4 °C
- Boiling point 232 - 234 °C (1013 hPa)
- Ignition temp. 425 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373, P280, P302 + P352, P304 + P340, P309 + P310
- EC-Index-No. 612-039-00-6 ■ LGK 6.1A
- HS-No. 2922 29 00 ■ Disposal 9

■ ADR-RID UN 2311 Phenetidine, 6.1, III ■ IMDG-Code UN 2311 PHENETIDINES, 6.1, III

■ IATA-DGR UN 2311 PHENETIDINES, 6.1, III

**Specification**

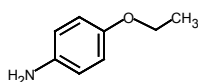
Assay (GC, area%) ..... ≥ 97.0 Area %

Density (d 20 °C/ 4 °C) ..... 1.048 - 1.050

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07000.0250	Glass bottle	250 ml	inquire

## 807002 p-Phenetidine for synthesis



C<sub>8</sub>H<sub>11</sub>NO

4-(C<sub>2</sub>H<sub>5</sub>O)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>

*4'-Aminophenetol, 4-Ethoxyaniline*

- CAS-No. 156-43-4 ■ EC-No. 205-855-5
- Vapour pressure < 0.1 hPa (50 °C)
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)
- Flash point 120 °C ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C)
- M = 137.18 g/mol ■ pH value 8 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 4 °C ■ Boiling point 250 °C

(1013 hPa) ■ Ignition temp. 460 °C

- WGK 1
- GHS: Warning, Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P281, P302 + P352, P305 + P351 + P338, P308 + P313
- LC50 rat 3.53 mg/l
- LD50 oral rat 540 mg/kg ■ LD50 dermal rat 2353 mg/kg
- EC-Index-No. 612-207-00-9 ■ LGK 10

■ HS-No. 2922 29 00 ■ Disposal 3

■ ADR-RID UN 2311 Phenetidine, 6.1, III ■ IMDG-Code UN 2311 PHENETIDINES, 6.1, III

■ IATA-DGR UN 2311 PHENETIDINES, 6.1, III

**Specification**

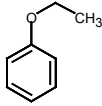
Assay (GC, area%) ..... ≥ 98.0 Area %

Density (d 20 °C/ 4 °C) ..... 1.060 - 1.062

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07002.0006	Glass bottle	5 ml	inquire
8.07002.0250	Glass bottle	250 ml	inquire

## 843648 Phenetole for synthesis



C<sub>8</sub>H<sub>10</sub>O  
 ■ CAS-No. 103-73-1 ■ EC-No. 203-139-7  
 ■ Vapour pressure 2.27 hPa (25 °C)  
 ■ Spec. density 0.966 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 57 °C ■ Solub. in H<sub>2</sub>O 0.569 g/l

(25 °C) ■ M = 122.17 g/mol ■ Melting point - 30 °C ■ Boiling point 170 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210  
 ■ LGK 3  
 ■ HS-No. 2909 30 90 ■ Disposal 3  
 ■ ADR-RID UN 3271 Ether, n.a.g.(ETHOXYBENZOL), 3, III ■ IMDG-Code UN 3271 ETHERS, N.O.S.(ETHOXYBENZENE), 3, III  
 ■ IATA-DGR UN 3271 ETHERS,

N.O.S.(ETHOXYBENZENE), 3, III

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.963 - 0.967  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43648.0100	Glass bottle	100 ml	inquire
8.43648.0500	Glass bottle	500 ml	inquire

Phenidone → 1-Phenyl-3-pyrazolidinone page 1313

## Phenol



C<sub>6</sub>H<sub>6</sub>O  
 C<sub>6</sub>H<sub>5</sub>OH  
*Hydroxybenzene, Carboic acid*  
 ■ CAS-No. 108-95-2 ■ EC-No. 203-632-7  
 ■ Vapour pressure 0.2 hPa (20 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 9.5 % (V) ■ Flash point 81 °C ■ Solub. in H<sub>2</sub>O 84 g/l (20 °C) ■ M = 94.11 g/mol

■ pH value 5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 40.8 °C ■ Bulk density 620 kg/m<sup>3</sup>  
 ■ Boiling point 181.8 °C (1013 hPa)  
 ■ Ignition temp. 595 °C  
 ■ WGK 2  
 ■ GHS: Danger, Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352,

P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.316 mg/l  
 ■ LD50 oral rat 317 mg/kg ■ LD50 dermal rat 525 - 714 mg/kg  
 ■ EC-Index-No. 604-001-00-2 ■ LGK 6.1A ■ Store at +15 °C to +25 °C.  
 ■ HS-No. 2907 11 00 ■ Disposal 9  
 ■ ADR-RID UN 1671 Phenol, fest, 6.1, II ■ IMDG-Code UN 1671 PHENOL, SOLID, 6.1, II  
 ■ IATA-DGR UN 1671 PHENOL, SOLID, 6.1, II

## 822296 Phenol for synthesis

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 39 °C  
 Melting range (upper value)..... ≤ 43 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22296.0100	Glass bottle	100 g	inquire
8.22296.0500	Glass bottle	500 g	inquire
8.22296.1000	Glass bottle	1 kg	inquire
	Glass bottle	4 x 1 kg	inquire

## 100206 Phenol GR for analysis ACS, Reag. Ph Eur

## Specification

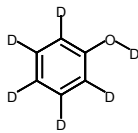
Identity..... passes test  
 Assay (bromometric, calc. to dried substance). 99.0 - 100.5 %  
 Appearance of solution ..... conforms  
 Acidic substances..... conforms  
 Solidification point..... ≥ 40.5 °C  
 Chloride (Cl)..... ≤ 0.0005 %  
 Iron (Fe)..... ≤ 0.0001 %

Non volatile matter ..... ≤ 0.05 %  
 Water (K. F.) ..... ≤ 0.2 %  
 Assay (GC, area%)..... ≥ 99.5 %  
 Cumene ..... ≤ 70 ppm  
 o-Cresol (GC, area%) ..... ≤ 0.05 %  
 m-Cresol (GC, area%) ..... ≤ 0.05 %  
 p-Cresol (GC, area%) ..... ≤ 0.05 %  
 Residual Solvents the class 3 (Ph.Eur./ICH) ≤ 0.5 %

Other residual solvents (Ph. Eur./ICH) ... Excluded by production process

Ord.No.	Packaging	Quantity	Price
1.00206.0250	Glass bottle	250 g	inquire
1.00206.1000	Glass bottle	1 kg	inquire
1.00206.9025	Plastic drum	25 kg	inquire

## 815003 Phenol-D6 deuteration degree min. 98% for NMR spectroscopy MagniSolv™



C<sub>6</sub>D<sub>6</sub>O  
 ■ CAS-No. 13127-88-3 ■ EC-No. 236-063-8  
 ■ Vapour pressure 0.2 hPa (20 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> ■ Explosive limit 1.3 - 9.5 % (V) ■ Flash point 81 °C ■ Solub. in H<sub>2</sub>O 84 g/l (20 °C) ■ M = 100.15 g/mol

■ pH value 5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 40.8 °C ■ Bulk density 620 kg/m<sup>3</sup>  
 ■ Boiling point 181.8 °C (1013 hPa)  
 ■ Ignition temp. 595 °C  
 ■ WGK 2  
 ■ GHS: Danger, Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

■ LC50 rat 316 mg/m<sup>3</sup>  
 ■ LD50 oral rat 317 mg/kg ■ LD50 dermal rat 525 - 714 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2845 90 10 ■ Disposal 9  
 ■ ADR-RID UN 1671 Phenol, fest, 6.1, II ■ IMDG-Code UN 1671 PHENOL, SOLID, 6.1, II  
 ■ IATA-DGR UN 1671 PHENOL, SOLID, 6.1, II

## Specification

Deuteration degree..... ≥ 98 %

Ord.No.	Packaging	Quantity	Price
8.15003.0005	Glass ampoule	5 g	inquire

## 843984 Phenol (90% solution in water) for synthesis

■ Spec. density 1.07 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 81 °C Information refers to the main component. ■ pH value (H<sub>2</sub>O) acidic  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Germ cell

mutagenicity, Category 2, H341; Specific target organ toxicity - repeated exposure, Category 2, H373, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2907 11 00  
 ■ ADR-RID UN 2821 Phenol, Lösung, 6.1, II  
 ■ IMDG-Code UN 2821 PHENOL SOLUTION, 6.1, II

■ IATA-DGR UN 2821 PHENOL SOLUTION, 6.1, II

Ord.No.	Packaging	Quantity	Price
8.43984.0500	Glass bottle	500 ml	inquire
8.43984.1000	Glass bottle	1 l	inquire

Phenolates → Alcoholates

Phenolcarboxylic acids → Phenols and phenol ethers

Phenol Cell Test → page 78

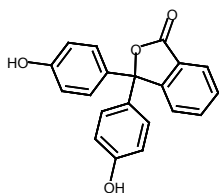
Phenol, determination → page 78

Phenol determination → Aldehyde, ketone, phenol determination

Phenol-2,4-diammonium dichloride → 4-Hydroxy-1,3-phenylenediammonium dichloride page 992

# Phenol

## 107233 Phenolphthalein indicator ACS, Reag. Ph Eur



$C_{20}H_{14}O_4$   
 ■ CAS-No. 77-09-8 ■ EC-No. 201-004-7  
 ■ Vapour pressure < 0.00001 Pa (50 °C)  
 ■ Spec. density 1.296 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 3.36 mg/l (20 °C) ■ M = 318.32 g/mol  
 ■ Melting point 263.7 °C

■ Bulk density 350 - 450 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 2, H361f, P201, P260, P281, P308 + P313  
 ■ EC-Index-No. 604-076-00-1 ■ LGK 6.1 C  
 ■ HS-No. 2932 20 10 ■ Disposal 3  
 Use as pH indicator: 0.1 g in 100 ml ethanol (96%)

**Specification**  
 Identity (UV/VIS-Spectrum)..... passes test  
 Appearance ..... White to almost white powder  
 Clarity of the alcoholic solution (10 g/l ethanol).... Clear to not more than a faint trace of turbidity or

insoluble matter should remain.  
 Absorption maximum  $\lambda_{max}$ . (buffer pH 9.8)..... 551 - 554 nm  
 Spec. Absorptivity A 1%/1cm ( $\lambda_{max}$ : 0.01 g/l; buffer pH 9.8; calculated on anhydrous substance)..... 700 - 750  
 Transition range (according to ACS)..... passes test  
 Transition range..... pH 8.2 - pH 9.8 Colorless - red-violet  
 Loss on drying (110 °C)..... ≤ 1%

Ord.No.	Packaging	Quantity	Price
1.07233.0025	Glass bottle	25 g	inquire
1.07233.0100	Glass bottle	100 g	inquire
1.07233.0500	Glass bottle	500 g	inquire

## 107238 Phenolphthalein solution 0.375% in methanol indicator

■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 36.5 % (V) ■ Flash point 11 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - single exposure, Category

1, H370, P210, P233, P240, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 3822 00 00 ■ Disposal 1  
 ■ ADR-RID UN 1230 Methanol, Lösung, 3 (6.1), II  
 ■ IMDG-Code UN 1230 METHANOL SOLUTION, 3 (6.1), II  
 ■ IATA-DGR UN 1230 METHANOL SOLUTION, 3 (6.1), II

**Specification**  
 Application test..... conforms

Ord.No.	Packaging	Quantity	Price
1.07238.0250	Glass bottle	250 ml	inquire
1.07238.1000	Glass bottle	1 l	inquire

## 107227 Phenolphthalein solution 1% in ethanol indicator pH 8.2 - 9.8

■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 23 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ Ignition temp. 425 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341, P201, P210,

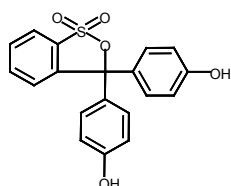
P233, P281, P308 + P313  
 ■ LGK 3  
 ■ HS-No. 3822 00 00 ■ Disposal 1  
 ■ ADR-RID UN 1170 Ethanol, Lösung, 3, III  
 ■ IMDG-Code UN 1170 ETHANOL SOLUTION, 3, III  
 ■ IATA-DGR UN 1170 ETHANOL SOLUTION, 3, III  
 Use as pH indicator

**Specification**  
 Application test..... passes test

Ord.No.	Packaging	Quantity	Price
1.07227.0250	Glass bottle	250 ml	inquire
1.07227.1000	Glass bottle	1 l	inquire

Phenol reagent acc. to Folin and Ciocalteu → Folin-Ciocalteu's phenol reagent page 910

## Phenol red



$C_{19}H_{14}O_5S$   
 $(C_6H_4OH)_2C_7H_4SO_3$   
 ■ CAS-No. 143-74-8 ■ EC-No. 205-609-7  
 ■ Solub. in H<sub>2</sub>O 0.77 g/l (100 °C) ■ M = 354.38 g/mol ■ Melting point >300 °C

■ Bulk density 200 - 300 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 Use as pH indicator: 0.1 g in 100 ml ethanol (20%)

## 159375 Phenol red (phenolsulfonphthalein) Reag. Ph Eur

**Specification**  
 Assay (bromatometric, calculated on dried substance)..... 98.0 - 102.0 %  
 Identity (UV/VIS-Spectrum)..... passes test  
 Identity (Colour transition)..... passes test

Identity (Bromination)..... passes test  
 Insoluble substances..... ≤ 0.5 %  
 Sulfated ash..... ≤ 0.2 %  
 Loss on drying (105 °C)..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.59375.0001	Glass bottle	1 g	inquire
1.59375.0100	Glass bottle	100 g	inquire

## 107241 Phenol red indicator ACS

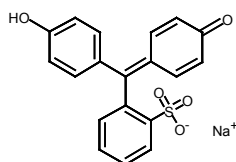
**Specification**  
 1st transition range..... pH 1.2 - pH 3.0 brownish orange - yellow  
 2nd transition range..... pH 6.5 - pH 8.0 brownish yellow - red violet  
 Appearance of solution..... passes test

Loss on drying (110 °C)..... ≤ 1%  
 Transition range (according to ACS)..... passes test  
 ACS conforms

Ord.No.	Packaging	Quantity	Price
1.07241.0005	Glass bottle	5 g	inquire
1.07241.0025	Glass bottle	25 g	inquire
1.07241.0100	Glass bottle	100 g	inquire
1.07241.1000	Metal can	1 kg	inquire

Phenol-red broth → page 103

## 111748 Phenol red sodium salt indicator ACS



■ CAS-No. 34487-61-1 ■ EC-No. 252-057-8  
 ■ Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ M = 376.35 g/mol ■ Melting point 285 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

**Specification**  
 1st transition range..... pH 1.2 - pH 3.0 brownish orange - yellow

2nd transition range..... pH 6.5 - pH 8.0 brownish yellow - red violet  
 Appearance of solution..... passes test  
 Loss on drying (110 °C)..... ≤ 8.0 %  
 Transition range (according to ACS)..... passes test

Ord.No.	Packaging	Quantity	Price
1.11748.0005	Glass bottle	5 g	inquire

$C_{19}H_{13}NaO_5S$

## 107242 Phenol red solution indicator

■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.0 - 7.3 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13

■ HS-No. 3822 00 00

## Specification

Application test..... conforms  
 pH-value (20 °C) ..... 7.0 - 7,3

Ord.No.	Packaging	Quantity	Price
1.07242.0100	Glass bottle	100 ml	inquire

## Phenols and phenol ethers

## Alkyl and aryl phenols and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
364	841253	4-Allylanisole	700	820408	Dibenzofuran	1056	840160	2-Isopropylphenol
366	818585	2-Allylphenol	709	822021	2,6-Di-tert-butyl-4-methylphenol	1121	821231	2-Methoxynaphthalene
390	100099	1-Amino-2-hydroxy-4-naphthalenesulfonic acid	709	820422	2,4-Di-tert-butylphenol	1127	841398	4-Methoxystyrene
417	800429	trans-Anethole	709	818623	2,6-Di-tert-butylphenol	1127	841054	3-Methoxythiophenol
299	801452	Anisole	715	814765	o-Dichlorobenzene/Phenol (mixture 1:1)	1132	821248	2-Methylanisole
440	820129	Benzo[b]furan				1132	818456	4-Methylanisole
461	821007	Biphenyl-2-ol	782	814972	2,5-Dimethylanisole	1148	842857	4,4'-Methylenebis(2,6-di-tert-butylphenol)
461	801959	Biphenyl-4-ol	796	803770	2,4-Dimethylphenol	1158	814649	Methylisoeugenol
552	818620	2-tert-Butyl-4-methylphenol	797	803771	2,5-Dimethylphenol	1199	822289	1-Naphthol
553	820249	2-tert-Butylphenol	797	803772	2,6-Dimethylphenol	1200	822290	2-Naphthol
554	820250	4-tert-Butylphenol	797	803773	3,4-Dimethylphenol	1289	822296	Phenol
172	102498	Chromotropic acid disodium salt dihydrate	797	821221	3,5-Dimethylphenol	1450	820873	Sodium phenolate trihydrate
658	809691	m-Cresol	817	820978	Diphenyl ether	1535	814883	5,6,7,8-Tetrahydro-2-naphthol
658	809692	o-Cresol	880	821290	4-Ethylphenol	1540	806904	4-(1,1,3,3-Tetramethylbutyl)phenol
658	805223	p-Cresol	1000	841078	5-Indanole	1605	841575	2,3,5-Trimethylphenol
			1055	820258	5-Isopropyl-2-methylphenol			

## Halogenated phenols and halogenated phenol ethers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
383	840103	2-Amino-4-chloro-diphenyl ether	628	841619	4-Chlorophenoxyacetic acid	903	841204	5-Fluoro-2-nitrophenol
449	840016	2-Benzyl-4-chlorophenol	634	821994	5-Chloro-8-quinolinol	903	821800	2-Fluorophenol
485	840009	(2-Bromomethoxy)benzene	634	818706	4-Chlororesorcinol	903	818515	3-Fluorophenol
498	841230	4-Bromo-1,2-dimethoxybenzene	683	841037	Decabromodiphenyl ether	904	820581	4-Fluorophenol
503	820223	5-Bromo-2-hydroxybenzaldehyde	705	841765	2,6-Dibromophenol	978	841244	4-Hydroxybenzotrifluoride
508	821974	1-Bromo-2-naphthol	722	841262	3,5-Dichloro-2-hydroxybenzenesulfonic acid sodium salt	1008	841350	2-Iodoanisole
510	804166	2-Bromophenol	723	841068	3,5-Dichloro-2-hydroxybenzenesulfonyl chloride	1012	820741	2-Iodophenol
510	818603	3-Bromophenol				1013	841340	5-Iodosalicylic acid
597	841222	3-Chloroanisole	727	820447	2,3-Dichlorophenol	1118	841540	3-Methoxybenzyl chloride
606	816100	5-Chloro-2-(2,4-dichlorophenoxy)phenol	728	803774	2,4-Dichlorophenol	1118	841583	4-Methoxybenzyl chloride
607	818734	4-Chloro-3,5-dimethylphenol	728	820448	2,5-Dichlorophenol	1266	818100	Pentafluorophenol
612	841128	2-Chloro-4-fluorophenol	728	820449	2,6-Dichlorophenol	1580	818469	2,4,6-Trichlorophenol
616	820341	5-Chloro-2-hydroxybenzoic acid	728	820450	3,4-Dichlorophenol	1593	841175	4-(Trifluoromethoxy)-1-fluorobenzene
619	802295	4-Chloro-3-methylphenol	729	820451	2,4-Dichlorophenoxyacetic acid	1593	814967	4-Trifluoromethoxyphenol
627	802253	2-Chlorophenol	764	841653	3,5-Diiodosalicylic acid	1595	814969	3,4,5-Trifluorophenol
627	820321	3-Chlorophenol	897	841162	2-Fluoroanisole			
627	802254	4-Chlorophenol	897	814959	3-Fluoroanisole			
			903	841285	3-Fluoro-4-nitrophenol			

# Phenol

## Aminophenols and aminophenol ethers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	841293	3-Acetamidophenol	419	845003	p-Anisidine	992	822331	4-Hydroxy-1,3-phenylenediammonium dichloride
389	800426	4-Amino-2-hydroxybenzoic acid	419	800458	p-Anisidine			
			419	820103	p-Anisidinium chloride			
389	820095	5-Amino-2-hydroxybenzoic acid	453	841152	4-Benzyloxyanilinium chloride	992	818444	2-(4-Hydroxyphenyl)ethylammonium chloride
			695	820948	4,4'-Diaminodiphenyl ether	992	818612	(R)-(-)-2-(4-Hydroxyphenyl)glycine
390	820096	4-Amino-2-hydroxybenzoic acid sodium salt dihydrate	763	820480	4,8-Dihydroxy-2-quinolinecarboxylic acid			
			769	821771	3,4-Dimethoxyaniline	996	824406	(-)-5-Hydroxy-L-tryptophane
390	820078	4-Amino-5-hydroxynaphthalene-2,7-disulfonic acid monosodium salt	772	818438	2-(3,4-Dimethoxyphenyl)ethylamine	997	822073	3-Hydroxytyraminium chloride
			778	841786	3-(Dimethylamino)-phenol	1099	814537	Melatonin
392	814583	5-Amino-2-methoxyphenol	930	104191	Glyoxalbis(2-hydroxyanil)	1117	818871	2-Methoxybenzylamine
393	821675	2-Amino-4-methylphenol	976	822325	4'-Hydroxyacetanilide	1118	841885	4-Methoxybenzylamine
393	800416	4-Amino-3-methylphenol	976	820092	4-Hydroxyanilinium chloride	1179	820783	2-Methyl-8-quinolinol
397	814454	4-Amino-3-nitrophenol	986	841494	4-Hydroxy-3-methoxybenzylamine hydrochloride	1288	820974	m-Phenetidine
398	800419	2-Aminophenol				1288	807000	o-Phenetidine
398	800420	3-Aminophenol				1288	807002	p-Phenetidine
398	800421	4-Aminophenol	990	104593	Hydroxynaphthol blue	1592	841343	3-(Trifluoromethoxy)-aniline
399	845129	p-Aminophenol	991	841422	2-(4-Hydroxyphenylazo)-benzoic acid	1592	841431	4-(Trifluoromethoxy)-aniline
419	800462	m-Anisidine						
419	800461	o-Anisidine						

## Nitrophenols and nitrophenol ethers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
625	814581	4-Chloro-3-nitrophenol	1121	806226	2-Methoxy-4-nitroaniline	1216	820882	3-Nitroanisole
795	814216	2,6-Dimethyl-4-nitrophenol	1121	806225	4-Methoxy-2-nitroaniline	1225	806790	2-Nitrophenol
981	800141	2-Hydroxy-3,5-dinitrobenzoic acid	1122	814582	2-Methoxy-5-nitrophenol	1225	820895	3-Nitrophenol
			1122	840003	4-Methoxy-2-nitrophenol	1226	814558	4-Nitrophenol
990	820904	2-Hydroxy-5-nitrobenzaldehyde	1165	841806	5-Methyl-2-nitrophenol	1228	841747	2-Nitrophenyl-β-D-galactopyranoside
			1216	806227	2-Nitroanisole	1229	820892	4-Nitroprocatechol
990	820905	2-Hydroxy-5-nitrobenzoic acid						
991	841625	3-Hydroxy-4-nitrobenzoic acid						

## Phenols and phenol ethers with carbonyl or oxim groups

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
453	841289	2-Benzyloxybenzaldehyde	771	820491	4,4'-Dimethoxybenzophenone	1114	818441	3'-Methoxyacetophenone
453	818541	4-Benzyloxybenzaldehyde	772	818353	3,5-Dimethoxy-4-hydroxybenzaldehyde	1115	805795	4'-Methoxyacetophenone
607	841527	2-Chloro-3',4'-dihydroxyacetophenone	847	821276	3-Ethoxy-4-hydroxybenzaldehyde	1115	820102	2-Methoxybenzaldehyde
						1115	805796	3-Methoxybenzaldehyde
663	820354	Curcumin				1115	822314	4-Methoxybenzaldehyde
759	822027	2',4'-Dihydroxyacetophenone	976	804310	2'-Hydroxyacetophenone	1116	818277	4-Methoxybenzophenone
759	818284	2',5'-Dihydroxyacetophenone	976	804311	4'-Hydroxyacetophenone	1119	841295	3-Methoxycinnamic acid
759	820472	2',6'-Dihydroxyacetophenone	977	800640	2-Hydroxybenzaldehyde	1120	841697	5-Methoxy-1-indanone
759	820259	1,4-Dihydroxyanthraquinone	977	804535	3-Hydroxybenzaldehyde	1123	818558	(4-Methoxyphenyl) acetone
760	822028	1,8-Dihydroxyanthraquinone	977	804536	4-Hydroxybenzaldehyde	1127	805801	6-Methoxy-1,2,3,4-tetrahydro-1-naphthalenone
760	841427	2,3-Dihydroxybenzaldehyde	978	820660	2-Hydroxybenzophenone			
760	841551	2,4-Dihydroxybenzaldehyde	978	820661	4-Hydroxybenzophenone	1295	814021	3-Phenoxybenzaldehyde
760	820475	3,4-Dihydroxybenzaldehyde	985	840118	4-Hydroxy-3-methoxyacetophenone	1315	841569	9-Phenyl-2,3,7-trihydroxy-6-fluorone
761	818652	2,4-Dihydroxybenzophenone				1596	841389	2',4',6'-Trihydroxyacetophenone monohydrate
769	818276	3,4-Dimethoxyacetophenone	986	841853	2-Hydroxy-3-methoxybenzaldehyde			
769	818351	2,3-Dimethoxybenzaldehyde						
769	820486	2,4-Dimethoxybenzaldehyde	986	841611	2-Hydroxy-4-methoxybenzaldehyde	1598	821172	3',4',5'-Trimethoxyacetophenone
770	841546	2,5-Dimethoxybenzaldehyde				1598	814027	2,3,4-Trimethoxybenzaldehyde
770	808525	3,4-Dimethoxybenzaldehyde	986	841493	2-Hydroxy-5-methoxybenzaldehyde	1598	821173	3,4,5-Trimethoxybenzaldehyde
770	820104	4,4'-Dimethoxybenzil	986	841767	3-Hydroxy-4-methoxybenzaldehyde	1628	818718	Vanillin
			990	841558	1-Hydroxy-naphthalene-2-carboxylic acid			
			992	814776	1-(2-Hydroxyphenyl)-3-phenyl-2-propenone			
			994	820692	4'-Hydroxypropiofenone			
			1114	841349	2'-Methoxyacetophenone			



## Phenolcarboxylic acids and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
349	821928	Acetylsalicyloyl chloride	977	841410	4-Hydroxybenzhydrazide	1123	818671	2-Methoxyphenylacetic acid
426	100128	Aurin tricarboxylic acid ammonium salt	977	804537	3-Hydroxybenzoic acid	1123	841039	3-Methoxyphenylacetic acid
519	818308	(-)-Brucine	978	821814	4-Hydroxybenzoic acid	1123	821240	4-Methoxyphenylacetic acid
657	822316	Coumarin	980	800233	2-Hydroxycinnamic acid	1156	841861	Methyl 4-hydroxyphenylacetate
657	818273	Coumarin-3-carboxylic acid	980	800234	3-Hydroxycinnamic acid			
706	841158	3,5-Dibromosalicylic acid	980	800237	4-Hydroxycinnamic acid	1160	821311	Methyl 2-methoxybenzoate
756	818454	Dihydrocoumarin	980	804330	4-Hydroxycoumarin	1185	841414	L-Methyltyrosinate hydrochloride
760	800738	2,4-Dihydroxybenzoic acid	980	820668	7-Hydroxycoumarin			
761	841745	2,5-Dihydroxybenzoic acid	980	822161	4-Hydroxy-3,5-dimethoxybenzoic acid	1201	841023	2-Naphthoxyacetic acid
761	814646	2,6-Dihydroxybenzoic acid	983	840134	(2-Hydroxyethyl)-salicylate	1227	820272	4-Nitrophenyl chloroformate
761	841533	3,4-Dihydroxybenzoic acid	984	840013	5-Hydroxyisophthalic acid	1294	840139	Phenoxyacetamide
761	800737	3,5-Dihydroxybenzoic acid	984	818381	2-Hydroxy-5-methoxybenzoic acid	1294	800667	Phenoxyacetic acid
761	822029	3,4-Dihydroxycinnamic acid	986	818381	2-Hydroxy-5-methoxybenzoic acid	1294	841489	Phenoxyacetyl chloride
762	814703	2,4-Dihydroxy-3,6-dimethylbenzoic acid	987	822070	4-Hydroxy-3-methoxycinnamic acid	1295	841344	2-Phenoxybenzoic acid
770	814000	2,3-Dimethoxybenzoic acid	987	822070	4-Hydroxy-3-methoxycinnamic acid	1295	841319	3-Phenoxybenzoic acid
770	818893	2,4-Dimethoxybenzoic acid	987	814755	2-Hydroxy-3-methylbenzoic acid	1295	822053	Phenyl acetate
771	822032	2,6-Dimethoxybenzoic acid	987	814755	2-Hydroxy-3-methylbenzoic acid	1298	818121	Phenyl benzoate
771	808526	3,4-Dimethoxybenzoic acid	988	841288	3-Hydroxy-4-methylbenzoic acid	1299	802353	Phenyl chloroformate
771	820490	3,5-Dimethoxybenzoic acid	991	841625	3-Hydroxy-4-nitrobenzoic acid	1301	818303	o-Phenylenedioxydiacetic acid
772	800298	3,4-Dimethoxyphenylacetic acid	991	841462	(2-Hydroxyphenyl)-acetic acid	1332	821036	Piperine
772	818274	5,6-Dimethoxyphthalaldehydic acid	991	820690	(4-Hydroxyphenyl)-acetic acid	1332	841707	Piperonylic acid
830	820598	Dodecyl 3,4,5-trihydroxybenzoate	993	814101	3-(4-Hydroxyphenyl)-propionic acid	1377	820599	Propyl 3,4,5-trihydroxybenzoate
845	800122	2-Ethoxybenzamide	1051	814461	4-Isopropoxybenzoic acid	1409	821064	Salicylanilide
884	841018	Ethyl salicylate	1116	820107	2-Methoxybenzoic acid	1410	818731	Salicylic acid
887	820597	Ethyl 3,4,5-trihydroxybenzoate	1116	818805	3-Methoxybenzoic acid	1599	808638	3,4,5-Trimethoxybenzoic acid
901	843872	3-Fluoro-4-methoxyphenylacetic acid	1116	805971	4-Methoxybenzoic acid	1600	814336	3,4,5-Trimethoxyphenyl acetic acid
			1117	841332	2-Methoxybenzoyl chloride			
			1117	820106	4-Methoxybenzoyl chloride			
			1122	841153	3-Methoxy-2-nitrobenzoic acid			

## Phenols and phenol ethers with further hydroxyl or ether groups

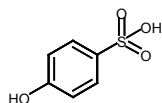
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
420	841595	p-Anisoin	837	820553	2,3-Epoxypropyl phenyl ether	1150	818519	1,2-Methylenedioxybenzene
171	110107	Arsenazo III	303	807291	Ethylene glycol monophenyl ether	1150	806195	3,4-Methylenedioxyphenol
454	841576	4-Benzyloxybenzyl alcohol	888	818455	Eugenol	1155	820801	2-Methylhydroquinone
454	841834	4-Benzyloxyphenol	889	841579	Eugenol methyl ether	1177	821257	4-Methylpyrocatechol
458	841292	1,1'-Binaphthyl-2,2'-diol	931	804213	Guaiaicol glyceryl ether	1197	820848	1,5-Naphthalenediol
458	814774	(R)-(+)-1,1'-Binaphthyl-2,2'-diol	957	820647	4-Hexylresorcinol	1197	820851	2,7-Naphthalenediol
459	814773	(S)-(-)-1,1'-Binaphthyl-2,2'-diol	975	822333	Hydroquinone	1227	841713	4-(4-Nitrophenylazo)-resorcinol
461	820154	Biphenyl-2,2'-diol	975	804613	Hydroquinone dimethyl ether	1295	841779	3-Phenoxybenzyl alcohol
473	803546	2,2-Bis(4-hydroxyphenyl)propane	979	820662	2-Hydroxybenzyl alcohol	1295	814195	4-Phenoxyphenol
543	814707	p-tert-Butylcalix[4]arene	979	841463	3-Hydroxybenzyl alcohol	1315	841569	9-Phenyl-2,3,7-trihydroxy-6-fluorone
543	814708	p-tert-Butylcalix[6]arene	979	820663	4-Hydroxybenzyl alcohol	1320	818887	Phloroglucinol
547	841424	tert-Butylhydroquinone	986	841197	4-Hydroxy-3-methoxybenzyl alcohol	1390	841016	4-(2'-Pyridylazo)-resorcinol
549	820246	2-tert-Butyl-4-methoxyphenol	992	841859	2-(4-Hydroxyphenyl)ethanol	1391	822261	Pyrocatechol
554	801987	4-tert-Butylpyrocatechol	1046	818451	Isoeugenol	1391	808529	Pyrocatechol dimethyl ether
660	813718	Crown ether/Benzo-15-crown-5	1053	824493	p-Isopropylcalix-6-arene	1392	801917	Pyrocatechol monoethyl ether
660	814316	Crown ether/Benzo-18-crown-6	1089	108712	Magnesium reagent	1392	822302	Pyrogallol
661	811731	Crown ether/Dibenzo-18-crown-6	1117	821226	2-Methoxybenzyl alcohol	1392	100612	Pyrogallol
661	813755	Crown ether/Dibenzo-24-crown-8	1117	821227	3-Methoxybenzyl alcohol	1396	102284	Quinhydrone
707	841005	3,5-Di-tert-butylcatechol	1117	800460	4-Methoxybenzyl alcohol	1405	822303	Resorcinol
708	821762	2,5-Di-tert-butylhydroquinone	1119	841752	3-Methoxycatechol	1405	807595	Resorcinol dimethyl ether
733	814409	2,3-Dicyanohydroquinone	1121	814163	2-Methoxy-4-methylphenol	1532	841076	1,2,3,4-Tetrahydro-6,7-dimethoxy-isoquinoline hydrochloride
763	107998	1,8-Dihydroxy-2-(4-sulfophenylazo)naphthalene-3,6-disulfonic acid trisodium salt	1122	840003	4-Methoxy-2-nitrophenol			
763	841766	2,6-Dihydroxytoluene	1122	818339	2-Methoxyphenol	1598	841091	3,4,5-Trimethoxyaniline
763	820933	3,5-Dihydroxytoluene	1122	821232	3-Methoxyphenol	1599	814125	1,2,3-Trimethoxybenzene
770	841482	4,4'-Dimethoxybenzhydrol	1123	821233	4-Methoxyphenol	1599	821174	1,2,4-Trimethoxybenzene
772	841127	3-(3,4-Dimethoxyphenyl)propionic acid	1124	841504	2-(4-Methoxyphenyl)ethanol	1599	841357	1,3,5-Trimethoxybenzene
801	814691	2,5-Dimethylresorcinol	1149	818447	2,2'-Methylenebis(4-methyl-6-tert-butylphenol)	1628	841025	Vanillic acid

## Phenols and phenol ethers with other substituents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
901	814962	2-Fluoro-4-hydroxybenzotrile	1118	841304	4-Methoxybenzyl mercaptan	1201	106531	1,2-Naphthoquinone-4-sulfonic acid sodium salt
979	814961	4'-Hydroxybiphenyl-4-carbonitrile	1127	841406	6-Methoxyquinoline	1294	840015	Phenolsulfonic acid

Phenol sodium salt → Sodium phenolate trihydrate page 1450

## 840015 Phenolsulfonic acid (65% solution in water) for synthesis



## 4-Hydroxybenzenesulfonic acid

- Spec. density 1.33 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point 100 °C
- WGK 1
- GHS: Danger, Germ cell mutagenicity, Category

- 2, H341; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 4200 mg/kg
- LGK 8 B
- HS-No. 2908 99 00 ■ Disposal 4
- ADR-RID UN 1803 Phenolsulfonsäure, flüssig, 8, II ■ IMDG-Code UN 1803 PHENOLSULPHONIC ACID, LIQUID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1803 PHENOLSULPHONIC ACID, LIQUID, 8, II

## Specification

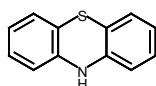
Assay (acidimetric).....	65.0 - 75.0 %
Water (K. F.).....	25.0 - 35.0 %
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.40015.0250	Glass bottle	250 ml	inquire
8.40015.1000	Glass bottle	1 l	inquire

Phenolsulfonphthalein → page 1290

Phenol Test → page 78

## 820975 Phenothiazine for synthesis

C<sub>12</sub>H<sub>9</sub>NS

- CAS-No. 92-84-2 ■ EC-No. 202-196-5
- Vapour pressure < 0.001 hPa (30 °C)
- Spec. density 1.34 g/cm<sup>3</sup> (20 °C)
- Flash point 202 °C ■ Solub. in H<sub>2</sub>O < 0.001 g/l (20 °C) ■ M = 199.26 g/mol ■ pH value 6 (10 g/l, H<sub>2</sub>O, 20 °C) (aqueous suspension)
- Melting point 182 - 185 °C
- Bulk density 650 kg/m<sup>3</sup> ■ Boiling point 381 °C (1011 hPa) ■ Ignition temp. 470 °C

- WGK 1
- GHS: Warning, Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P273, P280, P302 + P352
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2934 30 90 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(PHENOTHIAZIN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(PHENOTHIAZINE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

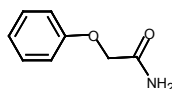
N.O.S.(PHENOTHIAZINE), 9, III

## Specification

Assay (HPLC, area%).....	≥ 97,0 % (a/a)
Melting range (lower value).....	≥ 183 °C
Melting range (upper value).....	≤ 187 °C
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.20975.0100	Glass bottle	100 g	inquire
8.20975.1000	Glass bottle	1 kg	inquire
	Glass bottle	6 x 1 kg	inquire
8.20975.9050	Fibre carton	50 kg	inquire

## 840139 Phenoxyacetamide for synthesis

C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>

- CAS-No. 621-88-5 ■ EC-No. 210-713-0
- M = 151.16 g/mol ■ Melting point 98 - 102 °C

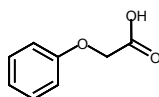
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3

## Specification

Assay (HPLC, area%).....	≥ 94,0 % (a/a)
Melting range (lower value).....	≥ 98 °C
Melting range (upper value).....	≤ 102 °C
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.40139.0005	Glass bottle	5 g	inquire

## 800667 Phenoxyacetic acid for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>C<sub>6</sub>H<sub>5</sub>OCH<sub>2</sub>COOH

## Glycolic acid phenyl ether

- CAS-No. 122-59-8 ■ EC-No. 204-556-7
- Flash point 165 °C ■ Solub. in H<sub>2</sub>O 12 g/l (10 °C)
- M = 152.14 g/mol ■ pH value 8 - 10 (H<sub>2</sub>O)

- Melting point 98 - 100 °C
- Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 285 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 1500 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13

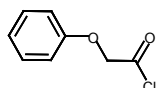
- HS-No. 2918 99 90 ■ Disposal 3

## Specification

Assay (acidimetric).....	≥ 99,0 % (m)
Melting range (lower value).....	≥ 97 °C
Melting range (upper value).....	≤ 100 °C
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
8.00667.0100	Plastic bottle	100 g	inquire
8.00667.0500	Plastic bottle	500 g	inquire

## 841489 Phenoxyacetyl chloride for synthesis

C<sub>8</sub>H<sub>7</sub>ClO<sub>2</sub>

- CAS-No. 701-99-5 ■ EC-No. 211-862-4
- Spec. density 1.235 g/cm<sup>3</sup> (20 °C)
- Flash point 108 °C ■ M = 170.59 g/mol
- Boiling point 225 - 226 °C
- WGK 2

- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2918 99 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(PHENOXYACETYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PHENOXYACETYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

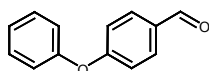
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PHENOXYACETYL CHLORIDE), 8, II

## Specification

Assay (GC, area%).....	≥ 97,0 % (a/a)
Density (d 20 °C/ 4 °C).....	1.234 - 1.240
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.41489.0025	Glass bottle	25 ml	inquire

## 814021 3-Phenoxybenzaldehyde for synthesis

C<sub>13</sub>H<sub>10</sub>O<sub>2</sub>3-(C<sub>6</sub>H<sub>5</sub>O)-C<sub>6</sub>H<sub>4</sub>CHO

- CAS-No. 39515-51-0 ■ EC-No. 254-487-1
- Refractive index 1.5954 (20 °C, 589 nm)

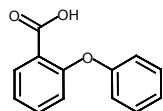
- Spec. density 1.15 g/cm<sup>3</sup> (20 °C)
- Flash point >112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.22 g/mol
- Melting point 13 °C ■ Boiling point 169 °C (15 hPa)
- WGK 2
- LGK 10
- HS-No. 2912 49 00 ■ Disposal 1

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,151 - 1,153  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14021.0010	Glass bottle	10 ml	inquire

## 8141344 2-Phenoxybenzoic acid for synthesis

C<sub>13</sub>H<sub>10</sub>O<sub>3</sub>

2-Carboxydiphenylether, Diphenylether-2-

## carbonic acid

- CAS-No. 2243-42-7 ■ EC-No. 218-811-5
- M = 214.22 g/mol ■ Melting point 113 - 115 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

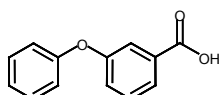
## Specification

Assay (acidimetric)..... ≥ 98,0 %

Melting range (lower value)..... ≥ 112 °C  
 Melting range (upper value)..... ≤ 114 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.141344.0025	Plastic bottle	25 g	inquire

## 8141319 3-Phenoxybenzoic acid for synthesis

C<sub>13</sub>H<sub>10</sub>O<sub>3</sub>

3-Carboxydiphenylether, Diphenylether-3-carboxylic acid

- CAS-No. 3739-38-6 ■ EC-No. 223-121-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 214.22 g/mol

- mol ■ Melting point 147 - 150 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

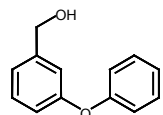
## Specification

Assay (HPLC, area%)..... ≥ 99,0 % (a/a)

Melting range (lower value)..... ≥ 147 °C  
 Melting range (upper value)..... ≤ 150 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.141319.0005	Plastic bottle	5 g	inquire

## 8141779 3-Phenoxybenzyl alcohol for synthesis

C<sub>13</sub>H<sub>12</sub>O<sub>2</sub>

- CAS-No. 13826-35-2 ■ EC-No. 237-525-1
- Vapour pressure 0.13 hPa (86 °C)

- Spec. density 1.146 g/cm<sup>3</sup> (20 °C)
- Flash point 309 °C ■ M = 200.24 g/mol
- Boiling point 135 - 140 °C (13.3 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1496 mg/kg ■ LD50 dermal rabbit 10000 mg/kg
- LGK 10 - 13

- HS-No. 2909 49 80 ■ Disposal 3

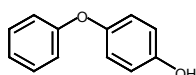
## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,146 - 1,150  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.141779.0010	Glass bottle	10 ml	inquire

2-(Phenoxy)ethanol → Ethylene glycol monophenyl ether page 303

## 814195 4-Phenoxyphenol for synthesis

C<sub>12</sub>H<sub>10</sub>O<sub>2</sub>

4-Hydroxydiphenyl ether, Hydroquinone monophenyl ether

- CAS-No. 831-82-3 ■ EC-No. 212-611-1

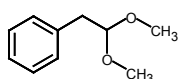
- Flash point 170 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 186.2 g/mol
- Melting point 80 - 83 °C
- Boiling point 177 - 180 °C (12 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2909 50 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 81 °C  
 Melting range (upper value)..... ≤ 84 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14195.0010	Glass bottle	10 g	inquire

## 822124 Phenylacetaldehyde dimethyl acetal for synthesis

C<sub>10</sub>H<sub>14</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH(OCH<sub>3</sub>)<sub>2</sub>

1,1-Dimethoxy-2-phenylethane

- CAS-No. 101-48-4 ■ EC-No. 202-945-6

- Refractive index 1.4941 (20 °C, 589 nm)
- Spec. density 1.00 g/cm<sup>3</sup> (20 °C)
- Flash point 89 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 166.21 g/mol
- Boiling point 110 °C (29 hPa)
- WGK 1
- LD50 oral rat 3500 mg/kg
- LGK 10

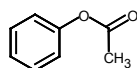
- HS-No. 2911 00 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,003 - 1,004  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22124.0250	Glass bottle	250 ml	inquire

## 822053 Phenyl acetate for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>2</sub>CH<sub>3</sub>COOC<sub>6</sub>H<sub>5</sub>

Acetic acid phenyl ester

- CAS-No. 122-79-2 ■ EC-No. 204-575-0
- Refractive index 1.5017 (25 °C, 589 nm)
- Spec. density 1.08 g/cm<sup>3</sup> (20 °C)

- Flash point 79 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 136.15 g/mol
- Boiling point 196 °C
- Ignition temp. >450 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1760 mg/kg ■ LD50 dermal rabbit 8640 mg/kg
- LGK 10 - 13

- HS-No. 2915 39 00 ■ Disposal 3

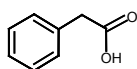
## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,077 - 1,079  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22053.0250	Glass bottle	250 ml	inquire
8.22053.1000	Glass bottle	1 l	inquire

# Phenyl

## 820993 Phenylacetic acid for synthesis



$C_8H_8O_2$   
 $C_6H_5CH_2COOH$   
 ■ CAS-No. 103-82-2 ■ EC-No. 203-148-6  
 ■ Vapour pressure 1.33 hPa (97 °C)  
 ■ Spec. density 1.091 g/cm<sup>3</sup> (97 °C)  
 ■ Flash point 132 °C ■ Solub. in H<sub>2</sub>O 1.58 g/l (20 °C) ■ M = 136.15 g/mol

■ Melting point 74 - 77 °C ■ Boiling point 265 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 34 00 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 74 °C  
 Melting range (upper value) ..... ≤ 77 °C  
 Identity (IR) ..... conforms

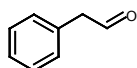
Ord.No.	Packaging	Quantity	Price
8.20993.0250	Plastic bottle	250 g	inquire
8.20993.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

Phenylacetic acid chloride → Phenylacetyl chloride page 1296

Phenylacetic acid ethyl ester → Ethyl phenylacetate page 880

Phenylacetic acid methyl ester → Methyl phenylacetate page 1168

## 843654 Phenyl acetic aldehyde for synthesis



$C_8H_8O$   
 ■ CAS-No. 122-78-1 ■ EC-No. 204-574-5  
 ■ Vapour pressure 0.35 hPa (19 °C)  
 ■ Spec. density 1.026 - 1.030 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 87 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 120.15 g/mol

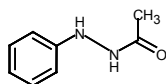
■ Melting point 32 - 34 °C  
 ■ Boiling point 192 - 195 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P260, P262  
 ■ LD50 oral rat 1550 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2912 29 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,026 - 1,030  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43654.0100	Glass bottle	100 ml	inquire
8.43654.0500	Glass bottle	500 ml	inquire

## 820561 2-Phenylacetohydrazide for synthesis



$C_8H_{10}N_2O$   
 $CH_3CONHNHC_6H_5$   
 Acetic acid 2-phenylhydrazide, 1-Acetyl-2-

### phenylhydrazine

■ CAS-No. 114-83-0 ■ EC-No. 204-055-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 150.18 g/mol ■ Melting point 131 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2928 00 90 ■ Disposal 3

### Specification

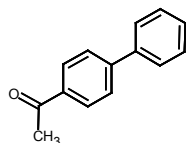
Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 127 °C  
 Melting range (upper value) ..... ≤ 130 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20561.0010	Glass bottle	10 g	inquire
8.20561.0050	Glass bottle	50 g	inquire

Phenylacetonitrile → Benzyl cyanide page 450

Phenylacetonitriles → Nitriles and isonitriles

## 820977 4'-Phenylacetophenone for synthesis



$C_{14}H_{12}O$   
 $4-(C_6H_5)C_6H_4COCH_3$   
 4-Acetylbiphenyl, 4-Biphenyl methyl keton

■ CAS-No. 92-91-1 ■ EC-No. 202-202-6  
 ■ Solub. in H<sub>2</sub>O 0.096 g/l (25 °C) ■ M = 196.24 g/mol  
 ■ Melting point 118 - 121 °C  
 ■ Boiling point 325 - 327 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00 ■ Disposal 3

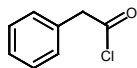
### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 118 °C  
 Melting range (upper value) ..... ≤ 121 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20977.0050	Plastic bottle	50 g	inquire

2-Phenylacetophenone → Deoxybenzoin page 688

## 807076 Phenylacetyl chloride for synthesis



$C_8H_7ClO$   
 $C_6H_5CH_2COCl$   
 Phenylacetic acid chloride  
 ■ CAS-No. 103-80-0 ■ EC-No. 203-146-5  
 ■ Refractive index 1.5325 (20 °C, 589 nm)  
 ■ Vapour pressure 0.39 hPa (20 °C)  
 ■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 102 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 154.59 g/mol  
 ■ Boiling point 225 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 11  
 ■ ADR-RID UN 2577 Phenylacetylchlorid, 8, II  
 ■ IMDG-Code UN 2577 PHENYLACETYL CHLORIDE,

8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2577 PHENYLACETYL CHLORIDE, 8, II

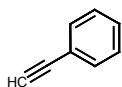
### Specification

Assay (morpholine method) ..... ≥ 98,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,167 - 1,170  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07076.0100	Glass bottle	100 ml	inquire



## 807044 Phenylacetylene for synthesis



$C_8H_6$   
**Ethynylbenzene**  
 ■ CAS-No. 536-74-3 ■ EC-No. 208-645-1  
 ■ Refractive index 1.547 (20 °C, 589 nm) ■ Vapour pressure 2.7 hPa (25 °C) ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Flash point 27 °C ■ Solub. in H<sub>2</sub>O 0.46 g/l (25 °C) ■ M = 102.13 g/mol  
 ■ Melting point -44.8 °C

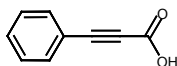
■ Boiling point 142 - 144 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P301 + P310, P302 + P352, P305 + P351 + P338, P331  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2902 90 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(PHENYLACETYLEN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(PHENYLACETYLEN), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(PHENYLACETYLEN), 3, III

**Specification**  
 Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,929 - 0,934  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07044.0025	Glass bottle	25 ml	inquire
8.07044.0100	Glass bottle	100 ml	inquire

## 821012 Phenylacetylenecarboxylic acid for synthesis



$C_9H_6O_2$   
**Phenylpropionic acid**  
 ■ CAS-No. 637-44-5 ■ EC-No. 211-285-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 146.14 g/mol ■ Melting point 135 - 138 °C

■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 3

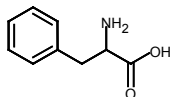
**Specification**  
 Assay (acidimetric)..... ≥ 98,0 %

Melting range (lower value)..... ≥ 135 °C  
 Melting range (upper value)..... ≤ 138 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21012.0005	Glass bottle	5 g	inquire
8.21012.0025	Glass bottle	25 g	inquire

Phenylacetylenecarboxylic acid ethyl ester → Ethyl phenylacetylenecarboxylate page 880  
 3-Phenylacrylic acid → Cinnamic acid page 644

## 107257 DL-Phenylalanine for biochemistry



$C_9H_{11}NO_2$   
**2-Amino-3-phenylpropionic acid, Phe**  
 ■ CAS-No. 150-30-1 ■ EC-No. 205-756-7  
 ■ Solub. in H<sub>2</sub>O 14.11 g/l (25 °C) ■ M = 165.19 g/mol  
 ■ Melting point 271 °C (decomposition)  
 ■ WGK nwg

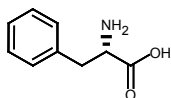
■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3  
 Soluble in mineral acids; insoluble in organic solvents. Unstable in alkalis. Absorption maximum at 257.5 nm in 0.1 mol/l HCl.

**Specification**  
 Assay (perchloric acid titration)..... ≥ 99 %  
 Identity (IR-spectrum)..... passes test  
 Spec. rotation (α 20/D; 5 %; hydrochloric acid 1 mol/l)..... -0.1 to +0.1°

Heavy metals (as Pb)..... ≤ 0.001 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %  
 Foreign amino acids..... ≤ 0.3 %  
 Other ninhydrine positive substances (as Glycine)..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.07257.0025	Plastic bottle	25 g	inquire
1.07257.0100	Plastic bottle	100 g	inquire

## 107256 L-Phenylalanine for biochemistry



$C_9H_{11}NO_2$   
**Phe, 2-Amino-3-phenylpropionic acid**  
 ■ CAS-No. 63-91-2 ■ EC-No. 200-568-1  
 ■ Solub. in H<sub>2</sub>O 27 g/l (20 °C) ■ M = 165.19 g/mol  
 ■ pH value 5.4 - 6.0 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 275 - 283 °C (decomposition)  
 ■ Bulk density 580 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85  
 Soluble in mineral acids; insoluble in organic solvents. Unstable in alkalis. Absorption maximum

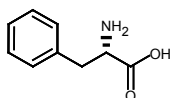
at 257.5 nm in 0.1 mol/l HCl.

**Specification**  
 Assay (perchloric acid titration, calculated on dried substance)..... ≥ 99,0 %  
 Identity (IR-spectrum)..... passes test  
 Appearance...white, crystalline powder or colorless crystals  
 Appearance of solution (0.5 mol/l, hydrochloric acid 1 mol/l)..... clear and colorless  
 Spec. rotation (α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance)..... -10.5 to -9.5°  
 Chloride (Cl)..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.02 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 As (Arsenic)..... ≤ 0.0005 %  
 Ca (Calcium)..... ≤ 0.001 %

Co (Cobalt)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.0005 %  
 Mg (Magnesium)..... ≤ 0.0005 %  
 Na (Sodium)..... ≤ 0.005 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %  
 Zn (Zinc)..... ≤ 0.0005 %  
 Foreign amino acids..... ≤ 0.3 %  
 Other ninhydrine positive substances..... ≤ 0.1 %  
 Loss on drying (105 °C; 3 h)..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.07256.0025	Plastic bottle	25 g	inquire
1.07256.0100	Plastic bottle	100 g	inquire
1.07256.1000	Plastic bottle	1 kg	inquire
1.07256.9010	Plastic drum	10 kg	inquire

## 816011 (S)-(-)-Phenylalanine for synthesis



$C_9H_{11}NO_2$   
**Phe, 2-Amino-3-phenylpropionic acid**  
 ■ CAS-No. 63-91-2 ■ EC-No. 200-568-1  
 ■ Solub. in H<sub>2</sub>O 27 g/l (20 °C) ■ M = 165.19 g/mol

■ pH value 5.4 - 6.0 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 275 - 283 °C (decomposition)  
 ■ Bulk density 580 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85

**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=2 in water).....

..... -35,5 - -33,5 °  
 Identity (IR)..... passes test

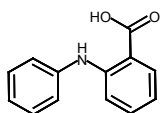
Ord.No.	Packaging	Quantity	Price
8.16011.0010	Plastic bottle	10 g	inquire
8.16011.0050	Plastic bottle	50 g	inquire

L-Phenylalanine → (S)-(-)-Phenylalanine page 1297  
 L-Phenylalanine ethyl ester hydrochlorid → L-Ethylphenylalanate hydrochloride page 880  
 L-Phenylalanine methyl ester hydrochlorid → L-Methyl phenylalanate hydrochloride page 1169  
 L-(-)-Phenylalaninol → (S)-(-)-2-Amino-3-phenyl-1-propanol page 399  
 3-Phenylallyl alcohol → Cinnamyl alcohol page 645  
 Phenylamine → page 315  
 DL-α-Phenylaminoacetic acid → DL-α-Aminophenylacetic acid page 399  
 (R)-(-)-α-Phenylaminoacetic acid → (R)-(-)-α-Aminophenylacetic acid page 399  
 2-(Phenylamino)ethanol → 2-Anilinoethanol page 418  
 2-Phenylaniline → 2-Biphenylamine page 461



# Phenyl

## 820979 N-Phenylanthranilic acid for synthesis



*Diphenylamine-2-carboxylic acid*  
 ■ CAS-No. 91-40-7 ■ EC-No. 202-066-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 213.23 g/mol  
 ■ Melting point 182 - 185 °C  
 ■ Bulk density 200 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

**Specification**  
 Assay (acidimetric)..... ≥ 97.0 %  
 Identity (IR)..... passes test

C<sub>13</sub>H<sub>11</sub>NO<sub>2</sub>  
 2-(C<sub>6</sub>H<sub>5</sub>NH)C<sub>6</sub>H<sub>4</sub>COOH

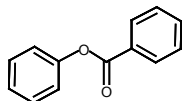
Ord.No.	Packaging	Quantity	Price
8.20979.0100	Plastic bottle	100 g	inquire

N-Phenylaza-15-crown-5 → Crown ether/N-Phenylaza-15-crown-5 page 661

N-Phenyl-13-aza-1,4,7,10-tetracyclopentadecane  
 → Crown ether/N-Phenylaza-15-crown-5 page 661

4-Phenylbenzaldehyde → Biphenyl-4-carbaldehyde page 460

## 818121 Phenyl benzoate for synthesis



■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.22 g/mol  
 ■ Melting point 66 - 69 °C  
 ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ Boiling point 313 - 315 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 31 00 ■ Disposal 3

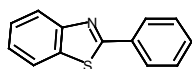
Melting range (lower value)..... ≥ 66 °C  
 Melting range (upper value)..... ≤ 69 °C  
 Identity (IR)..... passes test

C<sub>13</sub>H<sub>10</sub>O<sub>2</sub>  
 C<sub>6</sub>H<sub>5</sub>COOC<sub>6</sub>H<sub>5</sub>  
*Benzoic acid phenyl ester*  
 ■ CAS-No. 93-99-2 ■ EC-No. 202-293-2

Ord.No.	Packaging	Quantity	Price
8.18121.0100	Plastic bottle	100 g	inquire
8.18121.0500	Plastic bottle	500 g	inquire

2-Phenyl-4H-1-benzopyran-4-one → Flavone page 893

## 814559 2-Phenylbenzothiazole for synthesis



mol ■ Melting point 112 - 115 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 20 80 ■ Disposal 3

Melting range (upper value)..... ≤ 115 °C  
 Identity (IR)..... conforms

C<sub>13</sub>H<sub>9</sub>NS  
 ■ CAS-No. 883-93-2 ■ EC-No. 212-935-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 211.28 g/mol

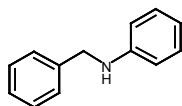
**Specification**  
 Assay (HPLC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 112 °C

Ord.No.	Packaging	Quantity	Price
8.14559.0005	Glass bottle	5 g	inquire

4-Phenylbenzoyl chloride → Biphenyl-4-carbonyl chloride page 460

p-Phenylbenzyl alcohol → 4-Biphenyl-methanol page 461

## 820982 N-Phenylbenzylamine for synthesis



(25 °C) ■ M = 183.26 g/mol  
 ■ Melting point 33 - 36 °C  
 ■ Boiling point 306 - 307 °C (19 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 49 00 ■ Disposal 3  
 ■ ADR-RID UN 3143 Farbstoffzwischenprodukt, fest, giftig, n.a.g.(N-PHENYLBENZYLAMIN), 6.1, III  
 ■ IMDG-Code UN 3143 DYE INTERMEDIATE, SOLID, TOXIC, N.O.S.(N-PHENYLBENZYLAMINE), 6.1, III  
 ■ IATA-DGR UN 3143 DYE INTERMEDIATE, SOLID,

TOXIC, N.O.S.(N-PHENYLBENZYLAMINE), 6.1, III  
**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 33 °C  
 Melting range (upper value)..... ≤ 38 °C  
 Identity (IR)..... passes test

C<sub>13</sub>H<sub>13</sub>N  
 C<sub>6</sub>H<sub>5</sub>NHCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>  
*N-Benzylaniline*  
 ■ CAS-No. 103-32-2 ■ EC-No. 203-100-4  
 ■ Refractive index 1.6111 (26 °C, 589 nm)  
 ■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O 113 mg/l

Ord.No.	Packaging	Quantity	Price
8.20982.0250	Glass bottle	250 g	inquire
8.20982.1000	Glass bottle	1 kg	inquire

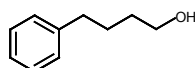
Phenylboronic acid → Benzenboronic acid page 436

1-Phenylbutane → Butylbenzene page 541  
 2-Phenylbutane → sec-Butylbenzene page 541

1-Phenyl-1,3-butanedione → Benzoylacetone page 444

Phenyl bromide → Bromobenzene page 299

## 841370 4-Phenyl-1-butanol for synthesis



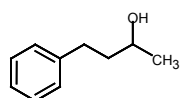
■ Flash point >110 °C ■ M = 150.22 g/mol  
 ■ Boiling point 138 - 140 °C (18.7 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2906 29 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 96.0 % (a/a)

Density (d 20 °C/ 4 °C)..... 0.979 - 0.987  
 Identity (IR)..... passes test

C<sub>10</sub>H<sub>14</sub>O  
 ■ CAS-No. 3360-41-6 ■ EC-No. 222-128-8  
 ■ Spec. density 0.975 g/cm<sup>3</sup> (20 °C)

Ord.No.	Packaging	Quantity	Price
8.41370.0010	Glass bottle	10 ml	inquire

## 814846 4-Phenyl-2-butanol for synthesis



■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 150.22 g/mol  
 ■ Boiling point 128 - 130 °C (16 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0,978 - 0,981  
 Identity (IR)..... passes test

C<sub>10</sub>H<sub>14</sub>O  
 ■ CAS-No. 2344-70-9 ■ EC-No. 219-055-9

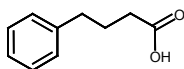
Ord.No.	Packaging	Quantity	Price
8.14846.0005	Glass bottle	5 ml	inquire

4-Phenyl-2-butanone → Benzylacetone page 446  
4-Phenyl-3-buten-2-one → Benzylideneacetone page 451

4-Phenyl-2-butylamine → 3-Amino-1-phenylbutane page 399

Phenyl-N-tert-butylnitron → N-tert-Butyl- $\alpha$ -phenylnitron page 554

### 820986 4-Phenylbutyric acid for synthesis



C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>

C<sub>6</sub>H<sub>5</sub>(CH<sub>2</sub>)<sub>3</sub>COOH

■ CAS-No. 1821-12-1 ■ EC-No. 217-341-8  
■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 5.3 g/l

(40 °C) ■ M = 164.21 g/mol  
■ Melting point 48 - 51 °C ■ Boiling point 165 °C (13 hPa)  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2916 39 90 ■ Disposal 4

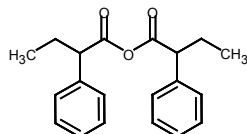
#### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 48 °C  
Melting range (upper value) ..... ≤ 51 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20986.0025	Plastic bottle	25 g	inquire

### 818092 2-Phenylbutyric acid anhydride for resolution of racemates for synthesis



C<sub>20</sub>H<sub>22</sub>O<sub>3</sub>

[CH<sub>3</sub>CH<sub>2</sub>CH(C<sub>6</sub>H<sub>5</sub>)CO]<sub>2</sub>O

2-Phenylbutanoic anhydride

■ CAS-No. 1519-21-7 ■ EC-No. 216-180-0  
■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 310.4 g/mol  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2916 39 90 ■ Disposal 11

#### Specification

Assay (morpholine method) ..... ≥ 98,0 % (m)  
Density (20/4 °C) ..... 1,070 - 1,073  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18092.0010	Glass bottle	10 ml	inquire

Phenylcarbamide → N-Phenylurea page 1316

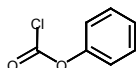
Phenyl carbonate → Diphenyl carbonate page 815

Phenylcellosolve → Ethylene glycol monophenyl ether page 303

Phenyl chloride → page 300

Phenyl chlorocarbonate → Phenyl chloroformate page 1299

### 802353 Phenyl chloroformate for synthesis



C<sub>7</sub>H<sub>5</sub>ClO<sub>2</sub>

ClCOOC<sub>6</sub>H<sub>5</sub>

Chloroformic acid phenyl ester, Phenyl chlorocarbonate

■ CAS-No. 1885-14-9 ■ EC-No. 217-547-8  
■ Refractive index 1.511 (20 °C, 589 nm) ■ Vapour pressure 0.9 hPa (20 °C) ■ Spec. density 1.24 g/cm<sup>3</sup> (20 °C) ■ Flash point 69 °C ■ Solub. in H<sub>2</sub>O (20 °C) decomposes, Hydrolysis  
■ M = 156.57 g/mol ■ Melting point -28 °C  
■ Boiling point 188 - 189 °C (1013 hPa)

■ Ignition temp. 540 °C  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LC50 rat 0.18 mg/l  
■ LD50 oral rat 1730 mg/kg ■ LD50 dermal rabbit 4880 mg/kg  
■ LGK 6.1A  
■ HS-No. 2915 90 70 ■ Disposal 9

■ ADR-RID UN 2746 Phenylchlorformiat, 6.1 (8), II  
■ IMDG-Code UN 2746 PHENYL CHLOROFORMATE, 6.1 (8), II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2746 PHENYL CHLOROFORMATE, 6.1 (8), II

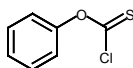
#### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,240 - 1,245  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02353.0250	Glass bottle	250 ml	inquire

O-Phenyl chlorothioicarbonate → O-Phenyl chlorothioformate page 1299

### 820343 O-Phenyl chlorothioformate for synthesis



C<sub>7</sub>H<sub>5</sub>ClOS

ClCSOC<sub>6</sub>H<sub>5</sub>

O-Phenyl chlorothioicarbonate, Chlorothioformic acid O-phenyl ester

■ CAS-No. 1005-56-7 ■ EC-No. 213-736-4  
■ Refractive index 1.5804 (20 °C, 589 nm)  
■ Spec. density 1.28 g/cm<sup>3</sup> (20 °C)  
■ Flash point 81 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 172.64 g/mol  
■ Boiling point 81 - 83 °C (8 hPa)  
■ WGK 3  
■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8A  
■ HS-No. 2930 90 99 ■ Disposal 11  
■ ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(CHLOROTHIOAMEISENSAEURE-O-PHENYLESTER), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(O-PHENYL

CHLOROTHIOFORMATE), 8, II  
■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(O-PHENYL CHLOROTHIOFORMATE), 8, II

#### Specification

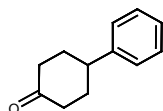
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.275 - 1.277  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20343.0010	Glass bottle	10 ml	inquire

2-Phenylchromon → Flavone page 893

Phenyl cyanide → Benzonitrile page 299

### 818564 4-Phenylcyclohexanone for synthesis



C<sub>12</sub>H<sub>14</sub>O

■ CAS-No. 4894-75-1 ■ EC-No. 225-517-0

■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 174.24 g/mol  
■ Melting point 76 - 78 °C  
■ Boiling point 158 - 160 °C (16 hPa)  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2914 39 00 ■ Disposal 3

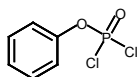
#### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Melting range (lower value) ..... ≥ 76 °C  
Melting range (upper value) ..... ≤ 78 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18564.0025	Plastic bottle	25 g	inquire

# Phenyl

## 821010 Phenyl dichlorophosphate for synthesis



$C_6H_5Cl_2O_2P$   
 $Cl_2P(=O)OC_6H_5$   
*Dichlorophosphoric acid phenyl ester, Phenylphosphoro dichloridate, Phosphoric acid phenyl ester dichloride*  
 ■ CAS-No. 770-12-7 ■ EC-No. 212-220-6  
 ■ Refractive index 1.523 (20 °C, 589 nm)  
 ■ Spec. density 1.41 g/cm<sup>3</sup> (20 °C)

■ Flash point 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 210.98 g/mol  
 ■ Melting point -1 °C ■ Boiling point 241 - 243 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2920 90 85 ■ Disposal 24  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(PHENYLDICHLORPHOSPHAT), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID,

ACIDIC, ORGANIC, N.O.S.(PHENYL DICHLOROPHOSPHATE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PHENYL DICHLOROPHOSPHATE), 8, II

**Specification**  
 Assay (ex Cl) ..... ≥ 97.0 %  
 Density (d 20 °C/ 4 °C) ..... 1.416 - 1.418  
 Identity (IR) ..... passes test

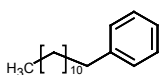
Ord.No.	Packaging	Quantity	Price
8.21010.0025	Glass bottle	25 ml	inquire

Phenyldichlorophosphine →  
 Dichlorophenylphosphine page 730  
 N-Phenyldiethanolamine → N-Phenyl-2,2'-iminodiethanol page 1307

4-Phenyl-3,5-dihydro-4H-1,2,4-triazole-3,5-dione → 3,5-Dihydro-4-phenyl-4H-1,2,4-triazole-3,5-dione page 758  
 (R)-(-)-2-Phenyl-1,3-dioxolane-4,5-dimethanol → (-)-2,3-O-Benzylidene-L-threitol page 452

Phenyl diselenide → Diphenyl diselenide page 816  
 Phenyl disulfide → Diphenyl disulfide page 816

## 820990 1-Phenyldodecane for synthesis



$C_{18}H_{30}$   
 $C_6H_5(CH_2)_{11}CH_3$   
*Dodecyl benzene*  
 ■ CAS-No. 123-01-3 ■ EC-No. 204-591-8  
 ■ Refractive index 1.482 (20 °C, 589 nm) ■ Vapour

pressure 0.1 hPa (50 °C) ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Flash point 124 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 246.44 g/mol  
 ■ Melting point 3 °C ■ Boiling point 275 - 300 °C (1013 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3

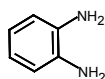
**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,854 - 0,856  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20990.0025	Glass bottle	25 ml	inquire
8.20990.0100	Glass bottle	100 ml	inquire

1,2-Phenylenediacetonitrile → 1,2-Bis(cyanomethyl)-benzene page 465

1,3-Phenylenediacetonitrile → 1,3-Bis(cyanomethyl)-benzene page 465

## 1,2-Phenylenediamine



$C_6H_8N_2$   
 $1,2-(NH_2)_2C_6H_4$   
*1,2-Diaminobenzene*  
 ■ CAS-No. 95-54-5 ■ EC-No. 202-430-6  
 ■ Vapour pressure 0.013 hPa (20 °C)  
 ■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 % (V) ■ Flash point 110 °C ■ Solub. in H<sub>2</sub>O 54 g/l (20 °C) ■ M = 108.14 g/mol  
 ■ pH value 7 - 8 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 99 - 102 °C  
 ■ Bulk density 530 kg/m<sup>3</sup> ■ Boiling point 257 °C (1013 hPa) ■ Ignition temp. 540 °C  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 2, H351; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P281, P273, P302 + P352, P305 + P351 + P338, P309 + P310

■ LC50 rat 3.6 mg/l  
 ■ LD50 oral rat 510 mg/kg ■ LD50 dermal rat > 5000 mg/kg  
 ■ EC-Index-No. 612-145-00-2 ■ LGK 6.1C  
 ■ HS-No. 2921 51 19 ■ Disposal 9  
 ■ ADR-RID UN 1673 Phenylenediamine, 6.1, III  
 ■ IMDG-Code UN 1673 PHENYLENEDIAMINES, 6.1, III  
 ■ IATA-DGR UN 1673 PHENYLENEDIAMINES, 6.1, III



## 814538 1,2-Phenylenediamine for synthesis

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 100 °C  
 Melting range (upper value) ..... ≤ 103 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14538.0005	Glass bottle	5 g	inquire
8.14538.0250	Glass bottle	250 g	inquire
8.14538.1000	Glass bottle	1 kg	inquire

## 107243 1,2-Phenylenediamine GR for analysis

**Specification**  
 Assay (Perchloric acid titration, calc. on anhydrous substance) ..... ≥ 99.0%  
 Identity (IR-spectrum) ..... conforms

Melting point (capillary method, temperatur measerment in the heating block) ..... 99 - 102 °C  
 Sulfated ash ..... ≤ 0.05 %  
 Water (according to Karl Fischer) ..... ≤ 1.0%

Ord.No.	Packaging	Quantity	Price
1.07243.0050	Glass bottle	50 g	inquire

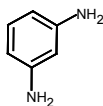
## 845071 1,2-Phenylenediamine for pharma synthesis, non-GMP

**Specification**  
 Colour (visual) ..... white to beige  
 Appearance of substance (visual) ..... powder  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 99 °C

Melting range (upper value) ..... ≤ 102 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45071.0250	Glass bottle	250 g	inquire
8.45071.1000	Glass bottle	1 kg	inquire

## 820991 1,3-Phenylenediamine for synthesis

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>1,3-(NH<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>

- CAS-No. 108-45-2 ■ EC-No. 203-584-7
- Vapour pressure 1.3 hPa (100 °C)
- Spec. density 1.14 g/cm<sup>3</sup> (20 °C)
- Flash point 187 °C ■ Solub. in H<sub>2</sub>O 350 g/l (25 °C) ■ M = 108.14 g/mol ■ pH value 8 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 63 - 64 °C
- Bulk density 600 kg/m<sup>3</sup>
- Boiling point 283 - 284 °C (1013 hPa)

- Ignition temp. 560 °C
- WGK 2
- GHS: Danger, Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P281, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 280 mg/kg ■ LD50 dermal rat 1100 mg/kg
- EC-Index-No. 612-147-00-3 ■ LGK 6.1 C
- HS-No. 2921 51 19
- ADR-RID UN 1673 Phenylenediamine, 6.1, III

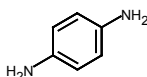
- IMDG-Code UN 1673 PHENYLENEDIAMINES, 6.1, III
- IATA-DGR UN 1673 PHENYLENEDIAMINES, 6.1, III

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 62 °C  
 Melting range (upper value)..... ≤ 64 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20991.0005	Glass bottle	5 g	inquire
8.20991.0250	Glass bottle	250 g	inquire
8.20991.1000	Glass bottle	1 kg	inquire

## 807246 1,4-Phenylenediamine for synthesis

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>1,4-(NH<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>

- CAS-No. 106-50-3 ■ EC-No. 203-404-7
- Vapour pressure 0.01 hPa (20 °C)
- Spec. density 1.135 g/cm<sup>3</sup> (20 °C)
- Flash point 156 °C ■ Solub. in H<sub>2</sub>O 47 g/l (25 °C)
- M = 108.14 g/mol ■ pH value 9 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 139 - 141 °C
- Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 267 °C (1013 hPa) ■ Ignition temp. 567 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3,

- Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P280, P273, P304 + P340, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 0.92 mg/l
- LD50 oral rat 80 mg/kg ■ LD50 dermal rabbit > 7940 mg/kg
- EC-Index-No. 612-028-00-6 ■ LGK 6.1 C
- HS-No. 2921 51 19
- ADR-RID UN 1673 Phenylenediamine, 6.1, III
- IMDG-Code UN 1673 PHENYLENEDIAMINES, 6.1, III

6.1, III

- IATA-DGR UN 1673 PHENYLENEDIAMINES, 6.1, III

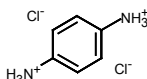
**Specification**

Assay (GC, area%)..... ≥ 98.0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07246.0005	Glass bottle	5 g	inquire
8.07246.0250	Glass bottle	250 g	inquire
8.07246.1000	Glass bottle	1 kg	inquire
8.07246.9025	Plastic drum	25 kg	inquire

1,4-Phenylenediamine dihydrochloride → 1,4-Phenylenediammonium dichloride page 1301

## 822297 1,4-Phenylenediammonium dichloride for synthesis

C<sub>6</sub>H<sub>10</sub>Cl<sub>2</sub>N<sub>2</sub>C<sub>6</sub>H<sub>8</sub>N<sub>2</sub> · 2 HCl

1,4-Phenylenediamine dihydrochloride

- CAS-No. 624-18-0 ■ EC-No. 210-834-9
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 181.07 g/mol
- Melting point 275 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3,

- Dermal, H311; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P304 + P340, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 147 mg/kg
- EC-Index-No. 612-029-00-1 ■ LGK 6.1 C
- HS-No. 2921 51 19 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,4-PHENYLENEDIAMMONIUMDICHLORID), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(1,4-PHENYLENE DIAMMONIUM DICHLORIDE), 6.1, III

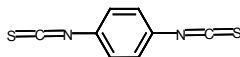
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,4-PHENYLENE DIAMMONIUM DICHLORIDE), 6.1, III

**Specification**

Assay..... ≥ 99.0 %  
 Identity..... conforms

Ord.No.	Packaging	Quantity	Price
8.22297.0250	Glass bottle	250 g	inquire
8.22297.1000	Glass bottle	1 kg	inquire

## 841419 1,4-Phenylene diisothiocyanate for synthesis

C<sub>8</sub>H<sub>4</sub>N<sub>2</sub>S<sub>2</sub>

1,4-Diisothiocyanatobenzene

- CAS-No. 4044-65-9 ■ EC-No. 223-741-3
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 192.25 g/mol ■ Melting point 131 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral,

- H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1,4-PHENYLENEDIISOTHIOCYANAT), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,4-PHENYLENE DIISOTHIOCYANATE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY

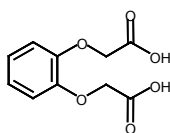
HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,4-PHENYLENE DIISOTHIOCYANATE), 9, III

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Melting range (lower value)..... ≥ 128 °C  
 Melting range (upper value)..... ≤ 131 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41419.0001	Glass bottle	1 g	inquire

## 818303 o-Phenylenedioxydiacetic acid for synthesis

C<sub>10</sub>H<sub>10</sub>O<sub>6</sub>2-(HOOCCH<sub>2</sub>O)-C<sub>6</sub>H<sub>4</sub>-OCH<sub>2</sub>COOH

- 2,2'-(1,2-Phenylenebisoxo)bisacetic acid
- CAS-No. 5411-14-3 ■ EC-No. 226-488-7
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 226.19 g/mol ■ Melting point 176 - 179 °C
- Bulk density 140 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 176 °C  
 Melting range (upper value)..... ≤ 179 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18303.0010	Plastic bottle	10 g	inquire

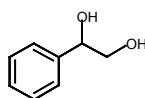
Phenyl 2,3-epoxypropyl ether → 2,3-Epoxypropyl phenyl ether page 837

Phenylethane → page 303

N-Phenyl-1,2-ethanediamine → N-Phenylethylenediamine page 1304

# Phenyl

## 807007 1-Phenyl-1,2-ethanediol for synthesis



C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>  
C<sub>6</sub>H<sub>5</sub>CH(OH)CH<sub>2</sub>OH  
*Phenylethylene glycol*  
■ CAS-No. 93-56-1 ■ EC-No. 202-258-1

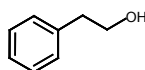
- Flash point 160 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 138.16 g/mol
- Melting point 61 - 64 °C
- Boiling point 272 - 274 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

**Specification**  
Assay (HPLC, area%) ..... ≥ 95 Area %

Melting range (lower value)..... ≥ 63 °C  
Melting range (upper value) ..... ≤ 66 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07007.0025	Plastic bottle	25 g	inquire
8.07007.0100	Plastic bottle	100 g	inquire

## 807006 2-Phenylethanol for synthesis



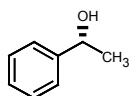
C<sub>8</sub>H<sub>10</sub>O  
C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>OH  
*Phenethyl alcohol, Benzylcarbinol*  
■ CAS-No. 60-12-8 ■ EC-No. 200-456-2  
■ Refractive index 1.5325 (20 °C, 589 nm)  
■ Vapour pressure 0.08 hPa (20 °C)  
■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 11.9 % (V) ■ Flash point 101.5 °C  
■ Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 122.16 g/mol  
■ pH value 6 - 7 (20 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point -27 °C ■ Boiling point 219 °C

- (1013 hPa) ■ Ignition temp. 410 °C
- WGK 1
  - GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338, P309 + P310
  - LD50 oral rat 2230 mg/kg ■ LD50 dermal rabbit > 300 - 2000 mg/kg
  - LGK 6.1C
  - HS-No. 2906 29 00 ■ Disposal 1
  - ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-PHENYLETHANOL), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-PHENYLETHANOLS), 6.1, III
  - IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-PHENYLETHANOLS), 6.1, III

**Specification**  
Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,019 - 1,020  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07006.0005	Glass bottle	5 ml	inquire
8.07006.0250	Glass bottle	250 ml	inquire
8.07006.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.07006.9025	Plastic container	25 kg	inquire

## 840131 (R)-(+)-1-Phenylethanol for synthesis



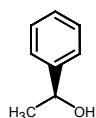
C<sub>8</sub>H<sub>10</sub>O  
*(R)-(+)-Methyl phenyl carbinol*  
■ CAS-No. 1517-69-7  
■ Spec. density 1.012 g/cm<sup>3</sup> ■ Flash point 85 °C  
■ Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 122.16 g/mol  
■ pH value 7 (H<sub>2</sub>O) ■ Melting point 9 - 11 °C  
■ Boiling point 98 °C (27 hPa)

- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338
- LD50 oral rat 400 mg/kg ■ LD50 dermal rabbit 2500 mg/kg
- LGK 10
- HS-No. 2906 29 00 ■ Disposal 3
- ADR-RID UN 2937 alpha-Methylbenzylalkohol, flüssig, 6.1, III ■ IMDG-Code UN 2937 ALPHA-METHYLBENZYL ALCOHOL, LIQUID, 6.1, III

■ IATA-DGR UN 2937 ALPHA-METHYLBENZYL ALCOHOL, LIQUID, 6.1, III  
**Specification**  
Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1,011 - 1,013  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)]..... 40,0 - 44,0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40131.0001	Glass bottle	1 ml	inquire
8.40131.0005	Glass bottle	5 ml	inquire

## 840132 (S)-(-)-1-Phenylethanol for synthesis



C<sub>8</sub>H<sub>10</sub>O  
*(S)-(-)-Methyl phenyl carbinol*  
■ CAS-No. 1445-91-6 ■ EC-No. 202-707-1  
■ Spec. density 1.012 g/cm<sup>3</sup> ■ Flash point 85 °C  
■ Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 122.17 g/mol  
■ pH value (H<sub>2</sub>O) neutral ■ Melting point 9 - 11 °C

- Boiling point 98 °C (27 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P302 + P352, P305 + P351 + P338
- LD50 oral rat 400 mg/kg ■ LD50 dermal rabbit 2500 mg/kg
- LGK 10
- HS-No. 2906 29 00 ■ Disposal 3
- ADR-RID UN 2937 alpha-Methylbenzylalkohol, flüssig, 6.1, III ■ IMDG-Code UN 2937 ALPHA-

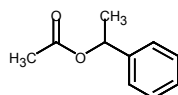
METHYLBENZYL ALCOHOL, LIQUID, 6.1, III  
■ IATA-DGR UN 2937 ALPHA-METHYLBENZYL ALCOHOL, LIQUID, 6.1, III  
**Specification**  
Assay (GC, area%)..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1,011 - 1,013  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)]..... -45,0 - -40,0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40132.0001	Glass bottle	1 ml	inquire
8.40132.0005	Glass bottle	5 ml	inquire

N-Phenylethanolamine → 2-Anilinoethanol page 418

Phenyl ether → Diphenyl ether page 817

## 843785 1-Phenylethyl acetate for synthesis



C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>  
■ CAS-No. 93-92-5 ■ EC-No. 202-288-5  
■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)  
■ Flash point 91 °C ■ Solub. in

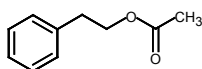
- H<sub>2</sub>O (20 °C) practically insoluble ■ M = 164.21 g/mol ■ Melting point -60 °C ■ Boiling point 212 °C (1013 hPa) ■ Ignition temp. 450 °C
- WGK 1
  - LD50 oral rat > 5000 mg/kg
  - LD50 dermal rabbit > 5000 mg/kg
  - LGK 10
  - HS-No. 2915 39 00 ■ Disposal 3

**Specification**  
Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1,024 - 1,027  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43785.0100	Glass bottle	100 ml	inquire
8.43785.0500	Glass bottle	500 ml	inquire



## 818625 2-Phenylethyl acetate for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>CH<sub>3</sub>COO(CH<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>5</sub>

Acetic acid 2-phenylethyl ester

■ CAS-No. 103-45-7 ■ EC-No. 203-113-5

■ Refractive index 1.4988 (20 °C, 589 nm)

■ Spec. density 0.984 g/cm<sup>3</sup> (20 °C)

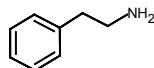
- Flash point 107 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 164.2 g/mol
- Melting point -31 °C ■ Boiling point 224 °C (1013 hPa) ■ Ignition temp. 480 °C
- WGK 1
- LD50 oral rat 3670 mg/kg ■ LD50 dermal rabbit 6210 mg/kg
- LGK 10
- HS-No. 2915 39 00 ■ Disposal 1

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.032 - 1.034  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18625.0100	Glass bottle	100 ml	inquire
8.18625.0500	Glass bottle	500 ml	inquire

## 807334 2-Phenylethylamine for synthesis

C<sub>8</sub>H<sub>11</sub>NC<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>

Phenethylamine

■ CAS-No. 64-04-0 ■ EC-No. 200-574-4

■ Refractive index 1.5332 (20 °C, 589 nm)

■ Vapour pressure 0.4 hPa (20 °C)

■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.0 - 5.5 % (V) ■ Flash point 81 °C

■ Kin. viscosity 2.40 mm<sup>2</sup>/s (23 °C) ■ Solub. inH<sub>2</sub>O 4.3 g/l (20 °C) ■ M = 121.18 g/mol■ pH value 11.5 (4.3 g/l, H<sub>2</sub>O, 20 °C)

- Melting point < -60 °C
- Boiling point 200 - 202 °C (1013 hPa)
- Ignition temp. 425 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 300 mg/kg
- LGK 6.1A
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(2-PHENYLETHYLAMIN), 8, I ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE,

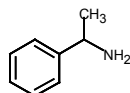
N.O.S.(2-PHENYLETHYLAMINE), 8, I, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(2-PHENYLETHYLAMINE), 8, I

## Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.960 - 0.962  
 Water (K. F.) ..... ≤ 0.20 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07334.0005	Glass bottle	5 ml	inquire
8.07334.0250	Glass bottle	250 ml	inquire

## 821256 DL-1-Phenylethylamine for synthesis

C<sub>8</sub>H<sub>11</sub>NC<sub>6</sub>H<sub>5</sub>CH(CH<sub>3</sub>)NH<sub>2</sub>

DL-α-Methylbenzylamine

■ CAS-No. 618-36-0 ■ EC-No. 210-545-8

■ Refractive index 1.5253 (20 °C, 589 nm)

■ Vapour pressure 0.7 hPa (20 °C)

■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C)■ Flash point 70 °C ■ Solub. in H<sub>2</sub>O 42 g/l (20 °C)

- M = 121.18 g/mol ■ pH value >7 (H<sub>2</sub>O, 20 °C)
- Melting point -65 °C
- Boiling point 184 - 186 °C (1013 hPa)
- Ignition temp. 355 °C
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- EC-Index-No. 612-107-00-5 ■ LGK 8A
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(1-PHENYLETHYLAMIN), 8 (6.1), II

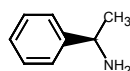
■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1-PHENYLETHYLAMINE), 8 (6.1), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1-PHENYLETHYLAMINE), 8 (6.1), II

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.951 - 0.953  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21256.0100	Glass bottle	100 ml	inquire
8.21256.0500	Glass bottle	500 ml	inquire

## 807031 (R)-(+)-1-Phenylethylamine for the resolution of racemates for synthesis

C<sub>8</sub>H<sub>11</sub>NC<sub>6</sub>H<sub>5</sub>CH(CH<sub>3</sub>)NH<sub>2</sub>

D-α-Methylbenzylamine

■ CAS-No. 3886-69-9 ■ EC-No. 223-423-4

■ Refractive index 1.5265 (24 °C, 589 nm)

■ Vapour pressure 0.4 hPa (20 °C)

■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C)

■ Flash point 71 °C DIN 51758 ■ Solub. in

H<sub>2</sub>O 40 g/l (20 °C) ■ M = 121.18 g/mol■ pH value >7 (40 g/l, H<sub>2</sub>O, 20 °C)

- Melting point -10 °C ■ Boiling point 187 °C (1013 hPa) ■ Ignition temp. 355 °C DIN 51794
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(1-PHENYLETHYLAMIN), 8 (6.1), II
- IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1-PHENYLETHYLAMINE), 8 (6.1), II,

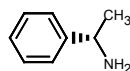
Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1-PHENYLETHYLAMINE), 8 (6.1), II

## Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.952 - 0.955  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)] ..... 38.0 - 41.0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07031.0010	Glass bottle	10 ml	inquire
8.07031.0100	Glass bottle	100 ml	inquire

## 807047 (S)-(-)-1-Phenylethylamine for the resolution of racemates for synthesis

C<sub>8</sub>H<sub>11</sub>NC<sub>6</sub>H<sub>5</sub>CH(CH<sub>3</sub>)NH<sub>2</sub>

L-α-Methylbenzylamine

■ CAS-No. 2627-86-3 ■ EC-No. 220-098-0

■ Refractive index 1.5259 (20 °C, 589 nm)

■ Vapour pressure 0.4 hPa (20 °C)

■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C)■ Flash point 71 °C ■ Solub. in H<sub>2</sub>O 42 g/l (20 °C)■ M = 121.18 g/mol ■ pH value >7 (H<sub>2</sub>O,

20 °C) (undiluted) ■ Melting point -10 °C

■ Boiling point 187 °C (1013 hPa)

- Ignition temp. 355 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 980 mg/kg ■ LD50 dermal rabbit 730 mg/kg
- LGK 6.1C
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(1-PHENYLETHYLAMIN), 8 (6.1), II
- IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1-PHENYLETHYLAMINE), 8 (6.1), II,

Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(1-PHENYLETHYLAMINE), 8 (6.1), II

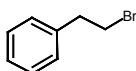
## Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.951 - 0.953  
 Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)] ..... -40.0 - -38.0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07047.0010	Glass bottle	10 ml	inquire
8.07047.0025	Glass bottle	25 ml	inquire
8.07047.0250	Glass bottle	250 ml	inquire

# Phenyl

## 807335 2-Phenylethyl bromide for synthesis



$C_8H_9Br$   
 $C_6H_5CH_2CH_2Br$   
*Phenethyl bromide, (2-Bromoethyl)benzene, 1-Bromo-2-phenylethane*  
 ■ CAS-No. 103-63-9 ■ EC-No. 203-130-8  
 ■ Refractive index 1.5563 (20 °C, 589 nm)

■ Vapour pressure 0.3 hPa (25 °C)  
 ■ Spec. density 1.37 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 89 °C ■ Solub. in H<sub>2</sub>O 0.039 g/l (25 °C) ■ M = 185.06 g/mol ■ Melting point -56 °C ■ Boiling point 220 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 811 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2903 99 90 ■ Disposal 2

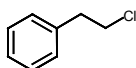
### Specification

Assay (GC, area%) ..... ≥ 97.5 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.366 - 1.369  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.07335.0250	Glass bottle	250 ml	inquire

Phenyl ethyl carbinol → 1-Phenyl-1-propanol page 1310

## 807511 2-Phenylethyl chloride for synthesis



$C_8H_9Cl$   
 $C_6H_5CH_2CH_2Cl$   
*Phenethyl chloride, (2-Chloroethyl)benzene*  
 ■ CAS-No. 622-24-2 ■ EC-No. 210-725-6

■ Refractive index 1.53 (20 °C, 589 nm)  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 64 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 140.61 g/mol  
 ■ Boiling point 82 - 84 °C (21 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2903 99 90 ■ Disposal 2

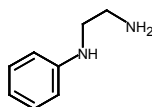
### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,071 - 1,072  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07511.0100	Glass bottle	100 ml	inquire

Phenylethylene → Styrene page 1503

## 841250 N-Phenylethylenediamine for synthesis



$C_8H_{12}N_2$   
*N-(2-Aminoethyl)aniline, N-Phenyl-1,2-ethanediamine*  
 ■ CAS-No. 1664-40-0 ■ EC-No. 216-773-4  
 ■ Spec. density 1.041 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ M = 136.19 g/mol

■ Boiling point 262 - 264 °C  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2921 59 90 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(N-PHENYLETHYLENEDIAMIN), 8, III ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(N-PHENYLETHYLENEDIAMINE), 8, III, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(N-PHENYLETHYLENEDIAMINE), 8, III

### Specification

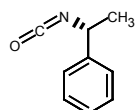
Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.042 - 1.049  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41250.0010	Glass bottle	10 ml	inquire

Phenylethylene glycol → 1-Phenyl-1,2-ethanediol page 1302

Phenylethylene oxide → Epoxystyrene page 837

## 814080 (R)-(+)-1-Phenylethyl isocyanate for synthesis



$C_9H_9NO$   
 $C_6H_5CH(CH_3)NCO$   
*(R)-(+)-α-Methylbenzyl isocyanate*  
 ■ CAS-No. 33375-06-3 ■ EC-No. 251-485-2  
 ■ Refractive index 1.5124 (20 °C, 589 nm)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 65 °C ■ Solub. in

H<sub>2</sub>O (20 °C) (decomposition) ■ M = 147.17 g/mol  
 ■ Boiling point 210 - 211 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310, P342 + P311  
 ■ LGK 6.1A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2929 10 00 ■ Disposal 11  
 ■ ADR-RID UN 2206 Isocyanate, giftig,

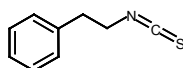
n.a.g.(PHENYLETHYLISOCYANAT), 6.1, II ■ IMDG-Code UN 2206 ISOCYANATES, TOXIC, N.O.S.(PHENYLETHYLISOCYANATE), 6.1, II  
 ■ IATA-DGR UN 2206 ISOCYANATES, TOXIC, N.O.S.(PHENYLETHYLISOCYANATE), 6.1, II

### Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,044 - 1,046  
 Spez. rotation [α]<sub>D</sub><sup>20</sup> (undiluted) 12,0 - 13,0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14080.0001	Glass bottle	1 ml	inquire

## 841742 2-Phenylethyl isothiocyanate for synthesis



$C_9H_9NS$   
 ■ CAS-No. 2257-09-2 ■ EC-No. 218-855-5  
 ■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C)

■ Flash point 100 °C ■ M = 163.24 g/mol  
 ■ Boiling point 139 - 140 °C (14.7 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2930 90 99 ■ Disposal 3

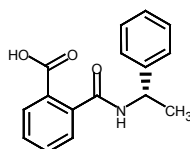
Density (d 20 °C/ 4 °C) ..... 1,093 - 1,097  
 Identity (IR) ..... passes test

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %

Ord.No.	Packaging	Quantity	Price
8.41742.0005	Glass bottle	5 ml	inquire

## 807115 (S)-(-)-N-(1-Phenylethyl)phthalamic acid for resolution of racemates for synthesis



$C_{16}H_{15}NO_3$   
 2-[C<sub>6</sub>H<sub>5</sub>CH(CH<sub>3</sub>)NHCO]C<sub>6</sub>H<sub>4</sub>COOH

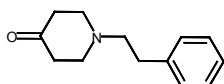
*(-)-N-(1-Phenylethyl)phthalic acid monoamide*  
 ■ CAS-No. 21752-36-3 ■ EC-No. 244-571-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 269.3 g/mol ■ Melting point 133 - 136 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 29 98 ■ Disposal 3

Melting range (lower value) ..... ≥ 134 °C  
 Melting range (upper value) ..... ≤ 136 °C  
 Spec. rotation [α]<sub>D</sub><sup>20</sup> (c=2 in ethanol) .....  
 ..... -49,0 - -46,0 °  
 Identity (IR) ..... conforms

### Specification

Assay (acidimetric) ..... ≥ 99,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.07115.0010	Plastic bottle	10 g	inquire

**841270 1-(2-Phenylethyl)-4-piperidonone for synthesis**C<sub>13</sub>H<sub>17</sub>NO*N*-Phenethyl-4-piperidone

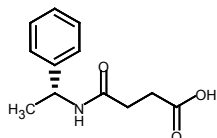
- CAS-No. 39742-60-4 ■ EC-No. 254-613-5
- M = 203.28 g/mol ■ Melting point 58 - 60 °C
- WGK 3

- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1-(2-PHENYLETHYL)-4-PIPERIDINON), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-PHENETHYL-4-PIPERIDONE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-PHENETHYL-4-PIPERIDONE), 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 58 °C  
 Melting range (upper value)..... ≤ 61 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41270.0001	Plastic bottle	1 g	inquire
8.41270.0005	Plastic bottle	5 g	inquire

**807111 (R)-(+)-N-(1-Phenylethyl)succinamic acid for resolution of racemates for synthesis**C<sub>12</sub>H<sub>15</sub>NO<sub>3</sub>C<sub>6</sub>H<sub>5</sub>CH(CH<sub>3</sub>)NHCOCH<sub>2</sub>CH<sub>2</sub>COOH

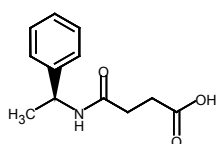
- (+)-N-(1-Phenylethyl)succinamic acid monoamide*
- CAS-No. 21752-33-0 ■ EC-No. 244-567-4
  - Solub. in H<sub>2</sub>O (20 °C) slightly soluble
  - M = 221.26 g/mol ■ Melting point 99 - 102 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2924 29 98 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)

Melting range (lower value)..... ≥ 98 °C  
 Melting range (upper value)..... ≤ 101 °C  
 Spec. rotation [α<sup>20</sup>/D (c=2 in ethanol)..... 109,0 - 112,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07111.0010	Plastic bottle	10 g	inquire

**807113 (S)-(-)-N-(1-Phenylethyl)succinamic acid for resolution of racemates for synthesis**C<sub>12</sub>H<sub>15</sub>NO<sub>3</sub>C<sub>6</sub>H<sub>5</sub>CH(CH<sub>3</sub>)NHCOCH<sub>2</sub>CH<sub>2</sub>COOH

- (-)-N-(1-Phenylethyl)succinamic acid monoamide*
- CAS-No. 21752-34-1 ■ EC-No. 244-569-5
  - Solub. in H<sub>2</sub>O (20 °C) slightly soluble
  - M = 221.26 g/mol ■ Melting point 99 - 102 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2924 29 98 ■ Disposal 3

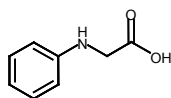
**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)

Melting range (lower value)..... ≥ 99 °C  
 Melting range (upper value)..... ≤ 102 °C  
 Spec. rotation [α<sup>20</sup>/D (c=2 in ethanol)..... -112,0 - -109,0 °  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07113.0010	Plastic bottle	10 g	inquire

Phenyl glycid ether → 2,3-Epoxypropyl phenyl ether page 837

**841801 N-Phenylglycin for synthesis**C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>

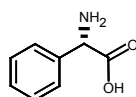
- CAS-No. 103-01-5 ■ EC-No. 203-070-2
- M = 151.16 g/mol ■ Melting point 123.5 °C
- WGK 3
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**

Assay (HPLC, area%)..... ≥ 93,0 % (a/a)

Melting range (lower value)..... ≥ 120 °C  
 Melting range (upper value)..... ≤ 125 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41801.0025	Plastic bottle	25 g	inquire

**818457 L-(+)-α-Phenylglycine (for resolution of racemates) for synthesis**C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>

■ CAS-No. 2935-35-5 ■ EC-No. 220-909-8

- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 151.16 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 99,0 %

Spec. rotation [α<sup>20</sup>/D (c=1 in HCl 1 mol/l)..... 155,0 - 157,0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18457.0025	Glass bottle	25 g	inquire
8.18457.0100	Glass bottle	100 g	inquire

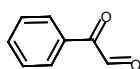
DL-α-Phenylglycine → DL-α-Aminophenylacetic acid page 399

L-(+)-α-Phenylglycine → page 1305

Phenylglycollic acid → DL-Mandelic acid page 1093

D(-)-α-Phenylglycine → (R)-(-)-α-Aminophenylacetic acid page 399

Phenyl glycol → Ethylene glycol monophenyl ether page 303

**841007 Phenylglyoxal monohydrate for synthesis**C<sub>8</sub>H<sub>6</sub>O<sub>2</sub> \* H<sub>2</sub>O

- CAS-No. 1075-06-5 ■ EC-No. 214-036-1
- Solub. in H<sub>2</sub>O 28 g/l (20 °C) ■ M = 152.15 g/mol
- Melting point 69 - 75 °C ■ Boiling point 142 °C
- WGK 3

- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2914 40 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)

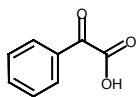
Melting range (lower value)..... ≥ 69 °C  
 Melting range (upper value)..... ≤ 75 °C  
 Water (K. F.)..... 9,0 - 11,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41007.0005	Glass bottle	5 g	inquire



# Phenyl

## 841629 Phenylglyoxylic acid for synthesis



C<sub>8</sub>H<sub>6</sub>O<sub>3</sub>  
(C<sub>6</sub>H<sub>5</sub>)COCOOH  
*Benzoylformic acid*  
■ CAS-No. 611-73-4 ■ EC-No. 210-278-7

■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 150.13 g/mol  
■ Melting point 62 - 66 °C  
■ Boiling point 147 - 151 °C (16 hPa)  
■ WGK 3  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13

■ HS-No. 2918 30 00 ■ Disposal 3

### Specification

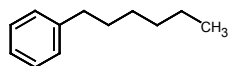
Assay (acidimetric)..... ≥ 98,0 % (m)  
Melting range (lower value)..... ≥ 62 °C  
Melting range (upper value)..... ≤ 66 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41629.0010	Glass bottle	10 g	inquire

Phenylglyoxylic acid ethyl ester → Ethyl phenylglyoxylate page 881

Phenylglyoxylic acid methyl ester → Methylphenyl glyoxylate page 1169

## 841840 1-Phenylhexane for synthesis



C<sub>12</sub>H<sub>18</sub>  
*n-Hexylbenzene*  
■ CAS-No. 1077-16-3 ■ EC-No. 214-070-7  
■ Spec. density 0.861 g/cm<sup>3</sup> ■ Flash point 83 °C  
■ M = 162.27 g/mol ■ Boiling point 226.0 °C (1013 hPa)

■ WGK 3  
■ HS-No. 2902 90 00 ■ Disposal 3  
■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(N-HEXYLBENZOL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(N-HEXYLBENZENE), 9, III, Marine Pollutant: P  
■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(N-HEXYLBENZENE), 9, III

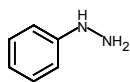
### Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0,856 - 0,860  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41840.0005	Glass bottle	5 ml	inquire

α-Phenylhydracrylic acid → DL-Tropic acid page 1618

## Phenylhydrazine



C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>  
C<sub>6</sub>H<sub>5</sub>NHNH<sub>2</sub>  
*Hydrazinobenzene*  
■ CAS-No. 100-63-0 ■ EC-No. 202-873-5  
■ Refractive index 1.607 (20 °C, 589 nm) ■ Vapour pressure 0.1 hPa (20 °C) ■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 % (V)  
■ Flash point 88 °C ■ Solub. in H<sub>2</sub>O 145 g/l (25 °C)

■ M = 108.14 g/mol ■ pH value (H<sub>2</sub>O, 25 °C) alkaline, (undiluted) ■ Melting point 19.6 °C  
■ Boiling point 244 °C (1013 hPa)  
■ Ignition temp. 195 °C  
■ WGK 3  
■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Skin sensitisation,

Category 1, H317; Acute aquatic toxicity, Category 1, H400, P201, P281, P273, P304 + P340, P302 + P352, P309 + P310  
■ LC50 rat 2.61 mg/l  
■ LD50 oral rat 188 mg/kg  
■ EC-Index-No. 612-023-00-9 ■ LGK 6.1A  
■ HS-No. 2928 00 90 ■ Disposal 9  
■ ADR-RID UN 2572 Phenylhydrazin, 6.1, II  
■ IMDG-Code UN 2572 PHENYLHYDRAZINE, 6.1, II  
■ IATA-DGR UN 2572 PHENYLHYDRAZINE, 6.1, II  
Reagent for aldehydes, ketones and sugars, for the detection of molybdenum.



## 807250 Phenylhydrazine for synthesis

**Specification**  
Assay (HClO<sub>4</sub>)..... ≥ 97,0 % (m)  
Density (d 20 °C/ 4 °C)..... 1,096 - 1,099  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07250.0005	Glass bottle	5 ml	inquire
8.07250.0250	Glass bottle	250 ml	inquire
8.07250.1000	Glass bottle	1 l	inquire

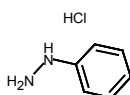
## 107251 Phenylhydrazine GR for analysis

**Specification**  
Assay (HClO<sub>4</sub>)..... ≥ 98,0 %  
Density (d 20 °C/ 4 °C)..... 1.096 - 1.099  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
1.07251.0100	Glass bottle	100 ml	inquire

Phenylhydrazine hydrochloride → Phenylhydrazinium chloride page 1306

## 107253 Phenylhydrazinium chloride for analysis EMSURE® Reag. Ph Eur



C<sub>6</sub>H<sub>5</sub>ClN<sub>2</sub>  
*Phenylhydrazine hydrochloride*  
■ CAS-No. 59-88-1 ■ EC-No. 200-444-7  
■ Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 144.6 g/mol  
■ pH value 2.6 - 2.9 (50 g/l, H<sub>2</sub>O)  
■ Melting point 242 - 246 °C (decomposition)  
■ Bulk density 330 kg/m<sup>3</sup>  
■ WGK 3  
■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Acute toxicity, Category 3, Inhalation, H331;

Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P201, P281, P304 + P340, P302 + P352, P305 + P351 + P338, P309 + P310  
■ EC-Index-No. 612-023-00-9 ■ LGK 6.1A  
■ HS-No. 2928 00 90 ■ Disposal 9  
■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(PHENYLHYDRAZINIUMCHLORID), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(PHENYLHYDRAZINIUM CHLORIDE), 6.1, II  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(PHENYLHYDRAZINIUM CHLORIDE), 6.1, II

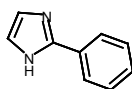
### Specification

Assay (argentometric)..... ≥ 99%  
Identity (IR-spectrum)..... passes test  
Solubility in ethanol..... passes test  
Solubility in water..... passes test  
Melting point..... 242 - 246 °C  
Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
Fe (Iron)..... ≤ 0.001 %  
Sulfated ash..... ≤ 0.1 %  
Loss on drying (105 °C)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.07253.0100	Glass bottle	100 g	inquire
1.07253.0250	Glass bottle	250 g	inquire

Phenylhydroxamic acid → Benzohydroxamic acid page 440

## 807504 2-Phenylimidazole for synthesis

C<sub>9</sub>H<sub>8</sub>N<sub>2</sub>

- CAS-No. 670-96-2 ■ EC-No. 211-581-7
- Vapour pressure 26 hPa (216 °C)
- Spec. density 0.6 g/cm<sup>3</sup> ■ Flash point 200 °C
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 144.17 g/mol

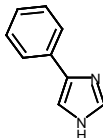
- mol ■ Melting point 143 - 146 °C
- Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 340 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
- LD50 oral rat 864 mg/kg
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 95,0 Area %  
 Melting range (lower value)..... ≥ 143 °C  
 Melting range (upper value)..... ≤ 146 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07504.0100	Glass bottle	100 g	inquire

## 841498 4-Phenylimidazole for synthesis

C<sub>9</sub>H<sub>8</sub>N<sub>2</sub>

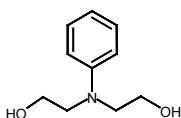
- CAS-No. 670-95-1 ■ EC-No. 211-580-1
- M = 144.17 g/mol ■ Melting point 144 - 146 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 29 90 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 140 °C  
 Melting range (upper value)..... ≤ 144 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41498.0001	Plastic bottle	1 g	inquire

## 803257 N-Phenyl-2,2'-iminodiethanol for synthesis

C<sub>10</sub>H<sub>15</sub>NO<sub>2</sub>C<sub>6</sub>H<sub>5</sub>N(CH<sub>2</sub>CH<sub>2</sub>OH)<sub>2</sub>

- CAS-No. 120-07-0 ■ EC-No. 204-368-5
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 1.1 g/cm<sup>3</sup> (60 °C)
- Flash point 200 °C ■ Solub. in H<sub>2</sub>O 3 g/l (20 °C)

- M = 181.23 g/mol ■ pH value 8.2 (3 g/l, H<sub>2</sub>O, 50 °C) ■ Melting point 56 - 59 °C
- Boiling point 270 °C ■ Ignition temp. 380 °C DIN 51794
- WGK 2
- GHS: Danger, Serious eye damage, Category 1, H318; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P273, P280, P305 + P351 + P338, P313
- LD50 oral rat 3400 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg

- LGK 10 - 13
- HS-No. 2922 19 85 ■ Disposal 3

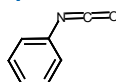
## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 56 °C  
 Melting range (upper value)..... ≤ 59 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.03257.0100	Plastic bottle	100 g	inquire
8.03257.1000	Plastic bottle	1 kg	inquire

Phenyliodine diacetate → Iodosobenzene diacetate page 1013

## Phenyl isocyanate

C<sub>7</sub>H<sub>5</sub>NOC<sub>6</sub>H<sub>5</sub>NCO

Isocyanic acid phenyl ester, Isocyanatobenzene

- CAS-No. 103-71-9 ■ EC-No. 203-137-6
- Vapour pressure 2.5 hPa (20 °C)
- Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 % (V) ■ Flash point 51 °C ■ Solub. in

- H<sub>2</sub>O 0.617 g/l Hydrolysis ■ M = 119.12 g/mol
- Melting point -33 °C ■ Bulk density 1090 kg/m<sup>3</sup>
- Boiling point 165 °C (1013 hPa)
- Ignition temp. 645 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 1, Inhalation, H330; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P210, P260, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

- LC50 rat 0.022 mg/l
  - LD50 oral rat 800 mg/kg ■ LD50 dermal rabbit 7130 mg/kg
  - LGK 3
  - HS-No. 2929 10 00 ■ Disposal 11
  - ADR-RID UN 2487 Phenylisocyanat, 6.1 (3), I
  - IMDG-Code UN 2487 PHENYL ISOCYANATE, 6.1 (3), I
  - IATA-DGR UN 2487 PHENYL ISOCYANATE, 6.1 (3),
- Reagent for diamines and alcohols.

## 821001 Phenyl isocyanate for synthesis

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C / 4 °C)..... 1,093 - 1,095  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21001.0005	Glass bottle	5 ml	inquire
8.21001.0250	Glass bottle	250 ml	inquire
8.21001.1000	Glass bottle	1 l	inquire

## 107255 Phenyl isocyanate GR for analysis

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Fe (Iron)..... ≤ 0.0005 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Sulfated ash..... ≤ 0.05 %  
 Identity (IR)..... passes test

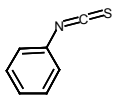
Ord.No.	Packaging	Quantity	Price
1.07255.0100	Glass bottle	100 ml	inquire

Phenyl isopropyl ketone → Isopropyl phenyl ketone page 1056



# Phenyl

## 807028 Phenyl isothiocyanate for synthesis



C<sub>7</sub>H<sub>5</sub>NS  
C<sub>6</sub>H<sub>5</sub>NCS  
*Isothiocyanic acid phenyl ester, PTC*  
■ CAS-No. 103-72-0 ■ EC-No. 203-138-1  
■ Refractive index 1.6497 (20 °C, 589 nm)  
■ Vapour pressure 10 hPa (20 °C)  
■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)  
■ Flash point 87 °C ■ Solub. in

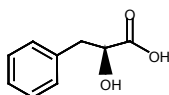
H<sub>2</sub>O (20 °C) insoluble,(decomposition)  
■ M = 135.18 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point -21 °C  
■ Boiling point 221 °C (1013 hPa)  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Inhalation, H331; Specific target organ toxicity - single exposure, Category 3, H335, P280, P302 + P352, P304 + P340, P309 + P310  
■ LD50 oral rat 157 mg/kg  
■ LGK 6.1A  
■ HS-No. 2930 90 99 ■ Disposal 9  
■ ADR-RID UN 2206 Isocyanate, giftig,

n.a.g.(PHENYLISOTHIOCYANAT), 6.1, II ■ IMDG-Code UN 2206 ISOCYANATES, TOXIC, N.O.S.(PHENYLISOTHIOCYANATE), 6.1, II  
■ IATA-DGR UN 2206 ISOCYANATES, TOXIC, N.O.S.(PHENYLISOTHIOCYANATE), 6.1, II

**Specification**  
Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C / 4 °C) ..... 1,132 - 1,135  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07028.0100	Glass bottle	100 ml	inquire
8.07028.0250	Glass bottle	250 ml	inquire

## 821572 L-(-)-3-Phenyllactic acid for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>  
C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH(OH)COOH  
*L-(-)-3-Phenyllactic acid*

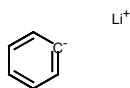
■ CAS-No. 20312-36-1 ■ EC-No. 243-726-5  
■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 166.17 g/mol ■ Melting point 123 - 125 °C  
■ WGK 1  
■ LGK 10 - 13  
■ HS-No. 2918 19 98 ■ Disposal 3  
**Specification**  
Assay (acidimetric) ..... ≥ 99,0 %

Melting range (lower value) ..... ≥ 123 °C  
Melting range (upper value) ..... ≤ 125 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in water) .....  
..... -23,0 - -20,0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21572.0001	Glass bottle	1 g	inquire

L-(-)-3-Phenyllactic acid → page 1308

## 814974 Phenyllithium (20% solution in dibutylether) for synthesis



■ Spec. density 0.85 g/cm<sup>3</sup>  
■ Flash point 25 °C Information refers to the main component. ■ Solub. in H<sub>2</sub>O (20 °C) Risk of violent reaction.  
■ WGK 3  
■ GHS: Danger, Skin corrosion, Category 1B, H314;

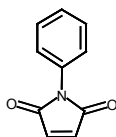
Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 3 ■ Store at +2°C to +8°C.  
■ HS-No. 2931 90 90 ■ Disposal 8  
■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(PHENYLLITHIUM IN DIBUTYLETHER), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(PHENYLLITHIUM IN DIBUTYL ETHERS), 8 (3), II

■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(PHENYLLITHIUM IN DIBUTYL ETHERS), 8 (3), II

**Specification**  
Assay (total alkalinity) ..... 18,0 - 22,0 %

Ord.No.	Packaging	Quantity	Price
8.14974.0100	Glass bottle	100 ml	inquire

## 841548 N-Phenylmaleimide for synthesis



C<sub>10</sub>H<sub>7</sub>NO<sub>2</sub>  
*Maleimidobenzene*  
■ CAS-No. 941-69-5 ■ EC-No. 213-382-0  
■ M = 173.17 g/mol ■ Melting point 87 - 88 °C

■ Boiling point 162 - 163 °C (16 hPa)  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
■ LD50 oral rat 58 mg/kg  
■ LGK 6.1A  
■ HS-No. 2925 19 95 ■ Disposal 9  
■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-PHENYLMALEINIMID), 6.1, II  
■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-PHENYLMALEINIMIDE), 6.1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-PHENYLMALEINIMIDE), 6.1, II

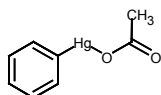
**Specification**  
Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Melting range (lower value) ..... ≥ 87 °C  
Melting range (upper value) ..... ≤ 89 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41548.0010	Plastic bottle	10 g	inquire

Phenylmalonic acid diethyl ester → Diethyl phenylmalonate page 749

Phenyl mercaptan → Thiophenol page 1553

## 807588 Phenylmercury acetate for synthesis



C<sub>8</sub>H<sub>8</sub>HgO<sub>2</sub>  
C<sub>6</sub>H<sub>5</sub>HgOOCCH<sub>3</sub>  
*Acetoxypennymercury*  
■ CAS-No. 62-38-4 ■ EC-No. 200-532-5  
■ Vapour pressure 1.2 kPa (35 °C)  
■ Flash point >37.78 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 336.74 g/mol ■ pH value 4.1 (H<sub>2</sub>O)  
■ Melting point 146 - 150 °C  
■ Bulk density 800 kg/m<sup>3</sup>

■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 41 mg/kg  
■ EC-Index-No. 080-011-00-5 ■ LGK 6.1A  
■ HS-No. 2852 10 00 ■ Disposal 20  
■ ADR-RID UN 1674 Phenylquecksilber(II)acetat, 6.1, II ■ IMDG-Code UN 1674 PHENYLMERCURIC ACETATE, 6.1, II, Marine Pollutant: P, Segregation

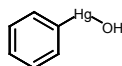
Group: 7 (Heavy metals and their salts (including their organometallic compounds))

■ IATA-DGR UN 1674 PHENYLMERCURIC ACETATE, 6.1, II

**Specification**  
Assay (ex Hg) ..... ≥ 98,0 % (m)  
Melting range (lower value) ..... ≥ 146 °C  
Melting range (upper value) ..... ≤ 150 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07588.0050	Glass bottle	50 g	inquire

## 821819 Phenylmercury hydroxide for synthesis

C<sub>6</sub>H<sub>6</sub>HgOC<sub>6</sub>H<sub>5</sub>HgOH

Hydroxyphenylmercury

■ CAS-No. 100-57-2 ■ EC-No. 202-866-7

■ Solub. in H<sub>2</sub>O 50 g/l (75 °C) ■ M = 294.7 g/mol

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated

exposure, Category 1, H372; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ EC-Index-No. 080-008-00-9 ■ LGK 6.1B

■ HS-No. 2852 10 00 ■ Disposal 20

■ ADR-RID UN 1894 Phenylquecksilber(II)hydroxid, 6.1, II ■ IMDG-Code UN 1894 PHENYLMERCURIC HYDROXIDE, 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)),

11 (Mercury and mercury compounds)

■ IATA-DGR UN 1894 PHENYLMERCURIC HYDROXIDE, 6.1, II

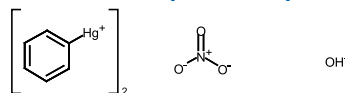
## Specification

Assay (ex Hg)..... ≥ 94.0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21819.0050	Plastic bottle	50 g	inquire

## 820878 Phenylmercury nitrate (basic) for synthesis

C<sub>12</sub>H<sub>11</sub>Hg<sub>2</sub>NO<sub>4</sub>C<sub>6</sub>H<sub>5</sub>HgNO<sub>3</sub> \* C<sub>6</sub>H<sub>5</sub>HgO

Nitratophenylmercury

■ CAS-No. 8003-05-2

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble■ M = 634.4 g/mol ■ pH value 6.6 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 187 - 190 °C (decomposition)

■ Bulk density 800 kg/m<sup>3</sup>

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ EC-Index-No. 080-008-00-9 ■ LGK 6.1A

■ HS-No. 2852 10 00 ■ Disposal 20

■ ADR-RID UN 1895 Phenylquecksilber(II)nitrat, 6.1, II ■ IMDG-Code UN 1895 PHENYLMERCURIC

NITRATE, 6.1, II, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 11 (Mercury and mercury compounds)

■ IATA-DGR UN 1895 PHENYLMERCURIC NITRATE, 6.1, II

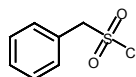
## Specification

Assay (ex Hg)..... ≥ 99.0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20878.0050	Glass bottle	50 g	inquire
8.20878.0250	Glass bottle	250 g	inquire

## 821127 Phenylmethanesulfonyl chloride for synthesis

C<sub>7</sub>H<sub>7</sub>ClO<sub>2</sub>SC<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>SO<sub>2</sub>Cl

α-Toluenesulfonyl chloride, Benzylsulfonyl chloride

■ CAS-No. 1939-99-7 ■ EC-No. 217-717-1

■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)■ M = 190.64 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) acidic

■ Melting point 90 - 93 °C ■ Boiling point 120 °C (13 hPa)

■ WGK 3

■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310

■ LGK 8B

■ HS-No. 2904 90 95 ■ Disposal 11

■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(PHENYLMETHANSULFONYLCHLORID), 8, II

■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(PHENYLMETHANE SULFONYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(PHENYLMETHANE SULFONYL CHLORIDE), 8, II

## Specification

Assay (morpholine method)..... ≥ 98.0 %

Melting range (lower value)..... ≥ 90 °C

Melting range (upper value)..... ≤ 93 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21127.0005	Glass bottle	5 g	inquire
8.21127.0025	Glass bottle	25 g	inquire

Phenylmethylamine → Benzylamine page 447

N-(Phenylmethyl)-benzenemethanamine →

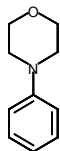
Dibenzylamine page 701

1-Phenyl-3-methyl-5-pyrazolonone → 3-Methyl-1-phenyl-2-pyrazolin-5-one page 1171

2-(Phenylmethyl)-pyridine → 2-Benzylpyridine page 455

4-(Phenylmethyl)-pyridine → 4-Benzylpyridine page 455

## 814859 N-Phenylmorpholine for synthesis

C<sub>10</sub>H<sub>13</sub>NO

Morpholinobenzene

■ CAS-No. 92-53-5 ■ EC-No. 202-164-0

■ Spec. density 1.053 g/cm<sup>3</sup> (60 °C)

■ Flash point 124 °C ■ M = 163.22 g/mol

■ Melting point 48 - 51 °C ■ Boiling point 260 °C (1013 hPa) ■ Ignition temp. 410 °C

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302, P280, P302 + P352, P309 + P310

■ LD50 oral rat 930 mg/kg ■ LD50 dermal rabbit 360 mg/kg

■ LGK 6.1A

■ HS-No. 2934 99 90 ■ Disposal 9

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N-PHENYLMORPHOLIN), 6.1, III

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(N-PHENYLMORPHOLINE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N-PHENYLMORPHOLINE), 6.1, III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)

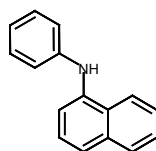
Melting range (lower value)..... ≥ 50 °C

Melting range (upper value)..... ≤ 54 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14859.0050	Glass bottle	50 g	inquire
8.14859.0250	Glass bottle	250 g	inquire

## 821003 N-Phenyl-1-naphthylamine for synthesis

C<sub>16</sub>H<sub>13</sub>N

N-1-Naphthylaniline

■ CAS-No. 90-30-2 ■ EC-No. 201-983-0

■ Vapour pressure 0.504 hPa (150 °C)

■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C)■ Flash point >200 °C ■ Solub. in H<sub>2</sub>O 0.003 g/l (20 °C) ■ M = 219.28 g/mol

■ pH value (H<sub>2</sub>O) neutral

■ Melting point 56 - 60 °C ■ Boiling point 224 °C (16 hPa) ■ Ignition temp. >500 °C

■ WGK 2

■ GHS: Warning, Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P273, P280, P302 + P352

■ LD50 oral rat > 2000 mg/kg

■ LGK 10 - 13

■ HS-No. 2921 49 00 ■ Disposal 3

■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(N-PHENYL-1-NAPHTHYLAMIN), 9, III

■ IMDG-Code UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(N-PHENYL-1-NAPHTHYLAMINE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(N-PHENYL-1-NAPHTHYLAMINE), 9, III

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 56 °C

Melting range (upper value)..... ≤ 60 °C

Identity (IR)..... passes test

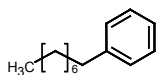
Ord.No.	Packaging	Quantity	Price
8.21003.0250	Glass bottle	250 g	inquire

# Phenyl

Phenyl 2-naphthyl ketone → 2-Naphthyl phenyl ketone page 1203

N-Phenyl-N-nitrosohydroxylamine ammonium salt → Cupferron page 663

## 821006 1-Phenyloctane for synthesis



C<sub>14</sub>H<sub>22</sub>  
C<sub>6</sub>H<sub>5</sub>(CH<sub>2</sub>)<sub>7</sub>CH<sub>3</sub>  
Octylbenzene  
■ CAS-No. 2189-60-8 ■ EC-No. 218-582-1  
■ Refractive index 1.4845 (20 °C, 589 nm)

■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)  
■ Flash point 107 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 190.32 g/mol  
■ Melting point -39 - -36 °C  
■ Boiling point 264 - 268 °C (1019 hPa)  
■ WGK 2  
■ LGK 10 - 13  
■ HS-No. 2902 90 00 ■ Disposal 3

### Specification

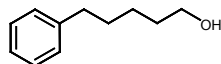
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.855 - 0.857  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21006.0025	Glass bottle	25 ml	inquire
8.21006.0100	Glass bottle	100 ml	inquire

Phenylloxirane → Epoxystyrene page 837

1-Phenylpentane → n-Pentylbenzene page 1273

## 841438 5-Phenyl-1-pentanol for synthesis



C<sub>11</sub>H<sub>16</sub>O  
■ CAS-No. 10521-91-2 ■ EC-No. 234-064-8  
■ Spec. density 0.975 g/cm<sup>3</sup> (20 °C)

■ Flash point >110 °C ■ M = 164.24 g/mol  
■ Boiling point 113 - 114 °C (2 hPa)  
■ WGK 3  
■ LGK 10  
■ HS-No. 2906 29 00 ■ Disposal 3

Density (d 20 °C/ 4 °C) ..... 0.968 - 0.974  
Identity (IR) ..... passes test

### Specification

Assay (GC, area%) ..... ≥ 97.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.41438.0001	Glass bottle	1 ml	inquire

2-Phenylphenol → Biphenyl-2-ol page 461

N-Phenyl-p-phenylenediamine → 4-Aminodiphenylamine page 386

4-Phenylphenol → Biphenyl-4-ol page 461

Aminodiphenylamine page 386

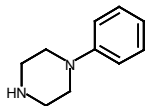
N-Phenyl-o-phenylenediamine → 2-Aminodiphenylamine page 386

N-Phenyl-p-phenylenediamine hydrochloride → 4-Aminodiphenylamine hydrochloride page 386

Phenylphosphonic acid dichloride → Dichlorophenylphosphine oxide page 730

Phenylphosphoro dichloridate → Phenyl dichlorophosphate page 1300

## 818633 N-Phenylpiperazine for synthesis



C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>  
■ CAS-No. 92-54-6 ■ EC-No. 202-165-6  
■ Refractive index 1.5905 (17 °C, 589 nm)  
■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)  
■ Flash point 140 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 162.23 g/mol  
■ Melting point 17 - 19 °C

■ Boiling point 161 - 164 °C (20 hPa)  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 210 mg/kg ■ LD50 dermal rabbit 149 mg/kg  
■ LGK 6.1A  
■ HS-No. 2933 59 95 ■ Disposal 9  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(PHENYLPIPERAZIN), 6.1, II ■ IMDG-

Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(PHENYLPIPERAZINE), 6.1, II  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(PHENYLPIPERAZINE), 6.1, II

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.066 - 1.068  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18633.0025	Glass bottle	25 ml	inquire

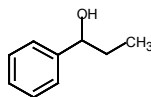
2-Phenylpropanol → 2-Phenylpropionaldehyde page 1311

1-Phenylpropane → Propylbenzene page 1374

2-Phenylpropane → Cumene page 300

3-Phenylpropanol → 3-Phenylpropionaldehyde page 1311

## 807012 1-Phenyl-1-propanol for synthesis



C<sub>9</sub>H<sub>12</sub>O  
C<sub>6</sub>H<sub>5</sub>CH(OH)CH<sub>2</sub>CH<sub>3</sub>  
*α*-Phenylpropyl alcohol, Phenyl ethyl carbinol, Ethyl phenyl carbinol, *α*-Ethylbenzyl alcohol

■ CAS-No. 93-54-9 ■ EC-No. 202-256-0  
■ Refractive index 1.519 (20 °C, 589 nm) ■ Vapour pressure 0.2 hPa (20 °C) ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Flash point 95 °C ■ Solub. in H<sub>2</sub>O 0.62 g/l (20 °C) ■ M = 136.19 g/mol  
■ Boiling point 217 - 219 °C (1013 hPa)  
■ WGK 1  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
■ LD50 oral rat 1500 mg/kg ■ LD50 dermal rat >

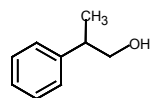
2000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2906 29 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
Density (d 20 °C/ 4 °C) ..... 0.992 - 0.994  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07012.0100	Plastic bottle	100 ml	inquire

## 818883 2-Phenyl-1-propanol for synthesis



C<sub>9</sub>H<sub>12</sub>O  
C<sub>6</sub>H<sub>5</sub>CH(CH<sub>3</sub>)CH<sub>2</sub>OH  
*β*-Phenylpropyl alcohol, *β*-Methylphenethyl alcohol  
■ CAS-No. 1123-85-9 ■ EC-No. 214-379-7  
■ Refractive index 1.5221 (25 °C, 589 nm)

■ Vapour pressure < 1 hPa (20 °C)  
■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 5.4 % (V) ■ Flash point 108 °C  
■ Kin. viscosity 23.3 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 136.19 g/mol  
■ pH value 5.2 (H<sub>2</sub>O) ■ Melting point -37 °C  
■ Boiling point 201 - 203 °C (1010 hPa)  
■ Ignition temp. 425 °C  
■ WGK 1  
■ LD50 oral rat 2300 mg/kg ■ LD50 dermal rabbit 5000 mg/kg

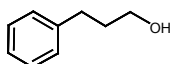
■ LGK 10  
■ HS-No. 2906 29 00 ■ Disposal 1

### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
Density (d 20 °C/ 4 °C) ..... 1.001 - 1.003  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18883.0100	Glass bottle	100 ml	inquire

## 807014 3-Phenyl-1-propanol for synthesis

C<sub>9</sub>H<sub>12</sub>OC<sub>6</sub>H<sub>5</sub>(CH<sub>2</sub>)<sub>3</sub>OH*γ*-Phenylpropyl alcohol, *Hydrocinnamyl alcohol*

- CAS-No. 122-97-4 ■ EC-No. 204-587-6
- Refractive index 1.5257 (20 °C, 589 nm)
- Vapour pressure 0.5 hPa (20 °C)

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 136.19 g/mol
- Melting point -18 °C
- Boiling point 237 - 239 °C
- Ignition temp. 430 °C
- WGK 1
- LD50 oral rat 2300 mg/kg ■ LD50 dermal rabbit 5000 mg/kg
- LGK 10

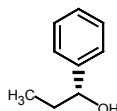
- HS-No. 2906 29 00 ■ Disposal 1

**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,000 - 1,002  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07014.0005	Glass bottle	5 ml	inquire
8.07014.0250	Glass bottle	250 ml	inquire

## 824446 (R)-(+)-1-Phenyl-1-propanol for synthesis

C<sub>9</sub>H<sub>12</sub>O

■ CAS-No. 1565-74-8

■ Refractive index 1.52 (20 °C, 589 nm)

■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C)

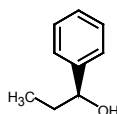
- Flash point 90 °C ■ Solub. in H<sub>2</sub>O 10.33 g/l (25 °C) ■ M = 136.2 g/mol ■ Boiling point 219 °C (1013 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1500 mg/kg
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,992 - 0,994  
 Spec. rotation [α<sup>20</sup>/D (c=2 in Toluol)] ..... -42,0 - -45,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24446.0100	Glass bottle	100 mg	inquire
8.24446.1000	Glass bottle	1 g	inquire

## 824445 (S)-(-)-1-Phenyl-1-propanol for synthesis

C<sub>9</sub>H<sub>12</sub>OC<sub>6</sub>H<sub>5</sub>CH(C<sub>2</sub>H<sub>5</sub>)OH

■ CAS-No. 613-87-6

■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C)

- Flash point 90 °C ■ Solub. in H<sub>2</sub>O 10.33 g/l (25 °C) ■ M = 136.2 g/mol ■ Boiling point 219 °C (1013 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1500 mg/kg
- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,992 - 0,994  
 Spec. rotation [α<sup>20</sup>/D (c=2 in Toluol)] ..... -45,0 - -42,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.24445.0100	Glass bottle	100 mg	inquire

1-Phenyl-1-propanone → Propiophenone page 1374

trans-3-Phenyl-2-propenal → trans-Cinnamaldehyde page 644

2-Phenyl-1-propene → α-Methylstyrene page 1180

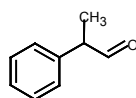
3-Phenyl-1-propene → Allylbenzene page 364

trans-3-Phenylpropenoic acid → Cinnamic acid page 644

trans-3-Phenyl-2-propen-1-ol → Cinnamyl alcohol page 645

Phenylpropionic acid → Phenylacetylenecarboxylic acid page 1297

## 807010 2-Phenylpropionaldehyde for synthesis

C<sub>9</sub>H<sub>10</sub>OCH<sub>3</sub>CH(C<sub>6</sub>H<sub>5</sub>)CHO*2-Phenylpropanal, Hydratropaldehyde*

■ CAS-No. 93-53-8 ■ EC-No. 202-255-5

■ Refractive index 1.5175 (20 °C, 589 nm)

- Vapour pressure 0.4 hPa (20 °C)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point 79 °C ■ Solub. in H<sub>2</sub>O 3.4 g/l (20 °C)
- M = 134.17 g/mol ■ Melting point < -60 °C
- Boiling point 205 °C (1013 hPa)
- Ignition temp. 405 °C
- WGK 1
- GHS: P262
- LD50 oral rat 2800 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg

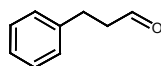
- LGK 10
- HS-No. 2912 29 00

**Specification**

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,002 - 1,006  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.07010.0005	Glass bottle	5 ml	inquire
8.07010.0250	Glass bottle	250 ml	inquire

## 804542 3-Phenylpropionaldehyde for synthesis

C<sub>9</sub>H<sub>10</sub>O*Hydrocinnamaldehyde, 3-Phenylpropanal*

■ CAS-No. 104-53-0 ■ EC-No. 203-211-8

■ Vapour pressure 15 hPa (98 °C)

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)

- Flash point 105 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 0.74 mg/l (20 °C) ■ M = 134.18 g/mol
- Melting point -42 °C ■ Boiling point 222 °C
- Ignition temp. 245 °C DIN 51794
- WGK 2
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10
- HS-No. 2912 29 00 ■ Disposal 3

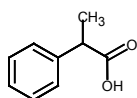
**Specification**

Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,010 - 1,018  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04542.0100	Glass bottle	100 ml	inquire

# Phenyl

## 820651 2-Phenylpropionic acid for synthesis



$C_9H_{10}O_2$   
 $CH_3CH(C_6H_5)COOH$   
*Hydratropic acid*  
 ■ CAS-No. 492-37-5 ■ EC-No. 207-752-0  
 ■ Refractive index 1.522 (20 °C, 589 nm) ■ Vapour pressure < 0.01 hPa (20 °C) ■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Flash point 148 °C ■ Solub. in

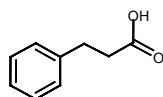
$H_2O$  9.9 g/l (20 °C) ■  $M = 150.17$  g/mol  
 ■ pH value 3 (5 g/l,  $H_2O$ , 20 °C) ■ Melting point -5 °C ■ Boiling point 144 °C (13 hPa)  
 ■ Ignition temp. 465 °C  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 4  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(2-PHENYLPROPIONSÄURE),

8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-PHENYLPROPIONIC ACID), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-PHENYLPROPIONIC ACID), 8, II

**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.096 - 1.099  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20651.0010	Glass bottle	10 ml	inquire

## 804543 3-Phenylpropionic acid for synthesis



$C_9H_{10}O_2$   
 $C_6H_5CH_2CH_2COOH$   
*Hydrocinnamic acid*  
 ■ CAS-No. 501-52-0 ■ EC-No. 207-924-5  
 ■ Refractive index 1.5106 (51 °C, 589 nm)

■ Spec. density 1.071 g/cm<sup>3</sup> ■ Flash point 110 °C  
 ■ Solub. in  $H_2O$  (20 °C) soluble ■  $M = 150.17$  g/mol ■ Melting point 47 - 49 °C  
 ■ Boiling point 279 - 281 °C (1013 hPa)  
 ■ Ignition temp. 505 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13

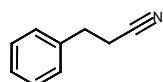
■ HS-No. 2916 39 90 ■ Disposal 4

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 Area %  
 Melting range (lower value) ..... ≥ 47 °C  
 Melting range (upper value) ..... ≤ 49 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04543.0100	Glass bottle	100 g	inquire

3-Phenylpropionic acid ethyl ester → Ethyl 3-phenylpropionate page 881

## 841358 3-Phenylpropionitrile for synthesis



$C_9H_9N$   
 $C_6H_5CH_2CH_2CN$   
*Hydrocinnamonitrile, Benzylacetonitrile*  
 ■ CAS-No. 645-59-0 ■ EC-No. 211-447-8  
 ■ Spec. density 1.001 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 110 °C ■ Solub. in  $H_2O$  1.68 g/l (25 °C) (calculated) ■  $M = 131.17$  g/mol

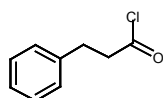
■ Melting point -2 °C ■ Boiling point 114 - 116 °C (13.3 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2926 90 95 ■ Disposal 9  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(3-PHENYLPROPIONITRIL), 6.1, II ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(3-PHENYLPROPIONITRILE), 6.1, II

■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(3-PHENYLPROPIONITRILE), 6.1, II

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.997 - 1.002  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41358.0010	Glass bottle	10 ml	inquire

## 820653 3-Phenylpropionyl chloride for synthesis



$C_9H_9ClO$   
 $C_6H_5CH_2CH_2COCl$   
*Hydrocinnamoyl chloride*  
 ■ CAS-No. 645-45-4 ■ EC-No. 211-443-6  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >107 °C ■ Solub. in  $H_2O$  (20 °C) (decomposition) ■  $M = 168.62$  g/mol  
 ■ Boiling point 105 °C (13 hPa)

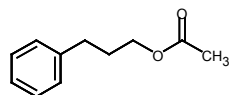
■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 2.7 mg/l  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(3-PHENYLPROPIONYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3-PHENYL PROPIONYL

CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(3-PHENYL PROPIONYL CHLORIDE), 8, II

**Specification**  
 Assay (morpholine method) ..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C) ..... 1.132 - 1.135  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20653.0100	Glass bottle	100 ml	inquire

## 814440 3-Phenylpropyl acetate for synthesis



$C_{11}H_{14}O_2$   
 $C_6H_5CH_2CH_2COCH_3$   
*Hydroxycinnamyl acetate, β-Phenylpropyl acetate*  
 ■ CAS-No. 122-72-5 ■ EC-No. 204-569-8  
 ■ Vapour pressure < 0.01 hPa (20 °C)

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 130 °C ■ Solub. in  $H_2O$  0.69 g/l (20 °C) ■  $M = 178.23$  g/mol ■ Melting point < -60 °C ■ Boiling point 245 °C  
 ■ Ignition temp. 445 °C  
 ■ WGK 2  
 ■ LD50 oral rat 4700 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2915 39 00 ■ Disposal 1

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1.014 - 1.016  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14440.0100	Glass bottle	100 ml	inquire

β-Phenylpropyl acetate → 3-Phenylpropyl acetate page 1312

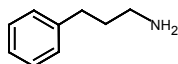
α-Phenylpropyl alcohol → 1-Phenyl-1-propanol page 1310

γ-Phenylpropyl alcohol → 3-Phenyl-1-propanol page 1311

β-Phenylpropyl alcohol → 2-Phenyl-1-propanol page 1310



## 841119 3-Phenylpropylamine for synthesis

C<sub>9</sub>H<sub>13</sub>N

1-Amino-3-phenylpropane

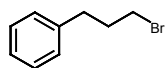
- CAS-No. 2038-57-5 ■ EC-No. 218-012-1
- Spec. density 0.949 g/cm<sup>3</sup> (20 °C)
- Flash point 90 °C ■ M = 135.2 g/mol
- Boiling point 220 - 221 °C
- WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(3-PHENYLPROPYLAMIN), 8, II ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-PHENYLPROPYLAMINE), 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2735 AMINES, LIQUID,

CORROSIVE, N.O.S.(3-PHENYLPROPYLAMINE), 8, II  
**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.945 - 0.950  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41119.0010	Glass bottle	10 ml	inquire

## 807569 3-Phenylpropyl bromide for synthesis

C<sub>9</sub>H<sub>11</sub>BrC<sub>6</sub>H<sub>5</sub>(CH<sub>2</sub>)<sub>3</sub>Br

1-Bromo-3-phenylpropane, (3-Bromopropyl) benzene

- CAS-No. 637-59-2 ■ EC-No. 211-294-7
- Refractive index 1.5459 (21 °C, 589 nm)

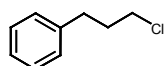
- Spec. density 1.32 g/cm<sup>3</sup> (20 °C)
- Flash point 102 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 199.08 g/mol
- Boiling point 219 - 220 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 2903 99 90 ■ Disposal 2

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,312 - 1,316  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07569.0250	Glass bottle	250 ml	inquire

## 818624 3-Phenylpropyl chloride for synthesis

C<sub>9</sub>H<sub>11</sub>ClC<sub>6</sub>H<sub>5</sub>(CH<sub>2</sub>)<sub>3</sub>Cl

1-Chloro-3-phenylpropane, (3-Chloropropyl) benzene

- CAS-No. 104-52-9 ■ EC-No. 203-210-2
- Refractive index 1.516 (20 °C, 589 nm) ■ Vapour

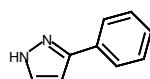
- pressure 0.1 hPa (20 °C) ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Flash point 106 °C DIN 51755 Part 1
- Solub. in H<sub>2</sub>O < 0.01 g/l (20 °C) ■ M = 154.63 g/mol
- Melting point -27 °C
- Boiling point 89 - 91 °C (13 hPa)
- Ignition temp. 400 °C DIN 51794
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315, P262, P302 + P352
- LD50 oral rat 2416 mg/kg

- LGK 10 - 13
- HS-No. 2903 99 90 ■ Disposal 2

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.045 - 1.047  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18624.0250	Glass bottle	250 ml	inquire

## 843855 3-Phenyl-1H-pyrazole for synthesis

C<sub>9</sub>H<sub>8</sub>N<sub>2</sub>

■ CAS-No. 2458-26-6

■ M = 144.17 g/mol ■ Melting point 76 - 80 °C

■ WGK 2

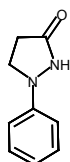
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 19 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 % (a/a)

Melting range (lower value)..... ≥ 76 °C  
 Melting range (upper value)..... ≤ 80 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43855.0005	Glass bottle	5 g	inquire

## 841580 1-Phenyl-3-pyrazolidinone for synthesis

C<sub>9</sub>H<sub>10</sub>N<sub>2</sub>O

Phenidone

- CAS-No. 92-43-3 ■ EC-No. 202-155-1
- Solub. in H<sub>2</sub>O (100 °C) soluble ■ M = 162.19 g/mol

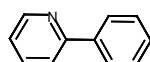
- mol ■ Melting point 119 - 122 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 200 mg/kg
- EC-Index-No. 606-022-00-2 ■ LGK 10 - 13
- HS-No. 2933 19 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1-PHENYL-3-PYRAZOLIDINON), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-PHENYL-3-PYRAZOLIDINONE), 6.1, III

- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1-PHENYL-3-PYRAZOLIDINONE), 6.1, III

**Specification**  
 Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 119 °C  
 Melting range (upper value)..... ≤ 122 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41580.0050	Plastic bottle	50 g	inquire

## 840041 2-Phenylpyridine for synthesis

C<sub>11</sub>H<sub>9</sub>N

2-Azabiphenyl

- CAS-No. 1008-89-5 ■ EC-No. 213-763-1
- Vapour pressure < 0.5 hPa (30 °C)
- Spec. density 1.09 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 155.2 g/mol
- Boiling point 269 - 270 °C (1013 hPa)

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(2-PHENYLPYRIDIN), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(2-PHENYLPYRIDINE), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

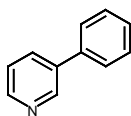
- N.O.S.(2-PHENYLPYRIDINE), 6.1, III

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,086 - 1,090  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40041.0025	Glass bottle	25 ml	inquire

# Phenyl

## 841759 3-Phenylpyridine for synthesis



$C_{11}H_9N$   
 ■ CAS-No. 1008-88-4 ■ EC-No. 213-762-6  
 ■ Spec. density 1.091 g/cm<sup>3</sup> (20 °C)

■ Flash point 110 °C ■ Solub. in H<sub>2</sub>O 0.46 g/l (25 °C) ■ M = 155.19 g/mol  
 ■ Boiling point 269 - 270 °C (999 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

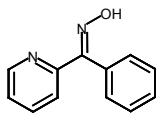
Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.090 - 1.094  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41759.0005	Glass bottle	5 ml	inquire

Phenyl-2-pyridinyl-methanone → 2-BENZOYLPIRIDINE page 445

Phenyl 2-pyridyl ketone → 2-BENZOYLPIRIDINE page 445

## 822128 Phenyl 2-pyridyl ketone oxime for synthesis



$C_{12}H_{10}N_2O$   
 2-(C<sub>6</sub>H<sub>5</sub>C=NOH)C<sub>5</sub>H<sub>4</sub>N

■ CAS-No. 1826-28-4 ■ EC-No. 217-374-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 198.23 g/mol  
 ■ Melting point 152 - 155 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

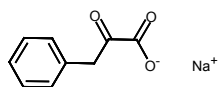
### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 152 °C  
 Melting range (upper value) ..... ≤ 155 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22128.0001	Glass bottle	1 g	inquire

## 841780 Phenylpyruvic acid sodium salt monohydrate for synthesis



$C_9H_7NaO_3 \cdot H_2O$

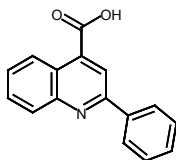
■ CAS-No. 122049-54-1 ■ EC-No. 204-053-2  
 ■ M = 204.16 g/mol ■ Melting point 260 °C  
 ■ WGK 3  
 ■ LGK 10 - 13 ■ Store below +15°C.  
 ■ HS-No. 2918 30 00 ■ Disposal 3

### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 97,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41780.0005	Glass bottle	5 g	inquire

## 841883 2-Phenylquinoline-4-carboxylic acid for synthesis



$C_{16}H_{11}NO_2$   
 ■ CAS-No. 132-60-5 ■ EC-No. 205-067-1  
 ■ M = 249.26 g/mol ■ Melting point 213 - 216 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 10 ■ Disposal 3

### Specification

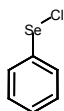
Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 213 °C  
 Melting range (upper value) ..... ≤ 216 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41883.0010	Glass bottle	10 g	inquire

N-Phenylsalicylamide → Salicylanilide page 1409

## 841322 Phenylselenenyl chloride for synthesis



$C_6H_5ClSe$   
*Benzeneselenenyl chloride*  
 ■ CAS-No. 5707-04-0 ■ EC-No. 227-196-2  
 ■ M = 191.51 g/mol ■ Melting point 63 - 65 °C  
 ■ Boiling point 120 °C (27 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3,

Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P309 + P310  
 ■ EC-Index-No. 034-002-00-8 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 17  
 ■ ADR-RID UN 2928 Giftiger organischer fester Stoff, ätzend, n.a.g.(PHENYLSELENYLCHLORID), 6.1 (8), I ■ IMDG-Code UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.(PHENYLSELENYL CHLORIDE), 6.1 (8), I

■ IATA-DGR UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.(PHENYLSELENYL CHLORIDE), 6.1 (8), I

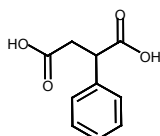
### Specification

Assay (argentometric) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 63 °C  
 Melting range (upper value) ..... ≤ 65 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41322.0005	Glass bottle	5 g	inquire

Phenyl styryl ketone → Benzylideneacetophenone page 451

## 841783 Phenylsuccinic acid for synthesis



$C_{10}H_{10}O_2$

■ CAS-No. 635-51-8 ■ EC-No. 211-238-1  
 ■ M = 194.19 g/mol ■ Melting point 167 - 169 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 39 95 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 165 °C

Melting range (upper value) ..... ≤ 168 °C  
 Identity (IR) ..... passes test

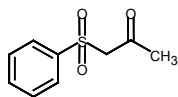
Ord.No.	Packaging	Quantity	Price
8.41783.0025	Plastic bottle	25 g	inquire
8.41783.0100	Plastic bottle	100 g	inquire

Phenyl sulfide → Diphenyl sulfide page 820

Phenyl sulfone → Diphenyl sulfone page 820

Phenylsulfonic acid → page 437

## 841195 Phenylsulfonylacetone for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>S  
Phenylsulfonylpropan-2-one  
■ CAS-No. 5000-44-2

- M = 198.23 g/mol ■ Melting point 58 - 59 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Melting range (lower value)..... ≥ 55 °C  
Melting range (upper value)..... ≤ 58 °C

Identity (IR)..... passes test

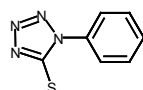
Ord.No.	Packaging	Quantity	Price
8.41195.0001	Plastic bottle	1 g	inquire
8.41195.0005	Plastic bottle	5 g	inquire

Phenylsulfonylpropan-2-one →  
Phenylsulfonylacetone page 1315

Phenyl sulfoxide → Diphenyl sulfoxide page 821

4-Phenyltetrahydro-1,2,4-triazole-3,5-dione → 4-Phenylurazole page 1316

## 840153 1-Phenyl-1H-tetrazole-5-thiol for synthesis



C<sub>7</sub>H<sub>6</sub>N<sub>4</sub>S  
5-Mercapto-1-phenyltetrazole, 1-Phenyl-2-tetrazoline-5-thione  
■ CAS-No. 86-93-1 ■ EC-No. 201-710-5  
■ M = 178.21 g/mol ■ pH value 3 - 5 (H<sub>2</sub>O, 20 °C) suspension

- Melting point 145 °C (decomposition)
- Bulk density 140 kg/m<sup>3</sup>
- WGK 1
- GHS: P210
- LD50 oral rat > 4000 mg/kg
- LGK 4.1A
- HS-No. 2933 99 80 ■ Disposal 10
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

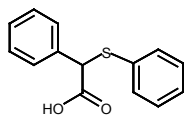
Assay (HPLC, area%) ..... ≥ 99.0 Area %  
Melting range (lower value)..... ≥ 143 °C  
Melting range (upper value)..... ≤ 147 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.40153.0025	Plastic bottle	25 g	inquire
8.40153.0100	Plastic bottle	100 g	inquire

1-Phenyl-2-tetrazoline-5-thione → 1-Phenyl-1H-tetrazole-5-thiol page 1315

2-(Phenylthio)ethanol → (2-Hydroxyethyl) phenyl sulfide page 982

## 814314 α-(Phenylthio)phenylacetic acid for synthesis

C<sub>14</sub>H<sub>12</sub>O<sub>2</sub>S

## 2-Phenylthiophenylacetic acid

- CAS-No. 10490-07-0
- M = 244.3 g/mol ■ Melting point 99 - 101 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 4

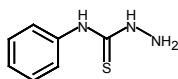
**Specification**

Assay (acidimetric)..... ≥ 99.0 % (m)  
Melting range (lower value)..... ≥ 99 °C  
Melting range (upper value)..... ≤ 101 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14314.0100	Plastic bottle	100 g	inquire

2-Phenylthiophenylacetic acid → α-(Phenylthio)phenylacetic acid page 1315

## 814443 4-Phenylthiosemicarbazide for synthesis



C<sub>7</sub>H<sub>9</sub>N<sub>3</sub>S  
■ CAS-No. 5351-69-9 ■ EC-No. 226-329-1  
■ M = 167.22 g/mol ■ Melting point 138 - 141 °C  
■ WGK 3

- LGK 6.1A
- HS-No. 2930 90 99 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-PHENYLTHIOSEMICARBAZID), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-PHENYLTHIOSEMICARBAZIDE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(4-PHENYLTHIOSEMICARBAZIDE), 6.1, II

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98.0 % (m)  
Melting range (lower value)..... ≥ 136 °C  
Melting range (upper value)..... ≤ 140 °C  
Identity (IR)..... conforms

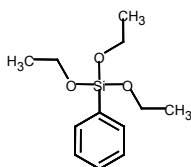
Ord.No.	Packaging	Quantity	Price
8.14443.0010	Plastic bottle	10 g	inquire

4-Phenyl-1,2,4-triazolidine-3,5-dione → 4-Phenylurazole page 1316

Phenyltrichlorosilane → Trichlorophenylsilane page 1580

Phenyltrichlorosilane → Trichlorophenylsilane page 1580

## 841592 Phenyltriethoxysilane for synthesis

C<sub>12</sub>H<sub>20</sub>O<sub>3</sub>Si

- CAS-No. 780-69-8 ■ EC-No. 212-305-8
- Vapour pressure 1.3 hPa (24 °C)
- Spec. density 0.996 g/cm<sup>3</sup> (20 °C)
- Flash point 96 °C DIN 51755 Part 1
- M = 240.37 g/mol ■ Boiling point 112 - 113 °C (13.3 hPa)
- WGK 1
- LD50 oral rat 2819 mg/kg ■ LD50 dermal rabbit 3168 mg/kg

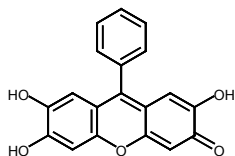
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41592.0100	Glass bottle	100 ml	inquire

## 841569 9-Phenyl-2,3,7-trihydroxy-6-fluorone for synthesis



- C<sub>19</sub>H<sub>12</sub>O<sub>5</sub>
- CAS-No. 975-17-7 ■ EC-No. 213-550-3
  - M = 320.3 g/mol ■ Melting point >300 °C
  - WGK 2
  - LGK 10 - 13
  - HS-No. 2932 99 00 ■ Disposal 3

**Specification**

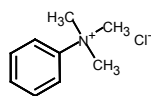
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41569.0001	Plastic bottle	1 g	inquire
8.41569.0005	Plastic bottle	5 g	inquire

Phenyltrimethylammonium chloride → page 1316

# Phenyl

## 808428 Phenyltrimethylammonium chloride for synthesis



$C_9H_{14}ClN$   
 $(CH_3)_3C_6H_5NCl$   
*Trimethylphenylammonium chloride*  
 ■ CAS-No. 138-24-9 ■ EC-No. 205-319-0  
 ■ Explosive limit 1 - 6 % (V) ■ Solub. in  $H_2O$  333 g/l (20 °C) ■ M = 171.66 g/mol ■ pH value 4.5 (333 g/l,  $H_2O$ , 20 °C) ■ Melting point 246 - 247 °C  
 ■ Bulk density 540 kg/m<sup>3</sup>

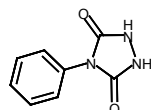
■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301, P280, P302 + P352, P309 + P310  
 ■ LD50 oral rat 121 mg/kg ■ LD50 dermal rabbit 309 mg/kg  
 ■ EC-Index-No. 612-124-00-8 ■ LGK 6.1 C  
 ■ HS-No. 2923 90 00 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff,  
 n.a.g.(TRIMETHYLPHENYLAMMONIUMCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TRIMETHYL PHENYLAMMONIUM-

CHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TRIMETHYL PHENYLAMMONIUM-CHLORIDE), 6.1, III

**Specification**  
 Assay (argentometric)..... ≥ 99,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08428.0100	Plastic bottle	100 g	inquire
8.08428.0500	Plastic bottle	500 g	inquire

## 818147 4-Phenylurazole for synthesis



$C_8H_7N_3O_2$   
*4-Phenyl-1,2,4-triazolidine-3,5-dione*

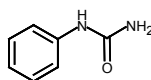
■ CAS-No. 15988-11-1 ■ EC-No. 240-127-0  
 ■ Solub. in  $H_2O$  (20 °C) insoluble ■ M = 177.16 g/mol ■ Melting point 204 - 208 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3

Melting range (lower value)..... ≥ 204 °C  
 Melting range (upper value)..... ≤ 208 °C  
 Identity (IR)..... passes test

**Specification**  
 Assay (HPLC, area%)..... ≥ 99,0 Area %

Ord.No.	Packaging	Quantity	Price
8.18147.0025	Glass bottle	25 g	inquire

## 807567 N-Phenylurea for synthesis



$C_7H_8N_2O$   
 $C_6H_5NHCONH_2$   
*Phenylcarbamide*  
 ■ CAS-No. 64-10-8 ■ EC-No. 200-576-5

■ Solub. in  $H_2O$  10 g/l (20 °C) ■ M = 136.15 g/mol  
 ■ Melting point 144 - 147 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 21 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 144 °C  
 Melting range (upper value)..... ≤ 147 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07567.0005	Glass bottle	5 g	inquire
8.07567.0250	Plastic bottle	250 g	inquire

Phenytoln → 5,5-Diphenylhydantoin page 817

Ph Eur reagents → Reagents DAB/Ph Eur

## pH Indicator paper, booklets

### 109525 pH-indicator paper pH 1 - 10 Universal indicator pH 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

■ HS-No. 3822 00 00

**Specification**  
 Application test..... conforms

Ord.No.	Packaging	Quantity	Price
1.09525.0003	Fibre case	3x100strip	inquire

### 109514 pH-indicator paper Congo red paper Roll (4.8 m) with colour scale Reag. Ph Eur

■ HS-No. 3822 00 00

**Specification**  
 Application test..... conforms

Ord.No.	Packaging	Quantity	Price
1.09514.0003	Fibre case	3 rolls	inquire

### 109486 pH-indicator paper Litmus paper blue Roll (4.8 m) with colour scale Reag. Ph Eur

■ HS-No. 3822 00 00

**Specification**  
 Application test..... conforms

Ord.No.	Packaging	Quantity	Price
1.09486.0003	Fibre case	3 rolls	inquire

### 109489 pH-indicator paper Litmus paper red Roll (4.8 m) with colour scale Reag. Ph Eur

■ HS-No. 3822 00 00

**Specification**  
 Application test..... conforms

Ord.No.	Packaging	Quantity	Price
1.09489.0003	Fibre case	3 rolls	inquire

### 109521 pH-indicator paper Phenolphthalein paper Roll (4.8 m) with colour scale

■ HS-No. 3822 00 00

**Specification**  
 Application test..... conforms

Ord.No.	Packaging	Quantity	Price
1.09521.0003	Fibre case	3 rolls	inquire

## pH Indicator paper, replacement rolls (without colour scale)

### 109568 pH-indicator paper pH 0.5 - 5.0 6 replacement rolls (of 4.8 m) for 109560, 109565 Acilit®

■ HS-No. 3822 00 00

**Specification**  
 Application test..... conforms

Ord.No.	Packaging	Quantity	Price
1.09568.0001	Fibre case	6 rolls	inquire

**109527 pH-indicator paper pH 1 – 10 Universal indicator 6 replacement rolls**  
(of 4.8 m) for 109526

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.09527.0001	Fibre case	6 rolls	inquire

**110232 pH-indicator paper pH 1 – 14 Universal indicator 6 replacement rolls**  
(of 4.8 m) for 110962

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.10232.0001	Fibre case	6 rolls	inquire

**109569 pH-indicator paper pH 5.5 – 9.0 6 replacement rolls (of 4.8 m)**  
for 109564, 109565 Neutralit®

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.09569.0001	Fibre case	6 rolls	inquire

**109570 pH-indicator paper pH 9.5 – 13.0 6 replacement rolls (of 4.8 m)**  
for 109562, 109565 Alkalit®

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.09570.0001	Fibre case	6 rolls	inquire

**pH Indicator paper, rolls****109565 pH Box pH-indicator paper pH 0.5 – 13.0 with Acilit® (pH 0.5–5.0), Neutralit®**  
(pH 5.5–9.0), Alkalit® (9.5–13.0), 3 rolls (of 4.8 m) and colour scale

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.09565.0001	Fibre case	3 rolls	inquire

**109560 pH-indicator paper pH 0.5 – 5.0 Roll (4.8 m) with colour scale**  
pH 0.5 – 1.0 – 1.5 – 2.0 – 2.5 – 3.0 – 3.5 – 4.0 – 4.5 – 5.0 Acilit®

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.09560.0003	Fibre case	3 rolls	inquire

**109526 pH-indicator paper pH 1 – 10 Universal indicator Roll (4.8 m) with colour**  
scale pH 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.09526.0003	Fibre case	3 rolls	inquire

**110962 pH-indicator paper pH 1 – 14 Universal indicator Roll (4.8 m) with colour**  
scale pH 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 12 – 14

■ LGK 10 - 13 ■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.10962.0003	Fibre case	3 rolls	inquire

**109555 pH-indicator paper pH 3.8 – 5.4 Special indicator Roll (4.8 m) with colour**  
scale pH <3.8 – 4.1 – 4.4 – 4.6 – 4.8 – 5.1 – 5.4

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.09555.0003	Fibre case	3 rolls	inquire

**109556 pH-indicator paper pH 5.4 – 7.0 Special indicator Roll (4.8 m) with colour**  
scale pH <5.4 – 5.4 – 5.8 – 6.2 – 6.4 – 6.7 – 7.0 – >7.0

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.09556.0003	Fibre case	3 rolls	inquire

**109564 pH-indicator paper pH 5.5 – 9.0 Roll (4.8 m) with colour scale**  
pH 5.5 – 6.0 – 6.5 – 7.0 – 7.5 – 8.0 – 8.5 – 9.0 Neutralit®

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.09564.0003	Fibre case	3 rolls	inquire

**109557 pH-indicator paper pH 6.4 – 8.0 Special indicator Roll (4.8 m) with colour**  
scale pH 6.4 – 6.7 – 7.0 – 7.2 – 7.5 – 7.7 – 8.0 – >8.0

■ HS-No. 3822 00 00	<b>Specification</b>	<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
	Application test..... conforms	1.09557.0003	Fibre case	3 rolls	inquire



# Phindi

## 109558 pH-indicator paper pH 8.2 – 10.0 Special indicator Roll (4.8 m) with colour scale pH <8.2 – 8.2 – 8.5 – 8.8 – 9.0 – 9.3 – 9.6 – 10.0

■ HS-No. 3822 00 00

**Specification**  
Application test.....conforms

Ord.No.	Packaging	Quantity	Price
1.09558.0003	Fibre case	3 rolls	inquire

## 109562 pH-indicator paper pH 9.5 – 13.0 Roll (4.8 m) with colour scale pH 9.5 – 10.0 – 10.5 – 11.0 – 11.5 – 12.0 – 12.5 – 13.0 Alkalit®

■ HS-No. 3822 00 00

**Specification**  
Application test.....conforms

Ord.No.	Packaging	Quantity	Price
1.09562.0003	Fibre case	3 rolls	inquire

### pH Indicators

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
497	103025	Bromocresol purple	1002	104724	Indigo carmine (C.I. 73015)	1290	107238	Phenolphthalein solution
511	103023	Bromophenol red	190	115944	Methyl green zinc chloride double salt (C.I. 42590)			0.375% in methanol
516	103026	Bromothymol blue				1290	107227	Phenolphthalein solution 1% in ethanol
516	101895	Bromothymol blue sodium salt	1166	101322	Methyl orange (C.I. 13025)			Phenol red
627	103024	Chlorophenol red	1166	101323	Methyl orange solution 0.1%	1290	107241	Phenol red
651	101340	Congo red (C.I. 22120)	1179	106076	Methyl red (C.I. 13020)	1290	111748	Phenol red sodium salt
658	105228	m-Cresol purple	1179	106078	Methyl red sodium salt (C.I. 13020)	77	109177	pH-indicator solution pH 0 – 5
659	105225	Cresol red				77	109175	pH-indicator solution pH 4.0 – 10.0
807	103055	Dimethylyellow (C.I. 11020)	1188	101359	Mixed indicator 4.5			pH-indicator solution pH 9.0 – 13.0
189	115934	Eosin B (bluish) (C.I.45400)	1188	106130	Mixed indicator 5	77	109176	Quinaldine red
189	115935	Eosin Y (yellowish) (C.I. 45380)	1200	106246	1-Naphtholphthalein	1556	108176	Thymol blue
189	115936	Erythrosine B (C.I. 45430)	1205	101369	Neutral red (C.I. 50040)	1556	108175	Thymolphthalein
189	115938	Hematoxylin monohydrate (C.I.75290)	1225	106794	3-Nitrophenol	1560	101307	Titan yellow (C.I. 19540)
			1226	106798	4-Nitrophenol			
			1290	107233	Phenolphthalein			

### pH Indicators for titrations in non-aqueous solvents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
497	103025	Bromocresol purple	1179	106076	Methyl red (C.I. 13020)	1290	107233	Phenolphthalein
516	103026	Bromothymol blue	1200	106202	1-Naphtholbenzein	1290	107241	Phenol red
651	101340	Congo red (C.I. 22120)	1205	101369	Neutral red (C.I. 50040)	1396	102282	Quinaldine red
659	105225	Cresol red	190	115946	Nile blue (hydrogen sulfate) (C.I. 51180)	1556	108176	Thymol blue
807	103055	Dimethylyellow (C.I. 11020)				1556	108175	Thymolphthalein
1166	101322	Methyl orange (C.I. 13025)	1215	820881	2-Nitroaniline			
			1245	101487	Oracet blue 2R (C.I. 61110)			

### pH Indicator solutions

#### 109177 pH-indicator solution pH 0 – 5 with colour card pH 0 – 0.5 – 1 – 1.5 – 2 – 2.5 – 3 – 3.5 – 4 – 4.5 – 5



■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.3 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity – single exposure, Category 2, H371, P210, P233, P240, P309 + P310

■ LGK 10 – 13  
■ HS-No. 3822 00 00  
■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(ENTH. METHANOL), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(CONT. METHANOL), 6.1, III  
■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(CONT. METHANOL), 6.1, III  
**Specification**  
Application test.....conforms

Ord.No.	Packaging	Quantity	Price
1.09177.0100	Plastic bottle	100 ml	inquire

#### 109175 pH-indicator solution pH 4.0 – 10.0 Universal Indicator with colour card pH 4.0 – 4.5 – 5.0 – 5.5 – 6.0 – 6.5 – 7.0 – 7.5 – 8.0 – 8.5 – 9.0 – 9.5 – 10.0



*Indicator solutions universal, Universal indicator solution*  
■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C)  
■ Flash point 23 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
■ pH value 5.5 – 6.0 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Warning, Flammable liquid, Category 3,

H226, P210  
■ LGK 3  
■ HS-No. 3822 00 00  
■ ADR-RID UN 1170 Ethanol, Lösung, 3, III  
■ IMDG-Code UN 1170 ETHANOL SOLUTION, 3, III  
■ IATA-DGR UN 1170 ETHANOL SOLUTION, 3, III

**Specification**  
Application test.....conforms

Ord.No.	Packaging	Quantity	Price
1.09175.0100	Plastic bottle	100 ml	inquire
1.09175.1000	Plastic bottle	1 l	inquire

#### 109176 pH-indicator solution pH 9.0 – 13.0 with colour card pH 9.0 – 10.0 – 11.0 – 12.0 – 13.0



■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C)  
■ Flash point 22 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
■ pH value 10 (H<sub>2</sub>O, 20 °C) (undiluted)  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225, P210  
■ LGK 3  
■ HS-No. 3822 00 00

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ETHANOL UND ENTH. ETHYLMETHYLKETON), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHANOL AND CONT. ETHYL METHYL KETONE), 3, II  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(ETHANOL AND CONT. ETHYL METHYL KETONE), 3, II

**Specification**  
Application test.....conforms

Ord.No.	Packaging	Quantity	Price
1.09176.0100	Fibre case	100 ml	inquire

## pH Indicator strips non-bleeding

**109540 pH-indicator strips pH 0 – 2.5 non-bleeding**  
pH 0 – 0.5 – 1.0 – 1.3 – 1.6 – 1.9 – 2.2 – 2.5 MColorpHast™

■ HS-No. 3822 00 00

**Specification**  
Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09540.0001	Plastic box	100 strips	inquire

**109531 pH-indicator strips pH 0 – 6.0 non-bleeding pH 0 – 6.0 MColorpHast™**

■ HS-No. 3822 00 00

**Specification**  
Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09531.0001	Plastic box	100 strips	inquire
1.09531.0007	Plastic box	6 x 100 strip	inquire

**109535 pH-indicator strips pH 0 – 14 Universal indicator non-bleeding**  
pH 0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 MColorpHast™

■ HS-No. 3822 00 00

**Specification**  
Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09535.0001	Plastic box	100 strips	inquire
1.09535.0007	Plastic box	6 x 100strip	inquire

**109502 pH-indicator strips pH 2.0 – 9.0 for pH measurements in turbid solutions**  
(suspensions) non-bleeding pH 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 MColorpHast™

■ HS-No. 3822 00 00

**Specification**  
Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09502.0001	Plastic box	100 strips	inquire

**109450 pH-Indicator strips pH 2.0 – 9.0 individually sealed MColorpHast™**

■ HS-No. 3822 00 00

**Specification**  
Application test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.09450.0010	Fibre case	1000strips	inquire
1.09450.0013	Fibre carton	25000strip	inquire

**109584 pH-indicator strips pH 2.0 – 9.0 non-bleeding**  
pH 2.0 – 2.5 – 3.0 – 3.5 – 4.0 – 4.5 – 5.0 – 5.5 – 6.0 – 6.5 – 7.0 – 7.5 – 8.0 – 8.5 – 9.0 MColorpHast™

■ HS-No. 3822 00 00

**Specification**  
Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09584.0001	Plastic box	100 strips	inquire
1.09584.1111	Fibre case	100 strips	inquire

**109541 pH-indicator strips pH 2.5 – 4.5 non-bleeding**  
pH 2.5 – 3.0 – 3.3 – 3.6 – 3.9 – 4.2 – 4.5 MColorpHast™

■ HS-No. 3822 00 00

**Specification**  
Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09541.0001	Plastic box	100 strips	inquire

**109542 pH-indicator strips pH 4.0 – 7.0 non-bleeding**  
pH 4.0 – 4.4 – 4.7 – 5.0 – 5.3 – 5.5 – 5.8 – 6.1 – 6.5 – 7.0 MColorpHast™

■ LGK 10 – 13

■ HS-No. 3822 00 00

**Specification**  
Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09542.0001	Plastic box	100 strips	inquire
1.09542.0007	Plastic box	6 x 100 strip	inquire

**109533 pH-indicator strips pH 5.0 – 10.0 non-bleeding**  
pH 5.0 – 5.5 – 6.0 – 6.5 – 7.0 – 7.5 – 8.0 – 8.5 – 9.0 – 9.5 – 10.0 MColorpHast™

■ HS-No. 3822 00 00

**Specification**  
Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09533.0001	Plastic box	100 strips	inquire
1.09533.0007	Plastic box	6 x 100 strip	inquire

**109632 pH-indicator strips pH 5.2 – 7.2 Special indicator for pH measurements in**  
meat non-bleeding pH 5.2 – 5.6 – 6.0 – 6.4 – 6.8 – 7.2 MColorpHast™

■ LGK 10 – 13

■ HS-No. 3822 00 00

**Specification**  
Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09632.0001	Plastic box	100 strips	inquire

**109543 pH-indicator strips pH 6.5 – 10.0 non-bleeding**  
pH 6.5 – 6.8 – 7.1 – 7.4 – 7.7 – 7.9 – 8.1 – 8.3 – 8.5 – 8.7 – 9.0 – 9.5 – 10.0 MColorpHast™

■ HS-No. 3822 00 00

**Specification**  
Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09543.0001	Plastic box	100 strips	inquire
1.09543.0007	Plastic box	6 x 100 strip	inquire

# Phindi

## 109532 pH-indicator strips pH 7.5 – 14 non-bleeding pH 7.5 – 8.0 – 8.5 – 9.0 – 9.5 – 10.0 – 10.5 – 11.0 – 11.5 – 12.0 – 12.5 – 13.0 – 13.5 – 14.0 MColorpHast™

■ HS-No. 3822 00 00

**Specification**  
Application test.....conforms

Ord.No.	Packaging	Quantity	Price
1.09532.0001	Plastic box	100 strips	inquire

## 109545 pH-indicator strips pH 11.0 – 13.0 non-bleeding pH 11.0 – 11.5 – 11.8 – 12.1 – 12.3 – 12.5 – 12.8 – 13.0 MColorpHast™

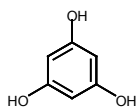
■ HS-No. 3822 00 00

**Specification**  
Application test.....conforms

Ord.No.	Packaging	Quantity	Price
1.09545.0001	Plastic box	100 strips	inquire

Phloretic acid → 3-(4-Hydroxyphenyl)-propionic acid page 993

## Phloroglucinol



C<sub>6</sub>H<sub>6</sub>O<sub>3</sub>  
C<sub>6</sub>H<sub>3</sub>-1,3,5-(OH)<sub>3</sub>

*1,3,5-Trihydroxybenzene*  
 ■ CAS-No. 108-73-6 ■ EC-No. 203-611-2  
 ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 126.11 g/mol  
 ■ Melting point 217 – 220 °C  
 ■ Bulk density 560 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Warning, Specific target organ toxicity -

single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 4000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2907 29 00 ■ Disposal 3



## 818887 Phloroglucinol for synthesis

### Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.18887.0100	Plastic bottle	100 g	inquire

## 107069 Phloroglucinol (1,3,5-trihydroxybenzene) for analysis

### Specification

Purity (GC)..... ≥ 99,0 %  
Identity (IR).....conforms  
Appearance..... White to yellowish crystals or fine powder  
Melting point..... 214 – 219 °C  
Diresorcinol.....conforms  
Sulfated ash..... ≤ 0,1 %  
Loss on drying (105 °C)..... ≤ 1 %

Ord.No.	Packaging	Quantity	Price
1.07069.0025	Plastic bottle	25 g	inquire
1.07069.0100	Plastic bottle	100 g	inquire

Phloroglucinol trimethyl ether → 1,3,5-Trimethoxybenzene page 1599

Phloxin B (C.I. 45410) → page 190

Phosphate Cell Test → page 80

## Phosphate, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
390	100099	1-Amino-2-hydroxy-4-naphthalenesulfonic acid	1627	108498	Vanadate-molybdate reagent			

## Phosphates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
164	101440	Ammonium dihydrogen phosphate	1353	105104	di-Potassium hydrogen phosphate	1437	106580	di-Sodium hydrogen phosphate dihydrate
410	101126	Ammonium dihydrogen phosphate	1353	105099	di-Potassium hydrogen phosphate trihydrate	1438	106579	di-Sodium hydrogen phosphate dodecahydrate
412	101207	di-Ammonium hydrogen phosphate	1426	106682	Sodium ammonium hydrogen phosphate tetrahydrate	1438	106575	di-Sodium hydrogen phosphate heptahydrate
165	105108	Potassium dihydrogen phosphate	165	106370	Sodium dihydrogen phosphate	1438	106587	di-Sodium hydrogen phosphate solution
1349	104877	Potassium dihydrogen phosphate	1433	106346	Sodium dihydrogen phosphate monohydrate	1450	106572	tri-Sodium phosphate dodecahydrate
1349	104873	Potassium dihydrogen phosphate	1433	106591	tetra-Sodium diphosphate decahydrate	1450	106578	tri-Sodium phosphate dodecahydrate
177	101960	Potassium dihydrogen phosphate, di-Sodium hydrogen phosphate	165	106566	di-Sodium hydrogen phosphate	1450	106529	Sodium polyphosphate
1350	104875	Potassium dihydrogen phosphate solution	1437	106586	di-Sodium hydrogen phosphate	1456	106999	penta-Sodium triphosphate
165	105109	di-Potassium hydrogen phosphate	1437	106559	di-Sodium hydrogen phosphate anhydrous			

Phosphate standard for aqueous matrices → page 40

Phosphate Test Refill pack → page 79  
Phosphate-Test Refill pack → page 79

Phospholes → Heterocycles  
Phosphomolybdic acid → Molybdatophosphoric acid hydrate page 1190

Phosphate standard for aqueous matrices ready for use → page 40

Phosphocolamine → 2-Aminoethyl dihydrogen phosphate page 387

Phosphonoacetic acid trimethyl ester → Dimethyl methoxycarbonylmethanephosphonate page 794

Phosphate Test → page 80

O-Phosphoethanolamine → 2-Aminoethyl dihydrogen phosphate page 387

2-Phosphonopropionic acid triethyl ester → Triethyl 2-phosphonopropionate page 1588

Phosphate Test in freshwater and seawater → page 79

## 100546 meta-Phosphoric acid pieces for analysis (stabilized with sodium metaphosphate) EMSURE®

### Metaphosphoric acid, m-Phosphoric acid

- Vapour pressure < 0.001 hPa (20 °C)
- Spec. density 2.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis, soluble ■ pH value 2 (33 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 200 - 250 °C
- Bulk density 1000 kg/m<sup>3</sup> ■ Boiling point 600 °C (1013 hPa)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2809 20 00 ■ Disposal 12
- ADR-RID UN 3453 Phosphorsäure, fest, 8, III

- IMDG-Code UN 3453 PHOSPHORIC ACID, SOLID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3453 PHOSPHORIC ACID, SOLID, 8, III

### Specification

Assay (acidimetric, HPO <sub>3</sub> ).....	40 - 50 %
Assay (acidimetric, NaPO <sub>3</sub> ).....	50 - 60 %
Identity.....	passes test
Chloride (Cl).....	≤ 10 ppm
Nitrate (NO <sub>3</sub> ).....	≤ 5 ppm
Reducing matter (as H <sub>2</sub> PO <sub>3</sub> ).....	≤ 100 ppm
As (Arsenic).....	≤ 1 ppm
Cd (Cadmium).....	≤ 10 ppm

Co (Cobalt).....	≤ 5 ppm
Cu (Copper).....	≤ 10 ppm
Fe (Iron).....	≤ 50 ppm
Mn (Manganese).....	≤ 5 ppm
Ni (Nickel).....	≤ 10 ppm
Pb (Lead).....	≤ 10 ppm
Zn (Zinc).....	≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.00546.0100	Metal can	100 g	inquire
1.00546.0500	Plastic bottle	500 g	inquire

## ortho-Phosphoric acid 85%

### o-Phosphoric acid, Orthophosphoric acid

- Vapour pressure 2 hPa (20 °C)
- Spec. density 1.71 g/cm<sup>3</sup> (20 °C)
- Kin. viscosity 30.5 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 0.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 21 °C
- Boiling point 158 °C

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P309, P310, P305 + P351 + P338
- LGK 8 B ■ Store above +15°C.
- HS-No. 2809 20 00 ■ Disposal 12
- ADR-RID UN 1805 Phosphorsäure, Lösung, 8, III

- IMDG-Code UN 1805 PHOSPHORIC ACID SOLUTION, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 1805 PHOSPHORIC ACID, SOLUTION, 8, III

## 100573 ortho-Phosphoric acid 85% for analysis EMSURE® ACS,ISO,Reag. Ph Eur

### Specification

Assay (alkalimetric).....	≥ 85.0 %
Identity.....	passes test
Appearance of solution.....	passes test
Colour.....	≤ 10 Hazen
Chloride (Cl).....	≤ 2 ppm
Fluoride (F).....	≤ 1 ppm
Nitrate (NO <sub>3</sub> ).....	≤ 3 ppm
Phosphite and Hypophosphite (as H <sub>2</sub> PO <sub>3</sub> ).....	≤ 20 ppm
Hypophosphite, phosphite.....	passes test
Heavy metals (as Pb).....	≤ 10 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 20 ppm
As (Arsenic).....	≤ 0.5 ppm
Ca (Calcium).....	≤ 20 ppm

Cd (Cadmium).....	≤ 0.5 ppm
Co (Cobalt).....	≤ 0.5 ppm
Cu (Copper).....	≤ 0.5 ppm
Fe (Iron).....	≤ 10 ppm
K (Potassium).....	≤ 5 ppm
Mg (Magnesium).....	≤ 5 ppm
Mn (Manganese).....	≤ 0.5 ppm
Na (Sodium).....	≤ 200 ppm
Ni (Nickel).....	≤ 1.0 ppm
Pb (Lead).....	≤ 0.5 ppm
Sb (Antimony).....	≤ 5 ppm
Zn (Zinc).....	≤ 2 ppm
Matter precipitated by ammonia.....	passes test

Volatile acids (as Acetic acid).....	≤ 10 ppm
Substances reducing potassium permanganate (as O).....	≤ 10 ppm
Insoluble matter.....	≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.00573.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00573.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00573.2510	Safebreak btl.	2.5 l	inquire
1.00573.9025	Plastic container	25 l	inquire

## 100552 ortho-Phosphoric acid 85% Suprapur®

### Specification

Assay (acidimetric).....	≥ 85.0 %
Chloride (Cl).....	≤ 500 ppb
Fluoride (F).....	≤ 500 ppb
Nitrate (NO <sub>3</sub> ).....	≤ 500 ppb
Sulphate (SO <sub>4</sub> ).....	≤ 10 ppm
Ag (Silver).....	≤ 20 ppb
Al (Aluminium).....	≤ 20 ppb
As (Arsenic).....	≤ 25 ppb
Au (Gold).....	≤ 20 ppb
Ba (Barium).....	≤ 20 ppb
Be (Beryllium).....	≤ 50 ppb
Bi (Bismuth).....	≤ 50 ppb
Ca (Calcium).....	≤ 50 ppb
Cd (Cadmium).....	≤ 20 ppb

Co (Cobalt).....	≤ 20 ppb
Cr (Chromium).....	≤ 50 ppb
Cu (Copper).....	≤ 25 ppb
Fe (Iron).....	≤ 200 ppb
Hg (Mercury).....	≤ 2 ppb
K (Potassium).....	≤ 50 ppb
Li (Lithium).....	≤ 20 ppb
Mg (Magnesium).....	≤ 20 ppb
Mn (Manganese).....	≤ 20 ppb
Mo (Molybdenum).....	≤ 20 ppb
Na (Sodium).....	≤ 100 ppb
Ni (Nickel).....	≤ 25 ppb
Pb (Lead).....	≤ 20 ppb
Pt (Platinum).....	≤ 100 ppb

Sb (Antimony).....	≤ 800 ppb
Sn (Tin).....	≤ 50 ppb
Sr (Strontium).....	≤ 20 ppb
Tl (Thallium).....	≤ 20 ppb
V (Vanadium).....	≤ 20 ppb
Zn (Zinc).....	≤ 25 ppb
Zr (Zirconium).....	≤ 50 ppb

The actual values are subject to unavoidable systematic variations in this concentration range.

Ord.No.	Packaging	Quantity	Price
1.00552.0250	Plastic bottle	250 ml	inquire
1.00552.1000	Plastic bottle	1 l	inquire

## 815058 Phosphoric acid-D3 85% solution in D<sub>2</sub>O deuteration degree min. 99% for NMR spectroscopy MagniSolv™

- Vapour pressure 2.2 hPa (25 °C)
- Spec. density 1.77 g/cm<sup>3</sup> (20 °C) (anhydrous substance) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value < 0.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 41 - 44 °C (anhydrous substance)
- Boiling point 158 °C (1013 hPa)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314, P280,

- P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2845 90 10 ■ Disposal 12
- ADR-RID UN 1805 Phosphorsäure, Lösung, 8, III
- IMDG-Code UN 1805 PHOSPHORIC ACID SOLUTION, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 1805 PHOSPHORIC ACID, SOLUTION, 8, III

### Specification

Deuteration degree.....	≥ 99 %
Assay (weight%).....	≥ 85 %

Ord.No.	Packaging	Quantity	Price
8.15058.0010	Glass ampoule	10 ml	inquire

# Phosph

## 100565 ortho-Phosphoric acid 99% cryst. for analysis EMSURE®

H<sub>3</sub>O<sub>4</sub>P  
H<sub>3</sub>PO<sub>4</sub>  
*Orthophosphoric acid, o-Phosphoric acid*  
■ CAS-No. 7664-38-2 ■ EC-No. 231-633-2  
■ Vapour pressure 2 hPa (20 °C)  
■ Spec. density 1.87 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 750 - 850 g/l (20 °C) ■ M = 97.99 g/mol  
■ pH value < 0.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 42 °C ■ Boiling point 213 °C (1013 hPa)  
■ WGK 1  
■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LC50 rat > 0.85 mg/l  
■ LD50 oral rat 1530 mg/kg ■ LD50 dermal rabbit 2740 mg/kg  
■ EC-Index-No. 015-011-00-6 ■ LGK 8 B

■ HS-No. 2809 20 00 ■ Disposal 12  
■ ADR-RID UN 3453 Phosphorsäure, fest, 8, III  
■ IMDG-Code UN 3453 PHOSPHORIC ACID, SOLID, 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3453 PHOSPHORIC ACID, SOLID, 8, III  
**Specification**  
Assay (acidimetric)..... ≥ 99 %  
Identity..... passes test  
Chloride (Cl)..... ≤ 2 ppm  
Nitrate (NO<sub>3</sub>)..... ≤ 2 ppm  
Phosphite and Hypophosphite (as H<sub>3</sub>PO<sub>3</sub>)..... ≤ 500 ppm  
Fluoride (F)..... ≤ 0.5 ppm  
As (Arsenic)..... ≤ 1 ppm  
Ca (Calcium)..... ≤ 20 ppm  
Cd (Cadmium)..... ≤ 1 ppm  
Co (Cobalt)..... ≤ 1 ppm

Cu (Copper)..... ≤ 1 ppm  
Fe (Iron)..... ≤ 10 ppm  
K (Potassium)..... ≤ 5 ppm  
Mg (Magnesium)..... ≤ 1 ppm  
Mn (Manganese)..... ≤ 1 ppm  
Na (Sodium)..... ≤ 50 ppm  
Ni (Nickel)..... ≤ 1 ppm  
Pb (Lead)..... ≤ 1 ppm  
Sb (Antimony)..... ≤ 1 ppm  
Zn (Zinc)..... ≤ 1 ppm  
Volatile acids (as CH<sub>3</sub>COOH)..... ≤ 20 ppm  
Substances reducing potassium permanganate (as O)..... ≤ 20 ppm

Ord.No.	Packaging	Quantity	Price
1.00565.0500	Plastic bottle	500 g	inquire

Phosphoric acid bis (2-ethylhexyl) ester → Bis(2-ethylhexyl) phosphate page 470  
Phosphoric acid butyl ester → Butyl phosphate page 554  
Phosphoric acid 2-dimethylamino-4-nitrophenyl ester diammonium salt → (2-Dimethylamino-4-nitrophenyl) phosphoric acid diammonium salt monohydrate page 778  
Phosphoric acid diphenyl ester chloride → Diphenyl phosphorochloridate page 819  
Phosphoric acid 2-ethylhexyl ester → 2-Ethylhexyl phosphate page 870  
Phosphoric acid phenyl ester dichloride → Phenyl dichlorophosphate page 1300  
Phosphoric acid tributyl ester → Tributyl phosphate page 1575

Phosphoric acid triethyl ester → Triethyl phosphate page 309  
Phosphoric acid trimethyl ester → Trimethyl phosphate page 309  
Phosphoric acid triphenyl ester → Triphenyl phosphate page 1611  
Phosphoric acid tris(2-ethylhexyl ester) → Tris(2-ethylhexyl) phosphate page 1615  
Phosphoric acid tritoly ester → Tritolyl phosphate page 1617  
Phosphoric anhydride → page 1323  
Phosphorous acid triphenyl ester → Triphenyl phosphite page 1613

Phosphorous compounds → Organoelement compounds  
Phosphorus → Phosphate  
Phosphorus(III) bromide → Phosphorus tribromide page 1323  
Phosphorus(III) chloride → Phosphorus trichloride page 1323  
Phosphorus(V) chloride → page 1322  
Phosphorus oxide tribromide → Phosphoryl bromide page 1324  
Phosphorus oxybromide → Phosphoryl bromide page 1324

## Phosphorus pentachloride

Cl<sub>5</sub>P  
PCl<sub>5</sub>  
*Phosphorus(V) chloride*  
■ CAS-No. 10026-13-8 ■ EC-No. 233-060-3  
■ Vapour pressure 0.016 hPa (20 °C)  
■ Spec. density 2.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble,(decomposition)  
■ M = 208.24 g/mol ■ pH value (H<sub>2</sub>O) acidic  
■ Melting point 148 °C ■ Bulk density > 1200 kg/m<sup>3</sup> ■ Boiling point 167 °C (decomposition)

■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, Inhalation, H373; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LC50 rat 205 mg/m<sup>3</sup>  
■ LD50 oral rat 660 mg/kg

■ EC-Index-No. 015-008-00-X ■ LGK 6.1B  
■ HS-No. 2812 10 16 ■ Disposal 24  
■ ADR-RID UN 1806 Phosphorpentachlorid, 8, II  
■ IMDG-Code UN 1806 PHOSPHORUS PENTACHLORIDE, 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1806 PHOSPHORUS PENTACHLORIDE, 8, II

### 822340 Phosphorus pentachloride for synthesis

**Specification**  
Assay (argentometric)..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
8.22340.0100	Glass bottle	100 g	inquire
8.22340.0500	Glass bottle	500 g	inquire
8.22340.1000	Glass bottle	1 kg	inquire

### 845138 Phosphorus pentachloride for pharma synthesis, non-GMP

Ord.No.	Packaging	Quantity	Price
8.45138.0100	Glass bottle	100 g	inquire
8.45138.1000	Glass bottle	1 kg	inquire

## 821024 di-Phosphorus pentasulfide for synthesis

P<sub>2</sub>S<sub>5</sub>  
*Diphosphorus pentasulfide, Phosphorus(V) sulfide*  
■ CAS-No. 1314-80-3 ■ EC-No. 215-242-4  
■ Spec. density 2.08 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 222.28 g/mol  
■ pH value 1 (10 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 284 - 287 °C  
■ Bulk density 900 - 1100 kg/m<sup>3</sup>  
■ Boiling point 513 - 515 °C (1013 hPa)  
■ Ignition temp. 142 °C  
■ WGK 3  
■ GHS: Danger, Flammable solid, Category 1,

H228; Substances, which in contact with water, emit flammable gases, Category 1, H260; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400, P273  
■ LD50 oral rat 389 mg/kg ■ LD50 dermal rabbit 3160 mg/kg  
■ EC-Index-No. 015-104-00-1 ■ LGK 4.3  
■ HS-No. 2813 90 10 ■ Disposal 3  
■ ADR-RID UN 1340 Phosphorpentasulfid, 4.3 (4.1), II ■ IMDG-Code UN 1340 PHOSPHORUS PENTASULPHIDE, 4.3 (4.1), II

■ IATA-DGR UN 1340 PHOSPHORUS PENTASULPHIDE, 4.3 (4.1), II  
**Specification**  
Assay P ..... 27.8 - 28.8 %

Ord.No.	Packaging	Quantity	Price
8.21024.0100	Metal can	100 g	inquire
8.21024.1000	Metal can	1 kg	inquire
8.21024.2500	Metal can	2.5 kg	inquire



## di-Phosphorus pentoxide

O<sub>5</sub>P<sub>2</sub>  
P<sub>2</sub>O<sub>5</sub>  
*Phosphoric anhydride*  
■ CAS-No. 1314-56-3 ■ EC-No. 215-236-1  
■ Vapour pressure < 0.1 hPa (20 °C)  
■ Spec. density 2.30 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 850 g/l (20 °C) Risk of violent reaction.  
■ M = 141.95 g/mol ■ pH value 1 (5 g/l, H<sub>2</sub>O),

20 °C) ■ Melting point 562 °C (closed capillary tube) ■ Bulk density 700 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1A, H314, P260, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LC50 rat 1.22 mg/l  
■ LD50 oral rat 200 - 2000 mg/kg

■ EC-Index-No. 015-010-00-0 ■ LGK 8 B  
■ HS-No. 2809 10 00 ■ Disposal 12  
■ ADR-RID UN 1807 Phosphoroxid, 8, II  
■ IMDG-Code UN 1807 PHOSPHORUS PENTOXIDE, 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1807 PHOSPHORUS PENTOXIDE, 8, II  
Drying agent (Desiccant)

## 100540 di-Phosphorus pentoxide extra pure

**Specification**  
Assay (acidimetric)..... ≥ 97 %  
Chloride (Cl)..... ≤ 0.005 %  
Heavy metals (as Pb)..... ≤ 0.01 %  
Reducing matter (as P<sub>2</sub>O<sub>3</sub>)..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.00540.1000	Glass bottle	1 kg	inquire
1.00540.9025	Steel drum	25 kg	inquire

## 100570 di-Phosphorus pentoxide for analysis ACS,ISO,Reag. Ph Eur

**Specification**  
Assay (acidimetric)..... ≥ 98.0 %  
Identity..... passes test  
Insoluble matter..... ≤ 0.005 %  
Heavy metals (as Pb)..... ≤ 0.005 %  
Total nitrogen (N)..... ≤ 0.002 %  
Chloride (Cl)..... ≤ 0.001 %  
Nitrate (NO<sub>3</sub>)..... ≤ 0.0005 %  
As (Arsenic)..... ≤ 0.005 %  
Ca (Calcium)..... ≤ 0.005 %  
Cd (Cadmium)..... ≤ 0.0005 %  
Co (Cobalt)..... ≤ 0.0005 %  
Cu (Copper)..... ≤ 0.0005 %  
Fe (Iron)..... ≤ 0.001 %  
K (Potassium)..... ≤ 0.002 %  
Mg (Magnesium)..... ≤ 0.001 %  
Mn (Manganese)..... ≤ 0.0005 %  
NH<sub>4</sub> (Ammonium)..... ≤ 0.001 %  
Na (Sodium)..... ≤ 0.005 %  
Ni (Nickel)..... ≤ 0.0005 %  
Pb (Lead)..... ≤ 0.0005 %

Sb (Antimony)..... ≤ 0.001 %  
Zn (Zinc)..... ≤ 0.0005 %  
Reducing matter (P<sub>2</sub>O<sub>3</sub>)..... ≤ 0.01 %  
Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.00570.0100	Glass bottle	100 g	inquire
1.00570.0500	Glass bottle	500 g	inquire

Phosphorus pentoxide drying agent, granulated → SICAPENT® with indicator page 1417

## 807270 Phosphorus (red) (stabilised) for synthesis

P  
■ CAS-No. 7723-14-0 ■ EC-No. 231-768-7  
■ Vapour pressure < 0.1 hPa (20 °C)  
■ Spec. density 2.2 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 30.97 g/mol  
■ pH value 9.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 590 °C ■ Bulk density 1100 kg/m<sup>3</sup>  
■ Ignition temp. 260 °C  
■ WGK 2  
■ GHS: Danger, Flammable solid, Category 1, H228; Chronic aquatic toxicity, Category 3, H412,  
P210, P273  
■ LD50 oral rat > 15000 mg/kg  
■ EC-Index-No. 015-002-00-7 ■ LGK 4.1B  
■ HS-No. 2804 70 00 ■ Disposal 25  
■ ADR-RID UN 1338 Phosphor, amorph, 4.1, III  
■ IMDG-Code UN 1338 PHOSPHORUS, AMORPHOUS, 4.1, III  
■ IATA-DGR UN 1338 PHOSPHORUS, AMORPHOUS, 4.1, III

**Specification**

Assay P..... ≥ 97.0 % (m)

Ord.No.	Packaging	Quantity	Price
8.07270.0100	Metal can	100 g	inquire
	Metal can	6 x 100 g	inquire
8.07270.0500	Metal can	500 g	inquire
	Metal can	6 x 500 g	inquire
8.07270.2500	Metal can	2.5 kg	inquire
	Metal can	4 x 2.5 kg	inquire

Phosphorus standard dissolved in oil → page 1492  
Phosphorus(V) sulfide → di-Phosphorus pentasulfide page 1322

## 822321 Phosphorus tribromide for synthesis

Br<sub>3</sub>P  
PBr<sub>3</sub>  
*Phosphorus(III) bromide*  
■ CAS-No. 7789-60-8 ■ EC-No. 232-178-2  
■ Refractive index 1.6945 (20 °C, 589 nm)  
■ Vapour pressure 2.9 hPa (20 °C)  
■ Spec. density 2.85 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
■ M = 270.69 g/mol ■ Melting point -40 °C  
■ Boiling point 173 - 175 °C (1013 hPa)  
■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ EC-Index-No. 015-103-00-6 ■ LGK 8B  
■ HS-No. 2812 90 00 ■ Disposal 24  
■ ADR-RID UN 1808 Phosphortribromid, 8, II  
■ IMDG-Code UN 1808 PHOSPHORUS TRIBROMIDE, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1808 PHOSPHORUS TRIBROMIDE, 8, II

**Specification**

Assay (argentometric)..... ≥ 98.0 %  
Density (d 20 °C/ 4 °C)..... 2.870 - 2.890

Ord.No.	Packaging	Quantity	Price
8.22321.0050	Glass btl. pl.coat.	50 ml	inquire
8.22321.0250	Glass btl. pl.coat.	250 ml	inquire

## 822322 Phosphorus trichloride for synthesis

Cl<sub>3</sub>P  
PCl<sub>3</sub>  
*Phosphorus(III) chloride, Phosphorus chloride*  
■ CAS-No. 7719-12-2 ■ EC-No. 231-749-3  
■ Vapour pressure 131 hPa (20 °C)  
■ Spec. density 1.57 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
■ M = 137.33 g/mol ■ pH value 1 (5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -94 °C  
■ Boiling point 76 °C (1013 hPa)  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 2, Inhalation,  
H330; Skin corrosion, Category 1A, H314; Specific target organ toxicity - repeated exposure, Category 2, Inhalation, H373, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LC50 rat 0.592 mg/l  
■ LD50 oral rat 18 mg/kg  
■ EC-Index-No. 015-007-00-4 ■ LGK 6.1B  
■ HS-No. 2812 10 15  
■ ADR-RID UN 1809 Phosphortrichlorid, 6.1 (8), I  
■ IMDG-Code UN 1809 PHOSPHORUS TRICHLORIDE, 6.1 (8), I, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1809 PHOSPHORUS TRICHLORIDE, 6.1 (8),

**Specification**

Assay (argentometric)..... ≥ 99.0 %  
Density (d 20 °C/ 4 °C)..... 1.572 - 1.574

Ord.No.	Packaging	Quantity	Price
8.22322.0100	Glass bottle	100 ml	inquire
8.22322.0500	Glass bottle	500 ml	inquire
8.22322.1000		1 l	inquire

Phosphorus triphenyl → Triphenylphosphine page 1612

# Phosph

## 821026 Phosphoryl bromide for synthesis



Br<sub>3</sub>OP  
POBr<sub>3</sub>  
*Phosphorus oxide tribromide, Phosphorus oxybromide*  
■ CAS-No. 7789-59-5 ■ EC-No. 232-177-7  
■ Spec. density 2.82 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 286.68 g/mol  
■ Melting point 48 - 56 °C ■ Boiling point 192 °C (1013 hPa) decomposes  
■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1B, H314;

Specific target organ toxicity - single exposure, Category 3, H335; Corrosive to metals, Category 1, H290, P280, P232, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LGK 8 B  
■ HS-No. 2812 90 00 ■ Disposal 24  
■ ADR-RID UN 1939 Phosphoroxybromid, 8, II  
■ IMDG-Code UN 1939 PHOSPHORUS OXYBROMIDE, SOLID, 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1939 PHOSPHORUS

OXYBROMIDE, 8, II

### Specification

Assay (argentometric)..... ≥ 98,0 %  
Melting range (lower value)..... ≥ 48 °C  
Melting range (upper value)..... ≤ 56 °C

Ord.No.	Packaging	Quantity	Price
8.21026.0025	Glass bottle	25 g	inquire
8.21026.0100	Glass bottle	100 g	inquire

## Phosphoryl chloride



Cl<sub>3</sub>OP  
POCl<sub>3</sub>  
*Phosphorus oxide trichloride, Phosphorus oxychloride*  
■ CAS-No. 10025-87-3 ■ EC-No. 233-046-7  
■ Vapour pressure 36 hPa (20 °C)  
■ Spec. density 1.68 g/cm<sup>3</sup> (20 °C) DIN 51757  
■ Solub. in H<sub>2</sub>O (20 °C) Risk of violent reaction.  
■ M = 153.33 g/mol ■ pH value 1.0 (5 g/l, H<sub>2</sub>O, 25 °C) ■ Melting point 1 - 2 °C

■ Boiling point 105.3 °C (1013 hPa)  
■ WGK 1  
■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 2, Inhalation, H330; Skin corrosion, Category 1A, H314; Specific target organ toxicity - repeated exposure, Category 1, Inhalation, H372, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LC50 rat 0.204 mg/l

■ LD50 oral rat 36 mg/kg  
■ EC-Index-No. 015-009-00-5 ■ LGK 6.1B  
■ HS-No. 2812 10 11 ■ Disposal 24  
■ ADR-RID UN 1810 Phosphoroxychlorid, 6.1 (8), I  
■ IMDG-Code UN 1810 PHOSPHORUS OXYCHLORIDE, 6.1 (8), I, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1810 PHOSPHORUS OXYCHLORIDE, 6.1 (8),

## 822339 Phosphoryl chloride for synthesis

### Specification

Assay (argentometric)..... ≥ 99,0 %  
Density (d 20 °C/ 4 °C)..... 1.673 - 1.677  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22339.0250	Glass btl. pl.coat.	250 ml	inquire
8.22339.1000	Glass btl. pl.coat.	1 l	inquire
	Glass btl. pl.coat.	6 x 1 l	inquire

## 845113 Phosphoryl chloride for pharma synthesis, non-GMP

Specification  
Colour (visual)..... colourless  
Appearance of substance (visual)..... clear  
Assay (argentometric)..... ≥ 99,0 %

Density (d 20 °C/ 4 °C)..... 1,673 - 1,677  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45113.0250	Glass btl. pl.coat.	250 ml	inquire
8.45113.1000	Glass btl. pl.coat.	1 l	inquire

Phosphotungstic acid → page 1620

PhotoCheck → page 96

Photometer → page 92

## Photometers and Colorimeters

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
91	173630	Colorimeter	92	109752	Photometer	92	100707	UV-VIS Spectrophotometer
91	173607	Colorimeter	92	109751	Photometer	92	119302	Verification Standard
91	173608	Colorimeter	92	100706	Spectrophotometer			
92	109748	Photometer	91	173632	Spectroquant® Colorimeter Move 100			

Photometric test kits → Analytical Test Kits

pH Test in cooling lubricants → page 77

Phthalaldehyde → page 1325

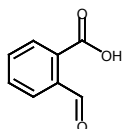
pH Test → page 58

pH Test in freshwater and seawater → page 77

pH Test for swimming pools → page 77

pH Test Refill pack → page 77

## 821028 Phthalaldehydic acid for synthesis



### Carboxybenzaldehyde

■ CAS-No. 119-67-5 ■ EC-No. 204-342-3  
■ Flash point 198 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 150.13 g/mol  
■ pH value 2 (20 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 95 - 98 °C ■ Bulk density 650 kg/m<sup>3</sup>  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2918 30 00 ■ Disposal 3

### Specification

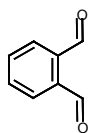
Assay (acidimetric)..... ≥ 98,0 %  
Melting range (lower value)..... ≥ 95 °C  
Melting range (upper value)..... ≤ 98 °C  
Identity (IR)..... passes test

C<sub>8</sub>H<sub>6</sub>O<sub>3</sub>  
2-(CHO)C<sub>6</sub>H<sub>4</sub>COOH  
*2-Formylbenzoic acid, 3-Hydroxyphthalide, 2-*

Ord.No.	Packaging	Quantity	Price
8.21028.0100	Plastic bottle	100 g	inquire

Phthalazines → Heterocycles

## Phthaldialdehyde

C<sub>8</sub>H<sub>6</sub>O<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,2-(CHO)<sub>2</sub>

OPA

■ CAS-No. 643-79-8 ■ EC-No. 211-402-2

■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)■ Flash point 132 °C ■ Solub. in H<sub>2</sub>O 53 g/l (20 °C)

- M = 134.13 g/mol ■ pH value 7 (53 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 54 - 58 °C
- Bulk density 530 kg/m<sup>3</sup>
- Boiling point 83 - 84 °C (1 hPa)
- Ignition temp. 480 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 178 mg/kg ■ LD50 dermal rat >

2000 mg/kg

■ LGK 6.1A ■ Store below +15°C.

■ HS-No. 2912 29 00 ■ Disposal 9

■ ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(PHTHALDIALDEHYD), 8 (6.1), II ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(PHTHALDIALDEHYDE), 8 (6.1), II

■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(PHTHALDIALDEHYDE), 8 (6.1), II

Reagent for fluorometry determination of amino acids acc. to Roth.

## 821027 Phthaldialdehyde for synthesis

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 54 °C

Melting range (upper value)..... ≤ 56 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21027.0010	Plastic bottle	10 g	inquire
	Plastic bottle	6 x 10 g	inquire
8.21027.0050	Plastic bottle	50 g	inquire
8.21027.8500	Glass bottle	500 mg	inquire

## 111452 Phthaldialdehyde for fluorometry

## Specification

Purity (GC)..... ≥ 99 %

Identity (IR)..... conforms

Melting point..... 54 - 58 °C

Fluorescence (340 nm, 0,8 g/l, ethanol,

as quinine).....

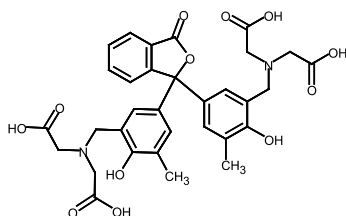
..... ≤ 2 ppb

Phthalic acid (TLC)..... ≤ 0.5 %

Nitrogen compounds (as N)..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.11452.0005	Glass bottle	5 g	inquire
1.11452.0050	Glass bottle	50 g	inquire

## 107297 Phthalein purple metal indicator Reag. Ph Eur

C<sub>32</sub>H<sub>32</sub>N<sub>2</sub>O<sub>12</sub>

Xylenolphthalein-bis(iminodiacetic acid), Metal phthaleine, Cresol phthalaxone

- CAS-No. 2411-89-4 ■ EC-No. 219-318-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 636.62 g/mol ■ Melting point 186 °C ■ Bulk density 50 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

Use as metal indicator: 0.1 water or sodium acetate solution 1 mol/l

## Specification

Identity (UV/VIS-Spectrum)..... passes test

Absorption maximum λ<sub>max</sub>.

(Sodium hydroxide solution 0.1 mol/l).....

..... 577 - 580 nm

Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>, 0.005 g/l;

sodium hydroxide solution 0.1 mol/l;

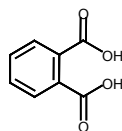
calc. on anhydrous substance)..... ≥ 750

Water (according to Karl Fischer)..... ≤ 10 %

Suitability as indicator (for metal titration)...passes test

Ord.No.	Packaging	Quantity	Price
1.07297.0001	Glass bottle	1 g	inquire
1.07297.0010	Glass bottle	10 g	inquire

## 822298 Phthalic acid for synthesis

C<sub>8</sub>H<sub>6</sub>O<sub>4</sub>C<sub>6</sub>H<sub>4</sub>(COOH)<sub>2</sub>

Benzene-1,2-dicarboxylic acid

■ CAS-No. 88-99-3 ■ EC-No. 201-873-2

■ Vapour pressure 7.8 hPa (191 °C)

- Spec. density 1.59 g/cm<sup>3</sup> (20 °C)
- Flash point 168 °C ■ Solub. in H<sub>2</sub>O 5.74 g/l (20 °C) ■ M = 166.13 g/mol ■ pH value 2 (5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 191 °C (closed capillary tube) ■ Bulk density 960 kg/m<sup>3</sup>
- Boiling point 289 °C (1013 hPa) (decomposition)
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 7900 mg/kg

■ LGK 10 - 13

■ HS-No. 2917 39 95 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99,0 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22298.0100	Plastic bottle	100 g	inquire
8.22298.1000	Plastic bottle	1 kg	inquire

p-Phthalic acid → Terephthalic acid page 1520

Phthalic acid benzyl butyl ester → Benzyl butyl phthalate page 448

Phthalic acid bis(2-ethylhexyl) ester → Bis(2-ethylhexyl) phthalate page 471

Phthalic acid bis(3,5,5-trimethylhexyl) ester → Bis(3,5,5-trimethylhexyl) phthalate page 476

Phthalic acid diallyl ester → Diallyl phthalate page 692

Phthalic acid dichloride → Phthaloyl dichloride page 1327

Phthalic acid dicyclohexyl ester → Dicyclohexyl phthalate page 734

Phthalic acid diisobutyl ester → Diisobutyl phthalate page 765

Phthalic acid diisoheptyl ester → Diisoheptyl phthalate page 765

Phthalic acid dimethyl ester → Dimethyl phthalate page 798

iso-Phthalic acid dimethyl ester → Dimethyl isophthalate page 793

Phthalic acid dinonyl ester → Dinonyl phthalate page 43

Phthalic acid imide → Phthalimide page 1326

Phthalic acid monomethyl ester → Monomethyl phthalate page 1192

Phthalic acid monopotassium salt → page 1353



P

Q

R

S

T

U

V

W

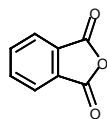
X

Y

Z

# Phthal

## 800592 Phthalic anhydride for synthesis



C<sub>8</sub>H<sub>4</sub>O<sub>3</sub>

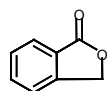
- CAS-No. 85-44-9 ■ EC-No. 201-607-5
- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 1.527 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 10.5 % (V) ■ Flash point 152 °C ■ Solub. in H<sub>2</sub>O 6 g/l (20 °C) (slow decomposition)
- M = 148.11 g/mol ■ pH value 2 (6 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 131 °C
- Bulk density 500 - 700 kg/m<sup>3</sup>
- Boiling point 285 °C (1013 hPa)
- Ignition temp. 580 °C

- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P340, P304 + P341, P305 + P351 + P338
- LC50 rat 2.14 mg/l
- LD50 oral rat 1530 mg/kg ■ LD50 dermal rabbit > 3160 mg/kg
- EC-Index-No. 607-009-00-4 ■ LGK 8A
- HS-No. 2917 35 00
- ADR-RID UN 2214 Phthalsäureanhydrid, 8, III
- IMDG-Code UN 2214 PHTHALIC ANHYDRIDE, 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 2214 PHTHALIC ANHYDRIDE, 8, III
- Specification**  
 Assay (morpholine method) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 129 °C  
 Melting range (upper value) ..... ≤ 133 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00592.0100	Plastic bottle	100 g	inquire
8.00592.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.00592.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
8.00592.9050	Fibre carton	50 kg	inquire

## 807067 Phthalide for synthesis



C<sub>8</sub>H<sub>6</sub>O<sub>2</sub>

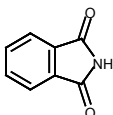
- 1,3-Dihydrobenzo[c]furan-1-one, Oxophthalane, 1(3H)-Isobenzofuranone
- CAS-No. 87-41-2 ■ EC-No. 201-744-0
  - Vapour pressure 1.3 hPa (95 °C)

- Spec. density 1.1 g/cm<sup>3</sup> (30 °C)
- Flash point 152 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 134.14 g/mol
- Melting point 70 - 73 °C ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 289 - 291 °C
- Ignition temp. 455 °C
- WGK 1
- LD50 oral rat 5600 mg/kg
- LGK 10 - 13
- HS-No. 2932 20 90 ■ Disposal 3

- Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 70 °C  
 Melting range (upper value) ..... ≤ 73 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07067.0100	Plastic bottle	100 g	inquire
8.07067.0250	Plastic bottle	250 g	inquire

## 807303 Phthalimide for synthesis



C<sub>8</sub>H<sub>5</sub>NO<sub>2</sub>

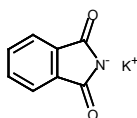
- Phthalic acid imide
- CAS-No. 85-41-6 ■ EC-No. 201-603-3
  - Spec. density 1.21 g/cm<sup>3</sup> (20 °C)

- Flash point 150 °C ■ Solub. in H<sub>2</sub>O 0.036 g/l (25 °C) ■ M = 147.13 g/mol ■ pH value 3.8 (0.6 g/l, H<sub>2</sub>O) ■ Melting point 234 - 238 °C (sublimed)
- Boiling point 310 °C (1013 hPa)
- Ignition temp. >500 °C
- WGK 1
- LD50 oral rat > 10000 mg/kg
- LD50 dermal rabbit > 7940 mg/kg
- LGK 10 - 13
- HS-No. 2925 19 95 ■ Disposal 3

- Specification**  
 Assay (acidimetric) ..... ≥ 99,0 % (m)  
 Melting range (lower value) ..... ≥ 233 °C  
 Melting range (upper value) ..... ≤ 236 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07303.0100	Plastic bottle	100 g	inquire
8.07303.0500	Plastic bottle	500 g	inquire
8.07303.1000	Plastic bottle	1 kg	inquire

## 807302 Phthalimide potassium salt for synthesis



C<sub>8</sub>H<sub>4</sub>KNO<sub>2</sub>

Potassium phthalimide

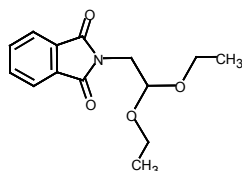
- CAS-No. 1074-82-4 ■ EC-No. 214-046-6
- Vapour pressure (20 °C) low
- Spec. density 1.63 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 185.22 g/mol
- Melting point >300 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2925 19 95 ■ Disposal 3

- Specification**  
 Assay (HClO<sub>4</sub>) ..... ≥ 98,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07302.0100	Plastic bottle	100 g	inquire
8.07302.1000	Plastic bottle	1 kg	inquire

Phthalimides → Heterocycles

## 843662 Phthalimidoacetaldehyde diethylacetal for synthesis



C<sub>14</sub>H<sub>17</sub>NO<sub>4</sub>

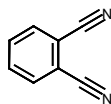
- CAS-No. 78902-09-7
- M = 263.29 g/mol ■ Melting point 72 °C
- WGK 3
- GHS: P260, P262
- LGK 10 - 13
- HS-No. 2925 19 95 ■ Disposal 3

- Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 69 °C  
 Melting range (upper value) ..... ≤ 72 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43662.0025	Glass bottle	25 g	inquire

2-Phthalimidoethanol → N-(2-Hydroxyethyl)-phthalimide page 982

## 800593 Phthalonitrile for synthesis

C<sub>8</sub>H<sub>4</sub>N<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,2-(CN)<sub>2</sub>

1,2-Benzenedicarbonitrile

■ CAS-No. 91-15-6 ■ EC-No. 202-044-8

■ Vapour pressure 0.04 hPa (20 °C)

■ Spec. density 1.24 g/cm<sup>3</sup> (20 °C)■ Flash point >130 °C ■ Solub. in H<sub>2</sub>O 0.56 g/l (25 °C) ■ M = 128.13 g/mol ■ pH value 7 (H<sub>2</sub>O)

- Melting point 138 - 141 °C
- Bulk density 500 kg/m<sup>3</sup> ■ Ignition temp. >580 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P260, P309 + P310
- LD50 oral rat 85 mg/kg
- LGK 6.1C
- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(PHTHALSAEUREDINITRIL), 6.1, III ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(PHTHALONITRILE), 6.1, III
- IATA-DGR UN 3439 NITRILES, SOLID, TOXIC,

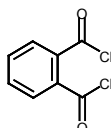
N.O.S.(PHTHALONITRILE), 6.1, III

## Specification

Assay (GC, area%)..... ≥ 98 %  
 Melting range  
 - (lower value)..... ≥ 138 °C  
 - (upper value)..... ≤ 141 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00593.0100	Plastic bottle	100 g	inquire
8.00593.0500	Plastic bottle	500 g	inquire

## 821029 Phthaloyl dichloride for synthesis

C<sub>8</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,2-(COCl)<sub>2</sub>

Phthalic acid dichloride

■ CAS-No. 88-95-9 ■ EC-No. 201-869-0

■ Refractive index 1.5684 (20 °C, 589 nm)

■ Spec. density 1.41 g/cm<sup>3</sup> (20 °C)

- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 203.03 g/mol
- Melting point 16 °C ■ Boiling point 281 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2917 39 95 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(PHTHALSAEUREDICHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PHTHALOYL

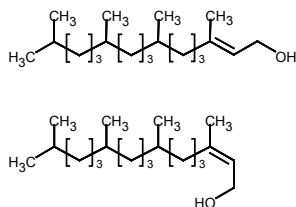
DICHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PHTHALOYL DICHLORIDE), 8, II

## Specification

Assay (argentometric)..... ≥ 95.0 %  
 Density (d 20 °C / 4 °C)..... 1.402 - 1.408  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21029.0050	Glass bottle	50 ml	inquire
8.21029.0250	Glass bottle	250 ml	inquire

## 818605 Phytol (mixture of cis- and trans-isomers) for synthesis

C<sub>20</sub>H<sub>40</sub>OCH<sub>3</sub>[CH(CH<sub>3</sub>)CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>]<sub>3</sub>(CH<sub>3</sub>) = CHCH<sub>2</sub>OH

3,7,11,15-Tetramethyl-2-hexadecen-1-ol

■ CAS-No. 7541-49-3 ■ EC-No. 310-127-6

■ Refractive index 1.4638 (20 °C, 589 nm)

■ Vapour pressure &lt; 1 hPa (20 °C)

■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C)

■ Flash point 187 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 296.54 g/mol

■ Boiling point 202 - 204 °C (13 hPa)

■ Ignition temp. 235 °C

■ WGK nwg

■ GHS: Warning, Skin irritation, Category 2, H315;

Chronic aquatic toxicity, Category 4, H413, P273, P302 + P352

■ EC-Index-No. 603-201-00-7 ■ LGK 10 - 13

■ HS-No. 2905 22 00 ■ Disposal 1

## Specification

Assay isomers (GC, area%)..... ≥ 95.0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 0.850 - 0.853  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18605.0025	Glass bottle	25 ml	inquire

2-Picoline → 2-Methylpyridine page 306

3-Picoline → 3-Methylpyridine page 306

4-Picoline → 4-Methylpyridine page 306

Picoline aldoxime → 2-Pyridinecarbaldehyde oxime  
page 13854-Picoline-N-oxide → 4-Methylpyridine-1-oxide  
page 1176Picolinic acid → 2-Pyridinecarboxylic acid page  
1386Picolinic acid ethyl ester → Ethyl 2-  
pyridinecarboxylate page 883Picolinic acid nitrile → 2-Pyridinecarbonitrile page  
1386

Picolinonitrile → 2-Pyridinecarbonitrile page 1386

2-Picolylamine → 2-(Aminomethyl)pyridine page  
3943-Picolylamine → 3-(Aminomethyl)pyridine page  
3954-Picolylchloride hydrochloride → 4-  
(Chloromethyl)-pyridinium chloride page 620Picrofuchsin solution acc. to van Gieson → page  
201

## 107360 Pimaricin for biochemistry

C<sub>33</sub>H<sub>47</sub>NO<sub>13</sub>

Natamycin

■ CAS-No. 7681-93-8 ■ EC-No. 231-683-5

■ Solub. in H<sub>2</sub>O 0.1 g/l (20 °C) ■ M = 665.73 g/mol

■ Melting point &gt;250 °C (decomposition)

■ Bulk density 200 kg/m<sup>3</sup>

■ WGK 1

■ LD50 oral rat 2730 mg/kg

■ LGK 10 - 13 ■ Store at +2°C to +8°C.

■ HS-No. 2941 90 00 ■ Disposal 3

## Specification

Purity (HPLC)..... ≥ 80.0 % (a/a)

Identity (IR-spectrum)..... conforms

Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.0008 %; 1

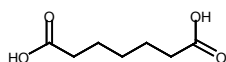
cm; N,N-Dimethylformamide; calc.on anhydrous

substance)..... 1000 - 1100

Water (according to Karl Fischer)..... ≤ 5.0 %

Ord.No.	Packaging	Quantity	Price
1.07360.0001	Glass bottle	1 g	inquire

## 800668 Pimelic acid for synthesis

C<sub>7</sub>H<sub>12</sub>O<sub>4</sub>HOOC(CH<sub>2</sub>)<sub>5</sub>COOH

Heptanedioic acid

■ CAS-No. 111-16-0 ■ EC-No. 203-840-8

■ Spec. density 1.329 g/cm<sup>3</sup> (20 °C) ■ Solub. inH<sub>2</sub>O 50 g/l (20 °C) ■ M = 160.17 g/mol

■ Melting point 102 - 105 °C

■ Boiling point 212 °C (13 hPa)

■ WGK 1

■ GHS: Warning, Eye irritation, Category 2, H319,

P305 + P351 + P338

■ LD50 oral rat 7000 mg/kg

■ LGK 10 - 13

■ HS-No. 2917 19 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98.0 Area %

Melting range (lower value)..... ≥ 103 °C

Melting range (upper value)..... ≤ 107 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00668.0050	Plastic bottle	50 g	inquire
8.00668.0250	Plastic bottle	250 g	inquire

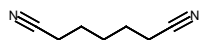
Pimelic acid diethyl ester → Diethyl pimelate page  
749Pimelic acid dimethyl ester → Dimethyl pimelate  
page 798

Pimelic ketone → Cyclohexanone page 300



# Pimelo

## 818802 Pimelonitrile for synthesis



C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>  
 NC(CH<sub>2</sub>)<sub>5</sub>CN  
*Pimelic acid dinitrile, Heptanedinitrile, Heptanedioic acid dinitrile, Pentamethylene dicyanide*  
 ■ CAS-No. 646-20-8 ■ EC-No. 211-469-8  
 ■ Refractive index 1.4472 (20 °C, 589 nm)  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C)

■ Flash point 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 122.17 g/mol  
 ■ Melting point -31 °C  
 ■ Boiling point 171 - 172 °C (16 hPa)  
 ■ WGK 1  
 ■ LGK 10  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(PIMELINSAEUREDINITRIL), 6,1, II ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(PIMELONITRILE), 6,1, II

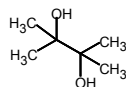
■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(PIMELONITRILE), 6,1, II

### Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) .....0,946 - 0,948  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.18802.0050	Glass bottle	50 ml	inquire

## 821032 Pinacol for synthesis



C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>  
 ■ CAS-No. 76-09-5 ■ EC-No. 200-933-5

■ Refractive index 1.4326 (45 °C, 589 nm)  
 ■ Spec. density 0.967 g/cm<sup>3</sup> ■ Flash point 77 °C  
 ■ M = 118.18 g/mol ■ Melting point 41 °C  
 ■ Boiling point 174 °C (1013 hPa)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 39 95 ■ Disposal 3

### Specification

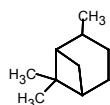
Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.21032.0025	Glass bottle	25 g	inquire
8.21032.0100	Glass bottle	100 g	inquire

Pinacolone → 3,3-Dimethyl-2-butanone page 784

Pinacolone → 3,3-Dimethyl-2-butanone page 784

## 814657 Pinane for synthesis



C<sub>10</sub>H<sub>18</sub>  
 2,6,6-Trimethylbicyclo[3.1.1]heptane, Dihydropinene  
 ■ CAS-No. 473-55-2 ■ EC-No. 207-467-1  
 ■ Vapour pressure 3.33 hPa (20 °C)  
 ■ Spec. density 0.86 g/cm<sup>3</sup> ■ Explosive limit 0.7 - 7.2 % (V) ■ Flash point 42 °C ■ Solub. in

H<sub>2</sub>O 4.73 mg/l (25 °C) (calculated)  
 ■ M = 138.25 g/mol ■ Melting point -53 °C  
 ■ Boiling point 168 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Chronic aquatic toxicity, Category 2, H411, P210, P262  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2902 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(ENTH. PINAN(D, 1-2,6-TRIMETHYLBICYCLO(3,1,1)HEPTAN), 3, III ■ IMDG-

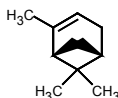
Code UN 1993 FLAMMABLE LIQUID, N.O.S.(CONT. TRIMETHYLBICYCLO(3,1,1)-HEPTANE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(CONT. TRIMETHYLBICYCLO(3,1,1)-HEPTANE), 3, III

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0,854 - 0,859  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.14657.0250	Glass bottle	250 ml	inquire
8.14657.1000	Glass bottle	1 l	inquire

## 818632 (1R)-(+)-α-Pinene for synthesis



C<sub>10</sub>H<sub>16</sub>  
 (1R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene  
 ■ CAS-No. 7785-70-8 ■ EC-No. 232-087-8  
 ■ Refractive index 1.4657 (20 °C, 589 nm)  
 ■ Vapour pressure 5 hPa (25 °C)  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 6 % (V) ■ Flash point 33 °C  
 ■ M = 136.23 g/mol ■ Melting point -62 °C

■ Boiling point 155 - 156 °C (1013 hPa)  
 ■ Ignition temp. 255 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P301 + P310, P305 + P351 + P338, P331  
 ■ LGK 3 ■ Store at +2°C to +8°C.

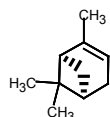
■ HS-No. 2902 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2368 alpha-Pinen, 3, III ■ IMDG-Code UN 2368 ALPHA-PINENE, 3, III  
 ■ IATA-DGR UN 2368 ALPHA-PINENE, 3, III

### Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0,857 - 0,860  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (undiluted)].....42,0 - 46,0 °  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18632.0100	Glass bottle	100 ml	inquire

## 818405 (1S)-(-)-α-Pinene for synthesis



C<sub>10</sub>H<sub>16</sub>  
 (1S)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene  
 ■ CAS-No. 7785-26-4 ■ EC-No. 232-077-3  
 ■ Refractive index 1.446 (20 °C, 589 nm) ■ Vapour pressure 5 hPa (25 °C) ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 % (V)  
 ■ Flash point 32 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 136.23 g/mol  
 ■ Melting point -62 °C

■ Boiling point 155 - 156 °C  
 ■ Ignition temp. 255 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Aspiration hazard, Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P305 + P351 + P338, P301 + P310, P331  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2902 19 00 ■ Disposal 3

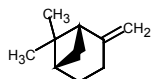
■ ADR-RID UN 2368 alpha-Pinen, 3, III ■ IMDG-Code UN 2368 ALPHA-PINENE, 3, III  
 ■ IATA-DGR UN 2368 ALPHA-PINENE, 3, III

### Specification

Assay (GC, area%)..... ≥ 95,0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0,855 - 0,860  
 Spec. rotation [α<sub>D</sub><sup>20</sup> (undiluted)].....-30,0 - -25,0 °  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18405.0100	Glass bottle	100 ml	inquire
8.18405.0500	Glass bottle	500 ml	inquire

## 841132 (1S)-(-)-β-Pinene for synthesis



C<sub>10</sub>H<sub>16</sub>  
(1S)-6,6-Dimethyl-2-methylenebicyclo[3.1.1]heptane

- CAS-No. 18172-67-3 ■ EC-No. 242-060-2
- Spec. density 0.872 g/cm<sup>3</sup> (20 °C)
- Flash point 36 °C ■ M = 136.23 g/mol
- Melting point -61 °C
- Boiling point 164 - 165 °C (1013 hPa)
- Ignition temp. 255 °C
- WGK 2

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P210, P273, P280, P301 + P310, P302 + P352, P305 + P351 + P338, P331
- LD50 oral rat 4700 mg/kg
- EC-Index-No. 650-002-00-6 ■ LGK 3 ■ Store below +15°C.
- HS-No. 2902 19 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(PINEN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(PINENE), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(PINENE), 3, III

**Specification**  
Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.869 - 0.873  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)] ..... -22.0 - -19.0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41132.0100	Glass bottle	100 ml	inquire

PipeCheck → page 96

2-Pipecoline → 2-Methylpiperidine page 1172

4-Pipecoline → 4-Methylpiperidine page 1172

## Piperazine anhydrous



C<sub>4</sub>H<sub>10</sub>N<sub>2</sub>  
Diethylenediamine

- CAS-No. 110-85-0 ■ EC-No. 203-808-3
- Vapour pressure < 10 hPa (20 °C)
- Spec. density 1.1 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 4 - 14 % (V) ■ Flash point 65 °C ■ Solub. in

- H<sub>2</sub>O 150 g/l (20 °C) ■ M = 86.14 g/mol
- pH value 12 (150 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 107 - 111 °C
- Bulk density 400 kg/m<sup>3</sup>
- Ignition temp. 320 °C DIN 51794
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Reproductive toxicity, Category 2, H361fd, P280, P301 + P330 + P331, P302 + P352, P304 + P341, P305 + P351 +

P338, P309 + P310  
■ LD50 oral rat 2600 mg/kg ■ LD50 dermal rabbit 8300 mg/kg  
■ EC-Index-No. 612-057-00-4 ■ LGK 8A  
■ HS-No. 2933 59 95 ■ Disposal 3  
■ ADR-RID UN 2579 Piperazin, 8, III ■ IMDG-Code UN 2579 PIPERAZINE, 8, III, Segregation Group: 18 (Alkalis)  
■ IATA-DGR UN 2579 PIPERAZINE, 8, III

## 807325 Piperazine anhydrous for synthesis

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Melting range (lower value) ..... ≥ 109 °C  
Melting range (upper value) ..... ≤ 112 °C  
Water (K. F.) ..... ≤ 1,0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07325.0005	Glass bottle	5 g	inquire
8.07325.0250	Plastic bottle	250 g	inquire
8.07325.1000	Plastic bottle	1 kg	inquire

## 845120 Piperazine (anhydrous) for pharma synthesis, non-GMP

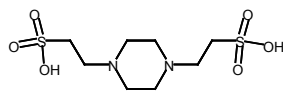
## Specification

Colour (visual) ..... white  
Appearance of substance (visual) ..... chips  
Assay (GC, area%) ..... ≥ 99,5 % (a/a)  
Melting range (lower value) ..... ≥ 109 °C

Melting range (upper value) ..... ≤ 112 °C  
Water (K. F.) ..... ≤ 1,00 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45120.0250	Plastic bottle	250 g	inquire
8.45120.1000	Plastic bottle	1 kg	inquire

## 110220 Piperazine-1,4-bis(2-ethanesulfonic acid) buffer substance PIPES



C<sub>8</sub>H<sub>18</sub>N<sub>2</sub>O<sub>6</sub>S<sub>2</sub>  
PIPES

- CAS-No. 5625-37-6 ■ EC-No. 227-057-6
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 302.36 g/mol ■ pH value 2.5 - 3.0 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 550 kg/m<sup>3</sup>

- WGK 1
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3
- Biological buffer, pKa (20°C) = 6,80.

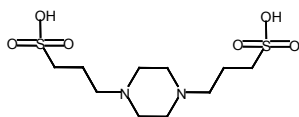
## Specification

Assay (acidimetric) ..... ≥ 99 %  
Identity (IR-spectrum) ..... passes test  
UV-Absorption (250 nm, 20 g/l, 1 cm, sodium hydroxide 1 mol/l) ..... ≤ 0.05  
Chloride (Cl) ..... ≤ 0.2 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %

Heavy metals (as Pb) ..... ≤ 0.0005 %  
Na (Sodium) ..... ≤ 0.2 %  
Loss on drying (105 °C) ..... ≤ 0.5 %  
Biological buffer, pKa at 20 °C ..... 6.80

Ord.No.	Packaging	Quantity	Price
1.10220.0025	Plastic bottle	25 g	inquire
1.10220.0250	Plastic bottle	250 g	inquire
1.10220.1000	Plastic bottle	1 kg	inquire

## 106194 Piperazine-1,4-bis(propanesulfonic acid) (PIPPS) buffer substance



C<sub>10</sub>H<sub>22</sub>N<sub>2</sub>O<sub>6</sub>S<sub>2</sub>

- CAS-No. 5625-56-9 ■ EC-No. 227-059-7
- M = 330.42 g/mol ■ pH value (H<sub>2</sub>O) not applicable

- WGK 1
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3
- Useful pH range: pH 6.8-9.2

## Specification

Assay (alkalimetric, calculated on dried substance) ..... ≥ 98.0 %

Identity (IR-spectrum) ..... passes test  
Appearance: white to almost white, fine powder or colorless crystals  
Appearance of solution (0.25 mol/l, sodium hydroxide solution (0.5 mol/l)) ..... clear and colorless.  
UV-Absorption (260 nm, 0.25 mol/l, 1 cm, sodiumhydroxide solution (0.5 mol/l)) ..... ≤ 0.10  
UV-Absorption (280 nm, 0.25 l/l, 1 cm, sodiumhydroxide solution (0.5 mol/l)) ..... ≤ 0.10  
Chloride (Cl) ..... ≤ 50 ppm  
Sulphate (SO<sub>4</sub>) ..... ≤ 50 ppm  
Heavy metals (as Pb) ..... ≤ 5 ppm  
Ca (Calcium) ..... ≤ 50 ppm  
Cd (Cadmium) ..... ≤ 5 ppm

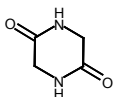
Co (Cobalt) ..... ≤ 5 ppm  
Cu (Copper) ..... ≤ 5 ppm  
Cr (Chromium) ..... ≤ 5 ppm  
Fe (Iron) ..... ≤ 10 ppm  
K (Potassium) ..... ≤ 50 ppm  
Mg (Magnesium) ..... ≤ 10 ppm  
Mn (Manganese) ..... ≤ 5 ppm  
Na (Sodium) ..... ≤ 50 ppm  
Ni (Nickel) ..... ≤ 5 ppm  
Pb (Lead) ..... ≤ 5 ppm  
Zn (Zinc) ..... ≤ 5 ppm  
Loss on drying (105 °C) ..... ≤ 5.0 %  
Biological buffer, pKa at 20 °C ..... 3.8 / 8.0

Ord.No.	Packaging	Quantity	Price
1.06194.0100	Plastic bottle	100 g	inquire
1.06194.1000	Plastic bottle	1 kg	inquire

Piperazine-1-carboxylic acid ethyl ester → 1-Ethoxycarbonyl piperazine page 845

# Pipera

## 814160 2,5-Piperazinedione for synthesis



C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>

*Glycinanhydride, 2,5-Diketopiperazine*

- CAS-No. 106-57-0 ■ EC-No. 203-411-5
- Solub. in H<sub>2</sub>O 142 g/l (20 °C) ■ M = 114.1 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

### Specification

Assay (ex N) ..... ≥ 98,0 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14160.0025	Glass bottle	25 g	inquire

Piperazines → Heterocycles

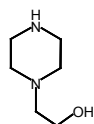
Piperazine trityl resin → page 273

2-Piperazinoethanol → 2-(1-Piperazinyl)ethanol  
page 1330

2-Piperazinoethylamine → 2-(1-Piperazinyl)  
ethylamine page 1330

Piperazinomethyl polystyrene → page 282

## 804312 2-(1-Piperazinyl)ethanol for synthesis



C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>O

*N-(2-Hydroxyethyl)piperazine, 2-Piperazinoethanol*

- CAS-No. 103-76-4 ■ EC-No. 203-142-3
- Refractive index 1.5052 (20 °C, 589 nm)

- Vapour pressure 0.007 hPa (20 °C)
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 8.9 % (V) ■ Flash point 135 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 130.18 g/mol
- pH value 12.3 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -38 °C ■ Boiling point 246 °C (1013 hPa) ■ Ignition temp. 280 °C
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P262, P280, P305 + P351 + P338, P313
- LD50 oral rat 4000 mg/kg ■ LD50 dermal rabbit

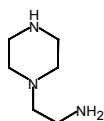
- > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2933 59 95

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,059 - 1,061  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.04312.0100	Glass bottle	100 ml	inquire
8.04312.0500	Glass bottle	500 ml	inquire

## 800361 2-(1-Piperazinyl)ethylamine for synthesis



C<sub>6</sub>H<sub>13</sub>N<sub>3</sub>

*N-(2-Aminoethyl)piperazine, AEP, 2-Piperazinoethylamine*

- CAS-No. 140-31-8 ■ EC-No. 205-411-0
- Refractive index 1.4983 (20 °C, 589 nm)
- Vapour pressure 0.07 hPa (20 °C)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 - 10.5 % (V) ■ Flash point 88 °C ■ Solub.

- in H<sub>2</sub>O >1000 g/l (20 °C) ■ M = 129.20 g/mol
- pH value 12 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -19 °C ■ Boiling point 222 °C (1013 hPa) ■ Ignition temp. 315 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P280, P273, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1470 mg/kg ■ LD50 dermal rabbit 880 mg/kg

- EC-Index-No. 612-105-00-4 ■ LGK 8A
- HS-No. 2933 59 95 ■ Disposal 3
- ADR-RID UN 2815 n-Aminoethylpiperazin, 8, III
- IMDG-Code UN 2815 N-AMINOETHYLPIPERAZINE, 8, III
- IATA-DGR UN 2815 N-AMINOETHYLPIPERAZINE, 8, III

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,983 - 0,987  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00361.0250	Glass bottle	250 ml	inquire

## Piperidine



C<sub>5</sub>H<sub>11</sub>N

*Hexahydropyridine, Pentamethyleneimine, Azacyclohexane, Azinane*

- CAS-No. 110-89-4 ■ EC-No. 203-813-0
- Vapour pressure 34 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 5.8 (22 °C) ■ El. dipole moment 1.15

- (20 °C) ■ Explosive limit 1.5 - 10.3 % (V)
- Flash point 16 °C ■ Solub. in H<sub>2</sub>O (20 °C) miscible in all proportions
- M = 85.15 g/mol ■ pH value 12.6 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 115 g/m<sup>3</sup> (20 °C) Air
- Melting point -10 °C ■ Boiling point 106 °C (1013 hPa) ■ Ignition temp. 320 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin

- corrosion, Category 1B, H314, P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 30 mg/kg ■ LD50 dermal rabbit 276 mg/kg
- EC-Index-No. 613-027-00-3 ■ LGK 3
- HS-No. 2933 32 00 ■ Disposal 9
- ADR-RID UN 2401 Piperidin, 8 (3), I ■ IMDG-Code UN 2401 PIPERIDINE, 8 (3), I, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2401 PIPERIDINE, 8 (3), I

## 822299 Piperidine for synthesis

### Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Water (K. F.) ..... ≤ 0.50 %  
Density (d 20 °C/ 4 °C) ..... 0.861 - 0.863  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22299.0100	Glass bottle	100 ml	inquire
8.22299.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.22299.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 109724 Piperidine for analysis EMSURE®

### Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Picoline (GC, area%) ..... ≤ 0.20 % (a/a)  
Pyridine (GC, area%) ..... ≤ 0.30 % (a/a)  
Water (K. F.) ..... ≤ 0.30 %  
Heavy metals (as Pb) ..... ≤ 0.0001 %  
Fe (Iron) ..... ≤ 0.0001 %  
Non volatile matter ..... ≤ 0.01 %  
Identity (IR) ..... passes test

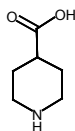
Ord.No.	Packaging	Quantity	Price
1.09724.0100	Glass bottle	100 ml	inquire
1.09724.0500	Glass bottle	500 ml	inquire

## 845111 Piperidine for pharma synthesis, non-GMP

### Specification

Appearance of substance (visual) ..... clear  
Colour number (Hazen) ..... ≤ 50  
Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.861 - 0.863  
Water (K. F.) ..... ≤ 0.50 %  
Identity (IR) ..... passes test  
Ni (Nickel) ..... lot specific result ppm

Ord.No.	Packaging	Quantity	Price
8.45111.0100	Glass bottle	100 ml	inquire
8.45111.0500	Glass bottle	500 ml	inquire
8.45111.2500	Glass bottle	2.5 l	inquire

**814034 4-Piperidinecarboxylic acid** for synthesis

$C_6H_{11}NO_2$   
*Isonipecotic acid*  
 ■ CAS-No. 498-94-2 ■ EC-No. 207-872-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 129.15 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 96,0 % (m)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14034.0025	Plastic bottle	25 g	inquire

4-Piperidinecarboxylic acid ethyl ester → Ethyl 4-piperidinecarboxylate page 881

Piperidine-4-carboxylic acid polyamine resin HL (200-400 mesh) → page 282

Piperidine hydrochloride → Piperidinium chloride page 1331

Piperidines → Heterocycles

**821034 Piperidinium chloride** for synthesis

$C_5H_{12}ClN$

*Piperidine hydrochloride*

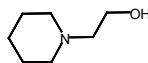
■ CAS-No. 6091-44-7 ■ EC-No. 228-033-8  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O >1500 g/l (20 °C) ■ M = 121.61 g/mol ■ pH value 6 - 8 (111 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 242 - 247 °C  
 ■ Bulk density 470 kg/m<sup>3</sup>

■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
 ■ LD50 oral rat 133 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2933 32 00 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(PIPERIDINIUMCHLORID), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(PIPERIDINIUM CHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(PIPERIDINIUM CHLORIDE), 6.1, III

**Specification**

Assay (argentometric)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 242 °C  
 Melting range (upper value)..... ≤ 247 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21034.0100	Glass bottle	100 g	inquire
8.21034.0500	Glass bottle	500 g	inquire

**841369 2-Piperidinoethanol** for synthesis

$C_7H_{15}NO$

*N-Piperidinoethanol*

■ CAS-No. 3040-44-6 ■ EC-No. 221-244-6  
 ■ Vapour pressure 1.3 hPa (40 °C)  
 ■ Spec. density 0.973 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.2 - 7.2 % (V) ■ Flash point 77 °C  
 ■ M = 129.2 g/mol ■ Melting point 16.7 °C  
 ■ Boiling point 89 - 91 °C (26.7 hPa)  
 ■ Ignition temp. 240 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1498 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2933 39 99

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.970 - 0.975  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41369.0100	Glass bottle	100 ml	inquire

2-Piperidinoethyl chloride hydrochloride → N-(2-Chloroethyl)-piperidine hydrochloride page 611

**807539 3-Piperidinol** for synthesis

$C_5H_{11}NO$

*3-Hydroxypiperidine*

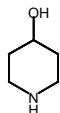
■ CAS-No. 6859-99-0 ■ EC-No. 229-957-4  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 0.1 g/l (20 °C) ■ M = 101.14 g/mol

■ pH value 11.5 - 11.7 (H<sub>2</sub>O) Aqueous solution  
 ■ Melting point 60 - 63 °C  
 ■ Boiling point 113 - 116 °C (34 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 56 °C  
 Melting range (upper value)..... ≤ 59 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07539.0010	Glass bottle	10 g	inquire

**821879 4-Piperidinol** for synthesis

$C_5H_{11}NO$

*4-Hydroxypiperidine*

■ CAS-No. 5382-16-1 ■ EC-No. 226-373-1  
 ■ Flash point 107 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 101.14 g/mol  
 ■ pH value 11.5 - 11.7 (H<sub>2</sub>O) Aqueous solution  
 ■ Melting point 86 - 89 °C  
 ■ Boiling point 108 - 114 °C (13.3 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 86 °C  
 Melting range (upper value)..... ≤ 89 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21879.0010	Glass bottle	10 g	inquire

Piperidinomethyl polystyrene HL → page 282



# Piperi

## 821035 2-Piperidinone for synthesis



C<sub>5</sub>H<sub>9</sub>NO  
*δ*-Valerolactam  
 ■ CAS-No. 675-20-7 ■ EC-No. 211-622-9  
 ■ Spec. density 1.073 g/cm<sup>3</sup> (40 °C) ■ Explosive limit 1.5 - 8.7 % (V) ■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 99.13 g/mol

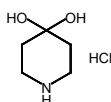
- pH value 4.8 (200 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 35 - 38 °C
- Boiling point 128 - 130 °C (16 hPa)
- Ignition temp. 335 °C
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 6400 mg/kg
- LGK 10 - 13
- HS-No. 2933 79 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 35 °C  
 Melting range (upper value) ..... ≤ 38 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21035.0025	Glass bottle	25 g	inquire
8.21035.0100	Glass bottle	100 g	inquire

## 841672 4-Piperidinone monohydrate hydrochloride for synthesis



C<sub>5</sub>H<sub>9</sub>NO·ClH·H<sub>2</sub>O  
 ■ CAS-No. 40064-34-4 ■ EC-No. 254-779-9

- M = 153.61 g/mol ■ Melting point 95 - 99 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

Melting range (upper value) ..... ≤ 94 °C  
 Identity (IR) ..... conforms

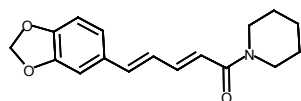
### Specification

Assay (argentometric) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 91 °C

Ord.No.	Packaging	Quantity	Price
8.41672.0010	Plastic bottle	10 g	inquire
8.41672.0050	Plastic bottle	50 g	inquire

4-Piperidone-N-carboxylic acid ethyl ester → N-Ethoxycarbonyl-4-piperidone page 846

## 821036 Piperine for synthesis



C<sub>17</sub>H<sub>19</sub>NO<sub>3</sub>  
 1-Piperoylpiperidine  
 ■ CAS-No. 94-62-2 ■ EC-No. 202-348-0  
 ■ Solub. in H<sub>2</sub>O 0.04 g/l (18 °C) ■ M = 285.34 g/mol ■ Melting point 127 - 130 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,

- H302; Chronic aquatic toxicity, Category 2, H411, P273  
 ■ LD50 oral rat 514 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2939 99 00 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1-PIPEROYLPIPERIDIN), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1-PIPEROYLPIPERIDINE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1-

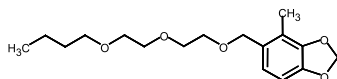
PIPEROYLPIPERIDINE), 9, III

### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 128 °C  
 Melting range (upper value) ..... ≤ 131 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21036.0010	Glass bottle	10 g	inquire

## 840080 Piperonylbutoxide for synthesis



C<sub>19</sub>H<sub>30</sub>O<sub>5</sub>  
 α-(2-(2-Butoxyethoxy)ethoxy)-4,5-methylenedioxy-2-propyltoluene, 5-((2-(2-Butoxyethoxy)ethoxy)methyl)-6-propyl-1,3-benzodioxole  
 ■ CAS-No. 51-03-6 ■ EC-No. 200-076-7  
 ■ Vapour pressure 0.02 hPa (60 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 212 °C ■ Solub. in H<sub>2</sub>O 0.01 g/l

- (25 °C) ■ M = 338.44 g/mol ■ Boiling point 180 °C (1.3 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273  
 ■ LD50 oral rat > 7000 mg/kg  
 ■ LD50 dermal rabbit > 8000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 99 00 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüchtig, n.a.g.(PIPERONYLBUTOXID), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(PIPERONYLBUTOXIDE),

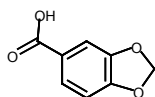
9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(PIPERONYLBUTOXIDE), 9, III

### Specification

Assay (GC, area%) ..... ≥ 90,0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 1,050 - 1,060  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40080.0025	Glass bottle	25 ml	inquire
8.40080.0500	Glass bottle	500 ml	inquire

## 841707 Piperonylic acid for synthesis



C<sub>8</sub>H<sub>8</sub>O<sub>4</sub>  
 ■ CAS-No. 94-53-1 ■ EC-No. 202-342-8

- M = 166.13 g/mol ■ Melting point 232 - 235 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

Melting range (upper value) ..... ≤ 234 °C  
 Identity (IR) ..... passes test

### Specification

Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 231 °C

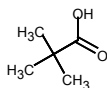
Ord.No.	Packaging	Quantity	Price
8.41707.0025	Plastic bottle	25 g	inquire

1-Piperoylpiperidine → Piperine page 1332

PIPES → Piperazine-1,4-bis(2-ethanesulfonic acid) page 1329



## 801336 Pivalic acid for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>(CH<sub>3</sub>)<sub>3</sub>CCOOH

Neopentanoic acid, 2,2-Dimethylpropionic acid, Trimethylacetic acid

- CAS-No. 75-98-9 ■ EC-No. 200-922-5
- Refractive index 1.3931 (37 °C, 589 nm)
- Vapour pressure 0.85 hPa (20 °C)
- Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 % (V) ■ Flash point 64 °C ■ Solub. in

- H<sub>2</sub>O 25 g/l (20 °C) ■ M = 102.13 g/mol
- Melting point 32 - 35 °C ■ Boiling point 164 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313
- LD50 oral rat 900 mg/kg ■ LD50 dermal rat 1900 mg/kg
- LGK 8A
- HS-No. 2915 60 90 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(PIVALINSAEURE), 8, III ■ IMDG-Code UN

1759 CORROSIVE SOLID, N.O.S.(PIVALIC ACID), 8, III

■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(PIVALIC ACID), 8, III

## Specification

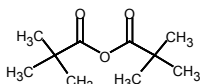
Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 32 °C  
 Melting range (upper value) ..... ≤ 35 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01336.0100	Plastic bottle	100 ml	inquire
8.01336.1000	Plastic bottle	1 l	inquire

Pivalic acid ethyl ester → Ethyl pivalate page 882

Pivalic acid methyl ester → Methyl pivalate page 1173

## 801302 Pivalic anhydride for synthesis

C<sub>10</sub>H<sub>18</sub>O<sub>3</sub>[(CH<sub>3</sub>)<sub>3</sub>CCO]<sub>2</sub>O

Bis(trimethylacetic) anhydride, 2,2-Dimethylpropionic acid anhydride, Trimethylacetic acid anhydride

- CAS-No. 1538-75-6 ■ EC-No. 216-263-1
- Refractive index 1.4092 (20 °C, 589 nm)
- Spec. density 0.92 g/cm<sup>3</sup> (20 °C)

- Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 186.25 g/mol
- Boiling point 193 °C (1013 hPa)
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 8A
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(PIVALINSAEUREANHYDRID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID,

ACIDIC, ORGANIC, N.O.S.(PIVALIC ANHYDRIDE), 8, II, Segregation Group: 1 (Acids)

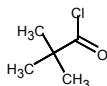
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PIVALIC ANHYDRIDE), 8, II

## Specification

Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,917 - 0,919  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01302.0025	Glass bottle	25 ml	inquire
8.01302.0100	Glass bottle	100 ml	inquire

## 801276 Pivaloyl chloride for synthesis

(CH<sub>3</sub>)<sub>3</sub>CCOCl

2,2-Dimethylpropionyl chloride, Trimethylacetyl chloride

- CAS-No. 3282-30-2 ■ EC-No. 221-921-6
- Refractive index 1.412 (20 °C, 589 nm) ■ Vapour pressure 40 hPa (20 °C) ■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 7.4 % (V)
- Flash point 13 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 120.58 g/mol
- Melting point -57 °C ■ Boiling point 105 °C

- (1013 hPa) ■ Ignition temp. 455 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 2, Inhalation, H330; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412; Corrosive to metals, Category 1, H290, P210, P273, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat > 1.43 - < 1.64 mg/l
- LD50 oral rat 1500 mg/kg ■ LD50 dermal rabbit > 2010 mg/kg
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 11

■ ADR-RID UN 2438 Trimethylacetylchlorid, 6.1 (3, 8), I ■ IMDG-Code UN 2438 TRIMETHYLACETYL CHLORIDE, 6.1 (3, 8), I, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2438 TRIMETHYLACETYL CHLORIDE, 6.1 (3, 8), I

## Specification

Assay (morpholine method) ..... ≥ 98,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,979 - 0,982  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01276.0250	Glass bottle	250 ml	inquire

## Plant growth factors

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
446	101701	N <sup>6</sup> -Benzyladenine	1002	100353	Indole-3-acetic acid			
919	124807	6-(Furfurylamino)purine	1003	100354	Indole-3-butyric acid			

Plastic-backed plates for TLC → page 10

Plastic bottle, 500 ml → page 328

Plastic-backed rolls for TLC → page 10

Plastic bottle, 1 l → page 328

## Plastic bottles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
328	110188	Plastic bottle, 500 ml	328	110178	Plastic bottle, 1 l			

Plastic bottles → Laboratory equipment, auxiliaries

## Plastic bottles from PE for liquids

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
328	110188	Plastic bottle, 500 ml	328	110178	Plastic bottle, 1 l			

Plastic canister → Laboratory equipment, auxiliaries

## Plasticisers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
470	801453	Bis(2-ethylhexyl) adipate	765	814157	Diisobutyl phthalate	1615	821202	Tris(2-ethylhexyl) phosphate
471	821874	Bis(2-ethylhexyl) phthalate	1574	814437	Tributylacetyl citrate			
476	818375	Bis(3,5,5-trimethylhexyl) phthalate	1611	821197	Triphenyl phosphate			

## Platinum

Pt  
 ■ CAS-No. 7440-06-4 ■ EC-No. 231-116-1  
 ■ Spec. density 21.45 g/cm<sup>3</sup> ■ M = 195.08 g/mol  
 ■ pH value (H<sub>2</sub>O) not applicable  
 ■ Melting point 1770 °C  
 ■ WGK nwg

■ GHS: Danger, Oxidising solid, Category 2, H272, P221  
 ■ LGK 5.1 B  
 ■ HS-No. 7110 11 00 ■ Disposal 27  
 ■ ADR-RID UN 1479 Entzündend (oxidierend)

wirkender fester Stoff, n.a.g.(PLATIN SCHWARZ), 5.1, II ■ IMDG-Code UN 1479 OXIDIZING SOLID, N.O.S.(PLATINUM BLACK), 5.1, II  
 ■ IATA-DGR UN 1479 OXIDIZING SOLID, N.O.S.(PLATINUM BLACK), 5.1, II  
 Greyish metallic powder

### 119232 Platinum powder 99+

#### Specification

Identity (elemental analysis)..... passes test  
 Assay (Pt).....99.0 - 101.0 %  
 Ag (Silver)..... ≤ 50 ppm  
 Al (Aluminium)..... ≤ 10 ppm  
 Ca (Calcium)..... ≤ 50 ppm  
 Cd (Cadmium)..... ≤ 10 ppm  
 Co (Cobalt)..... ≤ 10 ppm  
 Cr (Chromium)..... ≤ 10 ppm  
 Cu (Copper)..... ≤ 50 ppm

Fe (Iron)..... ≤ 50 ppm  
 Hg (Mercury)..... ≤ 100 ppm  
 Ir (Iridium)..... ≤ 100 ppm  
 K (Potassium)..... ≤ 100 ppm  
 Mg (Magnesium)..... ≤ 50 ppm  
 Mn (Manganese)..... ≤ 10 ppm  
 Na (Sodium)..... ≤ 100 ppm  
 Ni (Nickel)..... ≤ 10 ppm  
 Os (Osmium)..... ≤ 100 ppm

Pb (Lead)..... ≤ 50 ppm  
 Pd (Palladium)..... ≤ 100 ppm  
 Rh (Rhodium)..... ≤ 100 ppm  
 Ru (Ruthenium)..... ≤ 100 ppm  
 Zn (Zinc)..... ≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.19232.0001	Glass bottle	1 g	inquire

### 119233 Platinum black 98+

#### Specification

Identity (elemental analysis)..... passes test  
 Assay (calculated on calcined substance)..... ≥ 98.0 %  
 Ag (Silver)..... ≤ 50 ppm  
 Al (Aluminium)..... ≤ 10 ppm  
 Au (Gold)..... ≤ 100 ppm  
 Ca (Calcium)..... ≤ 100 ppm  
 Cd (Cadmium)..... ≤ 10 ppm  
 Co (Cobalt)..... ≤ 10 ppm  
 Cr (Chromium)..... ≤ 10 ppm

Cu (Copper)..... ≤ 50 ppm  
 Fe (Iron)..... ≤ 100 ppm  
 Hg (Mercury)..... ≤ 100 ppm  
 Ir (Iridium)..... ≤ 100 ppm  
 K (Potassium)..... ≤ 50 ppm  
 Mg (Magnesium)..... ≤ 50 ppm  
 Mn (Manganese)..... ≤ 10 ppm  
 Ni (Nickel)..... ≤ 10 ppm  
 Os (Osmium)..... ≤ 100 ppm

Pb (Lead)..... ≤ 50 ppm  
 Pd (Palladium)..... ≤ 100 ppm  
 Rh (Rhodium)..... ≤ 100 ppm  
 Ru (Ruthenium)..... ≤ 100 ppm  
 Zn (Zinc)..... ≤ 100 ppm

Ord.No.	Packaging	Quantity	Price
1.19233.0005	Glass bottle	5 g	inquire

### 824510 cis-Platinum (65% Pt) for synthesis

Cl<sub>2</sub>H<sub>8</sub>N<sub>2</sub>Pt  
 cis-Pt(NH<sub>3</sub>)<sub>2</sub>Cl<sub>2</sub>  
*cis-Diaminedichloroplatinum(II), cis-Dichlorodiamineplatinum(II)*  
 ■ CAS-No. 15663-27-1 ■ EC-No. 239-733-8  
 ■ Spec. density 3.7 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 2.5 g/l (20 °C) ■ M = 300.05 g/mol  
 ■ pH value 5 - 7 (H<sub>2</sub>O)  
 ■ Melting point 207 °C (decomposition)  
 ■ Bulk density 850 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 2, Oral, H300;

Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P201, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 25.8 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 3290 Giftiger anorganischer fester Stoff, ätzend, n.a.g.(CIS-PLATIN), 6.1 (8), II  
 ■ IMDG-Code UN 3290 TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.(CIS-PLATINUM(65%PT)), 6.1

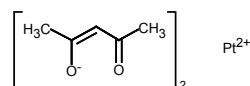
(8), II  
 ■ IATA-DGR UN 3290 TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.(CIS-PLATINUM(65%PT)), 6.1 (8), II

#### Specification

Assay (of Pt)..... 64,8 - 65,8 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.24510.0100	Glass bottle	100 mg	inquire
8.24510.0500	Glass bottle	500 mg	inquire

### 814689 Platinum(II) acetylacetonate (50% Pt) catalyst for synthesis



C<sub>10</sub>H<sub>14</sub>O<sub>4</sub>Pt  
*Platinum bis(acetylacetonate), Bis(acetylacetonato) platinum*  
 ■ CAS-No. 15170-57-7 ■ EC-No. 239-223-5

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 393.3 g/mol  
 ■ Melting point 250 - 252 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat > 500 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 3815 90 90 ■ Disposal 27

#### Specification

Assay (of Pt)..... 47,0 - 53,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14689.0001	Glass bottle	1 g	inquire

Platinum bis(acetylacetonate) → Platinum(II) acetylacetonate (50% Pt) page 1334

### 807339 Platinum/charcoal activated (10% Pt) hydrogenation catalyst for synthesis

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 2 - 10 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 250 kg/m<sup>3</sup>  
 ■ Ignition temp. 600 °C  
 ■ WGK nwg  
 ■ GHS: Warning, Respiratory sensitisation, Category 2, H252  
 ■ LGK 4.2S  
 ■ HS-No. 3815 12 00 ■ Disposal 27  
 ■ ADR-RID UN 3088 Selbsterhitzungsfähiger

organischer fester Stoff, n.a.g.(PLATIN AUF AKTIVKOHLE), 4.2, III ■ IMDG-Code UN 3088 SELF-HEATING SOLID, ORGANIC, N.O.S.(PLATINUM ON ACTIVATED CARBON), 4.2, III  
 ■ IATA-DGR UN 3088 SELF-HEATING SOLID, ORGANIC, N.O.S.(PLATINUM ON ACTIVATED CARBON), 4.2, III

#### Specification

Assay (of Pt)..... 9,0 - 11,0 % (m)  
 Suitable for hydrogenation catalyst..... conforms  
 Identity ( RFA)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07339.0001	Plastic bottle	1 g	inquire
8.07339.0005	Plastic bottle	5 g	inquire

Platinum(IV) chloride → Hexachloroplatinic(IV) acid hexahydrate (~40% Pt) page 945

**807347 Platinum(IV) chloride (57.5% Pt) anhydrous, for synthesis**

Cl<sub>2</sub>Pt  
PtCl<sub>4</sub>  
*Platinum tetrachloride*  
■ CAS-No. 13454-96-1 ■ EC-No. 236-645-1  
■ Spec. density 4.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
H<sub>2</sub>O 587 g/l (25 °C) ■ M = 336.89 g/mol  
■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Oral,  
H301; Skin corrosion, Category 1B, H314;  
Respiratory sensitisation, Category 1, H334; Skin

sensitisation, Category 1, H317, P260, P280, P301  
+ P330 + P331, P302 + P352, P304 + P341, P305  
+ P351 + P338, P309 + P310  
■ LD50 oral rat 276 mg/kg  
■ LGK 6.1 D  
■ HS-No. 2843 90 90 ■ Disposal 27  
■ ADR-RID UN 2923 Ätzender fester Stoff, giftig,  
n.a.g.(PLATIN(IV)-CHLORID), 8 (6.1), II ■ IMDG-  
Code UN 2923 CORROSIVE SOLID, TOXIC,  
N.O.S.(PLATINIUM(IV)-CHLORIDE), 8 (6.1), II  
■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC,

N.O.S.(PLATINIUM(IV)-CHLORIDE), 8 (6.1), II

**Specification**

Assay (ex Pt) ..... ≥ 99,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.07347.0001	Glass bottle	1 g	inquire
8.07347.0005	Glass bottle	5 g	inquire
8.07347.8100	Glass bottle	100 mg	inquire

**824566 Platinum(II) chloride (73% Pt) for synthesis**

Cl<sub>2</sub>Pt  
PtCl<sub>2</sub>  
*Platinum dichloride*  
■ CAS-No. 10025-65-7 ■ EC-No. 233-034-1  
■ Spec. density 6.1 g/cm<sup>3</sup> ■ Solub. in  
H<sub>2</sub>O (20 °C) insoluble ■ M = 265.99 g/mol  
■ pH value 5 - 6 (H<sub>2</sub>O) suspension  
■ Melting point 581 °C decomposes  
■ WGK 1  
■ GHS: Danger, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319; Respiratory  
sensitisation, Category 1, H334; Skin sensitisation,  
Category 1, H317, P260, P262, P280, P302 + P352,  
P304 + P341, P305 + P351 + P338, P342 + P311  
■ LD50 oral rat 3423 mg/kg  
■ LGK 8 B  
■ HS-No. 2843 90 90 ■ Disposal 27  
■ ADR-RID UN 1759 Ätzender fester Stoff,  
n.a.g.(PLATIN(II)-CHLORID), 8, III ■ IMDG-Code UN  
1759 CORROSIVE SOLID, N.O.S.(PLATIN(II)-

CHLORIDE), 8, III  
■ IATA-DGR UN 1759 CORROSIVE SOLID,  
N.O.S.(PLATIN(II)-CHLORIDE), 8, III

**Specification**

Assay (of Pt) ..... 73,0 - 73,5 %(m)

Ord.No.	Packaging	Quantity	Price
8.24566.0500	Glass bottle	500 mg	inquire

**100246 Platinum Cobalt Color Reference Solution (HAZEN 500) According to DIN EN ISO 7887 and ASTM D1209 Pt 500 mg/l Certipur®**

■ Spec. density 1.021 g/cm<sup>3</sup> ■ pH value < 1 (H<sub>2</sub>O)  
■ WGK 1  
■ GHS: Danger, Corrosive to metals, Category 1,  
H290; Carcinogenicity, Category 1B, Inhalation,  
H350i, P201, P308 + P313  
■ LGK 6.1B ■ Store at +15°C to +25°C.

■ HS-No. 3822 00 00  
■ ADR-RID UN 1789 Chlorwasserstoffsäure,  
Lösung, 8, III ■ IMDG-Code UN 1789  
HYDROCHLORIC ACID SOLUTION, 8, III,  
Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1789 HYDROCHLORIC ACID

SOLUTION, 8, III

Ord.No.	Packaging	Quantity	Price
1.00246.0250	Glass bottle	250 ml	inquire

**Platinum, determination**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1407	100629	Rubeanic acid						
		Platinum dichloride → Platinum(II) chloride (73% Pt) page 1335			Platinum dioxide → Platinum(IV) oxide hydrate (80% Pt) page 1335			

**807346 Platinum(IV) oxide hydrate (80% Pt) hydrogenation catalyst for synthesis**

O<sub>2</sub>Pt \* x H<sub>2</sub>O  
PtO<sub>2</sub> \* xH<sub>2</sub>O  
*Platinum dioxide, Adam's catalyst*  
■ CAS-No. 52785-06-5 ■ EC-No. 215-223-0  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 227.08 g/mol  
■ pH value 10 - 11 (H<sub>2</sub>O) suspension  
■ Melting point 450 °C  
■ WGK 1  
■ GHS: Danger, Oxidising solid, Category 2, H272;  
Skin irritation, Category 2, H315; Serious eye  
damage, Category 1, H318, P280, P302 + P352,

P305 + P351 + P338, P313  
■ LGK 5.1 B  
■ HS-No. 2843 90 90 ■ Disposal 27  
■ ADR-RID UN 3085 Entzündend (oxidierend)  
wirkender fester Stoff, ätzend, n.a.g.(PLATIN(IV)-  
OXID), 5.1 (8), II ■ IMDG-Code UN 3085  
OXIDIZING SOLID, CORROSIVE, N.O.S.(PLATINIUM-  
4-OXIDE), 5.1 (8), II  
■ IATA-DGR UN 3085 OXIDIZING SOLID,  
CORROSIVE, N.O.S.(PLATINIUM-4-OXIDE), 5.1 (8),  
II

**Specification**

Assay (of Pt) ..... 80,0 - 84,0 %(m)  
Suitable for hydrogenation catalyst ..... conforms  
Identity ( RFA) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07346.0001	Glass bottle	1 g	inquire
8.07346.8500	Glass bottle	500 mg	inquire

Platinum tetrachloride → Platinum(IV) chloride (57.5% Pt) page 1335	PLC Silica gel 60 F <sub>254</sub> , 1 mm with concentrating zone 20 x 4 cm → page 13	PMHS → Poly(methyl hydrogen siloxane) page 1340
PLC/PCC (Preparative layer chromatography) → page 11	PLC Silica gel 60 F <sub>254</sub> , 2 mm → page 11	PMPS → Potassium hydrogen monopersulfate page 1352
PLC Aluminium oxide 60 F <sub>254</sub> , 1.5 mm → page 11	PLC Silica gel 60 F <sub>254</sub> , 2 mm with concentrating zone 20 x 4 cm → page 13	PNOT → 2-Methyl-4-nitroaniline page 1163
PLC Aluminium oxide 150 F <sub>254</sub> , 1.5 mm → page 11	PLC Silica gel 60 F <sub>254</sub> +366, 2 mm → page 11	POD → Peroxidase page 1278
PLC Silica gel 60 F <sub>254</sub> , 0.5 mm → page 11	PLC Silica gel 60 RP-18 F <sub>254</sub> , 1 mm → page 11	Polyaddition → Polycondensation
PLC Silica gel 60 F <sub>254</sub> , 0.5 mm with concentrating zone 20 x 4 cm → page 13	PLC Silica gel 60, 0.5 mm → page 11	Polycarboxylic acids → Carboxylic acids
PLC Silica gel 60 F <sub>254</sub> , 1 mm → page 11	PLC Silica gel 60, 2 mm → page 11	Polychlorés biphenyls → PCB

## Polycondensation and polyaddition

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
365	800259	Allyl 2,3-epoxypropyl ether	749	800663	Diethyl pimelate	1264	807331	Pentaerythritol
382	800302	4-Aminobutyric acid	749	800757	Diethyl sebacate	1269	807061	1,5-Pentanediol
386	818675	2-Aminodimethyl terephthalate	774	800029	Dimethyl acetylenedicarboxylate	1271	808516	γ-Pentanolactone
389	800145	6-Aminohexanoic acid				1278	820970	3,4,9,10-Perylenetetracarboxylic 3,4:9,10-dianhydride
405	801228	11-Aminoundecanoic acid	302	800097	Dimethyl adipate			
427	820116	Azelaic acid,	302	803525	Dimethyl carbonate			
438	800784	1,2,4,5-Benzenetetracarboxylic acid	790	820583	Dimethyl fumarate	1289	822296	Phenol
438	820137	1,2,4-Benzenetricarboxylic acid	793	804791	Dimethyl isophthalate	1301	807246	1,4-Phenylenediamine
438	801299	1,3,5-Benzenetricarboxylic acid	794	800899	Dimethyl malonate	1325	822298	Phthalic acid
439	820138	1,2,4-Benzenetricarboxylic 1,2-anhydride	796	822115	Dimethyl oxalate	1326	800592	Phthalic anhydride
			798	800918	Dimethyl phthalate	1327	821029	Phthaloyl dichloride
			802	820150	Dimethyl succinate	1327	800668	Pimelic acid
473	803546	2,2-Bis(4-hydroxyphenyl) propane	805	808177	Dimethyl terephthalate	307	807483	Polyethylene glycol 200
			812	803553	1,3-Dioxolane	307	807484	Polyethylene glycol 300
473	803258	Bis(4-hydroxyphenyl) sulfone	815	803545	Diphenyl carbonate	307	807485	Polyethylene glycol 400
533	801964	1,3-Butanediol	818	820797	Diphenylmethane 4,4'-diisocyanate	307	807486	Polyethylene glycol 600
533	801532	1,4-Butanediol				1337	807488	Polyethylene glycol 1000
533	818801	2,3-Butanediol	302	803265	Dipropylene glycol	1337	807489	Polyethylene glycol 1500
537	801529	cis-2-Butene-1,4-diol	827	801305	Dodecanedioic acid	1338	821037	Polyethylene glycol 2000
546	801553	Butyl 2,3-epoxypropyl ether	828	822049	Dodecenylsuccinic anhydride	1338	819015	Polyethylene glycol 3000
556	801537	2-Butyne-1,4-diol	836	803296	Epichlorohydrine	1338	807490	Polyethylene glycol 4000
569	802800	ε-Caprolactam	836	820551	1,2-Epoxybutane	1338	807491	Polyethylene glycol 6000
569	802801	ε-Caprolactone	836	821862	Epoxy cyclohexane	1338	821881	Polyethylene glycol 10000
665	802491	1-Cyanoguanidine	836	818699	Epoxy cyclooctane	1339	818897	Polyethylene glycol 20000
666	802815	Cyanuric chloride	837	820553	2,3-Epoxypropyl phenyl ether	1339	818892	Polyethylene glycol 35000
671	820365	Cyclohexane-1,2-dicarboxylic anhydride	837	803202	Epoxy styrene	308	807481	1,3-Propanediol
			860	800900	Ethylene carbonate	308	807051	Propylene carbonate
671	820366	trans-1,2-Cyclohexanediol	303	800947	Ethylenediamine	1376	807027	1,2-Propylene oxide
685	803561	1,10-Decanediol	868	820032	2-Ethyl-1,3-hexanediol	1413	800753	Sebacic acid
693	808279	1,4-Diaminobutane	871	808394	2-Ethyl-2-(hydroxymethyl)-1,3-propanediol	1503	822260	Succinic acid
695	820948	4,4'-Diaminodiphenyl ether				1504	800683	Succinic anhydride
695	821073	4,4'-Diaminodiphenyl sulfone	916	800269	Fumaric acid	1504	800678	Succinyl dichloride
695	818842	1,7-Diaminoheptane	951	822066	Hexamethylene diisocyanate	1520	800762	Terephthalic acid
695	804323	1,6-Diaminohexane	954	804308	1,6-Hexanediol	1521	800740	Terephthaloyl dichloride
696	806916	1,8-Diaminooctane	1050	818586	Isophorone diisocyanate	308	808619	Tetraethylene glycol
697	803573	2,6-Diamino-4-phenyl-1,3,5-triazine	1051	800607	Isophthalic acid	1535	800742	1,2,3,6-Tetrahydrophthalic anhydride
			1091	800380	Maleic acid	1570	808264	Toluylene diisocyanate
697	808272	1,3-Diaminopropane	1091	800408	Maleic anhydride	1573	808614	2,4,6-Triamino-1,3,5-triazine
735	821770	1,2:7,8-Diepoxyoctane	1150	804812	Methylenesuccinic acid	309	808245	Triethylene glycol
737	800086	Diethyl adipate	1197	820848	1,5-Naphthalenediol	1610	821189	1,3,5-Trioxane
301	802898	Diethyl carbonate	1240	818800	Octanedioic acid	1615	808608	1,3,5-Tris(2-hydroxyethyl) cyanuric acid
301	818382	Diethylene glycol mono-n-hexyl ether	1241	806921	1,8-Octanediol			
744	803274	Diethylenetriamine						
747	800378	Diethyl maleate						

Polycyclic aromatic hydrocarbons (PAK), analysis → page 13

### 807483 Polyethylene glycol 200 for synthesis

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 200

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 1.124 g/cm<sup>3</sup> (20 °C)
- Flash point 180 °C ■ Kin. viscosity 53 - 62 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 190 - 210 g/mol ■ pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -38 - -36 °C
- Boiling point >150 °C

- Ignition temp. 350 °C DIN 51794
- WGK 1
- LD50 oral rat 28000 mg/kg
- LD50 dermal rabbit > 20000 mg/kg
- LGK 10 - 13
- HS-No. 3907 20 11 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

#### Specification

Density (d 20 °C/ 4 °C) .....1,124 - 1,126  
 Hydroxyl value .....535 - 590  
 Average molecular mass .....190 - 210  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.07483.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.07483.5000	Plastic container	5 l	inquire

### 807484 Polyethylene glycol 300 for synthesis

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 300

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.13 g/cm<sup>3</sup> (20 °C)
- Flash point 220 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -15 - -10 °C
- Boiling point >220 °C (1013 hPa) decomposes
- Ignition temp. 370 °C

- WGK 1
- LD50 oral rat 28000 mg/kg
- LD50 dermal rabbit > 20000 mg/kg
- LGK 10
- HS-No. 3907 20 11 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

Density (d 20 °C/ 4 °C) .....1,125 - 1,127  
 Average molecular mass .....285 - 315  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.07484.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.07484.5000	Plastic container	5 l	inquire



## Polyethylene glycol 400

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 400

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.13 g/cm<sup>3</sup> (20 °C)
- Flash point 240 °C
- Kin. viscosity 97 - 110 mm<sup>2</sup>/s (20 °C) ■ Solub. in

- H<sub>2</sub>O (20 °C) soluble ■ pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 4 - 8 °C
- Boiling point >200 °C (1013 hPa)
- Ignition temp. 360 °C DIN 51794
- WGK 1
- LD50 oral rat 28000 mg/kg
- LD50 dermal rabbit > 20000 mg/kg

- LGK 10 - 13
- HS-No. 3907 20 11 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

### 807485 Polyethylene glycol 400 for synthesis

#### Specification

Density (d 20 °C / 4 °C) ..... 1,124 - 1,126  
Hydroxyl value ..... 267 - 295  
Average molecular mass ..... 380 - 420

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07485.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.07485.5000	Plastic container	5 l	inquire

### 109726 Polyethylene glycol 400 for gaschromatography

#### Specification

Thermogravimetry (thermogravimetric) .2 % lost of weight between 200-250 °C  
McReynolds constant (Nitropropane) ..... 600 - 660

McReynolds constant (Butanol) ..... 640 - 700  
McReynolds constant (Benzene) ..... 320 - 380

Ord.No.	Packaging	Quantity	Price
1.09726.0100	Glass bottle	100 ml	inquire

## 807486 Polyethylene glycol 600 for synthesis

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 600

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.13 g/cm<sup>3</sup> (20 °C)
- Flash point 260 °C ■ Kin. viscosity 14 - 17 mm<sup>2</sup>/s (20 °C) (50% solution) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 17 - 22 °C
- Ignition temp. >320 °C DIN 51794

- WGK 1
- LD50 oral rat 28000 mg/kg
- LD50 dermal rabbit > 20000 mg/kg
- LGK 10
- HS-No. 3907 20 11 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

Hydroxyl value ..... 178 - 197  
Average molecular mass ..... 570 - 630  
Identity (IR) ..... conforms

#### Specification

Density (d 20 °C / 4 °C) ..... 1,126 - 1,128

Ord.No.	Packaging	Quantity	Price
8.07486.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.07486.5001	Plastic container	5 l	inquire

## Polyethylene glycol 1000

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 1000

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.2 g/cm<sup>3</sup> (20 °C)
- Flash point 260 °C ■ Kin. viscosity 22 - 27 mm<sup>2</sup>/s (20 °C) (50% solution) ■ Solub. in H<sub>2</sub>O 750 g/l (20 °C) ■ pH value 4 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 33 - 40 °C ■ Ignition temp. 420 °C
- WGK 1
- LD50 oral rat 28000 mg/kg
- LD50 dermal rabbit > 20000 mg/kg

- LGK 10 - 13
- HS-No. 3404 20 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

- LGK 10 - 13
- HS-No. 3404 20 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

### 807488 Polyethylene glycol 1000 for synthesis

#### Specification

Melting range (lower value) ..... ≥ 33 °C  
Melting range (upper value) ..... ≤ 40 °C  
Hydroxyl value ..... 107 - 118  
Average molecular mass ..... 950 - 1050

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07488.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.07488.5000	Plastic container	5 kg	inquire

### 109729 Polyethylene glycol 1000 for gas chromatography

#### Specification

Thermogravimetry (thermogravimetric) .2 % lost of weight over 270 °C  
McReynolds constant (Benzene) ..... 300 - 400

McReynolds constant (Butanol) ..... 550 - 650  
McReynolds constant (Nitropropane) ..... 550 - 650

Ord.No.	Packaging	Quantity	Price
1.09729.0100	Glass bottle	100 g	inquire

## 807489 Polyethylene glycol 1500 for synthesis

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 1500

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 1.2 g/cm<sup>3</sup> (20 °C)
- Flash point 260 °C ■ Kin. viscosity 33 - 39 mm<sup>2</sup>/s (20 °C) (50% solution) ■ Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ pH value 4 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 44 - 48 °C
- Bulk density 400 - 500 kg/m<sup>3</sup>

- Ignition temp. 420 °C
- WGK 1
- LD50 oral rat 28000 mg/kg
- LD50 dermal rabbit > 20000 mg/kg
- LGK 10 - 13
- HS-No. 3404 20 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

#### Specification

Melting range (lower value) ..... ≥ 43 °C  
Melting range (upper value) ..... ≤ 49 °C  
Hydroxyl value ..... 70 - 80  
Average molecular mass ..... 1400 - 1600  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07489.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.07489.5000	Plastic bottle	5 kg	inquire



# Polyet

## 821037 Polyethylene glycol 2000 for synthesis

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

*Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 2000*

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.1 hPa
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C)
- Flash point 250 °C ■ Kin. viscosity 46 - 55 mm<sup>2</sup>/s (20 °C) (50% solution) ■ Solub. in H<sub>2</sub>O 600 g/l (20 °C) ■ M = 1800.00 g/mol ■ pH value 4 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 49 - 52 °C
- Bulk density 400 - 500 kg/m<sup>3</sup>
- Ignition temp. 420 °C

- WGK 1
  - LD50 oral rat 28000 mg/kg
  - LD50 dermal rabbit > 20000 mg/kg
  - LGK 10 - 13
  - HS-No. 3404 20 00 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good
- IATA-DGR No Dangerous Good
- Specification**
- Hydroxyl value ..... 51 - 63
- Melting range (lower value)..... ≥ 50 °C

Melting range (upper value) ..... ≤ 55 °C

Average molecular mass ..... 1900 - 2200

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21037.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.21037.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire

## 819015 Polyethylene glycol 3000 for synthesis

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

*Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 3000*

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C)
- Flash point 270 °C ■ Kin. viscosity 69 - 92 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 550 g/l (20 °C)
- M = 3000 g/mol ■ pH value 4 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 55 - 58 °C
- Bulk density 400 - 500 kg/m<sup>3</sup>

- Ignition temp. 420 °C
  - WGK 1
  - LD50 oral rat 28000 mg/kg
  - LD50 dermal rabbit > 20000 mg/kg
  - LGK 10 - 13
  - HS-No. 3404 20 00 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Hydroxyl value ..... 34 - 42

Melting range (lower value)..... ≥ 55 °C

Melting range (upper value) ..... ≤ 59 °C

Average molecular mass ..... 2700 - 3300

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.19015.1000	Plastic bottle	1 kg	inquire
8.19015.5000	Plastic bottle	5 kg	inquire

## Polyethylene glycol 4000

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

*Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 4000*

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 1.2 g/cm<sup>3</sup> (20 °C)
- Flash point 270 °C
- Kin. viscosity 76 - 110 mm<sup>2</sup>/s (98 °C) ■ Solub. in

- H<sub>2</sub>O 500 g/l (20 °C) ■ M = 3500 - 4500 g/mol
- pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 53 - 58 °C
- Bulk density 400 - 500 kg/m<sup>3</sup>
- Ignition temp. >320 °C DIN 51794
- WGK 1
- LD50 oral rat 28000 mg/kg

- LD50 dermal rabbit > 20000 mg/kg
  - LGK 10 - 13
  - HS-No. 3404 20 00 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good
- IATA-DGR No Dangerous Good

## 807490 Polyethylene glycol 4000 for synthesis

**Specification**

Hydroxyl value ..... 25 - 32

Melting range (lower value)..... ≥ 58 °C

Melting range (upper value) ..... ≤ 62 °C

Average molecular mass ..... 3500 - 4500

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07490.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.07490.5000	Plastic bottle	5 kg	inquire

## 109727 Polyethylene glycol 4000 for gas chromatography

**Specification**

Thermogravimetry (thermogravimetric) .2 % lost of weight between 320-390°C

McReynolds constant (Benzene).....Mc-Reynolds-Konstante: ca. 320

McReynolds constant (Butanol).....Mc-Reynolds-Konstante 1-Butanol: ca.550

McReynolds constant (Nitropropane).Mc-Reynolds-Konstante: ca. 570

Ord.No.	Packaging	Quantity	Price
1.09727.0100	Plastic bottle	100 g	inquire

## 807491 Polyethylene glycol 6000 for synthesis

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

*Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 6000*

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.01 hPa (20 °C)
- Flash point 250 °C
- Kin. viscosity 200 - 250 mm<sup>2</sup>/s (20 °C) (50% solution) ■ Solub. in H<sub>2</sub>O 500 g/l (20 °C)
- pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 55 - 60 °C ■ Ignition temp. 420 °C
- WGK 1

- LD50 oral rat 28000 mg/kg
  - LD50 dermal rabbit > 20000 mg/kg
  - LGK 10 - 13
  - HS-No. 3404 20 00 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good
- IATA-DGR No Dangerous Good
- Specification**
- Melting range (lower value)..... ≥ 59 °C
- Melting range (upper value) ..... ≤ 64 °C

Hydroxyl value ..... 16 - 23

Average molecular mass ..... 5000 - 7000

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07491.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.07491.5000	Plastic bottle	5 kg	inquire

## 821881 Polyethylene glycol 10000 for synthesis

HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H

*Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 10000*

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 1.2 g/cm<sup>3</sup> (20 °C)
- Flash point 265 °C
- Kin. viscosity 500 - 900 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 9000 g/mol
- pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 58 - 63 °C

- Bulk density 400 - 500 kg/m<sup>3</sup>
  - Ignition temp. 340 °C
  - WGK 1
  - LD50 oral rat 28000 mg/kg
  - LD50 dermal rabbit > 20000 mg/kg
  - LGK 10 - 13
  - HS-No. 3404 20 00 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No
- Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Melting range (lower value)..... ≥ 59 °C

Melting range (upper value) ..... ≤ 64 °C

Hydroxyl value ..... 9 - 12

Average molecular mass ..... 9000 - 12500

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21881.1000	Plastic bottle	1 kg	inquire
8.21881.5000	Plastic bottle	5 kg	inquire

**818897 Polyethylene glycol 20000 for synthesis**HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H*Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 20000*

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.2 g/cm<sup>3</sup> (20 °C)
- Flash point 260 °C ■ Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 20000 g/mol ■ pH value 4 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 58 - 63 °C
- Bulk density 400 - 500 kg/m<sup>3</sup>
- Ignition temp. >320 °C

- WGK 1
  - LD50 oral rat 28000 mg/kg
  - LD50 dermal rabbit > 20000 mg/kg
  - LGK 10 - 13
  - HS-No. 3404 20 00 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- Specification**  
Melting range (lower value)..... ≥ 62 °C

Melting range (upper value)..... ≤ 66 °C  
Hydroxyl value..... 4 - 7  
Average molecular mass..... 16000 - 28000

Ord.No.	Packaging	Quantity	Price
8.18897.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.18897.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire

**818892 Polyethylene glycol 35000 (stabilised with 2-tert-butyl-4-methoxyphenol) for synthesis**HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H*Polyglycol, Polyethylene oxide, Polyoxyethylene, PEG 35000*

- CAS-No. 25322-68-3 ■ EC-No. 500-038-2
- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 1.2 g/cm<sup>3</sup> (20 °C)
- Flash point 260 °C
- Kin. viscosity 10000 - 13000 mm<sup>2</sup>/s (20 °C)
- Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 35000 g/mol ■ pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 60 - 65 °C

- Bulk density 400 - 500 kg/m<sup>3</sup>
  - Ignition temp. >320 °C
  - WGK 1
  - LD50 oral rat 28000 mg/kg
  - LD50 dermal rabbit > 20000 mg/kg
  - LGK 10 - 13
  - HS-No. 3404 20 00 ■ Disposal 3
- Specification**  
Hydroxyl value..... 3 - 4  
Melting range (lower value)..... ≥ 62 °C

Melting range (upper value)..... ≤ 67 °C  
Average molecular mass..... 28000 - 38000  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18892.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.18892.5000	Plastic bottle	5 kg	inquire

Polyethyleneglycol (20) cetyether → Brij® 58 page 484

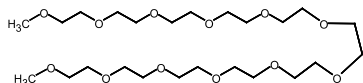
**843912 Polyethylene glycol diacid for synthesis**(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>C<sub>4</sub>H<sub>6</sub>O<sub>5</sub>HOOCCH<sub>2</sub>(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>OCH<sub>2</sub>COOH

- CAS-No. 39927-08-7
- Spec. density 1.185 g/cm<sup>3</sup> (20 °C)
- Flash point 300 °C ■ pH value 2.1 (100 g/l, H<sub>2</sub>O)
- WGK 1
- LD50 oral rat > 2000 mg/kg

- LGK 10 - 13
  - HS-No. 3907 20 11 ■ Disposal 3
- Specification**  
Colour (visual)..... colourless  
Appearance of substance (visual)..... liquid  
Acid value..... 160 - 190

Water (K. F.)..... ≤ 2,0 % (m)  
Refractive index (n<sub>20</sub><sup>o</sup>/D)..... 1,460 - 1,480

Ord.No.	Packaging	Quantity	Price
8.43912.0250	Plastic bottle	250 ml	inquire
8.43912.1000	Plastic bottle	1 l	inquire

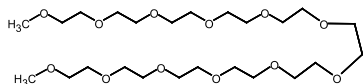
**814173 Polyethylene glycol dimethyl ether 250 for synthesis**CH<sub>3</sub>O(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>CH<sub>3</sub>CH<sub>3</sub>O(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>CH<sub>3</sub>

- CAS-No. 24991-55-7
- Refractive index 1.439 (20 °C, 589 nm) ■ Vapour pressure < 0.01 hPa (20 °C) ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C)

- Explosive limit 0.5 % (V)
- Flash point 137 °C ■ Kin. viscosity 7.8 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 250 g/mol ■ pH value (100 g/l, H<sub>2</sub>O, 20 °C) neutral ■ Melting point -23 °C
- Boiling point >250 °C
- Ignition temp. 210 °C DIN 51794
- WGK 1
- LC50 rat > 5.7 mg/l
- LD50 oral rat > 2000 mg/kg

- LGK 10
  - HS-No. 3907 20 99 ■ Disposal 3
- Specification**  
Hydroxyl value..... ≤ 2  
Density (d<sub>20</sub><sup>o</sup>C/4 °C)..... 1,035 - 1,045  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14173.0500	Glass bottle	500 ml	inquire

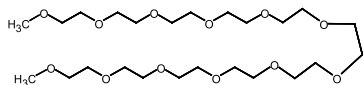
**814171 Polyethylene glycol dimethyl ether 500 (stabilised) for synthesis**C<sub>24</sub>H<sub>50</sub>O<sub>12</sub>CH<sub>3</sub>O(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>CH<sub>3</sub>

- CAS-No. 24991-55-7
- Refractive index 1.454 (20 °C, 589 nm) ■ Vapour pressure < 0.01 hPa (20 °C) ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)

- Flash point 220 °C
- Kin. viscosity 15 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 530.65 g/mol
- pH value (100 g/l, H<sub>2</sub>O, 20 °C) neutral
- Melting point 13 °C ■ Boiling point >250 °C (1013 hPa) ■ Ignition temp. 360 °C
- WGK 1
- LC50 rat > 5.7 mg/l
- LD50 oral rat > 2000 mg/kg
- LGK 10

- HS-No. 3907 20 99 ■ Disposal 3
- Specification**  
Hydroxyl value..... ≤ 2  
pH-value (10 %; in water)..... 4,0 - 7,0  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14171.0500	Plastic bottle	500 ml	inquire

**814172 Polyethylene glycol dimethyl ether 2000 for synthesis**CH<sub>3</sub>O(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>CH<sub>3</sub>CH<sub>3</sub>O(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>CH<sub>3</sub>

- CAS-No. 24991-55-7
- Refractive index 1.455 (60 °C, 589 nm) ■ Vapour pressure < 0.01 hPa (20 °C) ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C)

- Flash point 254 °C
- Kin. viscosity 30 mm<sup>2</sup>/s (100 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 2000 g/mol
- pH value (100 g/l, H<sub>2</sub>O, 20 °C) neutral
- Melting point 49 - 53 °C
- Boiling point >250 °C (1013 hPa)
- Ignition temp. 385 °C DIN 51794
- WGK 1
- LGK 10 - 13
- HS-No. 3907 20 99 ■ Disposal 3

- Specification**  
Hydroxyl value..... ≤ 3  
Melting range (lower value)..... ≥ 49 °C  
Melting range (upper value)..... ≤ 54 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14172.0500	Plastic bottle	500 g	inquire

Polyethyleneglycol lauryl ether → Brij® 35 page 484

Polyethylene glycol mono [p-(1,1,3,3-tetramethylbutyl) phenyl] ether → page 1618

Polyethylene oxide → Polyethylene glycol 200 page 307

Polyfix 100 → Silane A 174 page 1417

Polyglycol → Polyethylene glycol 200 page 307  
Polyglycol → page 1337

# Polyme

## Polymerization, inhibitors

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
427	820117	Azelaic acid	709	822021	2,6-Di-tert-butyl-4-methylphenol	1123	821233	4-Methoxyphenol
452	802226	Benzyl mercaptan				1149	818447	2,2'-Methylenebis(4-methyl-6-tert-butylphenol)
549	820246	2-tert-Butyl-4-methoxyphenol	709	820422	2,4-Di-tert-butylphenol			
552	818620	2-tert-Butyl-4-methylphenol	828	820544	1-Dodecanethiol	1183	821130	4-Methylthiophenol
554	820250	4-tert-Butylphenol	838	800795	1,2-Ethanedithiol	1241	821861	1-Octanethiol
672	802884	Cyclohexanethiol	884	820764	Ethyl thioglycolate	1551	822336	Thioglycolic acid
708	821762	2,5-Di-tert-butylhydroquinone	975	822333	Hydroquinone			
			981	820063	2-Hydroxyethylammonium chloride			

## Polymerization, initiators

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
368	801068	Aluminium bromide	483	801663	Boron trifluoride-methanol complex	1080	805678	Lithium amide
369	845019	Aluminium chloride				1159	820805	Methylithium
369	801081	Aluminium chloride	547	814006	tert-Butyl hydroperoxide	1345	804918	Potassium tert-butylate
428	801595	$\alpha,\alpha'$ -Azoisobutyronitrile	548	801660	Butyllithium	1360	820746	Potassium methylate
445	801641	Benzoyl peroxide	548	818874	Butyllithium	1424	822284	Sodium
468	820163	Bis( $\alpha,\alpha'$ -dimethylbenzyl) peroxide	553	820967	tert-Butyl perbenzoate	1434	820871	Sodium ethoxide
482	801630	Boron tribromide	662	820502	Cumene hydroperoxide	1446	806538	Sodium methylate
483	801647	Boron trifluoride-diethyl ether complex	709	820248	Di-tert-butyl peroxide			
			1073	843861	Lauroyl peroxide			

## Polymerization, monomers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
351	800830	Acrylamide	635	802458	4-Chlorostyrene	1109	800589	Methacrylic acid alkylester (mixture of C <sub>12</sub> -C <sub>16</sub> )
353	818667	2-Acrylamido-2-methylpropanesulfonic acid	673	802824	Cyclohexene	1129	800841	Methyl acrylate
353	800181	Acrylic acid	687	822010	1-Decen	1138	821258	2-Methyl-1,3-butadiene
353	800834	Acrylonitrile	692	803521	Diallylamine	1149	805968	N,N'-Methylenediacylamide
353	800826	Acryloyl chloride	692	820050	Diallyl phthalate	1160	800590	Methyl methacrylate
363	820554	Allyl acetate	301	803209	1,1-Dichloroethylene	1180	806086	$\alpha$ -Methylstyrene
364	818694	Allyl acetoacetate	826	803598	Divinylbenzene	1180	822098	Methylstyrene
364	800974	Allyl alcohol	826	821215	Divinyl sulfone	1186	805901	Methyl vinyl ketone
364	800256	Allylamine	828	822048	1-Dodecene	1238	822112	1-Octadecene
364	821668	Allylbenzene	850	800836	Ethyl acrylate	1243	820928	1-Octene
365	800259	Allyl 2,3-epoxypropyl ether	870	800835	2-Ethylhexyl acrylate	1503	807679	Styrene
366	800260	Allyl isothiocyanate	874	800579	Ethyl methacrylate	1528	808601	1-Tetradecene
366	818585	2-Allylphenol	888	801391	Ethyl vinyl ether	1584	808276	Triethoxyvinylsilane
367	808158	N-Allylthiourea	939	820622	1-Heptene	1615	820359	2,4,6-Tris(allyloxy)-1,3,5-triazine
513	801021	3-Bromo-1-propene	946	822064	1-Hexadecene	1629	803184	Vinyl acetate
533	801996	1,4-Butanediol diacrylate	982	800588	2-Hydroxyethyl methacrylate	1629	824593	9-Vinylanthracene
539	800832	Butyl acrylate	987	820675	N-(Hydroxymethyl)acrylamide	1630	822189	2-Vinylpyridine
549	800585	Butyl methacrylate	994	800610	Hydroxypropyl methacrylate	1630	808518	1-Vinyl-2-pyrrolidone
620	805905	3-Chloro-2-methyl-1-propene	1109	800578	Methacrylic acid			
631	800257	3-Chloro-1-propene						

## Polymerization regulators

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
452	802226	Benzyl mercaptan	884	820764	Ethyl thioglycolate	1551	822336	Thioglycolic acid
672	802884	Cyclohexanethiol	981	820063	2-Hydroxyethylammonium chloride	1553	808159	Thiophenol
828	820544	1-Dodecanethiol						
838	800795	1,2-Ethanedithiol	1183	821130	4-Methylthiophenol			
			1241	821861	1-Octanethiol			

## 818063 Poly(methyl hydrogen siloxane) for synthesis



pressure 25 hPa (20 °C) ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ pH value 7 (H<sub>2</sub>O)  
 ■ WGK 1  
 ■ LGK 10  
 ■ HS-No. 3910 00 00 ■ Disposal 3

### Specification

Density (d 20 °C/ 4 °C) .....0,995 - 1,005

Hydrogen releasable in alkaline medium .....  
 ..... ≥ 340 ml/g  
 Identity (IR) ..... passes test

(CH<sub>3</sub>OSi)<sub>n</sub>C<sub>6</sub>H<sub>18</sub>O<sub>2</sub>Si<sub>2</sub>

PMHS

■ CAS-No. 26403-67-8

■ Refractive index 1.395 (20 °C, 589 nm) ■ Vapour

Ord.No.	Packaging	Quantity	Price
8.18063.0250	Glass bottle	250 ml	inquire
8.18063.1000	Glass bottle	1 l	inquire

Polyoxyethylene → page 1338

Polyoxyethylene (20) cetyler → Brij® 58 page 484

Polyoxyethylene glycol → Polyethylene glycol 200 page 307

Polyoxyethylene lauryl ether → Brij® 35 page 484

Polyoxyethylene sorbitan monolaurate → Tween® 20 page 1621

Polyoxyethylene sorbitan monopalmitate → Tween® 40 page 1621

Polyoxyethylene sorbitan trioleate → Tween® 85 page 1621

## 807471 Polyphosphoric acid for synthesis



H<sub>2</sub>O[P(OH)(O)]<sub>n</sub>H  
PPA

- CAS-No. 8017-16-1 ■ EC-No. 232-417-0
- Vapour pressure 2 hPa (20 °C)
- Spec. density 2.06 g/cm<sup>3</sup> (20 °C)
- Kin. viscosity 1000 mm<sup>2</sup>/s (60 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, Hydrolysis ■ pH value (H<sub>2</sub>O, 20 °C) acidic, Hydrolysis ■ Melting point -20 °C
- Boiling point 530 °C (1013 hPa)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314;

Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8B
- HS-No. 2809 20 00 ■ Disposal 12
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g. (POLYPHOSPHORSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (POLYPHOSPHORIC ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (POLYPHOSPHORIC ACID), 8, III

## Specification

Assay (acidimetric, calc. as P<sub>2</sub>O<sub>5</sub>)...83,0 - 87,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.07471.0100	Plastic bottle	100 ml	inquire
8.07471.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
8.07471.2500	Plastic bottle	2.5 l	inquire

Polysorbate → Tween® 20 page 1621

(Polystyrylmethyl)trimethylammonium cyanoborohydride → page 283

(Polystyrylmethyl)trimethylammonium metaperiodate → page 282

## 818402 Polytetrahydrofuran 1000 (stabilised with 2,6-di-tert-butyl-4-methylphenol) for synthesis

H(C<sub>4</sub>H<sub>8</sub>O)<sub>n</sub>OH  
PTHF

- CAS-No. 25190-06-1
- Refractive index 1.466 (20 °C, 589 nm) ■ Vapour pressure < 0.1 hPa (20 °C) ■ Spec. density 0.982 g/cm<sup>3</sup> (30 °C) ■ Flash point 240 °C ■ Solub. in H<sub>2</sub>O < 10 g/l (20 °C) ■ pH value 7 (H<sub>2</sub>O, 20 °C) Aqueous solution
- Melting point 23 - 28 °C
- Boiling point >250 °C

- WGK 1
- GHS: Chronic aquatic toxicity, Category 3, H412, P273
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 3907 20 20 ■ Disposal 3

## Specification

Melting range (lower value)..... ≥ 23 °C  
Melting range (upper value)..... ≤ 28 °C

Hydroxyl value .....109 - 115  
Average molecular mass .....975 - 1025  
Identity (IR) .....passes test

Ord.No.	Packaging	Quantity	Price
8.18402.0100	Glass bottle	100 g	inquire
8.18402.0500	Glass bottle	500 g	inquire

## 107443 Polyvidone 25 Ph Eur, BP

- CAS-No. 9003-39-8
- Spec. density 1.2 g/cm<sup>3</sup> (20 °C)
- Melting point 220 °C decomposes
- Bulk density 330 kg/m<sup>3</sup> ■ Ignition temp. 440 °C
- WGK 1
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 3905 99 90 ■ Disposal 3

## Specification

Appearance ..... conforms  
Identity ..... conforms  
Assay (Nitrogen, calc. on anhydrous substance).....

..... 11.5 - 12.8 %  
pH-value (5 %; water)..... 3.0 - 5.0  
Heavy metals (as Pb)..... ≤ 0.0010 %  
Viscosity (calc. as k-value) .....22.5 - 27.0  
Aldehydes (calc. on CH<sub>3</sub>CHO)..... ≤ 0.0500 %  
Peroxide (calc. as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0.0400 %  
Formic acid..... ≤ 0.5 %  
Sulfated ash (600 °C)..... ≤ 0.1 %  
related substances (Hydrazine)..... ≤ 1 ppm  
related substances (Vinyl pyrrolidone)..... ≤ 10 ppm  
related substances (2-Pyrrolidone\*)..... ≤ 3.0 %  
Water..... ≤ 5.0 %

\* Parameter tested by qualified laboratory  
Residues of metal catalysts or metal reagents acc. to EMEA/CHMP/SWP/4446/2000 are not likely to be present.

Corresponds to Ph.Eur., BP

Ord.No.	Packaging	Quantity	Price
1.07443.0100	Plastic bottle	100 g	inquire
1.07443.1000	Plastic bottle	1 kg	inquire

## 114266 Polyvinyl alcohol protective colloid for argentometric titration

(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>  
PVA, PVOH

- CAS-No. 9002-89-5
- Spec. density 0.4 - 0.6 g/cm<sup>3</sup> (20 °C)
- Melting point 160 - 240 °C
- Bulk density 400 - 600 kg/m<sup>3</sup>
- WGK 1

- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 3905 30 00 ■ Disposal 3

## Specification

Chloride (Cl)..... ≤ 0.001 %  
pH-value (0.2 %; water)..... 5.0 - 7.0

Appearance of solution ..... passes test  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.14266.0100	Plastic bottle	100 g	inquire

814894 Polyvinyl alcohol, fully hydrolyzed (M<sub>w</sub> approx. 145000) for synthesis

(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>  
PVA, PVOH

- CAS-No. 9002-89-5
- Spec. density 0.4 - 0.6 g/cm<sup>3</sup> (20 °C)
- Melting point 160 - 240 °C
- Bulk density 400 - 600 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat > 2000 mg/kg

- LGK 10 - 13
- HS-No. 3905 30 00 ■ Disposal 3

## Specification

Degree of hydrolysis (calculated on dried substance)..... ≥ 98.0 %  
Loss on drying (110 °C 2h)..... ≤ 5.0 %  
Ash..... ≤ 1.0 %

Ester value..... 3 - 13

Ord.No.	Packaging	Quantity	Price
8.14894.0101	Plastic bottle	100 g	inquire
8.14894.1001	Plastic bottle	1 kg	inquire

843866 Polyvinyl alcohol, fully hydrolyzed (M<sub>w</sub> approx. 60000) for synthesis

(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>  
PVA, PVOH

- CAS-No. 9002-89-5
- Spec. density 0.4 - 0.6 g/cm<sup>3</sup> (20 °C)
- Melting point 160 - 240 °C
- Bulk density 400 - 600 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat > 2000 mg/kg

- LGK 10 - 13
- HS-No. 3905 30 00 ■ Disposal 3

## Specification

Degree of hydrolysis (calculated on dried substance)..... ≥ 98.0 %  
dyn.Viscosity, 20°C (4 %; water) ...9.0 - 11.0 mPa·s  
Loss on drying (110 °C 2h)..... ≤ 5.0 %

Ash..... ≤ 1.0 %  
Ester value..... 15 - 25

Ord.No.	Packaging	Quantity	Price
8.43866.0100	Plastic bottle	100 g	inquire
8.43866.1000	Plastic bottle	1 kg	inquire
8.43866.9025	Fibre carton	25 kg	inquire

821039 Polyvinyl alcohol, fully hydrolyzed (M<sub>w</sub> approx. 30000) for synthesis

(-C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>  
PVA, PVOH

- CAS-No. 9002-89-5
- Spec. density 1.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 3.5 - 7.0 (40 g/l, H<sub>2</sub>O, 20 °C) ■ Ignition temp. 450 °C
- WGK 1
- LD50 oral rat > 20000 mg/kg

- LGK 10 - 13
- HS-No. 3905 30 00 ■ Disposal 3

## Specification

Degree of hydrolysis (calculated on dried substance)..... ≥ 98.0 %  
dyn.Viscosity, 20°C (4 %; water) .....3.8 - 5.2 mPa·s  
Loss on drying (110 °C 2h)..... ≤ 5.0 %

Ash..... ≤ 1.0 %  
Ester value..... 12 - 25

Ord.No.	Packaging	Quantity	Price
8.21039.0100	Plastic bottle	100 g	inquire
8.21039.1000	Plastic bottle	1 kg	inquire



# Polyvi

## 843867 Polyvinyl alcohol, fully hydrolyzed (Mw approx. 200000) for synthesis

<p>(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> PVA, PVOH</p> <ul style="list-style-type: none"> <li>■ CAS-No. 9002-89-5</li> <li>■ Spec. density 0.4 - 0.6 g/cm<sup>3</sup> (20 °C)</li> <li>■ Melting point 160 - 240 °C</li> <li>■ Bulk density 400 - 600 kg/m<sup>3</sup></li> <li>■ WGK 1</li> <li>■ LD50 oral rat &gt; 2000 mg/kg</li> </ul>	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3905 30 00 ■ Disposal 3</li> </ul> <p><b>Specification</b></p> <p>Degree of hydrolysis (calculated on dried substance)..... ≥ 98.0 %</p> <p>dyn.Viscosity, 20°C (4 %; water) 52.0 - 60.0 mPa·s</p> <p>Loss on drying (110 °C 2h)..... ≤ 5.0 %</p>	<p>Ash..... ≤ 1.0 %</p> <p>Ester value..... 15 - 25</p>
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Ord.No.	Packaging	Quantity	Price
8.43867.0100	Plastic bottle	100 g	inquire
8.43867.1000	Plastic bottle	1 kg	inquire

## 843865 Polyvinyl alcohol, fully hydrolyzed (Mw approx.15000) for synthesis

<p>(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> PVA, PVOH</p> <ul style="list-style-type: none"> <li>■ CAS-No. 9002-89-5</li> <li>■ Spec. density 0.4 - 0.6 g/cm<sup>3</sup> (20 °C)</li> <li>■ Melting point 160 - 240 °C</li> <li>■ Bulk density 400 - 600 kg/m<sup>3</sup></li> <li>■ WGK 1</li> <li>■ LD50 oral rat &gt; 2000 mg/kg</li> </ul>	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3905 30 00 ■ Disposal 3</li> </ul> <p><b>Specification</b></p> <p>Degree of hydrolysis (calculated on dried substance)..... ≥ 96.0 %</p> <p>dyn.Viscosity, 20°C (4 %; water)..... 2.8 - 3.8 mPa·s</p> <p>Loss on drying (110 °C 2h)..... ≤ 5.5 %</p>	<p>Ash..... ≤ 2.0 %</p> <p>Ester value..... 30 - 50</p>
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Ord.No.	Packaging	Quantity	Price
8.43865.0100	Plastic bottle	100 g	inquire
8.43865.1000	Plastic bottle	1 kg	inquire

## 843868 Polyvinyl alcohol, partially hydrolyzed (Mw approx. 30000) for synthesis

<p>(C<sub>4</sub>H<sub>6</sub>O<sub>2</sub> * C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> PVA, PVOH</p> <ul style="list-style-type: none"> <li>■ CAS-No. 25213-24-5</li> <li>■ Spec. density 1.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 4.5 - 7.0 (40 g/l, H<sub>2</sub>O, 23 °C) ■ Melting point &gt;200 °C</li> <li>■ Bulk density 400 - 600 kg/m<sup>3</sup></li> <li>■ Ignition temp. &gt;230 °C</li> </ul>	<ul style="list-style-type: none"> <li>■ WGK 1</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3905 30 00 ■ Disposal 3</li> </ul> <p><b>Specification</b></p> <p>Degree of hydrolysis (calculated on dried substance)..... ≥ 85.0 %</p> <p>dyn.Viscosity, 20°C (4 %; water)..... 3.4 - 4.6 mPa·s</p>	<p>Loss on drying (110 °C 2h)..... ≤ 5.0 %</p> <p>Ash..... ≤ 1.0 %</p> <p>Ester value..... 130 - 150</p>
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Ord.No.	Packaging	Quantity	Price
8.43868.0100	Plastic bottle	100 g	inquire
8.43868.1000	Plastic bottle	1 kg	inquire

## 843870 Polyvinyl alcohol, partially hydrolyzed (Mw approx.160000) for synthesis

<p>(C<sub>4</sub>H<sub>6</sub>O<sub>2</sub> * C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> PVA, PVOH</p> <ul style="list-style-type: none"> <li>■ CAS-No. 25213-24-5</li> <li>■ Spec. density 1.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 4.5 - 7.0 (40 g/l, H<sub>2</sub>O, 23 °C) ■ Melting point &gt;200 °C</li> <li>■ Bulk density 400 - 600 kg/m<sup>3</sup></li> <li>■ Ignition temp. &gt;230 °C</li> </ul>	<ul style="list-style-type: none"> <li>■ WGK 1</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3905 30 00 ■ Disposal 3</li> </ul> <p><b>Specification</b></p> <p>Degree of hydrolysis (calculated on dried substance)..... ≥ 85.0 %</p> <p>dyn.Viscosity, 20°C (4 %; water) 22.1 - 29.9 mPa·s</p>	<p>Loss on drying (110 °C 2h)..... ≤ 5.0 %</p> <p>Ash..... ≤ 1.0 %</p> <p>Ester value..... 130 - 150</p>
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Ord.No.	Packaging	Quantity	Price
8.43870.0100	Plastic bottle	100 g	inquire
8.43870.1000	Plastic bottle	1 kg	inquire

## 843871 Polyvinyl alcohol, partially hydrolyzed (Mw approx.200000) for synthesis

<p>(C<sub>4</sub>H<sub>6</sub>O<sub>2</sub> * C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> PVA, PVOH</p> <ul style="list-style-type: none"> <li>■ CAS-No. 25213-24-5</li> <li>■ Spec. density 1.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 4.5 - 7.0 (40 g/l, H<sub>2</sub>O, 23 °C) ■ Melting point &gt;200 °C</li> <li>■ Bulk density 400 - 600 kg/m<sup>3</sup></li> <li>■ Ignition temp. &gt;230 °C</li> </ul>	<ul style="list-style-type: none"> <li>■ WGK 1</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3905 30 00 ■ Disposal 3</li> </ul> <p><b>Specification</b></p> <p>Degree of hydrolysis (calculated on dried substance)..... ≥ 85.0 %</p> <p>dyn.Viscosity, 20°C (4 %; water) 34.0 - 46.0 mPa·s</p>	<p>Loss on drying (110 °C 2h)..... ≤ 5.0 %</p> <p>Ash..... ≤ 1.0 %</p> <p>Ester value..... 130 - 150</p>
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Ord.No.	Packaging	Quantity	Price
8.43871.0100	Plastic bottle	100 g	inquire
8.43871.1000	Plastic bottle	1 kg	inquire

## 843869 Polyvinyl alcohol, partially hydrolyzed (Mw approx.70000) for synthesis

<p>(C<sub>4</sub>H<sub>6</sub>O<sub>2</sub> * C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> PVA, PVOH</p> <ul style="list-style-type: none"> <li>■ CAS-No. 25213-24-5</li> <li>■ Spec. density 1.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value 4.5 - 7.0 (40 g/l, H<sub>2</sub>O, 23 °C) ■ Melting point &gt;200 °C</li> <li>■ Bulk density 400 - 600 kg/m<sup>3</sup></li> <li>■ Ignition temp. &gt;230 °C</li> </ul>	<ul style="list-style-type: none"> <li>■ WGK 1</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3905 30 00 ■ Disposal 3</li> </ul> <p><b>Specification</b></p> <p>Degree of hydrolysis (calculated on dried substance)..... ≥ 85.0 %</p> <p>dyn.Viscosity, 20°C (4 %; water)..... 6.8 - 9.2 mPa·s</p>	<p>Loss on drying (110 °C 2h)..... ≤ 5.0 %</p> <p>Ash..... ≤ 1.0 %</p> <p>Ester value..... 130 - 150</p>
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Ord.No.	Packaging	Quantity	Price
8.43869.0100	Plastic bottle	100 g	inquire
8.43869.1000	Plastic bottle	1 kg	inquire

## 107302 Polyvinylpyrrolidone Divergan® RS

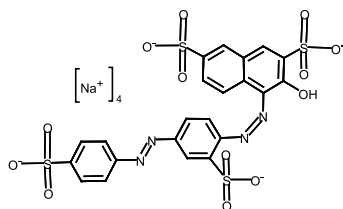
<ul style="list-style-type: none"> <li>■ CAS-No. 9003-39-8</li> <li>■ Spec. density 1.2 g/cm<sup>3</sup> (20 °C)</li> <li>■ Melting point 220 °C decomposes</li> <li>■ Bulk density 330 kg/m<sup>3</sup> ■ Ignition temp. 440 °C</li> <li>■ WGK 1</li> </ul>	<ul style="list-style-type: none"> <li>■ LD50 oral rat &gt; 2000 mg/kg</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3905 99 90 ■ Disposal 3</li> </ul>	<p><b>Specification</b></p> <p>Identity (IR-spectrum)..... conforms</p>
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Ord.No.	Packaging	Quantity	Price
1.07302.0100	Plastic bottle	100 g	inquire

Polyvinylpyrrolidone → Polyvidone 25 page 1341



## Ponceau S (C.I. 27195)

C<sub>22</sub>H<sub>12</sub>N<sub>4</sub>Na<sub>4</sub>O<sub>13</sub>S<sub>4</sub>

- CAS-No. 6226-79-5 ■ EC-No. 228-319-2
- Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 760.57 g/mol
- pH value 9.0 (10 g/l, H<sub>2</sub>O, 20 °C)

- Bulk density 660 kg/m<sup>3</sup>
  - WGK 2
  - LGK 10 - 13
  - HS-No. 3204 12 00 ■ Disposal 3
- Soluble in water (1%/20°C) and ethanol; insoluble in diethyl ether. Protein stain suitable for agarose and cellulose acetate electrophoresis.

## 114275 Ponceau S (C.I. 27195) for electrophoresis

## Specification

Identity (UV/VIS-Spectrum).....passes test  
Absorption maximum λ<sub>max</sub> (water).....517 - 523 nm  
Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.01 g/l; water).....460 - 600  
TLC-Test.....passes test  
Loss on drying (110 °C).....≤ 10 %  
Suitability for electrophoresis.....passes test

Ord.No.	Packaging	Quantity	Price
1.14275.0010	Glass bottle	10 g	inquire

## 115927 Ponceau S (C.I. 27195) for microscopy Certistain®

## Specification

Dye content (spectrophotometrically).....≥ 80 %  
Identity (sodium).....passes test  
Identity (UV/VIS-Spectrum).....passes test  
Absorption maximum λ max (water). 517 - 523 nm  
Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.01 g/l; water).....460 - 600  
TLC-Test.....passes test  
Loss on drying (110 °C).....≤ 10 %  
Suitability for microscopy.....passes test

Ord.No.	Packaging	Quantity	Price
1.15927.0025	Glass bottle	25 g	inquire

Positioning Aid → page 92

Potash caustic → page 1354

## 804815 Potassium (cubes) under protective liquid for synthesis

- CAS-No. 7440-09-7 ■ EC-No. 231-119-8
- Vapour pressure 133 hPa (171 °C)
- Spec. density 0.856 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)
- M = 39.10 g/mol ■ Melting point 64 °C
- Boiling point 760 °C (1013 hPa)
- WGK 2
- GHS: Danger, Substances, which in contact with

- water, emit flammable gases, Category 1, H260;
- Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- EC-Index-No. 019-001-00-2 ■ LGK 4.3
- HS-No. 2805 19 90 ■ Disposal 26
- ADR-RID UN 2257 Kalium, 4.3, I ■ IMDG-Code UN 2257 POTASSIUM, 4.3, I
- IATA-DGR UN 2257 POTASSIUM, 4.3, I

## Specification

Assay (of K).....≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.04815.0025	Glass bottle	25 g	inquire
8.04815.0100	Glass bottle	100 g	inquire
8.04815.0250	Glass bottle	250 g	inquire

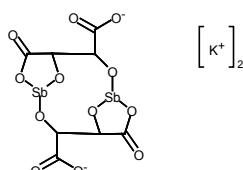
Potassium acetylenedicarboxylate →

Acetylenedicarboxylic acid monopotassium salt  
page 347

Potassium antimonate → Potassium

hexahydroxoantimonate(V) page 1352

## 108092 Potassium antimony(III) oxide tartrate trihydrate extra pure

C<sub>8</sub>H<sub>4</sub>K<sub>2</sub>O<sub>12</sub>Sb<sub>2</sub> \* 3 H<sub>2</sub>OK<sub>2</sub>(SbO)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>O<sub>10</sub> \* 3 H<sub>2</sub>O

Antimony potassium tartrate, Potassium antimony tartrate, Tartar emetic

- CAS-No. 28300-74-5 ■ EC-No. 234-293-3
- Spec. density 2.6 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 55 g/l

(20 °C) ■ M = 667.89 g/mol ■ pH value 4.0 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 1250 kg/m<sup>3</sup>

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 115 mg/kg
- EC-Index-No. 051-003-00-9 ■ LGK 10 - 13
- HS-No. 2918 13 00 ■ Disposal 15
- ADR-RID UN 1551 Antimonykaliumtartrat, 6.1, III ■ IMDG-Code UN 1551 ANTIMONY POTASSIUM TARTRATE, 6.1, III

- IATA-DGR UN 1551 ANTIMONY POTASSIUM TARTRATE, 6.1, III

## Specification

Assay (iodometric).....99.0 - 103.0 %  
Identity.....passes test  
As (Arsenic).....≤ 0.015 %  
Pb (Lead).....≤ 0.002 %  
Loss on drying.....≤ 2.7 %

Ord.No.	Packaging	Quantity	Price
1.08092.0250	Plastic bottle	250 g	inquire
1.08092.1000	Plastic bottle	1 kg	inquire

Potassium antimony tartrate → Potassium

antimony(III) oxide tartrate trihydrate page 1343

Potassium biiodate → Potassium hydrogen diiodate

page 1352

Potassium bichromate → page 168

Potassium biphthalate → page 1353

## 843668 Potassium bis(trimethylsilyl)amide (0.5 molar solution in toluene) for synthesis

- Vapour pressure 29 hPa (20 °C) toluene
- Spec. density 0.867 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 7.1 % (V) ■ Flash point 7 °C
- Ignition temp. 535 °C toluene
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard,

- Category 1, H304, P210, P233, P240, P280, P301 + P310, P301 + P330 + P331, P305 + P351 + P338, P309 + P310, P331
- LGK 3
- HS-No. 3824 90 97 ■ Disposal 8
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(ENTH. TOLUEN UND KALIUM BIS(TRIMETHYLSILYL)AMID), 3 (8), II ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. TOLUENE AND POTASSIUM BIS(TRIMETHYLSILYL)AMIDE), 3 (8), II

- IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(CONT. TOLUENE AND POTASSIUM BIS(TRIMETHYLSILYL)AMIDE), 3 (8), II

## Specification

Assay (acidimetric).....0.4 - 0.6 mol/l

Ord.No.	Packaging	Quantity	Price
8.43668.0100	Glass bottle	100 ml	inquire

Potassium boranate → Potassium borohydride page 1344

# Potass

## 820747 Potassium borohydride for synthesis



H<sub>4</sub>BK  
KBH<sub>4</sub>  
*Potassium tetrahydroborate, Potassium boranate*  
 ■ CAS-No. 13762-51-1 ■ EC-No. 237-360-5  
 ■ Spec. density 1.11 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 53.94 g/mol ■ Melting point 500 °C  
 ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Substances, which in contact with water, emit flammable gases, Category 1, H260;

Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 167 mg/kg ■ LD50 dermal rabbit 230 mg/kg  
 ■ LGK 4.3  
 ■ HS-No. 2850 00 20 ■ Disposal 26  
 ■ ADR-RID UN 1870 Kaliumborhydrid, 4.3, I  
 ■ IMDG-Code UN 1870 POTASSIUM BOROHYDRIDE, 4.3, I

■ IATA-DGR UN 1870 POTASSIUM BOROHYDRIDE, 4.3, I

**Specification**  
Assay (hypochlorite) ..... ≥ 97.0 %

Ord.No.	Packaging	Quantity	Price
8.20747.0025	Glass bottle	25 g	inquire
8.20747.0100	Glass bottle	100 g	inquire
8.20747.1000	Glass bottle	1 kg	inquire

## 104912 Potassium bromate for analysis EMSURE® ACS,ISO,Reag. Ph Eur



BrKO<sub>3</sub>  
KBrO<sub>3</sub>  
*Bromic Acid, Potassium Salt*  
 ■ CAS-No. 7758-01-2 ■ EC-No. 231-829-8  
 ■ Spec. density 3.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 69 g/l (20 °C) ■ M = 167 g/mol  
 ■ pH value 5 - 9 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 409 - 413 °C  
 ■ Bulk density 1400 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350; Oxidising solid, Category 2, H272; Acute toxicity, Category 3, Oral, H301, P201, P309 +

P310  
 ■ LD50 oral rat 157 mg/kg  
 ■ EC-Index-No. 035-003-00-6 ■ LGK 5.1A  
 ■ HS-No. 2829 90 40 ■ Disposal 22  
 ■ ADR-RID UN 1484 Kaliumbromat, 5.1, II  
 ■ IMDG-Code UN 1484 POTASSIUM BROMATE, 5.1, II, Segregation Group: 3 (Bromates)  
 ■ IATA-DGR UN 1484 POTASSIUM BROMATE, 5.1, II  
**Specification**  
 Assay (iodometric) ..... ≥ 99.8 %  
 Insoluble matter ..... ≤ 0.005 %

pH-value (5 %; water; 25 °C)..... 5.0 - 9.0  
 Bromide (Br)..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Total nitrogen (N)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Na (Sodium)..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.04912.0100	Metal can	100 g	inquire
1.04912.0250	Metal can	250 g	inquire

## 109925 Potassium bromate solution for 1000 ml, c(KBrO<sub>3</sub>) = 1/60 mol/l (0.1 N) Titrisol®



■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.6 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1B, H350, P201, P308 + P313  
 ■ LGK 6.1B  
 ■ HS-No. 2829 90 40 ■ Disposal 22

Amount-of-substance concentration ..... 1/60 mol/l  
 The concentration of this solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 136f

(NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09925.0001	Plastic ampoule	1 amp	inquire

## Potassium bromide

BrK  
KBr  
*Hydrobromic Acid Potassium Salt*  
 ■ CAS-No. 7758-02-3 ■ EC-No. 231-830-3  
 ■ Vapour pressure 1.3 hPa (795 °C)

■ Spec. density 2.75 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 650 g/l (20 °C) ■ M = 119.00 g/mol  
 ■ pH value 5.5 - 8.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 730 °C  
 ■ Bulk density 900 - 1000 kg/m<sup>3</sup>

■ Boiling point 1435 °C  
 ■ WGK 1  
 ■ LD50 oral rat 3070 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 51 00 ■ Disposal 14

## 104905 Potassium bromide for analysis EMSURE® ACS,Reag. Ph Eur

**Specification**  
 Assay (argentometric) ..... ≥ 99.5 %  
 Assay (argentometric; calculated on dried substance) ..... 99.5 - 100.5 %  
 Identity ..... passes test  
 Appearance of solution ..... passes test  
 Insoluble matter ..... ≤ 0.005 %  
 Acidity or alkalinity ..... passes test  
 pH-value (5 %; water) ..... 5.0 - 8.0  
 Bromate(BrO<sub>3</sub>) ..... passes test  
 Bromate (BrO<sub>3</sub>) ..... ≤ 0.001 %

Chloride (Cl) ..... ≤ 0.1 %  
 Iodate ..... ≤ 0.001 %  
 Iodide (I) ..... passes test  
 ..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Ba (Barium) ..... ≤ 0.002 %  
 Ca (Calcium) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 Mg (Magnesium) ..... ≤ 0.001 %

Na (Sodium) ..... ≤ 0.02 %  
 Magnesium and alkaline-earth metals (as Ca) ..... ≤ 0.02 %  
 Loss on drying (105 °C) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.04905.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire

## 104904 Potassium bromide 99.999 Suprapur®

**Specification**  
 Purity (metallic) ..... ≥ 99.999 %  
 Assay (argentometric) ..... ≥ 99.5 %  
 Bromate (BrO<sub>3</sub>) ..... ≤ 10 ppm  
 Chloride (Cl) ..... ≤ 500 ppm  
 Iodide (I) ..... ≤ 200 ppm  
 Sulphate (SO<sub>4</sub>) ..... ≤ 10 ppm  
 Total nitrogen (N) ..... ≤ 2 ppm  
 Al (Aluminium) ..... ≤ 0.02 ppm  
 Ba (Barium) ..... ≤ 0.5 ppm  
 Ca (Calcium) ..... ≤ 0.10 ppm  
 Cd (Cadmium) ..... ≤ 0.005 ppm

Ce (Cerium) ..... ≤ 0.005 ppm  
 Co (Cobalt) ..... ≤ 0.005 ppm  
 Cr (Chromium) ..... ≤ 0.005 ppm  
 Cu (Copper) ..... ≤ 0.005 ppm  
 Fe (Iron) ..... ≤ 0.010 ppm  
 La (Lanthanum) ..... ≤ 0.005 ppm  
 Li (Lithium) ..... ≤ 0.5 ppm  
 Mg (Magnesium) ..... ≤ 0.05 ppm  
 Mn (Manganese) ..... ≤ 0.005 ppm  
 Na (Sodium) ..... ≤ 5.0 ppm  
 Ni (Nickel) ..... ≤ 0.005 ppm

Pb (Lead) ..... ≤ 0.005 ppm  
 Sc (Scandium) ..... ≤ 0.005 ppm  
 Sm (Samarium) ..... ≤ 0.005 ppm  
 Sr (Strontium) ..... ≤ 0.05 ppm  
 Tl (Thallium) ..... ≤ 0.01 ppm  
 Y (Yttrium) ..... ≤ 0.005 ppm  
 Zn (Zinc) ..... ≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.04904.0100	Plastic bottle	100 g	inquire
1.04904.0500	Plastic bottle	500 g	inquire

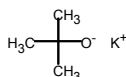
## 104907 POTASSIUM BROMIDE UVASOL F/ IR SPECTROSCOPY Uvasol®

**Specification**  
 Application test ..... passes test  
 Absorbance ( 2g pressed disk, 0.5 cm layer thickness) (Water; 3250-3750/1620-1640 cm<sup>-1</sup>) ..... ≤ 0.04  
 Absorbance ( 2g pressed disk, 0.5 cm layer thickness) (other ; 420-4000 cm<sup>-1</sup>) ..... ≤ 0.15

Absorbance ( 2g pressed disk, 0.5 cm layer thickness) (CH-compounds; 2750-3100 cm<sup>-1</sup>) ..... ≤ 0.004  
 Absorbance ( 2g pressed disk, 0.5 cm layer thickness) (other ; 420-4000 cm<sup>-1</sup>) ..... ≤ 0.015

Ord.No.	Packaging	Quantity	Price
1.04907.0100	Glass bottle	100 g	inquire
1.04907.0500	Glass bottle	500 g	inquire

## Potassium tert-butylate

C<sub>4</sub>H<sub>9</sub>KO(CH<sub>3</sub>)<sub>3</sub>COK

- CAS-No. 865-47-4 ■ EC-No. 212-740-3
- Vapour pressure 0.07 hPa (180 °C)
- Spec. density 0.914 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.4 - 8.0 % (V) ■ Flash point -21.5 °C (THF)
- Solub. in H<sub>2</sub>O (20 °C) Risk of violent reaction.

- M = 112.21 g/mol ■ pH value 13 (5 g/l, H<sub>2</sub>O, 20 °C) Hydrolysis ■ Melting point 256 - 258 °C
- Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 220 °C (1 hPa) (sublimed) ■ Ignition temp. 360 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310, P370 + P378
- LD50 oral rat 690 mg/kg

- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 3824 90 97 ■ Disposal 13
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(TETRAHYDROFURAN UND ENTH. KALIUM-TERT-BUTYLAT), 8 (3), I ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(TETRAHYDROFURANE AND CONT. POTASSIUM-TERT-BUTYLATE), 8 (3), I
- IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(TETRAHYDROFURANE AND CONT. POTASSIUM-TERT-BUTYLATE), 8 (3), I



## 843849 Potassium tert-butylate (~ 20% solution in tetrahydrofuran) for synthesis

## Specification

Assay (acidimetric)..... 19.0 - 21.0 %  
Density (d 20 °C/ 4 °C) .....0.912 - 0.917

Ord.No.	Packaging	Quantity	Price
8.43849.0050	Glass bottle	50 ml	inquire
8.43849.0250	Glass bottle	250 ml	inquire

## 804918 Potassium tert-butylate for synthesis

## Specification

Assay (acidimetric)..... ≥ 98,0 % (m)  
Free KOH..... ≤ 1 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.04918.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire
8.04918.0250	Glass bottle	250 g	inquire
	Glass bottle	6 x 250 g	inquire

## 843978 Potassium-tert-butylate (1M solution in tert-butanol) for synthesis

- Spec. density 0.820 g/cm<sup>3</sup>
- Flash point 14 °C Information refers to the main component.
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P233, P280, P301 + P330 + P331,

- P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 3824 90 97 ■ Disposal 13
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(ENTH. KALIUM-TERT-BUTYLAT UND 2-METHYL-2-PROPANOL), 8 (3), I ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(CONT. POTASSIUM-TERT-BUTYLATE AND 2-METHYL-2-PROPANOL), 8 (3), I, Segregation

- Group: 18 (Alkalis)
- IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(CONT. POTASSIUM-TERT-BUTYLATE AND 2-METHYL-2-PROPANOL), 8 (3), I

Ord.No.	Packaging	Quantity	Price
8.43978.0050	Glass bottle	50 ml	inquire
8.43978.0500	Glass bottle	500 ml	inquire

## 104928 Potassium carbonate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

K<sub>2</sub>O<sub>3</sub>K<sub>2</sub>CO<sub>3</sub>

potash

- CAS-No. 584-08-7 ■ EC-No. 209-529-3
- Spec. density 2.43 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1120 g/l (20 °C) ■ M = 138.21 g/mol
- pH value 11.5 - 12.5 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 891 °C ■ Bulk density 750 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13

- HS-No. 2836 40 00 ■ Disposal 14

## Specification

Assay (acidimetric; calculated on dried substance)..... ≥ 99.0 %  
Assay (acidimetric)..... ≥ 99.0 %  
Insoluble matter..... ≤ 0.005 %  
Chloride (Cl)..... ≤ 0.003 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.001 %  
Silicate (SiO<sub>2</sub>)..... ≤ 0.005 %  
Total sulfur (as sulphate)..... ≤ 0.003 %  
Total nitrogen (N)..... ≤ 0.001 %  
Heavy metals (as Pb)..... ≤ 0.0005 %  
Ca (Calcium)..... ≤ 0.002 %  
Cu (Copper)..... ≤ 0.0005 %

Fe (Iron)..... ≤ 0.0005 %  
Mg (Magnesium)..... ≤ 0.001 %  
Na (Sodium)..... ≤ 0.02 %  
Pb (Lead)..... ≤ 0.0005 %  
Substances precipitated by ammonia..... ≤ 0.01 %  
Loss on drying (300 °C)..... ≤ 1.0 %  
Corresponds to ACS, ISO, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04928.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.04928.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.04928.9050	Fibre carton	50 kg	inquire

## 104926 Potassium carbonate-1.5-hydrate 99.995 Suprapur®

K<sub>2</sub>O<sub>3</sub> \* 1,5 H<sub>2</sub>OK<sub>2</sub>CO<sub>3</sub> \* 1,5 H<sub>2</sub>O

- CAS-No. 6381-79-9 ■ EC-No. 209-529-3
- Solub. in H<sub>2</sub>O 1300 g/l (20 °C) ■ M = 138.21 g/mol (anhydrous) ■ pH value (50 g/l, H<sub>2</sub>O, 20 °C) strongly alkaline
- Melting point 891 °C (anhydrous substance)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2836 40 00 ■ Disposal 14

Fluoride (F)..... ≤ 5 ppm  
Phosphate (PO<sub>4</sub>)..... ≤ 0.05 ppm  
Silicate (as SiO<sub>2</sub>)..... ≤ 5 ppm  
Sulphate (SO<sub>4</sub>)..... ≤ 10 ppm  
Al (Aluminium)..... ≤ 0.05 ppm  
As (Arsenic)..... ≤ 0.05 ppm  
B (Boron)..... ≤ 0.5 ppm  
Ba (Barium)..... ≤ 5.0 ppm  
Ca (Calcium)..... ≤ 0.50 ppm  
Cd (Cadmium)..... ≤ 0.010 ppm  
Ce (Cerium)..... ≤ 0.010 ppm  
Co (Cobalt)..... ≤ 0.010 ppm  
Cr (Chromium)..... ≤ 0.010 ppm  
Cu (Copper)..... ≤ 0.010 ppm  
Eu (Europium)..... ≤ 0.010 ppm  
Fe (Iron)..... ≤ 0.05 ppm  
Hg (Mercury)..... ≤ 0.05 ppm  
La (Lanthanum)..... ≤ 0.010 ppm  
Li (Lithium)..... ≤ 0.2 ppm

Mg (Magnesium)..... ≤ 0.10 ppm  
Mn (Manganese)..... ≤ 0.050 ppm  
Na (Sodium)..... ≤ 10 ppm  
Ni (Nickel)..... ≤ 0.050 ppm  
Pb (Lead)..... ≤ 0.010 ppm  
Sc (Scandium)..... ≤ 0.010 ppm  
Sm (Samarium)..... ≤ 0.010 ppm  
Sr (Strontium)..... ≤ 0.50 ppm  
Tl (Thallium)..... ≤ 0.01 ppm  
Y (Yttrium)..... ≤ 0.010 ppm  
Yb (Ytterbium)..... ≤ 0.010 ppm  
Zn (Zinc)..... ≤ 0.050 ppm

## Specification

Purity (metallic)..... ≥ 99.995 %  
K<sub>2</sub>CO<sub>3</sub> contents..... ≥ 80.0 %  
Chloride (Cl)..... ≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.04926.0050	Plastic bottle	50 g	inquire
1.04926.0250	Plastic bottle	250 g	inquire

# Potass

## 106683 Potassium carbonate/sodium carbonate GR for analysis



### Potassium sodium carbonate

■ Spec. density 2.47 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.5 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 1750 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13

■ HS-No. 2842 90 80 ■ Disposal 14  
 Dissolution mixture for silicate-containing samples and sulfates of low solubility.

### Specification

Chloride (Cl)..... ≤ 0.002 %  
 Phosphate and Silicate (as SiO<sub>2</sub>)..... ≤ 0.005 %  
 Total sulfur (as SO<sub>4</sub>)..... ≤ 0.005 %  
 Total nitrogen (N)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.002 %

Al (Aluminium)..... ≤ 0.001 %  
 Ca (Calcium)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Mg (Magnesium)..... ≤ 0.001 %  
 Loss on ignition (600 °C)..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.06683.0500	Plastic bottle	500 g	inquire
1.06683.2500	Plastic bottle	2.5 kg	inquire

Potassium Cell Test → page 80

## 104944 Potassium chlorate for analysis EMSURE®



ClKO<sub>3</sub>  
 KClO<sub>3</sub>  
 ■ CAS-No. 3811-04-9 ■ EC-No. 223-289-7  
 ■ Spec. density 2.32 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 73 g/l (20 °C) ■ M = 122.55 g/mol  
 ■ pH value 5.6 (73 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 356 °C  
 ■ Bulk density 1200 - 1400 kg/m<sup>3</sup>  
 ■ Boiling point 400 °C (decomposition)  
 ■ WGK 2  
 ■ GHS: Danger, Oxidising solid, Category 1, H271; Acute toxicity, Category 4, Inhalation, H332; Chronic aquatic toxicity, Category 2, H411, P210, P221,

P273  
 ■ LD50 oral rat 1870 mg/kg  
 ■ EC-Index-No. 017-004-00-3 ■ LGK 5.1A  
 ■ HS-No. 2829 19 00 ■ Disposal 22  
 ■ ADR-RID UN 1485 Kaliumchlorat, 5.1, II  
 ■ IMDG-Code UN 1485 POTASSIUM CHLORATE, 5.1, II, Segregation Group: 4 (Chlorates)  
 ■ IATA-DGR UN 1485 POTASSIUM CHLORATE, 5.1, II  
**Specification**  
 Assay (argentometric)..... ≥ 99.0 %  
 Identity..... passes test  
 Chloride (Cl)..... ≤ 0.005 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %  
 Total nitrogen (N)..... ≤ 0.0005 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 As (Arsenic)..... ≤ 0.00005 %  
 Ca (Calcium)..... ≤ 0.002 %  
 Fe (Iron)..... ≤ 0.0003 %  
 Mg (Magnesium)..... ≤ 0.001 %  
 Na (Sodium)..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.04944.0100	Metal can	100 g	inquire
1.04944.0500	Metal can	500 g	inquire

## Potassium chloride

ClK  
 ClKl  
 ■ CAS-No. 7447-40-7 ■ EC-No. 231-211-8  
 ■ Spec. density 1.98 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 347 g/l (20 °C) ■ M = 74.55 g/mol

■ pH value 5.5 - 8.0 (50 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 773 °C ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ Boiling point 1413 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat 2600 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 3105 10 00 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

## 104933 Potassium chloride for analysis (<= 0.005% Br) EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
 Assay (argentometric)..... 99.5 - 100.5 %  
 Assay (argentometric; calculated on dried substance)..... 99.0 - 100.5 %  
 Identity..... passes test  
 Appearance of solution..... passes test  
 Insoluble matter..... ≤ 0.005 %  
 pH-value (5 %; water)..... 5.5 - 8.0  
 Acidity or alkalinity..... passes test  
 Bromide (Br)..... ≤ 0.005 %  
 Chlorate and Nitrate (as NO<sub>3</sub>)..... ≤ 0.003 %

Iodide (I)..... ≤ 0.002 %  
 Iodide (I)..... passes test  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.001 %  
 Total nitrogen (N)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ba (Barium)..... passes test  
 Ca (Calcium)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.0002 %  
 Mg (Magnesium)..... ≤ 0.0005 %

Na (Sodium)..... ≤ 0.005 %  
 Magnesium and alkaline-earth metals (as Ca)..... ≤ 0.02 %  
 Loss on drying (105 °C)..... ≤ 1.0 %  
 Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04933.0500	Plastic bottle	500 g	inquire

## 104936 Potassium chloride for analysis EMSURE®

**Specification**  
 Assay (argentometric)..... ≥ 99.5 %  
 In water insoluble matter..... ≤ 0.01 %  
 pH-value (5 %; water)..... 5.5 - 8.0  
 Bromide (Br)..... ≤ 0.05 %  
 Iodide (I)..... ≤ 0.002 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Total nitrogen (N)..... ≤ 0.001 %

Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ba (Barium)..... ≤ 0.001 %  
 Ca (Calcium)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.0003 %  
 Mg (Magnesium)..... ≤ 0.002 %  
 Na (Sodium)..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.04936.0250	Plastic bottle	250 g	inquire
1.04936.0500	Plastic bottle	500 g	inquire
1.04936.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.04936.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.04936.9050	Fibre carton	50 kg	inquire

## 104938 Potassium chloride 99.999 Suprapur®

**Specification**  
 Purity (metallic)..... ≥ 99.999 %  
 Assay (argentometric)..... ≥ 99.5 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 5 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 10 ppm  
 Total nitrogen (N)..... ≤ 10 ppm  
 Al (Aluminium)..... ≤ 0.01 ppm  
 Ba (Barium)..... ≤ 1.0 ppm  
 Ca (Calcium)..... ≤ 0.10 ppm  
 Cd (Cadmium)..... ≤ 0.005 ppm  
 Ce (Cerium)..... ≤ 0.010 ppm  
 Co (Cobalt)..... ≤ 0.005 ppm

Cr (Chromium)..... ≤ 0.010 ppm  
 Cu (Copper)..... ≤ 0.005 ppm  
 Eu (Europium)..... ≤ 0.005 ppm  
 Fe (Iron)..... ≤ 0.01 ppm  
 La (Lanthanum)..... ≤ 0.005 ppm  
 Li (Lithium)..... ≤ 0.4 ppm  
 Mg (Magnesium)..... ≤ 0.05 ppm  
 Mn (Manganese)..... ≤ 0.010 ppm  
 Na (Sodium)..... ≤ 5.0 ppm  
 Ni (Nickel)..... ≤ 0.010 ppm  
 Pb (Lead)..... ≤ 0.010 ppm

Sc (Scandium)..... ≤ 0.005 ppm  
 Sm (Samarium)..... ≤ 0.005 ppm  
 Sr (Strontium)..... ≤ 0.10 ppm  
 Tl (Thallium)..... ≤ 0.01 ppm  
 Y (Yttrium)..... ≤ 0.005 ppm  
 Yb (Ytterbium)..... ≤ 0.005 ppm  
 Zn (Zinc)..... ≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.04938.0050	Plastic bottle	50 g	inquire
1.04938.0500	Plastic bottle	500 g	inquire



**104817 Potassium chloride solution 3 mol/l**

- Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 2827 39 85 ■ Disposal 28

**Specification**  
Concentration c(KCl)= 3 mol/l  
concentration..... 2.9 - 3.1 mol/l

Ord.No.	Packaging	Quantity	Price
1.04817.0250	Plastic bottle	250 ml	inquire

**104818 Potassium chloride solution saturated with silver chloride 3 mol/l**

- Spec. density 1.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.2 (H<sub>2</sub>O, 20 °C)
- Boiling point 100 °C (1013 hPa)
- WGK 1
- LGK 10 - 13

■ HS-No. 3822 00 00 ■ Disposal 27  
**Specification**  
concentration (KCl)..... 2.97 - 3.03 mol/l  
Ag (Silver)..... ≥ 0.16 g/l

Ord.No.	Packaging	Quantity	Price
1.04818.0100	Plastic bottle	100 ml	inquire

**104952 Potassium chromate for analysis EMSURE® ACS,Reag. Ph Eur**

- CrK<sub>2</sub>O<sub>4</sub>  
K<sub>2</sub>CrO<sub>4</sub>  
*chromic acid potassium salt*  
■ CAS-No. 7789-00-6 ■ EC-No. 232-140-5  
■ Spec. density 2.73 g/cm<sup>3</sup> (18 °C) ■ Solub. in H<sub>2</sub>O 637 g/l (20 °C) ■ M = 194.19 g/mol  
■ pH value 9.0 - 9.8 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 985 °C ■ Bulk density 1400 kg/m<sup>3</sup>  
■ Boiling point 1000 °C  
■ WGK 3  
■ GHS: Danger, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, Inhalation, H350i; Specific target organ toxicity -

single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P305 + P351 + P338, P308 + P313  
■ EC-Index-No. 024-006-00-8 ■ LGK 6.1B  
■ HS-No. 2841 50 00 ■ Disposal 22  
■ ADR-RID UN 3288 Giftiger anorganischer fester Stoff, n.a.g.(KALIUMCHROMAT), 6.1, II ■ IMDG-Code UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(POTASSIUM CHROMATE), 6.1, II  
■ IATA-DGR UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(POTASSIUM CHROMATE), 6.1, II  
**Specification**  
Assay (iodometric)..... ≥ 99.5 %

In water insoluble matter..... ≤ 0.005 %  
pH-value (5 %; water)..... 9.0 - 9.8  
Chloride (Cl)..... ≤ 0.001 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
Ca (Calcium)..... ≤ 0.005 %  
Na (Sodium)..... ≤ 0.02 %  
Pb (Lead)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.04952.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.04952.1000	Plastic bottle	1 kg	inquire

Potassium chromium(III) sulfate → Chromium(III) potassium sulfate dodecahydrate page 641

**804957 Potassium cyanate for synthesis**

- CKNO  
KOCN  
*Cyanic acid potassium salt*  
■ CAS-No. 590-28-3 ■ EC-No. 209-676-3  
■ Spec. density 2.056 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 750 g/l (20 °C) ■ M = 81.12 g/mol  
■ pH value 10 (50 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 314 - 316 °C

■ Bulk density 870 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
■ LD50 oral rat 567 mg/kg  
■ EC-Index-No. 615-016-00-9 ■ LGK 10 - 13  
■ HS-No. 2842 90 80 ■ Disposal 6

**Specification**  
Assay (argentometric)..... ≥ 97.0 % (m)  
Potassium cyanide..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
8.04957.0100	Plastic bottle	100 g	inquire
8.04957.1000	Plastic bottle	1 kg	inquire

**Potassium cyanide**

- CKN  
KCN  
*Cyanogen potassium*  
■ CAS-No. 151-50-8 ■ EC-No. 205-792-3  
■ Vapour pressure (20 °C) not applicable  
■ Spec. density 1.55 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 716 g/l (25 °C) ■ M = 65.12 g/mol  
■ pH value 11 - 12 (20 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 634 °C ■ Bulk density 750 kg/m<sup>3</sup>

■ Boiling point 1625 °C (1013 hPa)  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
■ LD50 oral rat 5 mg/kg ■ LD50 dermal rabbit

14.3 - 33.3 mg/kg  
■ EC-Index-No. 006-007-00-5 ■ LGK 6.1B  
■ HS-No. 2837 19 00 ■ Disposal 6  
■ ADR-RID UN 1680 Kaliumcyanid, fest, 6.1, I  
■ IMDG-Code UN 1680 POTASSIUM CYANIDE, SOLID, 6.1, I, Marine Pollutant: P, Segregation Group: 6 (Cyanides)  
■ IATA-DGR UN 1680 POTASSIUM CYANIDE, SOLID, 6.1, I

**104967 Potassium cyanide for analysis EMSURE® ACS,ISO,Reag. Ph Eur**

**Specification**  
Assay (argentometric)..... ≥ 97.0 %  
Chloride (Cl)..... ≤ 0.02 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.005 %  
Sulfate (SO<sub>4</sub>)..... ≤ 0.01 %  
Sulphide (S)..... ≤ 0.0005 %  
Thiocyanate (SCN)..... ≤ 0.01 %

Fe (Iron)..... ≤ 0.01 %  
Na (Sodium)..... ≤ 0.5 %  
Pb (Lead)..... ≤ 0.0002 %  
Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04967.0100	Plastic bottle	100 g	inquire
1.04967.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.04967.1000	Plastic bottle	1 kg	inquire

**104965 Potassium cyanide**

**Specification**  
Assay (argentometric)..... ≥ 96 %  
Sulphide (S)..... ≤ 0.001 %  
Na (Sodium)..... ≤ 1 %

Ord.No.	Packaging	Quantity	Price
1.04965.1000	Plastic bottle	1 kg	inquire
1.04965.9050	Plastic drum	50 kg	inquire



# Potass

## Potassium dichromate

Cr<sub>2</sub>K<sub>2</sub>O<sub>7</sub>  
K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>  
*Potassium bichromate, Potassium pyrochromate*  
■ CAS-No. 7778-50-9 ■ EC-No. 231-906-6  
■ Spec. density 2.69 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 130 g/l (20 °C) ■ M = 294.19 g/mol  
■ pH value 3.6 (100 g/l, H<sub>2</sub>O)  
■ Melting point 398 °C ■ Bulk density 1250 kg/m<sup>3</sup>  
■ Boiling point >500 °C (1013 hPa)  
■ WGK 3  
■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Reproductive toxicity, Category 1B, H360FD;

Oxidising solid, Category 2, H272; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P280, P301 + P330 + P331, P305 + P351 + P338, P304 + P341, P308 + P313  
■ LC50 rat 0.094 mg/l

■ LD50 oral rat 25 mg/kg ■ LD50 dermal rat 1170 mg/kg  
■ EC-Index-No. 024-002-00-6 ■ LGK 5.1B  
■ HS-No. 2841 50 00 ■ Disposal 22  
■ ADR-RID UN 3086 Giftiger fester Stoff, entzündend (oxidierend) wirkend, n.a.g.(KALIUMDICHROMAT), 6.1 (5.1), II ■ IMDG-Code UN 3086 TOXIC SOLID, OXIDIZING, N.O.S.(POTASSIUM DICHROMATE), 6.1 (5.1), II  
■ IATA-DGR UN 3086 TOXIC SOLID, OXIDIZING, N.O.S.(POTASSIUM DICHROMATE), 6.1 (5.1), II

### 104865 Potassium dichromate for analysis (max. 0.000001% Hg) EMSURE® ACS,ISO

**Specification**  
Assay (iodometric) ..... ≥ 99.9 %  
Insoluble matter ..... ≤ 0.005 %  
Chloride (Cl) ..... ≤ 0.001 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
Ca (Calcium) ..... ≤ 0.002 %

Cu (Copper) ..... ≤ 0.001 %  
Fe (Iron) ..... ≤ 0.001 %  
Hg (Mercury) ..... ≤ 0.000001 %  
Na (Sodium) ..... ≤ 0.02 %  
Pb (Lead) ..... ≤ 0.005 %

Loss on drying (105 °C) ..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.04865.0500	Glass bottle	500 g	inquire

### 104864 Potassium dichromate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
Assay (iodometric, calc. on dried substance) ..... ≥ 99.9 %  
Insoluble matter ..... ≤ 0.005 %  
Chloride (Cl) ..... ≤ 0.001 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
Ca (Calcium) ..... ≤ 0.002 %

Cu (Copper) ..... ≤ 0.001 %  
Fe (Iron) ..... ≤ 0.001 %  
Na (Sodium) ..... ≤ 0.02 %  
Pb (Lead) ..... ≤ 0.005 %  
Loss on drying (130 °C) ..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.04864.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.04864.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.04864.5000	Plastic bottle	5 kg	inquire

### 102403 Potassium dichromate volumetric standard, secondary reference material for redox titration, traceable to NIST SRM Certipur®

Ord.No.	Packaging	Quantity	Price
1.02403.0080	Glass bottle	80 g	inquire

### 109118 Potassium dichromate solution c(K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>) = 1/24 mol/l (0.25 N) Titripur®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.8 (H<sub>2</sub>O, 20 °C)  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 1B, H360FD; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P201, P273, P304 + P340, P308 + P313  
■ LGK 6.1B

■ HS-No. 2841 50 00 ■ Disposal 22  
**Specification**  
Amount-of-substance concentration ..... 1/24 mol/l  
The concentration of this volumetric solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability).

The certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09118.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

### 109928 Potassium dichromate solution for 1000 ml, c(K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>) = 1/60 mol/l (0.1 N) Titrisol®

■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.1 (H<sub>2</sub>O, 20 °C)  
■ WGK 3  
■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 1B, H360FD; Specific target organ toxicity - single exposure, Category 3, H335; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P201, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

■ LGK 6.1 D ■ Store at +15°C to +25°C.  
■ HS-No. 2841 50 00 ■ Disposal 22  
■ ADR-RID UN 3287 Giftiger anorganischer flüssiger Stoff, n.a.g.(KALIUMDICHROMAT), 6.1, III  
■ IMDG-Code UN 3287 TOXIC LIQUID, INORGANIC, N.O.S.(POTASSIUM DICHROMATE), 6.1, III  
■ IATA-DGR UN 3287 TOXIC LIQUID, INORGANIC, N.O.S.(POTASSIUM DICHROMATE), 6.1, III  
**Specification**  
Concentration after dilution to 1 liter: c(K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>) = 1/60 mol/l  
Amount-of-substance concentration ..... 1/60 mol/l  
The concentration of this solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against

volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09928.0001	Plastic ampoule	1 amp	inquire

**109119 Potassium dichromate solution** for determination of COD  $c(K_2Cr_2O_7) = 0.020 \text{ mol/l}$  Titripur®

- Spec. density 1.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.8 (H<sub>2</sub>O, 20 °C)
- WGK 3
- GHS: Danger, Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 1B, H360FD; Chronic aquatic toxicity, Category 3, H412, P201, P273, P308 + P313
- LGK 6.1B
- HS-No. 2841 50 00 ■ Disposal 22

**Specification**  
Amount-of-substance concentration . 0.0200 mol/l  
The concentration of this volumetric solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to

primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09119.1000	Plastic bottle	1 l	inquire

Potassium dichromate solution 0.020 mol/l cont. mercury(II) sulfate → Mercury(II) sulfate 80 g/l page 1106

**108158 Potassium dichromate standard solutions in sulfuric acid (0.01N)** Test set for calibrating the absorbance of spectrophotometers

- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00
- 250 ml Potassium dichromate in sulfuric acid 50 mg/l 250 ml Potassium dichromate in sulfuric acid 100 mg/l 2 x 250 ml Sulfuric acid 0,01 N

**Specification**

Absorbance measured in a 10 mm cells at 20 ± 1 °C against sulfuric acid reference solution:

	50 mg/l	100 mg/l
235 nm	0.621 ± 0.02	1.242 ± 0.02
257 nm	0.722 ± 0.02	1.444 ± 0.02
313 nm	0.242 ± 0.02	0.484 ± 0.02
350 nm	0.536 ± 0.02	1.071 ± 0.02
Absorbance (235 nm; 50 mg/l).....	0.601 - 0.641	
Absorbance (257 nm; 50 mg/l).....	0.702 - 0.742	
Absorbance (313 nm; 50 mg/l).....	0.222 - 0.262	
Absorbance (350 nm; 50 mg/l).....	0.516 - 0.556	

Absorbance (235 nm; 100 mg/l).....1.222 - 1.262  
Absorbance (257 nm; 100 mg/l).....1.424 - 1.464  
Absorbance (313 nm; 100 mg/l).....0.464 - 0.504  
Absorbance (350 nm; 100 mg/l).....1.051 - 1.091

Ord.No.	Packaging	Quantity	Price
1.08158.0001	Glass bottle	1 set	inquire

**104858 Potassium dichromate tablets** for preserving milk investigation samples

- Solub. in H<sub>2</sub>O (20 °C) soluble
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Reproductive toxicity, Category 1B, H360FD; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin corrosion, Category 1B, H314; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Chronic

aquatic toxicity, Category 2, H411, P201, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LGK 5.1 B  
■ HS-No. 3822 00 00 ■ Disposal 22  
■ ADR-RID UN 3087 Entzündend (oxidierend) wirkender fester Stoff, giftig, n.a.g.(KALIUMDICHROMAT), 5.1 (6.1), III ■ IMDG-Code UN 3087 OXIDIZING SOLID, TOXIC, N.O.S.(POTASSIUM DICHROMATE), 5.1 (6.1), III  
■ IATA-DGR UN 3087 OXIDIZING SOLID, TOXIC,

N.O.S.(POTASSIUM DICHROMATE), 5.1 (6.1), III

**Specification**

Assay (iodometric) .....32 - 34mg/tab  
Weight (min).....≥ 97mg  
Weight (max).....≤ 107mg  
Disintegration time (at 20 °C).....≤ 100 s

Ord.No.	Packaging	Quantity	Price
1.04858.0001	Plastic can	5000 tabs	inquire

**Potassium dihydrogen phosphate**

H<sub>2</sub>KO<sub>4</sub>P

KH<sub>2</sub>PO<sub>4</sub>

- mono-Potassium orthophosphate, Potassium biphosphate, Potassium phosphate monobasic
- CAS-No. 7778-77-0 ■ EC-No. 231-913-4
- Spec. density 2.34 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 222 g/l (20 °C) ■ M = 136.08 g/mol

- pH value 4.4 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 253 °C (decomposition)
- Bulk density 1200 kg/m<sup>3</sup>
- WGK 1
- LD50 dermal rabbit > 4640 mg/kg

- LGK 10 - 13
- HS-No. 2835 24 00 ■ Disposal 14
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**104877 Potassium dihydrogen phosphate** for analysis (<= 0.005% Na) EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
Assay (alkalimetric) .....≥ 99.0 %  
Assay (alkalimetric, calculated on dried substance) .....98.0 - 100.5 %  
Assay (alkalimetric; dried substance).....≥ 99.5 %  
Identity.....passes test  
Appearance of solution .....passes test  
Insoluble matter .....≤ 0.01 %

pH-value (5 %; water, 25 °C)..... 4.2 - 4.5  
Chloride (Cl).....≤ 0.0005 %  
Sulphate (SO<sub>4</sub>).....≤ 0.003 %  
Total nitrogen (N).....≤ 0.001 %  
Heavy metals (as Pb).....≤ 0.001 %  
As (Arsenic).....≤ 0.0002 %  
Fe (Iron).....≤ 0.001 %  
Na (Sodium).....≤ 0.005 %

Reducing substances.....passes test  
Loss on drying (130 °C) .....≤ 0.2 %  
Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04877.1000	Plastic bottle	1 kg	inquire
1.04877.9025	Fibre carton	25 kg	inquire

**104873 Potassium dihydrogen phosphate** for analysis EMSURE® ISO

**Specification**  
Assay (alkalimetric, calculated on dried substance) .....99.5 - 100.5 %  
Assay (alkalimetric; dried substance).....≥ 99.5 %  
pH-value (5 %; water)..... 4.2 - 4.5  
Chloride (Cl).....≤ 0.0005 %  
Sulphate (SO<sub>4</sub>).....≤ 0.003 %  
Total nitrogen (N).....≤ 0.001 %  
Heavy metals (as Pb).....≤ 0.001 %  
As (Arsenic).....≤ 0.0002 %

Cu (Copper).....≤ 0.0003 %  
Fe (Iron).....≤ 0.001 %  
Na (Sodium).....≤ 0.02 %  
Pb (Lead).....≤ 0.001 %  
Reducing substances.....passes test  
Loss on drying (110 °C) .....≤ 0.2 %  
Loss on drying (130 °C) .....≤ 0.2 %  
Corresponds to ISO

Ord.No.	Packaging	Quantity	Price
1.04873.0250	Plastic bottle	250 g	inquire
1.04873.1000	Plastic bottle	1 kg	inquire
1.04873.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.04873.9025	Fibre carton	25 kg	inquire
1.04873.9050	Fibre carton	50 kg	inquire

# Potass

## 105108 Potassium dihydrogen phosphate anhydrous 99.995 Suprapur®

<b>Specification</b>	
Purity (metallic).....	≥ 99.995 %
Assay (acidimetric).....	≥ 99.5 %
Spec. Absorbance A at 260 nm (2 cm, 10%, water)	≤ 0.010
Chloride (Cl).....	≤ 5 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 30 ppm
As (Arsenic).....	≤ 0.1 ppm
Ba (Barium).....	≤ 5.0 ppm
Ca (Calcium).....	≤ 0.50 ppm
Cd (Cadmium).....	≤ 0.005 ppm
Ce (Cerium).....	≤ 0.010 ppm

Co (Cobalt).....	≤ 0.010 ppm
Cu (Copper).....	≤ 0.005 ppm
Eu (Europium).....	≤ 0.010 ppm
Fe (Iron).....	≤ 0.10 ppm
Hg (Mercury).....	≤ 0.05 ppm
La (Lanthanum).....	≤ 0.010 ppm
Mg (Magnesium).....	≤ 0.50 ppm
Mn (Manganese).....	≤ 0.010 ppm
Na (Sodium).....	≤ 20.0 ppm
Ni (Nickel).....	≤ 0.010 ppm
Pb (Lead).....	≤ 0.005 ppm

Sm (Samarium).....	≤ 0.010 ppm
Sr (Strontium).....	≤ 0.50 ppm
Tl (Thallium).....	≤ 0.01 ppm
Y (Yttrium).....	≤ 0.010 ppm
Yb (Ytterbium).....	≤ 0.010 ppm
Zn (Zinc).....	≤ 0.005 ppm

Ord.No.	Packaging	Quantity	Price
1.05108.0050	Plastic bottle	50 g	inquire
1.05108.0500	Plastic bottle	500 g	inquire

## 104875 Potassium dihydrogen phosphate solution (buffer stock solution) 1/15 mol/l

- Spec. density 1.005 g/cm<sup>3</sup>
- WGK nwg
- HS-No. 2835 24 00 ■ Disposal 28

<b>Specification</b>	
concentration.....	0.0664 - 0.0670 mol/l

Ord.No.	Packaging	Quantity	Price
1.04875.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

## 105107 Potassium disulfate (Potassium pyrosulfate) for analysis EMSURE® ACS

- K<sub>2</sub>O<sub>7</sub>S<sub>2</sub>  
**Potassium pyrosulfate**  
 ■ CAS-No. 7790-62-7 ■ EC-No. 232-216-8  
 ■ Spec. density 2.25 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 254.33 g/mol  
 ■ pH value 0.8 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 325 °C ■ Bulk density 830 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: P260, P262  
 ■ LGK 10 - 13  
 ■ HS-No. 2833 29 80 ■ Disposal 14

<b>Specification</b>	
Assay (acidimetric, as K <sub>2</sub> S <sub>2</sub> O <sub>7</sub> ).....	97.5 - 100.0 %
Acidity (as H <sub>2</sub> SO <sub>4</sub> ).....	37.5 - 38.6 %
Insoluble and by ammoniumhydroxide precipitated matter.....	≤ 0.01 %
Chloride (Cl).....	≤ 0.0005 %
Phosphate (PO <sub>4</sub> ).....	≤ 0.001 %
Total nitrogen (N).....	≤ 0.002 %
Heavy metals (as Pb).....	≤ 0.001 %
Al (Aluminium).....	≤ 0.001 %
As (Arsenic).....	≤ 0.0005 %
Ca (Calcium).....	≤ 0.002 %

Fe (Iron).....	≤ 0.0005 %
Mg (Magnesium).....	≤ 0.0005 %
Na (Sodium).....	≤ 0.01 %
Water (H <sub>2</sub> O).....	≤ 2.5 %
Conforms ACS.	

Ord.No.	Packaging	Quantity	Price
1.05107.1000	Plastic bottle	1 kg	inquire
1.05107.5000	Plastic bottle	5 kg	inquire
1.05107.9050	Plastic drum	50 kg	inquire

## 105057 Potassium disulfite for analysis EMSURE®

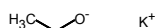
- K<sub>2</sub>O<sub>5</sub>S<sub>2</sub>  
 K<sub>2</sub>S<sub>2</sub>O<sub>5</sub>  
**Potassium metabisulfite, Potassium pyrosulfite**  
 ■ CAS-No. 16731-55-8 ■ EC-No. 240-795-3  
 ■ Spec. density 2.34 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 450 g/l (20 °C) ■ M = 222.33 g/mol ■ pH value 3.0 - 4.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 150 °C (decomposition)  
 ■ Bulk density 1000 - 1300 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Serious eye damage, Category 1, H318, P280, P304 + P340,

P305 + P351 + P338, P313	
■ LD50 oral rat 2300 mg/kg	
■ LGK 10 - 13	
■ HS-No. 2832 20 00 ■ Disposal 6	
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good	
■ IATA-DGR No Dangerous Good	
<b>Specification</b>	
Assay (iodometric).....	≥ 96 %
In water insoluble matter.....	≤ 0.005 %
Chloride (Cl).....	≤ 0.005 %
As (Arsenic).....	≤ 0.0001 %

Cu (Copper).....	≤ 0.001 %
Fe (Iron).....	≤ 0.0005 %
Pb (Lead).....	≤ 0.001 %
Zn (Zinc).....	≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.05057.0500	Plastic bottle	500 g	inquire
1.05057.1000	Plastic bottle	1 kg	inquire
1.05057.2500	Plastic bottle	2.5 kg	inquire
	Plastic bottle	4 x 2.5 kg	inquire

## 814208 Potassium ethylate for synthesis



- C<sub>2</sub>H<sub>5</sub>KO  
 ■ CAS-No. 917-58-8 ■ EC-No. 213-029-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 84.16 g/mol ■ Bulk density 650 kg/m<sup>3</sup>  
 ■ Boiling point 250 °C  
 ■ Ignition temp. 90 - 100 °C  
 ■ WGK 1  
 ■ GHS: Danger, Self-heating substances, Category 1, H251; Skin corrosion, Category 1B, H314, P280,

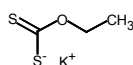
P301 + P330 + P331, P305 + P351 + P338, P309 + P310	
■ EC-Index-No. 603-041-00-8 ■ LGK 4.2	
■ HS-No. 2905 19 00	
■ ADR-RID UN 3206 Alkalimetallalkoholate, selbsterhitzungsfähig, ätzend, n.a.g.(KALIUMETHANOLAT), 4.2 (8), II ■ IMDG-Code UN 3206 ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.(POTASSIUM ETHANOLATE), 4.2 (8), II, Segregation Group: 18 (Alkalis)	
■ IATA-DGR UN 3206 ALKALI METAL	

ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.(POTASSIUM ETHANOLATE), 4.2 (8), II

<b>Specification</b>	
Assay (acidimetric).....	≥ 95.0 %
Free KOH.....	≤ 2.0 %
Free K <sub>2</sub> CO <sub>3</sub> .....	≤ 2.0 %
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.14208.0100	Glass bottle	100 g	inquire
8.14208.0500	Glass bottle	500 g	inquire

## 820744 Potassium-O-ethylthiocarbonate for synthesis



- C<sub>3</sub>H<sub>5</sub>KOS<sub>2</sub>  
**Potassium ethylxanthogenate, Potassium xanthogenate**  
 ■ CAS-No. 140-89-6 ■ EC-No. 205-439-3  
 ■ Flash point 205 °C ■ Solub. in H<sub>2</sub>O 1090 g/l (20 °C) ■ M = 160.3 g/mol ■ pH value 9 - 10 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 209 - 214 °C decomposes	
■ Bulk density 400 - 600 kg/m <sup>3</sup>	
■ WGK 2	
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338	
■ LD50 oral rat 1700 mg/kg	
■ LGK 10 - 13	
■ HS-No. 2930 90 99 ■ Disposal 3	

<b>Specification</b>	
Assay (iodometric).....	≥ 97.0 %
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.20744.0100	Plastic bottle	100 g	inquire
8.20744.0500	Plastic bottle	500 g	inquire

Potassium ethylxanthogenate → Potassium-O-ethylthiocarbonate page 1350

Potassium ferricyanide → page 1351

Potassium ferrocyanide → page 1351

**104994 Potassium fluoride** for analysis EMSURE® ACS

FK  
KF  
 ■ CAS-No. 7789-23-3 ■ EC-No. 232-151-5  
 ■ Vapour pressure 1.3 hPa (885 °C)  
 ■ Spec. density 2.48 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 923 g/l (20 °C) ■ M = 58.1 g/mol  
 ■ pH value 7 - 9 (50 g/l, H<sub>2</sub>O, 18 °C)  
 ■ Melting point 860 °C ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ Boiling point 1500 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral,

H301, P280, P304 + P340, P302 + P352, P309 + P310  
 ■ LD50 oral rat 245 mg/kg  
 ■ EC-Index-No. 009-005-00-2 ■ LGK 6.1 D  
 ■ HS-No. 2826 19 90 ■ Disposal 23  
 ■ ADR-RID UN 1812 Kaliumfluorid, fest, 6.1, III  
 ■ IMDG-Code UN 1812 POTASSIUM FLUORIDE, SOLID, 6.1, III  
 ■ IATA-DGR UN 1812 POTASSIUM FLUORIDE, SOLID, 6.1, III  
**Specification**  
 Assay (precipitative titration)..... ≥ 99.0 %

Free alkali (as KOH)..... ≤ 0.05 %  
 Free acid (as HF)..... ≤ 0.05 %  
 Chloride (Cl)..... ≤ 0.005 %  
 Hexafluorosilicate (SiF<sub>6</sub>)..... ≤ 0.05 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.001 %  
 Na (Sodium)..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.04994.0250	Plastic bottle	250 g	inquire
1.04994.1000	Plastic bottle	1 kg	inquire

Potassium gluconate → Gluconic acid potassium salt page 922

**119238 Potassium hexachloroplatinate(IV) 99+**

Cl<sub>6</sub>K<sub>2</sub>Pt  
K<sub>2</sub>PtCl<sub>6</sub>  
 ■ CAS-No. 16921-30-5 ■ EC-No. 240-979-3  
 ■ Spec. density 3.48 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 52 g/l (100 °C) ■ M = 486.01 g/mol  
 ■ Melting point 250 °C decomposes  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Serious eye damage, Category 1, H318; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P305 + P351 + P338, P304 + P341, P302 + P352, P309 + P310  
 ■ LD50 oral rat 195 mg/kg  
 ■ EC-Index-No. 078-007-00-3 ■ LGK 6.1 B  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(KALUMHEXACHLOROPLATINAT(IV)), 8 (6.1),

III ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(POTASSIUM HEXACHLOROPLATINATE(IV)), 8 (6.1), III  
 ■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(POTASSIUM HEXACHLOROPLATINATE(IV)), 8 (6.1), III  
**Specification**  
 Identity (elemental analysis)..... passes test  
 Assay (calculated of Pt)..... 99.0 - 101.0 %  
 Pt (Platinum)..... 39.7 - 40.5 %  
 Al (Aluminium)..... ≤ 10 ppm  
 Ca (Calcium)..... ≤ 50 ppm  
 Cd (Cadmium)..... ≤ 10 ppm  
 Co (Cobalt)..... ≤ 10 ppm  
 Cr (Chromium)..... ≤ 10 ppm  
 Cu (Copper)..... ≤ 50 ppm  
 Fe (Iron)..... ≤ 50 ppm

Hg (Mercury)..... ≤ 100 ppm  
 Ir (Iridium)..... ≤ 100 ppm  
 Mg (Magnesium)..... ≤ 50 ppm  
 Mn (Manganese)..... ≤ 10 ppm  
 Ni (Nickel)..... ≤ 10 ppm  
 Os (Osmium)..... ≤ 100 ppm  
 Pb (Lead)..... ≤ 50 ppm  
 Pd (Palladium)..... ≤ 100 ppm  
 Rh (Rhodium)..... ≤ 100 ppm  
 Ru (Ruthenium)..... ≤ 100 ppm  
 Zn (Zinc)..... ≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.19238.0001	Glass bottle	1 g	inquire
1.19238.0005	Fibre case	5 g	inquire

**Potassium hexacyanoferrate(III)**

C<sub>6</sub>FeK<sub>3</sub>N<sub>6</sub>  
K<sub>3</sub>[Fe(CN)<sub>6</sub>]  
Potassium ferricyanide  
 ■ CAS-No. 13746-66-2 ■ EC-No. 237-323-3

■ Spec. density 1.85 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 464 g/l (20 °C) ■ M = 329.25 g/mol  
 ■ pH value 6 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Bulk density 900 - 1000 kg/m<sup>3</sup>

■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2837 20 00 ■ Disposal 14

**104971 Potassium hexacyanoferrate(III) pure**

**Specification**  
 Assay (iodometric)..... ≥ 99.0 %  
 Chloride (Cl)..... ≤ 0.15 %  
 Hexacyanoferrate (II) (Fe(CN)<sub>6</sub>)<sup>4-</sup>..... ≤ 0.1 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.04971.1000	Plastic bottle	1 kg	inquire
1.04971.9050	Fibre carton	50 kg	inquire

**104973 Potassium hexacyanoferrate(III) for analysis EMSURE® ACS,Reag. Ph Eur**

**Specification**  
 Assay (iodometric)..... ≥ 99.0 %  
 Insoluble matter..... ≤ 0.005 %  
 Chloride (Cl)..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Hexacyanoferrate (II) (Fe(CN)<sub>6</sub>)<sup>4-</sup>..... ≤ 0.05 %

Pb (Lead)..... ≤ 0.002 %  
 Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04973.0100	Plastic bottle	100 g	inquire
1.04973.0250	Plastic bottle	250 g	inquire
1.04973.1000	Plastic bottle	1 kg	inquire
1.04973.9050	Fibre carton	50 kg	inquire

**Potassium hexacyanoferrate(II) trihydrate**

C<sub>6</sub>FeK<sub>4</sub>N<sub>6</sub> · 3H<sub>2</sub>O  
K<sub>4</sub>[Fe(CN)<sub>6</sub>] · 3H<sub>2</sub>O  
Potassium ferrocyanide  
 ■ CAS-No. 14459-95-1 ■ EC-No. 237-722-2  
 ■ Spec. density 1.85 g/cm<sup>3</sup> (20 °C) (anhydrous substance) ■ Solub. in H<sub>2</sub>O 289 g/l (20 °C)

■ M = 422.39 g/mol ■ pH value 9.5 (100 g/l, H<sub>2</sub>O, 20 °C) (anhydrous substance)  
 ■ Melting point 70 °C Elimination of water of crystallisation ■ Bulk density 950 - 1050 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Chronic aquatic toxicity, Category 3, H412,

P273  
 ■ LD50 oral rat 3613 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2837 20 00 ■ Disposal 14

**104982 Potassium hexacyanoferrate(II) trihydrate extra pure**

**Specification**  
 Assay (cerimetric)..... ≥ 99.0 %  
 As (Arsenic)..... ≤ 0.0003 %  
 Cu (Copper)..... ≤ 0.0025 %

Pb (Lead)..... ≤ 0.001 %  
 Zn (Zinc)..... ≤ 0.0025 %

Ord.No.	Packaging	Quantity	Price
1.04982.1000	Plastic bottle	1 kg	inquire
1.04982.9050	Fibre carton	50 kg	inquire

**104984 Potassium hexacyanoferrate(II) trihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur**

**Specification**  
 Assay (cerimetric)..... 99.0 - 102.0 %  
 Insoluble matter..... ≤ 0.005 %  
 Chloride (Cl)..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Na (Sodium)..... ≤ 0.01 %

Pb (Lead)..... ≤ 0.002 %  
 Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04984.0100	Plastic bottle	100 g	inquire
1.04984.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.04984.9050	Fibre carton	50 kg	inquire



# Potass

## 105110 Potassium hexahydroxoantimonate(V) **(V)** *cryst. for analysis EMSURE®*



$\text{H}_6\text{KO}_6\text{Sb}$   
 $\text{K}[\text{Sb}(\text{OH})_6]$   
*Potassium antimonate*  
 ■ CAS-No. 12208-13-8 ■ EC-No. 235-387-7  
 ■ Solub. in  $\text{H}_2\text{O}$  20 g/l (20 °C) ■  $M = 262.9 \text{ g/mol}$   
 ■ pH value 7.5 - 9.0 (20 g/l,  $\text{H}_2\text{O}$ , 20 °C)  
 ■ Bulk density 1200  $\text{kg/m}^3$   
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411,

P273  
 ■ EC-Index-No. 051-003-00-9 ■ LGK 6.1 D  
 ■ HS-No. 2841 90 85 ■ Disposal 15  
 ■ ADR-RID UN 1549 Anorganische Antimonverbindung, fest, n.a.g.(KALIUMHEXAHYDROXOANTIMONAT), 6.1, III  
 ■ IMDG-Code UN 1549 ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.(POTASSIUM HEXAHYDROXYANTIMONATE), 6.1, III  
 ■ IATA-DGR UN 1549 ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.(POTASSIUM

HEXAHYDROXYANTIMONATE), 6.1, III

### Specification

Identity.....passes test  
 Assay (iodometric, calculated on calcined substance)..... $\geq 99.0 \%$   
 Free alkali (as KOH)..... $\leq 0.1 \%$   
 Na (Sodium)..... $\leq 0.2 \%$

Ord.No.	Packaging	Quantity	Price
1.05110.0100	Plastic bottle	100 g	inquire

Potassium hydrate → Potassium hydroxide (powder) page 1355

## 818890 Potassium hydride (suspension 35% in paraffin oil) for synthesis



HK  
 KH  
 ■ CAS-No. 7693-26-7 ■ EC-No. 231-704-8  
 ■ Spec. density 1.45  $\text{g/cm}^3$  (20 °C)  
 ■ Flash point 160 °C Information refers to the main component. ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) (rigorous decomposition) ■ Boiling point 316 °C (1013 hPa) Information refers to the main component.  
 ■ WGK 1

■ GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases, Category 1, H260; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 4.3  
 ■ HS-No. 2850 00 20 ■ Disposal 26  
 ■ ADR-RID UN 1409 Metallhydride, mit Wasser reagierend, n.a.g.(KALIUMHYDRID), 4.3, I ■ IMDG-Code UN 1409 METAL HYDRIDES, WATER-

REACTIVE, N.O.S.(POTASSIUM HYDRIDE), 4.3, I  
 ■ IATA-DGR UN 1409 METAL HYDRIDES, WATER-REACTIVE, N.O.S.(POTASSIUM HYDRIDE), 4.3, I

### Specification

Assay (by gasvolumetry).....29,0 - 38,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18890.0025	Glass bottle	25 g	inquire

## 104854 Potassium hydrogen carbonate for analysis EMSURE® ACS

$\text{CHKO}_3$   
 $\text{KHCO}_3$   
*Potassium bicarbonate*  
 ■ CAS-No. 298-14-6 ■ EC-No. 206-059-0  
 ■ Spec. density 2.17  $\text{g/cm}^3$  (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  333 g/l (20 °C) ■  $M = 100.12 \text{ g/mol}$   
 ■ pH value 8.0 - 8.6 (50 g/l,  $\text{H}_2\text{O}$ , 20 °C)  
 ■ Bulk density 900 - 1100  $\text{kg/m}^3$   
 ■ WGK 1  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2836 40 00 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
 ■ IATA-DGR No Dangerous Good

### Specification

Assay (acidimetric; dried substance).....99.7 - 100.5 %  
 Assay (acidimetric)..... $\geq 99.5 \%$   
 Insoluble matter..... $\leq 0.01 \%$   
 Chloride (Cl)..... $\leq 0.001 \%$   
 Phosphate ( $\text{PO}_4$ )..... $\leq 0.0005 \%$   
 Phosphate and Silicate (as  $\text{SiO}_2$ )..... $\leq 0.001 \%$   
 Sulphate ( $\text{SO}_4$ )..... $\leq 0.001 \%$   
 Total sulfur (as sulphate)..... $\leq 0.003 \%$

Total nitrogen (N)..... $\leq 0.001 \%$   
 Heavy metals (as Pb)..... $\leq 0.0005 \%$   
 Al (Aluminium)..... $\leq 0.0005 \%$   
 Ca (Calcium)..... $\leq 0.0005 \%$   
 Fe (Iron)..... $\leq 0.0005 \%$   
 Mg (Magnesium)..... $\leq 0.001 \%$   
 Na (Sodium)..... $\leq 0.02 \%$   
 $\text{NH}_4$  (Ammonium)..... $\leq 0.0005 \%$   
 Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.04854.0500	Plastic bottle	500 g	inquire

## 104867 Potassium hydrogen diiodate for analysis EMSURE®



$\text{HI}_2\text{KO}_6$   
 $\text{KH}(\text{IO}_3)_2$   
*Potassium diiodate*  
 ■ CAS-No. 13455-24-8 ■ EC-No. 236-650-9  
 ■ Solub. in  $\text{H}_2\text{O}$  13 g/l (15 °C) ■  $M = 389.91 \text{ g/mol}$   
 ■ pH value 1 - 2 (50 g/l,  $\text{H}_2\text{O}$ , 20 °C)  
 ■ Bulk density 1750  $\text{kg/m}^3$   
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 2, H272; Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 5.1 B  
 ■ HS-No. 2829 90 80 ■ Disposal 22  
 ■ ADR-RID UN 3085 Entzündend (oxidierend) wirkender fester Stoff, ätzend, n.a.g.(KALIUMHYDROGENDIIODAT), 5.1 (8), II  
 ■ IMDG-Code UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(POTASSIUM HYDROGEN DI-IODATE), 5.1 (8), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(POTASSIUM HYDROGEN DI-IODATE), 5.1 (8), II

### Specification

Assay (iodometric)..... $\geq 99.8 \%$   
 Chloride, Chlorate, Bromide, Bromate (as Cl)..... $\leq 0.02 \%$   
 Total nitrogen (N)..... $\leq 0.002 \%$   
 Heavy metals (as Pb)..... $\leq 0.001 \%$   
 Fe (Iron)..... $\leq 0.0005 \%$

Ord.No.	Packaging	Quantity	Price
1.04867.0050	Glass bottle	50 g	inquire

## 818401 Potassium hydrogen monopersulfate for synthesis



$\text{H}_3\text{K}_5\text{O}_{18}\text{S}_4$   
 $2\text{KHSO}_5 \cdot \text{KHSO}_4 \cdot \text{K}_2\text{SO}_4$   
*PMPS, KMPS*  
 ■ CAS-No. 70693-62-8 ■ EC-No. 274-778-7  
 ■ Spec. density 1.1 - 1.2  $\text{g/cm}^3$  (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  256 g/l (20 °C) ■  $M = 614.76 \text{ g/mol}$   
 ■ pH value 2 - 3 (10 g/l,  $\text{H}_2\text{O}$ , 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331,

P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 8 B ■ Store below +15°C.  
 ■ HS-No. 2833 40 00 ■ Disposal 22  
 ■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(KALIUMMONOPERSULFAT), 8, III ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(POTASSIUM MONOPERSULFATE), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(POTASSIUM MONOPERSULFATE), 8, III

### Specification

Assay (iodometric).....43.0 - 47.0 %

Ord.No.	Packaging	Quantity	Price
8.18401.0100	Plastic bottle	100 g	inquire
8.18401.0500	Plastic bottle	500 g	inquire



## di-Potassium hydrogen phosphate

HK<sub>2</sub>O<sub>4</sub>PK<sub>2</sub>HPO<sub>4</sub>

Dipotassium hydrogen phosphate, Potassium phosphate dibasic, Dipotassium Phosphate

■ CAS-No. 7758-11-4 ■ EC-No. 231-834-5

■ Spec. density 2.44 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1600 g/l (20 °C) ■ M = 174.18 g/mol

■ pH value 9 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Bulk density 700 - 1000 kg/m<sup>3</sup>

■ WGK 1

■ LD50 oral rat 8000 mg/kg

■ LGK 10 - 13

■ HS-No. 2835 24 00 ■ Disposal 14

## 105104 di-Potassium hydrogen phosphate anhydrous for analysis EMSURE®

## Specification

Assay (alkalimetric).....	≥ 99.0 %	Heavy metals (as Pb).....	≤ 0.0005 %
pH-value (5 %; water).....	8.7 - 9.3	Fe (Iron).....	≤ 0.001 %
Chloride (Cl).....	≤ 0.003 %	Na (Sodium).....	≤ 0.5 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.005 %	Loss on drying (130 °C).....	≤ 1.0 %
Total nitrogen (N).....	≤ 0.001 %		

Ord.No.	Packaging	Quantity	Price
1.05104.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.05104.9025	Fibre carton	25 kg	inquire
1.05104.9050	Fibre carton	50 kg	inquire

## 105109 di-Potassium hydrogen phosphate anhydrous 99.99 Suprapur®

## Specification

Purity (metallic).....	≥ 99.99 %	Co (Cobalt).....	≤ 0.010 ppm	Sm (Samarium).....	≤ 0.010 ppm
Assay (acidimetric).....	≥ 99.5 %	Cu (Copper).....	≤ 0.005 ppm	Sr (Strontium).....	≤ 0.50 ppm
Specific absorbance (at 260 nm; 10 %; 2 cm; water).....	≤ 0.010	Eu (Europium).....	≤ 0.010 ppm	Tl (Thallium).....	≤ 0.01 ppm
Chloride (Cl).....	≤ 5 ppm	Fe (Iron).....	≤ 0.100 ppm	Y (Yttrium).....	≤ 0.010 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 30 ppm	Hg (Mercury).....	≤ 0.05 ppm	Yb (Ytterbium).....	≤ 0.010 ppm
As (Arsenic).....	≤ 0.1 ppm	La (Lanthanum).....	≤ 0.010 ppm	Zn (Zinc).....	≤ 0.010 ppm
Ba (Barium).....	≤ 5.00 ppm	Mg (Magnesium).....	≤ 0.50 ppm		
Ca (Calcium).....	≤ 0.50 ppm	Mn (Manganese).....	≤ 0.010 ppm		
Cd (Cadmium).....	≤ 0.005 ppm	Na (Sodium).....	≤ 50 ppm		
Ce (Cerium).....	≤ 0.010 ppm	Ni (Nickel).....	≤ 0.010 ppm		
		Pb (Lead).....	≤ 0.005 ppm		

Ord.No.	Packaging	Quantity	Price
1.05109.0100	Plastic bottle	100 g	inquire
1.05109.0500	Plastic bottle	500 g	inquire

## di-Potassium hydrogen phosphate trihydrate

HK<sub>2</sub>O<sub>4</sub>P \* 3 H<sub>2</sub>OK<sub>2</sub>HPO<sub>4</sub> \* 3 H<sub>2</sub>O

Potassium phosphate dibasic

■ CAS-No. 16788-57-1 ■ EC-No. 231-834-5

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 228.23 g/mol

■ pH value 9.2 - 9.4 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 340 °C (anhydrous substance), decomposes

■ Bulk density 800 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2835 24 00 ■ Disposal 14

## 105099 di-Potassium hydrogen phosphate trihydrate for analysis EMSURE®

## Specification

Assay (acidimetric).....	≥ 99.0 %	As (Arsenic).....	≤ 0.00005 %
pH-value (5 %; water).....	9.1 - 9.3	Fe (Iron).....	≤ 0.0005 %
Chloride (Cl).....	≤ 0.001 %	Na (Sodium).....	≤ 0.1 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.005 %		
Total nitrogen (N).....	≤ 0.001 %		
Heavy metals (as Pb).....	≤ 0.001 %		

Ord.No.	Packaging	Quantity	Price
1.05099.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.05099.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.05099.5000	Plastic bottle	5 kg	inquire
1.05099.9050	Fibre carton	50 kg	inquire

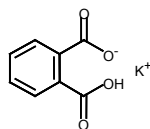
## 119754 di-Potassium hydrogen phosphate trihydrate buffer substance for chromatography LiChropur®

## Specification

Assay (acidimetric).....	≥ 99.0 %	Self-absorption (220 nm; 0.2 mol/l; 1 cm; water).....	≤ 0.03
pH-value (5 %; water).....	9.2 - 9.4	Self-absorption (215 nm; 0.2 mol/l; 1 cm; water).....	≤ 0.11
Self-absorption (254 nm; 0.2 mol/l; 1 cm; water).....	≤ 0.01		

Ord.No.	Packaging	Quantity	Price
1.19754.0250	Glass bottle	250 g	inquire

## Potassium hydrogen phthalate

C<sub>8</sub>H<sub>5</sub>KO<sub>4</sub>

■ CAS-No. 877-24-7 ■ EC-No. 212-889-4

■ Spec. density 1.636 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 80 g/l (20 °C) ■ M = 204.22 g/mol

■ pH value 4.0 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 295 - 300 °C

■ Bulk density 900 kg/m<sup>3</sup>

■ WGK 1

■ LD50 oral rat > 3200 mg/kg

■ LGK 10 - 13

■ HS-No. 2917 39 95 ■ Disposal 3

## 104874 Potassium hydrogen phthalate for analysis EMSURE® Reag. Ph Eur

## Specification

Assay (Perchloric acid titration from dried substance).....	≥ 99.5 %	Cu (Copper).....	≤ 0.0002 %
Identity (IR-spectrum).....	passes test	Fe (Iron).....	≤ 0.0005 %
In water insoluble matter.....	≤ 0.005 %	Na (Sodium).....	≤ 0.01 %
Chloride (Cl).....	≤ 0.002 %	Pb (Lead).....	≤ 0.0005 %
Sulfur compounds (as SO <sub>4</sub> ).....	≤ 0.005 %	Loss on drying (105 °C).....	≤ 0.2 %
Heavy metals (as Pb).....	≤ 0.0005 %	Corresponds to Reag. Ph Eur	

Ord.No.	Packaging	Quantity	Price
1.04874.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.04874.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

## 102400 Potassium hydrogen phthalate Volumetric standard, secondary reference material for alkalimetry, traceable to NIST Standard Reference Material (SRM) Certipur®

Ord.No.	Packaging	Quantity	Price
1.02400.0080	Glass bottle	80 g	inquire

# Potass

## 101965 Potassium hydrogen phthalate certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S) = 4.00<sub>s</sub> (25 °C) (DIN 19266) Certipur®

Ord.No.	Packaging	Quantity	Price
1.01965.0025	Glass bottle	25 g	inquire

## 104885 Potassium hydrogen sulfate for analysis EMSURE® Reag. Ph Eur



HKO<sub>4</sub>S  
KHSO<sub>4</sub>  
*Potassium bisulfate*  
■ CAS-No. 7646-93-7 ■ EC-No. 231-594-1  
■ Spec. density 2.24 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 490 g/l (20 °C) (development of heat)  
■ M = 136.17 g/mol ■ pH value 1 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 195 °C (decomposition)  
■ Bulk density 1140 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331,

P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 2340 mg/kg  
■ EC-Index-No. 016-056-00-4 ■ LGK 8B  
■ HS-No. 2833 29 80 ■ Disposal 14  
■ ADR-RID UN 2509 Kaliumhydrogensulfat, 8, II  
■ IMDG-Code UN 2509 POTASSIUM HYDROGEN SULPHATE, 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2509 POTASSIUM HYDROGEN SULPHATE, 8, II  
**Specification**  
Assay (acidimetric)..... ≥ 99.0 %  
Chloride (Cl)..... ≤ 0.0005 %

Phosphate (PO<sub>4</sub>)..... ≤ 0.001 %  
Total nitrogen (N)..... ≤ 0.001 %  
Heavy metals (as Pb)..... ≤ 0.0005 %  
Al (Aluminium)..... ≤ 0.002 %  
Ca (Calcium)..... ≤ 0.005 %  
Fe (Iron)..... ≤ 0.0005 %  
Na (Sodium)..... ≤ 0.005 %  
Corresponds to Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.04885.0500	Plastic bottle	500 g	inquire
1.04885.2500	Plastic bottle	2.5 kg	inquire

## Potassium hydroxide



HKO  
KOH  
*Potash caustic*  
■ CAS-No. 1310-58-3 ■ EC-No. 215-181-3  
■ Vapour pressure (20 °C) not applicable  
■ Spec. density 2.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1130 g/l (20 °C) ■ M = 56.11 g/mol  
■ pH value 14 (56 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 360 °C ■ Boiling point 1320 °C  
■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1A, H314; Acute toxicity, Category 4, Oral, H302; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 333 mg/kg  
■ EC-Index-No. 019-002-00-8 ■ LGK 8B

■ HS-No. 2815 20 00 ■ Disposal 13  
■ ADR-RID UN 1813 Kaliumhydroxid, fest, 8, II  
■ IMDG-Code UN 1813 POTASSIUM HYDROXIDE, SOLID, 8, II, Segregation Group: 18 (Alkalis)  
■ IATA-DGR UN 1813 POTASSIUM HYDROXIDE, SOLID, 8, II

## 105012 Potassium hydroxide pellets pure

**Specification**  
Assay (acidimetric, KOH)..... ≥ 84.0 %  
Carbonate (as K<sub>2</sub>CO<sub>3</sub>)..... ≤ 2.0 %  
Chloride (Cl)..... ≤ 0.01 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
Heavy metals (as Pb)..... ≤ 0.002 %

Al (Aluminium)..... ≤ 0.002 %  
Fe (Iron)..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.05012.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.05012.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.05012.9050	Fibre carton	50 kg	inquire

## 105021 Potassium hydroxide pellets for analysis (max. 0.002% Na) EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
Assay (KOH)..... 85.0 - 100.5 %  
Assay (total alkalinity calc. as KOH) 85.0 - 100.5 %  
Identity..... passes test  
Appearance of solution..... passes test  
Carbonate (as K<sub>2</sub>CO<sub>3</sub>)..... ≤ 1.0 %  
Chloride (Cl)..... ≤ 0.0005 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %  
Silicate (SiO<sub>2</sub>)..... ≤ 0.002 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0.0005 %  
Total nitrogen (N)..... ≤ 0.0003 %

Heavy metals (as Ag)..... ≤ 0.001 %  
Heavy metals (as Pb)..... ≤ 0.001 %  
Al (Aluminium)..... ≤ 0.0002 %  
Ca (Calcium)..... ≤ 0.0005 %  
Cd (Cadmium)..... ≤ 0.00001 %  
Cu (Copper)..... ≤ 0.0001 %  
Fe (Iron)..... ≤ 0.0005 %  
Mg (Magnesium)..... ≤ 0.0005 %  
Mn (Manganese)..... ≤ 0.00005 %  
Na (Sodium)..... ≤ 0.002 %

Ni (Nickel)..... ≤ 0.0001 %  
Pb (Lead)..... ≤ 0.0001 %  
Zn (Zinc)..... ≤ 0.0001 %

Ord.No.	Packaging	Quantity	Price
1.05021.0250	Plastic bottle	250 g	inquire
1.05021.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.05021.5000	Plastic bottle	5 kg	inquire
1.05021.9025	Fibre carton	25 kg	inquire

## 105029 Potassium hydroxide pellets for analysis (max. 0.05% Na) EMSURE® ACS,Reag. Ph Eur

**Specification**  
Assay (KOH)..... 85.0 - 100.5 %  
Assay (total alkalinity calc. as KOH) 85.0 - 100.5 %  
Identity..... passes test  
Appearance of solution..... passes test  
Carbonate (K<sub>2</sub>CO<sub>3</sub>)..... ≤ 1.0 %  
Chloride (Cl)..... ≤ 0.0005 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %  
Silicate (SiO<sub>2</sub>)..... ≤ 0.005 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.0005 %  
Total nitrogen (N)..... ≤ 0.0005 %  
Heavy metals (as Ag)..... ≤ 0.0005 %  
Heavy metals (as Pb)..... ≤ 0.0005 %  
Al (Aluminium)..... ≤ 0.001 %  
Ca (Calcium)..... ≤ 0.001 %  
Fe (Iron)..... ≤ 0.0005 %  
Mg (Magnesium)..... ≤ 0.002 %

Na (Sodium)..... ≤ 0.05 %  
Ni (Nickel)..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.05029.1000	Plastic bottle	1 kg	inquire
1.05029.9050	Fibre carton	50 kg	inquire

## 105033 Potassium hydroxide pellets for analysis EMSURE®

**Specification**  
Assay (acidimetric, KOH)..... ≥ 85.0 %  
Carbonate (as K<sub>2</sub>CO<sub>3</sub>)..... ≤ 1.0 %  
Chloride (Cl)..... ≤ 0.0005 %  
Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %  
Silicate (SiO<sub>2</sub>)..... ≤ 0.005 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0.0005 %  
Total nitrogen (N)..... ≤ 0.0005 %  
Heavy metals (as Pb)..... ≤ 0.0005 %  
Al (Aluminium)..... ≤ 0.001 %

Ca (Calcium)..... ≤ 0.001 %  
Cu (Copper)..... ≤ 0.0002 %  
Fe (Iron)..... ≤ 0.0005 %  
Na (Sodium)..... ≤ 0.5 %  
Ni (Nickel)..... ≤ 0.00025 %  
Pb (Lead)..... ≤ 0.0005 %  
Zn (Zinc)..... ≤ 0.0025 %

Ord.No.	Packaging	Quantity	Price
1.05033.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.05033.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.05033.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.05033.9025	Fibre carton	25 kg	inquire
1.05033.9050	Fibre carton	50 kg	inquire

## 105002 Potassium hydroxide hydrate 99.995 Suprapur®



HKO \* H<sub>2</sub>O  
KOH \* H<sub>2</sub>O  
*caustic potash monohydrate*  
 ■ CAS-No. 26288-25-5 ■ EC-No. 246-324-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 74.13 g/mol  
 ■ pH value >13.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 143 °C ■ Boiling point 1320 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 333 mg/kg  
 ■ LGK 8B  
 ■ HS-No. 2815 20 00 ■ Disposal 13  
 ■ ADR-RID UN 1813 Kaliumhydroxid, fest, 8, II  
 ■ IMDG-Code UN 1813 POTASSIUM HYDROXIDE, SOLID, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1813 POTASSIUM HYDROXIDE,

SOLID, 8, II  
**Specification**  
 Purity (metallic)..... ≥ 99.995 %  
 KOH content..... ≥ 85.0 %  
 Assay of potassium carbonate..... ≤ 1.0 %  
 Chloride (Cl)..... ≤ 1.0 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.05 ppm  
 Silicate (as SiO<sub>2</sub>)..... ≤ 5 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 5 ppm  
 Al (Aluminium)..... ≤ 0.05 ppm  
 As (Arsenic)..... ≤ 0.1 ppm  
 Ba (Barium)..... ≤ 10.0 ppm  
 Ca (Calcium)..... ≤ 0.5 ppm  
 Cd (Cadmium)..... ≤ 0.01 ppm  
 Ce (Cerium)..... ≤ 0.01 ppm  
 Co (Cobalt)..... ≤ 0.010 ppm  
 Cr (Chromium)..... ≤ 0.010 ppm  
 Cu (Copper)..... ≤ 0.010 ppm  
 Eu (Europium)..... ≤ 0.010 ppm

Fe (Iron)..... ≤ 0.05 ppm  
 Hg (Mercury)..... ≤ 0.01 ppm  
 La (Lanthanum)..... ≤ 0.010 ppm  
 Li (Lithium)..... ≤ 0.5 ppm  
 Mg (Magnesium)..... ≤ 0.10 ppm  
 Mn (Manganese)..... ≤ 0.050 ppm  
 Na (Sodium)..... ≤ 5 ppm  
 Ni (Nickel)..... ≤ 0.010 ppm  
 Pb (Lead)..... ≤ 0.010 ppm  
 Sc (Scandium)..... ≤ 0.010 ppm  
 Sm (Samarium)..... ≤ 0.010 ppm  
 Sr (Strontium)..... ≤ 0.50 ppm  
 Tl (Thallium)..... ≤ 0.01 ppm  
 Y (Yttrium)..... ≤ 0.010 ppm  
 Yb (Ytterbium)..... ≤ 0.010 ppm  
 Zn (Zinc)..... ≤ 0.050 ppm

Ord.No.	Packaging	Quantity	Price
1.05002.0500	Plastic bottle	500 g	inquire

## 814353 Potassium hydroxide (powder) for synthesis



HKO  
KOH  
*Potash caustic*  
 ■ CAS-No. 1310-58-3 ■ EC-No. 215-181-3  
 ■ Vapour pressure (20 °C) not applicable  
 ■ Spec. density 2.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1130 g/l (20 °C) ■ M = 56.11 g/mol  
 ■ pH value 14 (56 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 360 °C ■ Boiling point 1320 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314;

Acute toxicity, Category 4, Oral, H302; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 333 mg/kg  
 ■ EC-Index-No. 019-002-00-8 ■ LGK 8B  
 ■ HS-No. 2815 20 00 ■ Disposal 13  
 ■ ADR-RID UN 1813 Kaliumhydroxid, fest, 8, II  
 ■ IMDG-Code UN 1813 POTASSIUM HYDROXIDE, SOLID, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1813 POTASSIUM HYDROXIDE, SOLID, 8, II

**Specification**  
 Assay (acidimetric)..... ~85%  
 Potassiumcarbonate (K<sub>2</sub>CO<sub>3</sub>) (acidimetric).. ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
8.14353.0100	Plastic bottle	100 g	inquire
8.14353.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.14353.5000	Plastic bottle	5 kg	inquire

Potassium hydroxide solution → Potassium hydroxide solution 47% page 1355

## 105545 Potassium hydroxide solution 47% for analysis EMSURE®



■ Spec. density 1.475 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >13.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2815 20 00 ■ Disposal 13  
 ■ ADR-RID UN 1814 Kaliumhydroxidlösung, 8, II  
 ■ IMDG-Code UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1814 POTASSIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Assay (acidimetric)..... 46.0 - 48.0 %  
 Carbonate (as K<sub>2</sub>CO<sub>3</sub>)..... ≤ 1.0 %  
 Chloride (Cl)..... ≤ 0.001 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.0005 %  
 Total nitrogen (N)..... ≤ 0.0003 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Al (Aluminium)..... ≤ 0.001 %  
 As (Arsenic)..... ≤ 0.0001 %  
 Ca (Calcium)..... ≤ 0.0005 %

Cu (Copper)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Mg (Magnesium)..... ≤ 0.0005 %  
 Ni (Nickel)..... ≤ 0.0005 %  
 Pb (Lead)..... ≤ 0.0005 %  
 Zn (Zinc)..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.05545.1000	Plastic bottle	1 l	inquire
1.05545.9025	Plastic container	25 l	inquire

## Potassium hydroxide volumetric solutions

## 109112 Potassium hydroxide solution c(KOH) = 0.1 mol/l (0.1 N) Titripur®



■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13 (H<sub>2</sub>O, 20 °C)  
 ■ Boiling point 100 °C  
 ■ WGK nwg  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8B  
 ■ HS-No. 2815 20 00 ■ Disposal 28  
 ■ ADR-RID UN 1814 Kaliumhydroxidlösung, 8, III  
 ■ IMDG-Code UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, III

**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, JP). Amount-of-substance concentration . 0.1000 mol/l  
 The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09060) standardized against volumetric standardTris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723c

(NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09112.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

**111586 Potassium hydroxide solution c(KOH) = 0.5 mol/l (0.5 N) Titripur®** 

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >13.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2815 20 00 ■ Disposal 13
- ADR-RID UN 1814 Kaliumhydroxidlösung, 8, II
- IMDG-Code UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1814 POTASSIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (USP). Amount-of-substance concentration .0.5000 mol/l  
 The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement

uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.11586.5000	Plastic bottle	5 l	inquire

**109108 Potassium hydroxide solution c(KOH) = 1 mol/l (1 N) Titripur®** 

- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2815 20 00 ■ Disposal 13
- ADR-RID UN 1814 Kaliumhydroxidlösung, 8, II
- IMDG-Code UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1814 POTASSIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP). Amount-of-substance concentration ....1.000 mol/l  
 The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement

uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09108.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

**109921 Potassium hydroxide solution for 1000 ml, c(KOH) = 0.1 mol/l (0.1 N) Titrisol®** 

- Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 20 00 ■ Disposal 13
- ADR-RID UN 1814 Kaliumhydroxidlösung, 8, II
- IMDG-Code UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1814 POTASSIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Concentration after dilution to 1 liter: c(KOH) = 0.1 mol/l  
 Amount-of-substance concentration .0.1000 mol/l  
 The concentration of this solution was determined with hydrochloric acid standard solution (Merck article number 1.09060) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004

(k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09921.0001	Fibre case	1 amp	inquire

**109919 Potassium hydroxide solution for 1000 ml, c(KOH) = 0.5 mol/l (0.5 N) Titrisol®**  

- Spec. density 1.58 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >13.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 20 00 ■ Disposal 13
- ADR-RID UN 1814 Kaliumhydroxidlösung, 8, II
- IMDG-Code UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1814 POTASSIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Concentration after dilution to 1 liter: c(KOH) = 0.5 mol/l  
 Amount-of-substance concentration .....0.5 mol/l  
 The concentration of this solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004

(k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09919.0001	Fibre case	1 amp	inquire

**109918 Potassium hydroxide solution for 1000 ml, c(KOH) = 1 mol/l (1 N) Titrisol®**  

- Spec. density 1.58 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >13.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 20 00 ■ Disposal 13
- ADR-RID UN 1814 Kaliumhydroxidlösung, 8, II
- IMDG-Code UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1814 POTASSIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Concentration after dilution to 1 liter: c(KOH) = 1 mol/l  
 Amount-of-substance concentration ....1.000 mol/l  
 The concentration of this solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004

(k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09918.0001	Fibre case	1 amp	inquire



**109107 Potassium hydroxide solution (max. 0.00004 % Ca) c(KOH) = 1 mol/l (1 N) Titripur®** 

- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2815 20 00 ■ Disposal 13
- ADR-RID UN 1814 Kaliumhydroxidlösung, 8, II
- IMDG-Code UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1814 POTASSIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Concentration c(KOH) = 1 mol/l  
 Amount-of-substance concentration ..... 1.000 mol/l  
 Ca (Calcium) ..... 0,00004 % (m)  
 The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement

uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA

Ord.No.	Packaging	Quantity	Price
1.09107.1000	Plastic bottle	1 l	inquire

**109115 Potassium hydroxide solution in ethanol c(KOH) = 0.1 mol/l (0.1 N) Titripur®** 

- Spec. density 0.836 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.5 - 15.0 % (V) (ethanol)
- Flash point 12 °C (ethanol) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- Ignition temp. 425 °C (ethanol)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P233, P240, P302 + P352, P305 + P351 + P338
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(KALILAUGE IN ETHANOL), 3 (8), II
- IMDG-Code UN 2924 FLAMMABLE LIQUID,

CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE), 3 (8), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE), 3 (8), II  
**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP).  
 Amount-of-substance concentration . 0.1000 mol/l  
 The concentration of this volumetric solution was determined with volumetric standard potassium hydrogen phthalate (Merck article number 1.02400). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ±

0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 84L (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium hydrogen phthalate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09115.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09115.2500	Glass bottle	2.5 l	inquire

**109114 Potassium hydroxide solution in ethanol c(KOH) = 0.5 mol/l (0.5 N) Titripur®** 

- Vapour pressure 59 hPa (20 °C) (ethanol)
- Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.5 - 15.0 % (V) (ethanol)
- Flash point 12 °C (ethanol) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- Melting point -114.5 °C (ethanol)
- Boiling point 78.3 °C (ethanol)
- Ignition temp. 425 °C (ethanol)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00 ■ Disposal 1

■ ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(KALILAUGE IN ETHANOL), 3 (8), II  
 ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE), 3 (8), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE), 3 (8), II  
**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP).  
 Amount-of-substance concentration . 0.5000 mol/l  
 The concentration of this volumetric solution was determined with volumetric standard potassium hydrogen phthalate (Merck article number

1.02400). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 84L (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium hydrogen phthalate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09114.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09114.2500	Glass bottle	2.5 l	inquire

**105544 Potassium hydroxide solution in isopropanol acc. to DIN 51558 part 1 c(KOH) = 0.1 mol/l (0,1 N) Titripur®** 

- Spec. density 0.79 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 13.4 % (V) (2-Propanol)
- Flash point 12 °C (2-Propanol) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13 (H<sub>2</sub>O, 20 °C)
- Ignition temp. 425 °C (2-Propanol)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336, P210, P233, P302 + P352, P305 + P351 + P338
- LGK 3
- HS-No. 2815 20 00 ■ Disposal 1
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff,

ätzend, n.a.g.(KALILAUGE ISOPROPANOLISCH), 3 (8), II ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE IN ISOPROPANOL), 3 (8), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE IN ISOPROPANOL), 3 (8), II  
**Specification**  
 Amount-of-substance concentration . 0.1000 mol/l  
 The concentration of this volumetric solution was determined with volumetric standard potassium hydrogen phthalate (Merck article number

1.02400). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 84L (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium hydrogen phthalate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.05544.1000	Glass bottle	1 l	inquire



# Potass

## 111587 Potassium hydroxide solution in methanol $c(\text{KOH}) = 0.1 \text{ mol/l}$ (0.1 N) Titripur®

- Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 44 % (V) Methanol ■ Flash point 7 °C
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.5 (H<sub>2</sub>O, 20 °C) ■ Ignition temp. 455 °C Methanol
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1

- ADR-RID UN 3286 Entzündbarer flüssiger Stoff, giftig, ätzend, n.a.g.(KALILAUGE IN METHANOL), 3 (6.1, 8), II ■ IMDG-Code UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE), 3 (6.1, 8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE), 3 (6.1, 8), II
- Specification**  
Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (USP).  
Amount-of-substance concentration .0.1000 mol/l  
The concentration of this volumetric solution was determined with volumetric standard potassium

hydrogen phthalate (Merck article number 1.02400). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 84L (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium hydrogen phthalate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.11587.1000	Glass bottle	1 l	inquire

## 109351 Potassium hydroxide solution in methanol $c(\text{KOH}) = 0.5 \text{ mol/l}$ (0.5 N) Titripur®

- Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 31 % (V) Methanol ■ Flash point 7 °C
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C) ■ Ignition temp. 455 °C Methanol
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Corrosive to metals, Category 1, H290; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3

- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(KALILAUGE IN METHANOL), 3 (8), II
- IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE), 3 (8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE), 3 (8), II
- Specification**  
Amount-of-substance concentration .0.5000 mol/l  
The concentration of this volumetric solution was determined with volumetric standard potassium hydrogen phthalate (Merck article number

1.02400). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 84L (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium hydrogen phthalate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09351.1000	Glass bottle	1 l	inquire

## 111787 Potassium hydroxide solution in methanol $c(\text{KOH}) = 2.0 \text{ mol/l}$ (2 N) Titripur®

- Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 44 % (V) Methanol ■ Flash point 7 °C
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C) ■ Ignition temp. 455 °C Methanol
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Corrosive to metals, Category 1, H290; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 1, H370, P210, P233, P240, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3

- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(KALILAUGE IN METHANOL), 3 (8), II
- IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE), 3 (8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(POTASSIUM HYDROXIDE), 3 (8), II
- Specification**  
Amount-of-substance concentration ....2.000 mol/l  
The concentration of this volumetric solution was determined with volumetric standard potassium hydrogen phthalate (Merck article number

1.02400). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 84L (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium hydrogen phthalate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.11787.2500	Glass bottle	2.5 l	inquire

## Potassium iodate

- IK03
- KIO<sub>3</sub>
- CAS-No. 7758-05-6 ■ EC-No. 231-831-9
- Spec. density 3.98 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 92 g/l (25 °C) ■ M = 214 g/mol ■ pH value 6 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 560 °C decomposes

- Bulk density 2000 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Oxidising solid, Category 2, H272; Serious eye damage, Category 1, H318, P221, P280, P305 + P351 + P338
- LGK 5.1B
- HS-No. 2829 90 80 ■ Disposal 22

- ADR-RID UN 1479 Entzündend (oxidierend) wirkender fester Stoff, n.a.g.(KALUMIODAT), 5.1, II
- IMDG-Code UN 1479 OXIDIZING SOLID, N.O.S.(POTASSIUM IODATE), 5.1, II
- IATA-DGR UN 1479 OXIDIZING SOLID, N.O.S.(POTASSIUM IODATE), 5.1, II

## 105051 Potassium iodate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

### Specification

Assay (iodometric) .....	99.7 - 100.4 %
Insoluble matter .....	≤ 0.005 %
pH-value (5 %; water) .....	5.0 - 8.0
Chloride, Chlorate, Bromide, Bromate (as Cl) .....	≤ 0.01 %
Iodide (I) .....	≤ 0.001 %

Sulphate (SO <sub>4</sub> ) .....	≤ 0.005 %
Total nitrogen (N) .....	≤ 0.002 %
Heavy metals (as Pb) .....	≤ 0.0005 %
As (Arsenic) .....	≤ 0.0003 %
Fe (Iron) .....	≤ 0.001 %
Na (Sodium) .....	≤ 0.005 %

Pb (Lead) .....	≤ 0.0004 %
Loss on drying (130 °C) .....	≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.05051.0100	Plastic bottle	100 g	inquire
1.05051.0500	Plastic bottle	500 g	inquire

## 102404 Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

Ord.No.	Packaging	Quantity	Price
1.02404.0100	Glass bottle	100 g	inquire

**109917 Potassium iodate solution** for 1000 ml,  $c(\text{KIO}_3) = 1/60 \text{ mol/l}$  (0.1 N) Titrisol®

- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.4 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LGK 10 - 13
- HS-No. 2829 90 80 ■ Disposal 22

**Specification**

Concentration after dilution to 1 liter:  $c(\text{KIO}_3) = 1/60 \text{ mol/l}$

Amount-of-substance concentration ..... 1/60 mol/l  
The concentration of this solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of  $\pm 0.004$  ( $k=2$  coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 136F

(NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09917.0001	Plastic ampoule	1 amp	inquire

**159225 Potassium iodate-starch paper Roll (4.8 m) with colour scale Reag. Ph Eur**

- Store at +15°C to +25°C.
- HS-No. 3822 00 00

**Specification**

Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.59225.0003	Fibre case	3 rolls	inquire

**Potassium iodide**

IK

KI

- CAS-No. 7681-11-0 ■ EC-No. 231-659-4
- Spec. density 3.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 1430 g/l (20 °C) ■ M = 166.00 g/mol

- pH value 6.9 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 723 °C ■ Bulk density 1500 kg/m<sup>3</sup>
- Boiling point 1325 °C (1013 hPa)

■ WGK 1

■ LD50 oral rat 2779 mg/kg

■ LGK 10 - 13

■ HS-No. 2827 60 00 ■ Disposal 14

**105043 Potassium iodide** for analysis EMSURE® ISO, Reag. Ph Eur**Specification**

Assay (argentometric) .....  $\geq 99.5 \%$   
Assay (argentometric; calculated on dried substance) ..... 99.5 - 100.5 %  
Identity ..... passes test  
Appearance of solution ..... passes test  
Alkaline impurities ..... passes test  
pH-value (5 %; water) ..... 6 - 8  
Chloride and Bromide (as Cl) .....  $\leq 0.01 \%$   
Iodate (IO<sub>3</sub>) .....  $\leq 0.0005 \%$   
Phosphate (PO<sub>4</sub>) .....  $\leq 0.001 \%$   
Sulphate (SO<sub>4</sub>) .....  $\leq 0.001 \%$   
Thiosulphate (S<sub>2</sub>O<sub>3</sub>) ..... passes test

Total nitrogen (N) .....  $\leq 0.001 \%$   
Heavy metals (as Pb) .....  $\leq 0.0005 \%$   
As (Arsenic) .....  $\leq 0.00001 \%$   
Ba (Barium) .....  $\leq 0.002 \%$   
Ca (Calcium) .....  $\leq 0.001 \%$   
Cu (Copper) .....  $\leq 0.0002 \%$   
Fe (Iron) .....  $\leq 0.0002 \%$   
Mg (Magnesium) .....  $\leq 0.001 \%$   
Na (Sodium) .....  $\leq 0.03 \%$   
Pb (Lead) .....  $\leq 0.0002 \%$   
Reducing substances ..... passes test  
Loss on drying (105 °C) .....  $\leq 0.1 \%$

Ord.No.	Packaging	Quantity	Price
1.05043.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.05043.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.05043.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.05043.2500	Plastic bottle	2.5 kg	inquire
1.05043.9050	Fibre carton	50 kg	inquire

**105044 Potassium iodide 99.995 Suprapur®****Specification**

Purity (metallic) .....  $\geq 99.995 \%$   
Assay (argentometric) .....  $\geq 99.5 \%$   
Chloride and Bromide (as Cl) .....  $\leq 100 \text{ ppm}$   
Phosphate (PO<sub>4</sub>) .....  $\leq 10 \text{ ppm}$   
Sulphate (SO<sub>4</sub>) .....  $\leq 10 \text{ ppm}$   
Total nitrogen (N) .....  $\leq 10.0 \text{ ppm}$   
Al (Aluminium) .....  $\leq 0.010 \text{ ppm}$   
Ba (Barium) .....  $\leq 5.0 \text{ ppm}$   
Ca (Calcium) .....  $\leq 0.05 \text{ ppm}$   
Cd (Cadmium) .....  $\leq 0.010 \text{ ppm}$   
Ce (Cerium) .....  $\leq 0.010 \text{ ppm}$

Co (Cobalt) .....  $\leq 0.010 \text{ ppm}$   
Cr (Chromium) .....  $\leq 0.010 \text{ ppm}$   
Cu (Copper) .....  $\leq 0.010 \text{ ppm}$   
Eu (Europium) .....  $\leq 0.010 \text{ ppm}$   
Fe (Iron) .....  $\leq 0.050 \text{ ppm}$   
La (Lanthanum) .....  $\leq 0.010 \text{ ppm}$   
Mg (Magnesium) .....  $\leq 0.05 \text{ ppm}$   
Mn (Manganese) .....  $\leq 0.010 \text{ ppm}$   
Na (Sodium) .....  $\leq 5 \text{ ppm}$   
Ni (Nickel) .....  $\leq 0.010 \text{ ppm}$   
Pb (Lead) .....  $\leq 0.010 \text{ ppm}$

Sc (Scandium) .....  $\leq 0.010 \text{ ppm}$   
Sm (Samarium) .....  $\leq 0.010 \text{ ppm}$   
Sr (Strontium) .....  $\leq 0.10 \text{ ppm}$   
Tl (Thallium) .....  $\leq 0.01 \text{ ppm}$   
Y (Yttrium) .....  $\leq 0.010 \text{ ppm}$   
Yb (Ytterbium) .....  $\leq 0.010 \text{ ppm}$   
Zn (Zinc) .....  $\leq 0.010 \text{ ppm}$

Ord.No.	Packaging	Quantity	Price
1.05044.0050	Plastic bottle	50 g	inquire
1.05044.0500	Plastic bottle	500 g	inquire

Potassium iodide (Ozone), determination →

Potassium iodide-starch paper → page 81

Potassium iodide-starch paper page 81

**109512 Potassium iodide-starch paper Roll (4.8 m) with colour scale Reag. Ph Eur**

- Store at +15°C to +25°C.
- HS-No. 3822 00 00

**Specification**

Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09512.0003	Fibre case	3 rolls	inquire

Potassium mercury(II) iodide solution → Nessler's reagent A page 1204

Potassium methanolate → page 1360

Potassium methoxide → page 1360

Potassium metabisulfite → Potassium disulfite page 1350

Potassium methoxid → page 1360

# Potass

## Potassium methylate



CH<sub>3</sub>KO  
*Potassium methoxid, Potassium methanolate*  
 ■ CAS-No. 865-33-8 ■ EC-No. 212-736-1  
 ■ Refractive index 1.3654 (20 °C, 589 nm)  
 ■ Vapour pressure 36 hPa (20 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 36.5 % (V) Methanol  
 ■ Flash point 29.7 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 70.13 g/mol

■ pH value 11 (H<sub>2</sub>O) ■ Melting point < -20 °C  
 ■ Bulk density 750 kg/m<sup>3</sup> ■ Boiling point 95 °C (1013 hPa) ■ Ignition temp. 415 °C DIN 51794  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 1, H370, P210, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

■ EC-Index-No. 603-040-00-2 ■ LGK 3  
 ■ HS-No. 3824 90 97 ■ Disposal 13  
 ■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(KALIUMMETHYLAT 25% LOESUNG IN METHANOL), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(POTASSIUM METHYLAT IN METHANOL), 8 (3), II  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(POTASSIUM METHYLAT IN METHANOL), 8 (3), II



### 814222 Potassium methylate (30-35% solution in methanol) for synthesis

**Specification**  
 Assay (acidimetric).....30,0 - 35,0 % (m)  
 Density (d 20 °C/ 4 °C).....0,985 - 0,995

Ord.No.	Packaging	Quantity	Price
8.14222.0100	Glass bottle	100 ml	inquire
8.14222.0500	Glass bottle	500 ml	inquire

### 820746 Potassium methylate for synthesis

**Specification**  
 Assay (acidimetric).....≥ 97,0 %  
 Free KOH.....≤ 1,0 %  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.20746.0100	Glass bottle	100 g	inquire
8.20746.0250	Glass bottle	250 g	inquire

Potassium monosulfide → Potassium sulfide page 1364

## Potassium nitrate

KNO<sub>3</sub>  
*Nitric acid potassium salt*  
 ■ CAS-No. 7757-79-1 ■ EC-No. 231-818-8  
 ■ Spec. density 2.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 320 g/l (20 °C) ■ M = 101.10 g/mol  
 ■ pH value 5.0 - 7.5 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 334 °C ■ Bulk density 800 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Oxidising solid, Category 3, H272, P210, P221  
 ■ LD50 oral rat 3015 mg/kg

■ LGK 5.1B  
 ■ HS-No. 2834 21 00  
 ■ ADR-RID UN 1486 Kaliumnitrat, 5.1, III ■ IMDG-Code UN 1486 POTASSIUM NITRATE, 5.1, III  
 ■ IATA-DGR UN 1486 POTASSIUM NITRATE, 5.1, III



### 105063 Potassium nitrate for analysis EMSURE® ISO,Reag. Ph Eur

**Specification**  
 Assay (alkalimetric).....≥ 99,0 %  
 pH-value (5 %; water).....5,0 - 7,5  
 Chloride (Cl).....≤ 0,001 %  
 Iodate (IO<sub>3</sub>).....≤ 0,0005 %  
 Nitrite (NO<sub>2</sub>).....≤ 0,001 %  
 Phosphate (PO<sub>4</sub>).....≤ 0,0005 %  
 Sulphate (SO<sub>4</sub>).....≤ 0,003 %  
 Heavy metals (as Pb).....≤ 0,0005 %

Ca (Calcium).....≤ 0,001 %  
 Cu (Copper).....≤ 0,0001 %  
 Fe (Iron).....≤ 0,0003 %  
 Mg (Magnesium).....≤ 0,0015 %  
 Na (Sodium).....≤ 0,02 %  
 NH<sub>4</sub> (Ammonium).....≤ 0,001 %  
 Pb (Lead).....≤ 0,0001 %  
 Corresponds to ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.05063.0500	Plastic bottle	500 g	inquire
1.05063.1000	Plastic bottle	1 kg	inquire
1.05063.5000	Plastic bottle	5 kg	inquire
1.05063.9025	Fibre carton	25 kg	inquire
1.05063.9050	Fibre carton	50 kg	inquire

### 105065 Potassium nitrate 99.995 Suprapur®

**Specification**  
 Purity (metallic).....≥ 99.995 %  
 Assay (acidimetric).....≥ 99,0 %  
 Chloride (Cl).....≤ 5 ppm  
 Sulphate (SO<sub>4</sub>).....≤ 30 ppm  
 Al (Aluminium).....≤ 0.05 ppm  
 Ba (Barium).....≤ 1.0 ppm  
 Ca (Calcium).....≤ 0.1 ppm  
 Cd (Cadmium).....≤ 0.005 ppm  
 Ce (Cerium).....≤ 0.005 ppm  
 Co (Cobalt).....≤ 0.005 ppm  
 Cr (Chromium).....≤ 0.005 ppm  
 Cs (Cesium).....≤ 5 ppm

Cu (Copper).....≤ 0.005 ppm  
 Eu (Europium).....≤ 0.005 ppm  
 Fe (Iron).....≤ 0.05 ppm  
 Hg (Mercury).....≤ 0.01 ppm  
 La (Lanthanum).....≤ 0.005 ppm  
 Li (Lithium).....≤ 0.2 ppm  
 Mn (Manganese).....≤ 0.005 ppm  
 Mg (Magnesium).....≤ 0.10 ppm  
 Na (Sodium).....≤ 20 ppm  
 Ni (Nickel).....≤ 0.005 ppm  
 Pb (Lead).....≤ 0.005 ppm  
 Rb (Rubidium).....≤ 30 ppm

Sc (Scandium).....≤ 0.005 ppm  
 Sm (Samarium).....≤ 0.005 ppm  
 Sr (Strontium).....≤ 0.10 ppm  
 Tl (Thallium).....≤ 0.005 ppm  
 Y (Yttrium).....≤ 0.005 ppm  
 Yb (Ytterbium).....≤ 0.005 ppm  
 Zn (Zinc).....≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.05065.0050	Plastic bottle	50 g	inquire
1.05065.0500	Plastic bottle	500 g	inquire

### 105067 Potassium nitrite cryst. for analysis EMSURE® ACS

KNO<sub>2</sub>  
 ■ CAS-No. 7758-09-0 ■ EC-No. 231-832-4  
 ■ Spec. density 1.92 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 2810 g/l (20 °C) ■ M = 85.11 g/mol  
 ■ pH value 7 - 10 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 440 °C ■ Bulk density 980 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400, P210, P221, P273, P309 + P310  
 ■ EC-Index-No. 007-011-00-X ■ LGK 5.1B

■ HS-No. 2834 10 00 ■ Disposal 22  
 ■ ADR-RID UN 1488 Kaliumnitrit, 5.1, II ■ IMDG-Code UN 1488 POTASSIUM NITRITE, 5.1, II, Segregation Group: 12 (Nitrites and their mixtures)  
 ■ IATA-DGR UN 1488 POTASSIUM NITRITE, 5.1, II

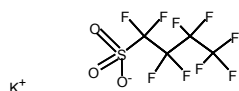
**Specification**  
 Assay (cerimetric).....≥ 97,0 %  
 Insoluble matter.....≤ 0,01 %  
 pH-value (5 %; water).....7,0 - 10,0  
 Chloride (Cl).....≤ 0,005 %

Sulphate (SO<sub>4</sub>).....≤ 0,005 %  
 Heavy metals (as Pb).....≤ 0,0005 %  
 Ca (Calcium).....≤ 0,003 %  
 Fe (Iron).....≤ 0,0005 %  
 Mg (Magnesium).....≤ 0,002 %  
 Na (Sodium).....≤ 0,5 %  
 Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.05067.0250	Plastic bottle	250 g	inquire
1.05067.1000	Plastic bottle	1 kg	inquire



## 818662 Potassium nonafluoro-1-butanefluorobutanesulfonate for synthesis

C<sub>4</sub>F<sub>9</sub>KO<sub>5</sub>SCF<sub>3</sub>(CF<sub>2</sub>)<sub>3</sub>SO<sub>3</sub>K

Nonafluorobutane-1-sulfonic acid potassium salt

■ CAS-No. 29420-49-3 ■ EC-No. 249-616-3

- Solub. in H<sub>2</sub>O 51 g/l (25 °C) ■ M = 338.19 g/mol
- pH value 5.5 - 6.5 (50 g/l, H<sub>2</sub>O)
- Melting point 264 - 266 °C
- Bulk density 1000 kg/m<sup>3</sup>
- WGK 2
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2904 90 95 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18662.0010	Glass bottle	10 g	inquire
8.18662.0050	Plastic bottle	50 g	inquire

## 818055 Potassium osmate dihydrate for synthesis

K<sub>2</sub>O<sub>4</sub>O<sub>5</sub> \* 2 H<sub>2</sub>OK<sub>2</sub>O<sub>5</sub>O<sub>4</sub> \* 2 H<sub>2</sub>O

■ CAS-No. 10022-66-9 ■ EC-No. 243-247-1

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 368.43 g/mol

■ WGK 2

■ GHS: Danger, Oxidising solid, Category 2, H272;  
 Skin corrosion, Category 1B, H314, P260, P280,  
 P301 + P330 + P331, P305 + P351 + P338, P309  
 + P310

- LD50 oral rat 2694 mg/kg
- LGK 5.1 B
- HS-No. 2843 90 90 ■ Disposal 27
- ADR-RID UN 3085 Entzündend (oxidierend) wirkender fester Stoff, ätzend, n.a.g.(KALIUMOSMAT-DIHYDRAT), 5.1 (8), II
- IMDG-Code UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(POTASSIUM OSMATE), 5.1 (8), II
- IATA-DGR UN 3085 OXIDIZING SOLID,

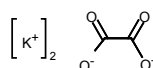
CORROSIVE, N.O.S.(POTASSIUM OSMATE), 5.1 (8), II

## Specification

Assay (ex Os)..... ≥ 99.0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18055.0001	Glass bottle	1 g	inquire

## 105073 di-Potassium oxalate monohydrate for analysis EMSURE® ACS

C<sub>2</sub>K<sub>2</sub>O<sub>4</sub> \* H<sub>2</sub>OK<sub>2</sub>C<sub>2</sub>O<sub>4</sub> \* H<sub>2</sub>O

Oxalic acid dipotassium salt monohydrate

■ CAS-No. 6487-48-5 ■ EC-No. 209-506-8

■ Spec. density 2.13 g/cm<sup>3</sup> (20 °C) ■ Solub. inH<sub>2</sub>O 360 g/l (20 °C) (anhydrous substance)

■ M = 184.24 g/mol ■ pH value 7.0 - 8.5 (50 g/l,

H<sub>2</sub>O, 20 °C) ■ Bulk density 700 - 1100 kg/m<sup>3</sup>

- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352
- LD50 oral rat 660 mg/kg
- EC-Index-No. 607-007-00-3 ■ LGK 10 - 13
- HS-No. 2917 11 00 ■ Disposal 3

## Specification

Assay (oxidimetric)..... 99.5 - 101.0 %  
 Insoluble matter..... ≤ 0.01 %  
 Neutrality..... passes test  
 Chloride (Cl)..... ≤ 0.001 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.002 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Na (Sodium)..... ≤ 0.02 %  
 Substances darkened by hot sulfuric acid passes test  
 Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.05073.0250	Plastic bottle	250 g	inquire
1.05073.1000	Plastic bottle	1 kg	inquire

Potassium oxide hydrate → Potassium hydroxide (powder) page 1355

## 105076 Potassium perchlorate for analysis EMSURE® ACS

ClKO<sub>4</sub>KClO<sub>4</sub>

■ CAS-No. 7778-74-7 ■ EC-No. 231-912-9

■ Solub. in H<sub>2</sub>O 17 g/l (20 °C) ■ M = 138.55 g/mol■ pH value 5.0 (10 g/l, H<sub>2</sub>O, 25 °C)

■ Melting point 610 °C (decomposition)

■ Bulk density 1150 kg/m<sup>3</sup>

■ WGK 1

■ GHS: Danger, Oxidising solid, Category 1, H271;

Acute toxicity, Category 4, Oral, H302, P210, P221

■ EC-Index-No. 017-008-00-5 ■ LGK 5.1A

■ HS-No. 2829 90 10 ■ Disposal 22

- ADR-RID UN 1489 Kaliumperchlorat, 5.1, II
- IMDG-Code UN 1489 POTASSIUM PERCHLORATE, 5.1, II, Segregation Group: 13 (Perchlorates)
- IATA-DGR UN 1489 POTASSIUM PERCHLORATE, 5.1, II

## Specification

Assay (alkalimetric)..... 99.5 - 100.5 %  
 Insoluble matter..... ≤ 0.005 %  
 pH-value (1 %; water)..... 5.0 - 7.0  
 Chloride (Cl)..... ≤ 0.003 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.001 %  
 Total nitrogen (N)..... ≤ 0.0005 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ca (Calcium)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Na (Sodium)..... ≤ 0.005 %  
 Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.05076.0250	Metal can	250 g	inquire
1.05076.1000	Metal can	1 kg	inquire

## Potassium permanganate

KMnO<sub>4</sub>

Permanganic acid potassium salt

■ CAS-No. 7722-64-7 ■ EC-No. 231-760-3

■ Vapour pressure &lt; 0.01 hPa (20 °C)

■ Spec. density 2.70 g/cm<sup>3</sup> (20 °C) ■ Solub. inH<sub>2</sub>O 64 g/l (20 °C) ■ M = 158.03 g/mol■ pH value 7 - 9 (20 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point &gt;240 °C (decomposition)

■ Bulk density 1300 - 1600 kg/m<sup>3</sup>

- WGK 3
- GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273
- LD50 oral rat 750 mg/kg
- EC-Index-No. 025-002-00-9 ■ LGK 5.1B
- HS-No. 2841 61 00 ■ Disposal 22

- ADR-RID UN 1490 Kaliumpermanganat, 5.1, II
- IMDG-Code UN 1490 POTASSIUM PERMANGANATE, 5.1, II, Segregation Group: 14 (Permanganates)
- IATA-DGR UN 1490 POTASSIUM PERMANGANATE, 5.1, II

## 105080 Potassium permanganate cryst. extra pure

## Specification

Assay (manganometric)..... 99.0 - 100.5 %  
 Identity..... passes test  
 Appearance of solution..... passes test  
 In water insoluble matter..... ≤ 0.2 %  
 Chloride (Cl)..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.03 %

Ord.No.	Packaging	Quantity	Price
1.05080.1000	Glass bottle	1 kg	inquire
1.05080.5000	Metal can	5 kg	inquire
1.05080.9050	Steel drum	50 kg	inquire

## 105084 Potassium permanganate for analysis (max. 0.000005% Hg) EMSURE® ACS

## Specification

Assay (manganometric)..... ≥ 99.0 %  
 Insoluble matter..... ≤ 0.1 %  
 Chloride, Chlorate (as Cl)..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
 Total nitrogen (N)..... ≤ 0.003 %  
 Cu (Copper)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.002 %  
 Hg (Mercury)..... ≤ 0.000005 %  
 Pb (Lead)..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.05084.1000	Glass bottle	1 kg	inquire



# Potass

## 105082 Potassium permanganate for analysis EMSURE® ACS, Reag. Ph Eur

### Specification

Assay (manganometric).....	99.0 - 100.5 %
Identity.....	passes test
Appearance of solution .....	passes test
In water insoluble matter.....	≤ 0.2 %
Chloride (Cl).....	≤ 0.02 %

Chloride, Chlorate (as Cl).....	≤ 0.005 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.01 %
Total nitrogen (N).....	≤ 0.003 %
Cu (Copper).....	≤ 0.001 %
Fe (Iron).....	≤ 0.002 %

Pb (Lead).....	≤ 0.002 %
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Ord.No.	Packaging	Quantity	Price
1.05082.0250	Glass bottle	250 g	inquire
1.05082.1000	Glass bottle	1 kg	inquire

## Potassium permanganate volumetric solutions

### 480160 Potassium permanganate solution c(KMnO<sub>4</sub>) = 0.05 mol/l (0.25 N) Titripur®

- Spec. density 1.0035 g/cm<sup>3</sup> ■ pH value 7 (H<sub>2</sub>O)
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 2841 61 00
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(KALIUMPERMANGANATLOESUNG), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(POTASSIUM PERMANGANATE), 9, III, Marine Pollutant: P

- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(POTASSIUM PERMANGANATE), 9, III
- Specification**  
Amount-of-substance concentration 0.05000 mol/l  
The concentration of this volumetric solution was determined with volumetric standard di-sodium oxalate (Merck article number 1.02407). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability).

The certified value is traceable to primary standard NIST SRM 8040 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard di-sodium oxalate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
4.80160.2500	Glass bottle	2.5 l	inquire

### 109930 Potassium permanganate solution for 1000 ml, c(KMnO<sub>4</sub>) = 0.002 mol/l (0.01 N) Titrisol®

- Spec. density 1.002 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.3 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 2841 61 00 ■ Disposal 28
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(KALIUMPERMANGANATLOESUNG), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

- N.O.S.(POTASSIUM PERMANGANATE), 9, III, Marine Pollutant: P
  - IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(POTASSIUM PERMANGANATE), 9, III
- Specification**  
Concentration after dilution to 1l: c(KMnO<sub>4</sub>)= 0.002 mol/l  
Amount-of-substance concentration ..... c(KMnO<sub>4</sub>)=0.002000mol/l+/-0.2%

Titer (20 °C) ..... 1.000  
This volumetric solution was checked by means of di-Sodium oxalate Merck volumetric standard The Merck volumetric standard are traceable to the Standard Reference Material 8040 of NIST (National Institute of Standards and Technology, USA).

Ord.No.	Packaging	Quantity	Price
1.09930.0001	Glass ampoule	1 amp	inquire

### 109935 Potassium permanganate solution for 1000 ml, c(KMnO<sub>4</sub>) = 0.02 mol/l (0.1 N) Titrisol®

- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.9 (H<sub>2</sub>O, 20 °C)
- WGK 3
- GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273
- LGK 10 - 13
- HS-No. 2841 61 00 ■ Disposal 28
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(KALIUMPERMANGANATLOESUNG), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(POTASSIUM PERMANGANATE), 9, III, Marine

- Pollutant: P
  - IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(POTASSIUM PERMANGANATE), 9, III
- Specification**  
Concentration after dilution to 1 liter: c(KMnO<sub>4</sub>) = 0.02 mol/l  
Amount-of-substance concentration 0.02000 mol/l  
The concentration of this solution was determined with volumetric standard di-sodium oxalate (Merck article number 1.02407). The determined titer at 20°C was 1.000 with an expanded

measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 8040 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard di-sodium oxalate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09935.0001	Glass ampoule	1 amp	inquire
	Glass ampoule	6 x 1 amp	inquire

### 109122 Potassium permanganate solution standardised against oxalate c(KMnO<sub>4</sub>) = 0.02 mol/l (0.1 N) Titripur®

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 8 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 2841 61 00 ■ Disposal 28
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(KALIUMPERMANGANATLOESUNG), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(POTASSIUM PERMANGANATE), 9, III, Marine Pollutant: P

- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(POTASSIUM PERMANGANATE), 9, III
- Specification**  
Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (USP).  
Amount-of-substance concentration 0.02000 mol/l  
The concentration of this volumetric solution was determined with volumetric standard di-sodium oxalate (Merck article number 1.02407). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003

(k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 8040 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard di-sodium oxalate measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09122.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire



**109121 Potassium permanganate solution** standardised against sodium thiosulfatec(KMnO<sub>4</sub>) = 0.02 mol/l (0.1 N) Titripur®

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 8 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Chronic aquatic toxicity, Category 2, H411, P273
- LGK 10 - 13
- HS-No. 2841 61 00 ■ Disposal 28
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(KALIUMPERMANGANATLOESUNG), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(POTASSIUM PERMANGANATE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3082 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(POTASSIUM PERMANGANATE), 9, III

**Specification**  
Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur). Amount-of-substance concentration 0.02000 mol/l The concentration of this volumetric solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003

(k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09121.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

Potassium peroxide → Potassium superoxide page 1364

**Potassium peroxodisulfate**K<sub>2</sub>O<sub>8</sub>S<sub>2</sub>

Potassium persulfate

- CAS-No. 7727-21-1 ■ EC-No. 231-781-8
- Spec. density 2.48 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 270.32 g/mol
- pH value 3.2 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 100 °C (decomposition)
- Bulk density 1150 kg/m<sup>3</sup>
- WGK 1

GHS: Danger, Oxidising solid, Category 3, H272; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P341, P305 + P351 + P338

- LD50 oral rat 802 mg/kg
- EC-Index-No. 016-061-00-1 ■ LGK 5.1B
- HS-No. 2833 40 00 ■ Disposal 22
- ADR-RID UN 1492 Kaliumpersulfat, 5.1, III
- IMDG-Code UN 1492 POTASSIUM PERSULPHATE, 5.1, III
- IATA-DGR UN 1492 POTASSIUM PERSULPHATE, 5.1, III

**105092 Potassium peroxodisulfate for analysis (<= 0.001% N) EMSURE® ACS,Reag. Ph Eur****Specification**

Assay (iodometric) ..... ≥ 99.0 %  
Insoluble matter ..... ≤ 0.005 %  
Entire chloride ..... ≤ 0.001 %  
Total nitrogen (N) ..... ≤ 0.001 %

Heavy metals (as Pb) ..... ≤ 0.001 %  
Fe (Iron) ..... ≤ 0.0005 %  
Mn (Manganese) ..... ≤ 0.0001 %  
Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.05092.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire

**105091 Potassium peroxodisulfate for analysis EMSURE®****Specification**

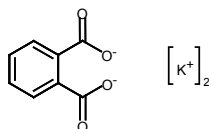
Assay (iodometric) ..... ≥ 99.0 %  
Chloride (Cl) ..... ≤ 0.001 %  
Heavy metals (as Pb) ..... ≤ 0.003 %  
Fe (Iron) ..... ≤ 0.001 %

Mn (Manganese) ..... ≤ 0.0001 %

Ord.No.	Packaging	Quantity	Price
1.05091.0250	Plastic bottle	250 g	inquire
1.05091.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

sec. Potassium phosphate → page 5

Potassium phosphate dibasic → page 1353

**822080 di-Potassium phthalate for synthesis**C<sub>8</sub>H<sub>4</sub>-1,2-(COOK)<sub>2</sub>

- CAS-No. 4409-98-7 ■ EC-No. 224-561-8
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 242.32 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2917 39 95 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>) ..... ≥ 96,0 %  
Water (K. F.) ..... ≤ 1,0 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22080.0100	Plastic bottle	100 g	inquire

C<sub>8</sub>H<sub>4</sub>K<sub>2</sub>O<sub>4</sub>

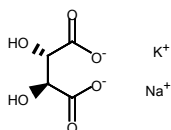
Potassium phthalimide → Phthalimide potassium salt page 1326

Potassium pyrosulfate → Potassium disulfate (Potassium pyrosulfate) page 1350

Potassium sodium carbonate → Potassium carbonate/sodium carbonate page 1346

Potassium pyrochromate → page 168

Potassium rhodanide → page 1365

**108087 Potassium sodium tartrate tetrahydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur**C<sub>4</sub>H<sub>4</sub>KNaO<sub>6</sub> \* 4 H<sub>2</sub>O

Sodium potassium tartrate, Tartaric acid potassium sodium salt

- CAS-No. 6381-59-5 ■ EC-No. 206-156-8
- Solub. in H<sub>2</sub>O 630 g/l (20 °C) ■ M = 282.23 g/mol ■ pH value 7.0 - 8.5 (50 g/l, H<sub>2</sub>O, 25 °C)

- Melting point 70 - 80 °C
- Bulk density 1000 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2918 13 00 ■ Disposal 3

**Specification**

Assay (alkalimetric) ..... 99.0 - 102.0 %  
Insoluble matter ..... ≤ 0.005 %  
pH-value (5 %; water; 25 °C) ..... 7.0 - 8.5  
Chloride (Cl) ..... ≤ 0.0005 %  
Phosphate (PO<sub>4</sub>) ..... ≤ 0.001 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
Heavy metals (as Pb) ..... ≤ 0.0005 %

Ca (Calcium) ..... ≤ 0.004 %  
Cu (Copper) ..... ≤ 0.0005 %  
Fe (Iron) ..... ≤ 0.0005 %  
NH<sub>4</sub> (Ammonium) ..... ≤ 0.002 %  
Pb (Lead) ..... ≤ 0.0005 %  
Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.08087.0500	Plastic bottle	500 g	inquire
1.08087.1000	Plastic bottle	1 kg	inquire
1.08087.5000	Plastic bottle	5 kg	inquire
1.08087.9050	Fibre carton	50 kg	inquire

# Potass

## 109924 Potassium standard 1000 mg K, (KCl in H<sub>2</sub>O) Titrisol®

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.0 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 2827 39 85

**Specification**  
 content (K) ..... 1000 mg / Ampoule  
 Determination method: argentometric titration. (traceable to NIST - SRM 999a) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09924.0001	Plastic ampoule	1 amp	inquire

Potassium standard dissolved in oil → page 1492

Potassium standard for aqueous matrices →  
 Potassium standard page 1364

## Potassium sulfate

- K<sub>2</sub>O<sub>4</sub>S
- K<sub>2</sub>SO<sub>4</sub>
- Potassium pyrosulfate*
- CAS-No. 7778-80-5 ■ EC-No. 231-915-5
- Spec. density 2.66 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 111 g/l (20 °C) ■ M = 174.26 g/mol

- pH value 5.5 - 8.5 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 1069 °C ■ Bulk density 800 kg/m<sup>3</sup>
- Boiling point 1689 °C (1013 hPa)
- WGK 1
- LD50 oral rat 6600 mg/kg
- LGK 10 - 13

- HS-No. 3105 10 00 ■ Disposal 14
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## 105153 Potassium sulfate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

- Specification**
- Assay (alkalimetric) ..... ≥ 99.0 %
  - Insoluble matter ..... ≤ 0.01 %
  - pH-value (5 %; water, 25 °C) ..... 5.5 - 7.5
  - Chloride (Cl) ..... ≤ 0.0005 %
  - Total nitrogen (N) ..... ≤ 0.0005 %
  - Heavy metals (as Pb) ..... ≤ 0.0005 %

- As (Arsenic) ..... ≤ 0.0002 %
- Ca (Calcium) ..... ≤ 0.005 %
- Fe (Iron) ..... ≤ 0.0005 %
- Mg (Magnesium) ..... ≤ 0.002 %
- Na (Sodium) ..... ≤ 0.02 %
- Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.05153.0500	Plastic bottle	500 g	inquire
1.05153.1000	Plastic bottle	1 kg	inquire
1.05153.5000	Plastic bottle	5 kg	inquire
1.05153.9025	Fibre carton	25 kg	inquire

## 105152 Potassium sulfate 99.999 Suprapur®

- Specification**
- Purity (metallic) ..... ≥ 99.999 %
  - Assay (acidimetric) ..... ≥ 99.0 %
  - Chloride (Cl) ..... ≤ 5 ppm
  - Total nitrogen (N) ..... ≤ 5.0 ppm
  - Al (Aluminium) ..... ≤ 0.010 ppm
  - Ba (Barium) ..... ≤ 1.0 ppm
  - Bi (Bismuth) ..... ≤ 0.01 ppm
  - Ca (Calcium) ..... ≤ 0.10 ppm
  - Cd (Cadmium) ..... ≤ 0.005 ppm
  - Ce (Cerium) ..... ≤ 0.020 ppm
  - Co (Cobalt) ..... ≤ 0.005 ppm
  - Cr (Chromium) ..... ≤ 0.010 ppm

- Cu (Copper) ..... ≤ 0.020 ppm
- Eu (Europium) ..... ≤ 0.010 ppm
- Fe (Iron) ..... ≤ 0.050 ppm
- Hg (Mercury) ..... ≤ 0.05 ppm
- La (Lanthanum) ..... ≤ 0.010 ppm
- Li (Lithium) ..... ≤ 0.2 ppm
- Mg (Magnesium) ..... ≤ 0.10 ppm
- Mn (Manganese) ..... ≤ 0.020 ppm
- Na (Sodium) ..... ≤ 5.0 ppm
- Ni (Nickel) ..... ≤ 0.020 ppm
- Pb (Lead) ..... ≤ 0.020 ppm
- Sc (Scandium) ..... ≤ 0.010 ppm

- Sm (Samarium) ..... ≤ 0.010 ppm
- Sr (Strontium) ..... ≤ 0.10 ppm
- Tl (Thallium) ..... ≤ 0.01 ppm
- Y (Yttrium) ..... ≤ 0.010 ppm
- Yb (Ytterbium) ..... ≤ 0.010 ppm
- Zn (Zinc) ..... ≤ 0.050 ppm

Ord.No.	Packaging	Quantity	Price
1.05152.0100	Plastic bottle	100 g	inquire
1.05152.0500	Plastic bottle	500 g	inquire

## 105134 Potassium sulfide small lumps for analysis EMSURE®

- (1\*K<sub>2</sub>S)(m\*K<sub>2</sub>S<sub>x</sub>)(n\*K<sub>2</sub>S<sub>2</sub>O<sub>3</sub>)
- Potassium monosulfide*
- CAS-No. 39365-88-3
- Spec. density 1.65 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ pH value 13 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 200 - 250 °C
- Bulk density 1000 - 1200 kg/m<sup>3</sup>
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400, P280, P273, P301 + P330 + P331, P305 + P351 + P338,

- P309 + P310
- LGK 8A
- HS-No. 2830 90 85 ■ Disposal 6
- ADR-RID UN 3262 Ätzender basischer anorganischer fester Stoff, n.a.g.(KALIUM(POLY)SULFID), 8, II ■ IMDG-Code UN 3262 CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.(POTASSIUM(POLY)SULFIDE), 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 3262 CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.(POTASSIUM(POLY)SULFIDE),

- 8, II
- Specification**
- Assay (complexometric, as K<sub>2</sub>S) ..... ≥ 44 %
- Sulfite (SO<sub>3</sub>) ..... ≤ 1 %
- Thiosulfate (S<sub>2</sub>O<sub>3</sub>) ..... about 20%
- Total nitrogen (N) ..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.05134.0250	Plastic bottle	250 g	inquire
1.05134.1000	Plastic bottle	1 kg	inquire

Potassium sulfocyanide → page 1365

## 814151 Potassium superoxide for synthesis

- KO<sub>2</sub>
- Potassium peroxide*
- CAS-No. 12030-88-5 ■ EC-No. 234-746-5
- Spec. density 2.14 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)
- M = 71.1 g/mol ■ pH value >7 (H<sub>2</sub>O, 20 °C)
- Melting point 380 °C
- WGK 1
- GHS: Danger, Oxidising solid, Category 1, H271;

- Skin corrosion, Category 1A, H314, P210, P221, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 5.1A
- HS-No. 2825 90 85 ■ Disposal 22
- ADR-RID UN 2466 Kaliumsuperoxid, 5.1, I
- IMDG-Code UN 2466 POTASSIUM SUPEROXIDE, 5.1, I, Segregation Group: 16 (Peroxides)
- IATA-DGR UN 2466 POTASSIUM SUPEROXIDE,

- 5.1, I
- Specification**
- Assay (manganometric) ..... ≥ 90,0 % (m)
- KOH (acidimetric) ..... ≤ 4,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.14151.0050	Glass bottle	50 g	inquire

Potassium Test → page 80

### 119235 Potassium tetrachloroplatinate(II) 99+



Cl<sub>4</sub>K<sub>2</sub>Pt  
K<sub>2</sub>PtCl<sub>4</sub>  
 ■ CAS-No. 10025-99-7 ■ EC-No. 233-050-9  
 ■ Spec. density 3.4 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 415.09 g/mol  
 ■ pH value 4 - 5 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 250 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P260, P280, P302 + P352, P304 + P341, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat < 200 mg/kg  
 ■ EC-Index-No. 078-004-00-7 ■ LGK 6.1 D  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 2923 Ätzender fester Stoff, giftig,

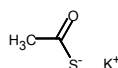
n.a.g.(KALIUMTETRACHLOROPLATINAT(II)), 8 (6.1), III ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(POTASSIUM TETRACHLOROPLATINATE(II)), 8 (6.1), III  
 ■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(POTASSIUM TETRACHLOROPLATINATE(II)), 8 (6.1), III  
**Specification**  
 Assay (calculated of Pt).....99.0 - 101.0 %  
 Pt (Platinum) ..... 46.5 - 47.5 %  
 Ag (Silver)..... ≤ 50 ppm  
 Al (Aluminium)..... ≤ 10 ppm  
 Ca (Calcium)..... ≤ 50 ppm  
 Cd (Cadmium)..... ≤ 10 ppm  
 Co (Cobalt)..... ≤ 10 ppm  
 Cr (Chromium)..... ≤ 10 ppm  
 Cu (Copper)..... ≤ 50 ppm

Fe (Iron)..... ≤ 50 ppm  
 Hg (Mercury)..... ≤ 100 ppm  
 Ir (Iridium)..... ≤ 100 ppm  
 Mg (Magnesium)..... ≤ 50 ppm  
 Mn (Manganese)..... ≤ 10 ppm  
 Ni (Nickel)..... ≤ 10 ppm  
 Os (Osmium)..... ≤ 100 ppm  
 Pb (Lead)..... ≤ 50 ppm  
 Pd (Palladium)..... ≤ 100 ppm  
 Rh (Rhodium)..... ≤ 100 ppm  
 Ru (Ruthenium)..... ≤ 100 ppm  
 Zn (Zinc)..... ≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.19235.0005	Glass bottle	5 g	inquire

Potassium tetrahydroborate → Potassium borohydride page 1344

### 841002 Potassium thioacetate for synthesis



C<sub>2</sub>H<sub>3</sub>KOS  
*Thioacetic acid potassium salt*  
 ■ CAS-No. 10387-40-3 ■ EC-No. 233-848-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 114.21 g/mol  
 ■ Melting point 220 - 225 °C

■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: P260, P262  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR UN 3335 AVIATION REGULATED SOLID, N.O.S.(POTASSIUM THIOACETATE), 9, III

**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41002.0025	Glass bottle	25 g	inquire
8.41002.0100	Glass bottle	100 g	inquire

### Potassium thiocyanate



CKNS  
 KSCN  
*Potassium sulfocyanide*  
 ■ CAS-No. 333-20-0 ■ EC-No. 206-370-1  
 ■ Vapour pressure < 1 hPa (20 °C)

■ Spec. density 1.89 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 208 g/l (20 °C) ■ M = 97.18 g/mol  
 ■ pH value 5.3 - 8.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 175 °C  
 ■ Bulk density 750 - 1000 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4,

Dermal, H312; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352  
 ■ LD50 oral rat 854 mg/kg  
 ■ EC-Index-No. 615-004-00-3 ■ LGK 10 - 13  
 ■ HS-No. 2842 90 80 ■ Disposal 3

### 105124 Potassium thiocyanate pure

**Specification**  
 Assay (argentometric)..... ≥ 98.0 %  
 Identity..... passes test  
 Chloride (Cl)..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.05 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.05124.1000	Plastic bottle	1 kg	inquire
1.05124.9050	Fibre carton	50 kg	inquire

### 105125 Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
 Assay (argentometric)..... ≥ 99.0 %  
 Insoluble matter..... ≤ 0.003 %  
 pH-value (5 %; water, 25 °C)..... 5.3 - 8.5  
 Chloride (Cl)..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %  
 Sulphide (S)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Cu (Copper)..... ≤ 0.0002 %  
 Fe (Iron)..... ≤ 0.0001 %  
 Na (Sodium)..... ≤ 0.005 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.002 %  
 Pb (Lead)..... ≤ 0.0002 %  
 Iodine consuming substances..... ≤ 0.025 %  
 Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.05125.0250	Plastic bottle	250 g	inquire
1.05125.1000	Plastic bottle	1 kg	inquire
1.05125.9050	Fibre carton	50 kg	inquire

Potassium trihydrogenoxalate → page 177  
 Potassium xanthogenate → Potassium-O-ethylthiocarbonate page 1350  
 Potato dextrose agar → page 106  
 Potato starch for determination of diastase → page 1500

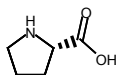
PPA → Polyphosphoric acid page 1341  
 PPM → (2R,4R)-(+)-4-Diphenylphosphino-2-diphenylphosphino methylpyrrolidine page 819  
 PR → page 1290  
 Pre-coated plates (TLC, HPTLC, PLC) → page 12

Pre-column holder for direct coupling of LiChroCART® 4-4 pre-columns with Hibar® RT columns → page 35  
 Pre-column holder for LiChroCART® cartridges 4-4 for capillary connection to Hibar® RT column → page 36  
 Preparative layer chromatography → page 11

### Prepsolv® solvents for preparative chromatography

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation			
	5	113358	Acetonitrile		5	113351	Methanol		5	113350	2-Propanol
Pressure cone for manu-CART® cartridge holder → page 35			Pressure safety device 0.5 bar → page 327			Primary amines → Amines and ammonium compounds		Primary reference material → Standards			
Pressure Relief Valve → page 40											

## 107434 L-Proline for biochemistry

C<sub>5</sub>H<sub>9</sub>NO<sub>2</sub>

Pro

- CAS-No. 147-85-3 ■ EC-No. 205-702-2
  - Spec. density 1.35 - 1.38 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 1500 g/l (20 °C) ■ M = 115.13 g/mol
  - pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)
  - Melting point 220 - 222 °C (decomposition)
  - Bulk density 500 kg/m<sup>3</sup>
  - WGK 1
  - LD50 oral rat > 5110 mg/kg
  - LGK 10 - 13
  - HS-No. 2933 99 80 ■ Disposal 3
- Soluble in water and mineral acids; insoluble in organic solvents.

## Specification

Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %

Identity (IR-spectrum) ..... passes test

Appearance ..... white or almost white, crystalline powder or colorless crystals

Appearance of solution (1 mol/l, water).... clear and colorless

Spec. rotation (α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... -50.5 to -52.0°

UV-Absorption (260 nm; 1 mol/l; 1 cm; water)..... ≤ 0.05

UV-Absorption (280 nm; 1 mol/l; 1 cm; water)..... ≤ 0.05

Chloride (Cl)..... ≤ 0.02 %

Sulfate (SO<sub>4</sub>)..... ≤ 0.01 %

Heavy metals (as Pb)..... ≤ 0.001 %

As (Arsenic)..... ≤ 0.0005 %

Ca (Calcium) ..... ≤ 0.001 %

Co (Cobalt) ..... ≤ 0.0005 %

Fe (Iron) ..... ≤ 0.0005 %

K (Potassium)..... ≤ 0.0005 %

Mg (Magnesium)..... ≤ 0.0005 %

Na (Sodium)..... ≤ 0.005 %

Zn (Zinc)..... ≤ 0.0005 %

NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %

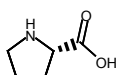
Foreign amino acids ..... ≤ 0.3 %

Other ninhydrine positive substances ..... ≤ 0.1 %

Loss on drying (105 °C) ..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.07434.0010	Glass bottle	10 g	inquire
1.07434.0100	Plastic bottle	100 g	inquire
1.07434.0500	Plastic bottle	500 g	inquire
1.07434.9010	Plastic drum	10 kg	inquire

## 816019 (S)-(-)-Proline for synthesis

C<sub>5</sub>H<sub>9</sub>NO<sub>2</sub>

Pro

- CAS-No. 147-85-3 ■ EC-No. 205-702-2
- Spec. density 1.35 - 1.38 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 1500 g/l (20 °C) ■ M = 115.13 g/mol

- pH value 5 - 7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 220 - 222 °C (decomposition)
- Bulk density 500 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat > 5110 mg/kg
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)

Spec. rotation [α<sup>20</sup>/D (c=4 in water) ..... -86,0 - -84,0 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16019.0025	Plastic bottle	25 g	inquire
8.16019.0100	Plastic bottle	100 g	inquire

L-Proline → (S)-(-)-Proline page 1366

107433 Pronase E (from *Streptomyces griseus*) 4,000,000 PU/g for biochemistry EC 3.4.24.4*Streptomyces griseus* neutral proteinase

- CAS-No. 9036-06-0 ■ EC-No. 232-909-5
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6 - 7 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 200 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Respiratory sensitisation, Category 1, H334, P260, P305 + P351 + P338, P304 + P341, P342 + P311, P302 + P352
- LD50 oral rat 3290 mg/kg

- EC-Index-No. 647-014-00-9 ■ LGK 10 - 13
  - Store at +2°C to +8°C.
  - HS-No. 3507 90 90 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- Protease mixture containing several exo- and endopeptidases. Hydrolysis practically all peptide linkages in proteins and peptides. 1 PUK-unit corresponds to about 52 PU-units. Careful hydrolysis of (glyco)proteins, e.g. for structure analysis.

## Specification

Appearance (colour) ..... slightly brown

Appearance (description) ..... fine powder

Activity (Casein; pH 7.4; 40 °C)..... ≥ 4000000 U/g

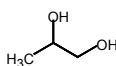
Ord.No.	Packaging	Quantity	Price
1.07433.0001	Glass bottle	1 g	inquire
1.07433.0005	Glass bottle	5 g	inquire

Propional → Propionaldehyde page 1372

1,2-Propanediamine → 1,2-Diaminopropane page 697

1,3-Propanediamine → 1,3-Diaminopropane page 697

## 822324 1,2-Propanediol EMPLURA®

C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>CH<sub>3</sub>CH(OH)CH<sub>2</sub>OH

1,2-Propylene glycol

- CAS-No. 57-55-6 ■ EC-No. 200-338-0
- Refractive index 1.43 (20 °C) ■ Vapour pressure 0.11 hPa (20 °C) ■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.4 - 17.4 % (V)
- Flash point 99 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) miscible in all proportions
- M = 76.09 g/mol ■ pH value 6 - 8 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -59 °C
- Boiling point 188 °C (1013 hPa)
- Ignition temp. 371 °C
- WGK 1
- LD50 oral rat 19400 - 36000 mg/kg
- LD50 dermal rabbit 20800 mg/kg
- LGK 10 - 13
- HS-No. 2905 32 00 ■ Disposal 3

## Specification

Purity (GC)..... ≥ 99.0 %

Identity (IR)..... conforms

Density (d 20 °C/ 4 °C)..... 1.036 - 1.037

Water..... ≤ 0.20 %

Ord.No.	Packaging	Quantity	Price
8.22324.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.22324.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire

## 807481 1,3-Propanediol for synthesis

C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>HO(CH<sub>2</sub>)<sub>3</sub>OH

Trimethylene glycol, 1,3-Propylene glycol

- CAS-No. 504-63-2 ■ EC-No. 207-997-3
- Refractive index 1.4396 (20 °C, 589 nm)
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 1.3 (59 °C) ■ Explosive limit 2.5 % (V)
- Flash point 140 °C ■ Solub. in H<sub>2</sub>O 100 g/l

- (20 °C) ■ M = 76.09 g/mol ■ pH value 4.5 - 7.0 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -32 °C
- Boiling point 213 - 215 °C (1013 hPa)
- Ignition temp. 405 °C
- WGK 1
- LD50 oral rat 15670 mg/kg
- LD50 dermal rabbit > 20000 mg/kg
- LGK 10
- HS-No. 2905 39 95 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %

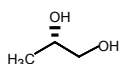
Density (d 20 °C/ 4 °C)..... 1,051 - 1,053

Water (K. F.)..... ≤ 0,20 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07481.0005	Glass bottle	5 ml	inquire
8.07481.0250	Glass bottle	250 ml	inquire
8.07481.1000	Glass bottle	1 l	inquire

## 814133 (S)-(+)-1,2-Propanediol for synthesis

C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>CH<sub>3</sub>CH(OH)CH<sub>2</sub>OH*(S)*-Propylene glycol

■ CAS-No. 4254-15-3

■ Refractive index 1.4312 (24 °C, 589 nm)

- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.6 - 12.6 % (V) ■ Flash point 102 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 76.09 g/mol
- Melting point -59 °C ■ Boiling point 189 °C (1013 hPa) ■ Ignition temp. 420 °C
- WGK 1
- LGK 10
- HS-No. 2905 32 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,036 - 1,038  
 Spec. rotation [α<sup>20</sup>/D (undiluted)] ..... 16,0 - 17,0 °  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14133.0001	Glass bottle	1 ml	inquire
8.14133.0005	Glass bottle	5 ml	inquire

## 821042 1,3-Propanedithiol for synthesis

C<sub>3</sub>H<sub>8</sub>S<sub>2</sub>HS(CH<sub>2</sub>)<sub>2</sub>SH

■ CAS-No. 109-80-8 ■ EC-No. 203-706-9

■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C)■ Flash point 59 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 108.23 g/mol ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -79 °C

■ Boiling point 169 - 170 °C

■ WGK 3

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Oral, H301, P210, P309 + P310
- LD50 oral rat > 50 - 300 mg/kg
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(1,3-PROPANDITHIOL), 3 (6.1), III
- IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(1,3-PROPANE DITHIOL), 3 (6.1), III
- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC,

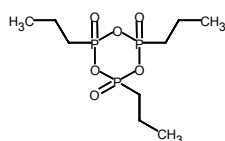
N.O.S.(1,3-PROPANE DITHIOL), 3 (6.1), III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,077 - 1,080  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21042.0050	Glass bottle	50 ml	inquire

## 843943 Propanephosphonic acid anhydride (50% solution in 2-Methyltetrahydrofuran) for synthesis T3P®



■ Spec. density 1.039 g/cm<sup>3</sup> ■ Flash point - 11 °C (solvent) ■ Boiling point 78 - 80 °C (solvent)

■ WGK 2

■ GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P280, P301 + P330 + P331, P305 +

P351 + P338, P309 + P310

■ LGK 3 ■ Store at +2°C to +8°C.

■ HS-No. 3824 90 97 ■ Disposal 11

■ ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(PROPANPHOSPHONSAEUREANHYDRID UND ENTH. METHYLtetrahydrofuran), 3 (8), II

■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(PROPYLPHOSPHONIC CYCLIC ANHYDRIDE AND CONT. METHYLtetrahydrofuran), 3 (8), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2924 FLAMMABLE LIQUID,

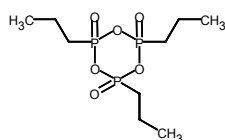
CORROSIVE, N.O.S.(PROPYLPHOSPHONIC CYCLIC ANHYDRIDE AND CONT. METHYLtetrahydrofuran), 3 (8), II

## Specification

Assay (T3P) (NMR) ..... ≥ 40,0 % (m)  
 Pyropropanephosphonic acid (NMR) ..... ≤ 10,0 % (m)  
 Propanephosphonic acid (NMR) ..... ≤ 0,50 % (m)  
 2- Methyltetrahydrofurane (calculated) .....  
 Dimethylformamide (calculated) ..... ≤ 50,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.43943.0025	Glass bottle	25 ml	inquire
8.43943.0100	Glass bottle	100 ml	inquire

## 843944 Propanephosphonic acid anhydride (50% solution in Dimethyl formamide) for synthesis T3P®

■ Spec. density 1.094 g/cm<sup>3</sup>

■ Flash point 58 °C (Dimethylformamide)

■ Boiling point 153 °C

(1013 hPa) (Dimethylformamide)

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314;

Reproductive toxicity, Category 1B, H360D, P201, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 3 ■ Store at +2°C to +8°C.

■ HS-No. 3824 90 97 ■ Disposal 11

■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(ENTH.

PROPANPHOSPHONSAEUREANHYDRID UND N,N-DIMETHYLFORMAMID), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(CONT. PROPYLPHOSPHONIC CYCLIC ANHYDRIDE AND N,N-DIMETHYLFORMAMIDE), 8 (3), II, Segregation Group: 1 (Acids)

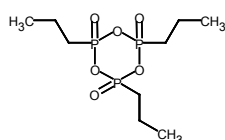
■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(CONT. PROPYLPHOSPHONIC CYCLIC ANHYDRIDE AND N,N-DIMETHYLFORMAMIDE), 8 (3), II

## Specification

Assay (T3P) (NMR) ..... ≥ 40,0 %  
 Propanephosphonic acid (NMR) ..... ≤ 0,50 %  
 Dimethylformamide (calculated) ..... ≤ 50,0 %

Ord.No.	Packaging	Quantity	Price
8.43944.0025	Glass bottle	25 ml	inquire
8.43944.0100	Glass bottle	100 ml	inquire

## 843942 Propanephosphonic acid anhydride (50% solution in ethyl acetate) for synthesis T3P®



■ Vapour pressure 97 hPa (20 °C) ethyl acetate

■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Flash point -

4 °C ethyl acetate ■ Boiling point 77 °C

(1013 hPa) ethyl acetate

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314; Specific

target organ toxicity - single exposure, Category 3, H336, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 3 ■ Store at +2°C to +8°C.

■ HS-No. 3824 90 97 ■ Disposal 11

■ ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(PROPANPHOSPHONSAEUREANHYDRID UND

ENTH. ETHYLACETAT), 3 (8), II ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(PROPYLPHOSPHONIC CYCLIC ANHYDRIDE AND CONT. ETHYL ACETATE), 3 (8), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(PROPYLPHOSPHONIC CYCLIC ANHYDRIDE AND CONT. ETHYL ACETATE), 3 (8), II

## Specification

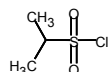
Assay (T3P) (NMR) ..... ≥ 40,0 % (m)  
 Pyropropanephosphonic acid (NMR) ..... ≤ 10,0 % (m)  
 Propanephosphonic acid (NMR) ..... ≤ 0,50 % (m)  
 Ethyl acetate (calculated) ..... ≤ 50,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.43942.0025	Glass bottle	25 ml	inquire
8.43942.0100	Glass bottle	100 ml	inquire



# Propan

## 841009 2-Propane sulfonyl chloride for synthesis



$C_3H_7ClO_2S$   
Isopropylsulfonyl chloride, Propane-2-sulfonyl chloride

- CAS-No. 10147-37-2 ■ EC-No. 233-415-2
- Spec. density 1.273 g/cm<sup>3</sup> (20 °C)
- Flash point 86 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 142.6 g/mol
- Melting point -47 °C ■ Boiling point 95 °C

- (60 hPa)
- WGK 3
  - GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
  - LGK 8A
  - HS-No. 2904 90 95 ■ Disposal 11
  - ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(PROPAN-2-SULFONYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PROPANE-2-SULFONYL CHLORIDE), 8, II,

Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PROPANE-2-SULFONYL CHLORIDE), 8, II

**Specification**  
Assay (argentometric)..... ≥ 98,0 %  
Density (d 20 °C/ 4 °C)..... 1,275 - 1,280  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41009.0005	Glass bottle	5 ml	inquire

Propane-2-sulfonyl chloride → 2-Propane sulfonyl chloride page 1368

## 807529 1-Propanethiol for synthesis



$C_3H_8S$   
 $CH_3CH_2CH_2SH$   
Propyl mercaptan

- CAS-No. 107-03-9 ■ EC-No. 203-455-5
- Refractive index 1.438 (20 °C, 589 nm) ■ Vapour pressure 165 hPa (20 °C) ■ Spec. density 0.84 g/cm<sup>3</sup> (20 °C) ■ Flash point -34 °C ■ Solub. in H<sub>2</sub>O 1.9 g/l (25 °C) ■ M = 76.16 g/mol
- Melting point -113 °C ■ Boiling point 67 - 68 °C (1013 hPa)

- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P210, P260, P273, P305 + P351 + P338
- LC50 rat 23.12 mg/l
- LD50 oral rat 1790 mg/kg
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 2402 Propanthiole, 3, II ■ IMDG-Code UN 2402 PROPANETHIOLS, 3, II

■ IATA-DGR UN 2402 PROPANETHIOLS, 3, II

**Specification**  
Assay (GC, area%)..... ≥ 96,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,840 - 0,845  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07529.0005	Glass bottle	5 ml	inquire
8.07529.0250	Glass bottle	250 ml	inquire

## 807532 2-Propanethiol for synthesis



$C_3H_8S$   
 $(CH_3)_2CHSH$   
Isopropyl mercaptan

- CAS-No. 75-33-2 ■ EC-No. 200-861-4
- Refractive index 1.4255 (20 °C, 589 nm)
- Vapour pressure 605 hPa (37 °C)
- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Flash point - 34 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

- M = 76.16 g/mol ■ Melting point -130 °C
- Boiling point 51 - 53 °C (1013 hPa)
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273, P305 + P351 + P338
- LC50 rat > 12.3 mg/l
- LD50 oral rat > 2000 mg/kg
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6

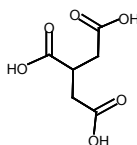
■ ADR-RID UN 2402 Propanthiole, 3, II ■ IMDG-Code UN 2402 PROPANETHIOLS, 3, II

■ IATA-DGR UN 2402 PROPANETHIOLS, 3, II

**Specification**  
Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,813 - 0,815  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07532.0100	Glass bottle	100 ml	inquire
8.07532.0500	Glass bottle	500 ml	inquire

## 841650 Propane-1,2,3-tricarboxylic acid for synthesis



$C_6H_8O_6$   
■ CAS-No. 99-14-9 ■ EC-No. 202-733-3

- Solub. in H<sub>2</sub>O 500 g/l (18 °C) ■ M = 176.12 g/mol ■ Melting point 160 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

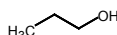
**Specification**  
Assay (acidimetric)..... ≥ 99,0 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41650.0010	Plastic bottle	10 g	inquire

1,2,3-Propanetricarboxylic acid trimethyl ester → Trimethyl 1,2,3-propanetricarboxylate page 1606

1,2,3-Propanetriol → page 318

## 1-Propanol

C<sub>3</sub>H<sub>8</sub>OCH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>OH*n*-Propyl alcohol, Propan-1-ol

■ CAS-No. 71-23-8 ■ EC-No. 200-746-9

■ Vapour pressure 19 hPa (20 °C)

■ Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Dielectricity

constant 20.1 (25 °C) ■ El. dipole moment 1.7

(20 °C) ■ Explosive limit 2.1 - 19.2 % (V)

■ Flash point 15 °C ■ Solub. in H<sub>2</sub>O (20 °C) miscible in all proportions  
 ■ M = 60.1 g/mol ■ pH value 7 (200 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 46 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -127 °C  
 ■ Boiling point 96.5 - 98 °C (1013 hPa)  
 ■ Evaporation number 17 ■ Ignition temp. 360 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Serious eye damage, Category 1, H318; Specific target organ toxicity - single exposure,

Category 3, H336, P210, P233, P280, P305 + P351 + P338, P313  
 ■ LC50 rat > 34 mg/l  
 ■ LD50 oral rat 1870 mg/kg ■ LD50 dermal rat 5040 mg/kg  
 ■ EC-Index-No. 603-003-00-0 ■ LGK 3  
 ■ HS-No. 2905 12 00 ■ Disposal 3  
 ■ ADR-RID UN 1274 *n*-Propanol, 3, II ■ IMDG-Code UN 1274 N-PROPANOL, 3, II  
 ■ IATA-DGR UN 1274 N-PROPANOL, 3, II



## 100996 1-Propanol EMPLURA®

## Specification

Purity (GC)..... ≥ 99.0 %  
 Identity (IR)..... conforms  
 Free acid (as propionic acid)..... ≤ 0.002 %  
 Density (d 20 °C/ 4 °C)..... 0.803 - 0.804  
 Methanol (GC)..... ≤ 0.1 %

Readily carbonizable substances..... conforms  
 Water..... ≤ 0.20 %

Ord.No.	Packaging	Quantity	Price
1.00996.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00996.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00996.6025	Drum stainl. st.	25 l	inquire
1.00996.9190	Steel barrel	190 l	inquire

## 100997 1-Propanol for analysis EMSURE® ACS, Reag. Ph Eur

## Specification

Purity (GC)..... ≥ 99.5 %  
 Identity (IR)..... conforms  
 Appearance..... clear  
 Colour..... ≤ 10 Hazen  
 Solubility in water..... conforms  
 Acidity..... ≤ 0.0004 meq/g  
 Alkalinity..... ≤ 0.0002 meq/g  
 Density (d 20 °C/20 °C)..... 0.802 - 0.806  
 Boiling point..... about 97,2 °C  
 Boiling range (96-99 °C)..... ≥ 95 % (v/v)  
 Acetone (GC)..... ≤ 0.01 %  
 Ethanol (GC)..... ≤ 0.01 %  
 Methanol (GC)..... ≤ 0.01 %  
 2-Propanol (GC)..... ≤ 0.05 %

Aldehydes and ketones (as C<sub>3</sub>H<sub>6</sub>O)..... ≤ 0.03 %  
 Matter discoloured by H<sub>2</sub>SO<sub>4</sub>..... ≤ 10 Hazen  
 Al (Aluminium)..... ≤ 0.00005 %  
 Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %  
 Fe (Iron)..... ≤ 0.00001 %  
 Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.00001 %

Sn (Tin)..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %  
 Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.05 %  
 ACS, Ph Eur-reagent

Ord.No.	Packaging	Quantity	Price
1.00997.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00997.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00997.4000		4 l	inquire
1.00997.6025	Drum stainl. st.	25 l	inquire

## 101024 1-Propanol for liquid chromatography LiChrosolv®

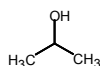
## Specification

Purity (GC)..... ≥ 99.8 %  
 Identity (IR)..... conforms  
 Evaporation residue..... ≤ 2.0 mg/l  
 Water..... ≤ 0.02 %  
 Acidity..... ≤ 0.0002 meq/g  
 Alkalinity..... ≤ 0.0002 meq/g

Transmission (at 230 nm)..... ≥ 70 %  
 Transmission (at 240 nm)..... ≥ 80 %  
 Transmission (from 270 nm)..... ≥ 98 %  
 Filtered by 0.2 µm filter

Ord.No.	Packaging	Quantity	Price
1.01024.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01024.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01024.4000		4 l	inquire

## 2-Propanol

C<sub>3</sub>H<sub>8</sub>OCH<sub>3</sub>CH(OH)CH<sub>3</sub>*Isopropyl alcohol, Isopropanol, iso-Propanol, IPA*

■ CAS-No. 67-63-0 ■ EC-No. 200-661-7

■ Refractive index 1.378 ■ Vapour pressure 43 hPa (20 °C) ■ Spec. density 0.786 g/cm<sup>3</sup> (20 °C)

■ Dielectricity constant 19 ■ Explosive

limit 2 - 13.4 % (V) ■ Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 60.1 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point - 89.5 °C ■ Boiling point 82.4 °C (1013 hPa)  
 ■ Evaporation number 11  
 ■ Water absorption 1000 g/kg  
 ■ Ignition temp. 425 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category

3, H336, P210, P233, P240, P305 + P351 + P338  
 ■ LC50 rat 46.5 mg/l  
 ■ LD50 oral rat 5045 mg/kg ■ LD50 dermal rabbit 12800 mg/kg  
 ■ EC-Index-No. 603-117-00-0 ■ LGK 3 ■ Store below +30 °C.  
 ■ HS-No. 2905 12 00 ■ Disposal 1  
 ■ ADR-RID UN 1219 Isopropanol, 3, II ■ IMDG-Code UN 1219 ISOPROPANOL, 3, II  
 ■ IATA-DGR UN 1219 ISOPROPANOL, 3, II



## 818766 2-Propanol EMPLURA®

## Specification

Purity (GC)..... ≥ 99.5 %  
 Identity (IR)..... conforms  
 Density (d 20 °C/ 4 °C)..... 0.784 - 0.785  
 Evaporation residue..... ≤ 0.0020 %  
 Water..... ≤ 0.20 %

Ord.No.	Packaging	Quantity	Price
8.18766.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.18766.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.18766.9011	Steel barrel	10 l	inquire
8.18766.9025	Steel barrel	25 l	inquire
8.18766.9180	Barrel PE/met	180 l	inquire

# Propan

## 107022 2-Propanol for analysis EMPARTA® ACS

<b>Specification</b>		Titrate base ..... ≤ 0.0001 meq/g
Purity (GC).....	≥ 99.5 %	Carbonyl compounds (as CO)..... ≤ 0.002 %
Identity (IR).....	conforms	Evaporation residue..... ≤ 0.001 %
Appearance.....	clear	Water..... ≤ 0.2 %
Colour.....	≤ 10 Hazen	
Solubility in water.....	conforms	
Titrate acid.....	≤ 0.0001 meq/g	

Ord.No.	Packaging	Quantity	Price
1.07022.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.07022.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.07022.9026	Steel barrel	25 l	inquire

## 109634 2-Propanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur

<b>Specification</b>		B (Boron)..... ≤ 0.000002 %
Purity (GC).....	≥ 99.8 %	Ba (Barium)..... ≤ 0.00001 %
Identity (IR).....	conforms	Be (Beryllium)..... ≤ 0.000002 %
Appearance.....	clear	Bi (Bismuth)..... ≤ 0.00001 %
Colour.....	≤ 10 Hazen	Ca (Calcium)..... ≤ 0.00005 %
Solubility in water.....	conforms	Cd (Cadmium)..... ≤ 0.000005 %
Acidity.....	≤ 0.0001 meq/g	Co (Cobalt)..... ≤ 0.000002 %
Alkalinity.....	≤ 0.0001 meq/g	Cr (Chromium)..... ≤ 0.000002 %
Density (d 20 °C/20 °C).....	0.784 - 0.787	Cu (Copper)..... ≤ 0.000002 %
Boiling point.....	81 - 83 °C	Fe (Iron)..... ≤ 0.00001 %
Chloride (Cl).....	≤ 300 ppb	Ga (Gallium)..... ≤ 0.000002 %
Nitrate (NO <sub>3</sub> ).....	≤ 300 ppb	In (Indium)..... ≤ 0.000002 %
Phosphate (PO <sub>4</sub> ).....	≤ 500 ppb	Li (Lithium)..... ≤ 0.000005 %
Sulphate (SO <sub>4</sub> ).....	≤ 1000 ppb	Mg (Magnesium)..... ≤ 0.00001 %
Substances reducing potassium permanganate (as O).....	≤ 2 ppm	Mn (Manganese)..... ≤ 0.000002 %
Carbonyl compounds (as CO).....	≤ 0.002 %	Mo (Molybdenum)..... ≤ 0.000002 %
Matter discoloured by H <sub>2</sub> SO <sub>4</sub> .....	≤ 10 Hazen	Ni (Nickel)..... ≤ 0.000002 %
Acetone (GC).....	≤ 0.01 %	Pb (Lead)..... ≤ 0.00001 %
Ethanol (GC).....	≤ 0.01 %	Pt (Platinum)..... ≤ 0.000002 %
Isopropylether (GC).....	≤ 0.01 %	Sb (Antimony)..... ≤ 0.000002 %
Methanol (GC).....	≤ 0.01 %	Sn (Tin)..... ≤ 0.00001 %
1-Propylalcohol (GC).....	≤ 0.1 %	Ti (Titanium)..... ≤ 0.000002 %
Ag (Silver).....	≤ 0.000002 %	Tl (Thallium)..... ≤ 0.000002 %
Al (Aluminium).....	≤ 0.00005 %	V (Vanadium)..... ≤ 0.000002 %
As (Arsenic).....	≤ 0.000002 %	Zn (Zinc)..... ≤ 0.00001 %
Au (Gold).....	≤ 0.000002 %	Zr (Zirconium)..... ≤ 0.000002 %

Evaporation residue..... ≤ 0.001 %  
Water..... ≤ 0.05 %  
ACS, ISO reagent, Ph Eur-reagent

Ord.No.	Packaging	Quantity	Price
1.09634.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09634.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09634.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09634.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.09634.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.09634.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire
1.09634.6010	Drum stainl. st.	10 l	inquire
1.09634.6025	Drum stainl. st.	25 l	inquire
1.09634.6190	Drum stainl. st.	190 l	inquire
1.09634.9025	Steel barrel	25 l	inquire
1.09634.9180	Barrel PE/met	180 l	inquire

## 100994 2-Propanol dried (max. 0.005% H<sub>2</sub>O) SeccoSolv®

<b>Specification</b>		Ethanol (GC)..... ≤ 0.01 %
Purity (GC).....	≥ 99.9 %	Methanol (GC)..... ≤ 0.1 %
Identity (IR).....	conforms	Evaporation residue..... ≤ 10 mg/l
Colour.....	≤ 10 Hazen	Water..... ≤ 0.005 %
Acidity.....	≤ 0.0005 meq/g	
Alkalinity.....	≤ 0.0002 meq/g	
Acetone (GC).....	≤ 0.01 %	

Ord.No.	Packaging	Quantity	Price
1.00994.0161	Septum bottle	150 ml	inquire
1.00994.0500	Glass bottle	500 ml	inquire
1.00994.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

## 100998 2-Propanol for gas chromatography ECD and FID SupraSolv®

<b>Specification</b>		chlorobenzene to decachlorobiphenyle, individual signals (lindane standard))..... ≤ 3 pg/ml
Purity (GC).....	≥ 99.8 %	GC/FID (retention range n-undecane to n-tetracontane, individual signals (n- tetradecane standard))..... ≤ 3 ng/ml
Identity (IR).....	conforms	suitable for residue analysis
Evaporation residue.....	≤ 3.0 mg/l	
Water.....	≤ 0.1 %	
Colour.....	≤ 10 Hazen	
GC/ECD (retention range 1,2,4-tri-		

Ord.No.	Packaging	Quantity	Price
1.00998.1000	Glass bottle	1 l	inquire
1.00998.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 100993 2-Propanol for spectroscopy Uvasol®

<b>Specification</b>		Transmission (at 230 nm)..... ≥ 80 %
Purity (GC).....	≥ 99.9 %	Transmission (at 240 nm)..... ≥ 90 %
Evaporation residue.....	≤ 0.0002 %	Transmission (at 250 nm)..... ≥ 95 %
Water.....	≤ 0.05 %	Transmission (from 260 nm)..... ≥ 98 %
Colour.....	≤ 10 Hazen	Absorbance (at 210 nm)..... ≤ 0.52
Acidity.....	≤ 0.0001 meq/g	Absorbance (at 220 nm)..... ≤ 0.19
Alkalinity.....	≤ 0.0001 meq/g	Absorbance (at 230 nm)..... ≤ 0.10
Fluorescence (as quinine at 254 nm).....	≤ 1.0 ppb	Absorbance (at 240 nm)..... ≤ 0.05
Fluorescence (as quinine at 365 nm).....	≤ 1.0 ppb	Absorbance (at 250 nm)..... ≤ 0.02
Transmission (at 210 nm).....	≥ 30 %	Absorbance (from 260 nm)..... ≤ 0.01
Transmission (at 220 nm).....	≥ 65 %	

Meet the requirements of "Specific use spectroscopy" according ACS and Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.00993.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00993.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 101040 2-Propanol gradient grade for liquid chromatography LiChrosolv®

<b>Specification</b>		220 nm))..... ≥ 80 %
Purity (GC).....	≥ 99.9 %	Transmission (Checking after purging with N <sub>2</sub> at 230 nm))..... ≥ 90 %
Identity (IR).....	conforms	Transmission (Checking after purging with N <sub>2</sub> (from 250 nm))..... ≥ 99 %
Evaporation residue.....	≤ 2.0 mg/l	Filtered by 0.2 µm filter
Water.....	≤ 0.05 %	
Acidity.....	≤ 0.0002 meq/g	
Alkalinity.....	≤ 0.0002 meq/g	
Gradient grade (at 235 nm).....	≤ 1.0 mAU	
Gradient grade (at 254 nm).....	≤ 1.0 mAU	
Transmission (Checking after purging with N <sub>2</sub> at		

Ord.No.	Packaging	Quantity	Price
1.01040.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.01040.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.01040.4000	Glass bottle	4 l	inquire
1.01040.5000	Alu bottle	5 l	inquire
	Alu bottle	4 x 5 l	inquire
1.01040.9010	Barrel stainl. st.	10 l	inquire
1.01040.9030	Barrel stainl. st.	30 l	inquire

**113350 2-Propanol for preparative chromatography Prepsolv®****Specification**

Purity (GC)..... ≥ 99.8 %  
 Identity (IR)..... conforms  
 Evaporation residue..... ≤ 1.0 mg/l  
 Water..... ≤ 0.05 %  
 Acidity..... ≤ 0.0002 meq/g

Alkalinity..... ≤ 0.0002 meq/g  
 Transmission (at 220 nm)..... ≥ 50 %  
 Transmission (from 260 nm)..... ≥ 98 %  
 Filtered by 0.2µm filter

Ord.No.	Packaging	Quantity	Price
1.13350.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

**100272 2-Propanol standard for the analysis of tobacco****Specification**

Ethanol (GC/ +/-1%)..... 2g/l  
 n-Heptadecane (GC/ +/-1%)..... 0.3g/l

Water..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.00272.2500	Glass bottle	2.5 l	inquire

**109636 2-Propanol 70% EEMPLURA®**

■ Vapour pressure 42 hPa (20 °C)  
 ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 13.4 % (V) (2-Propanol)  
 ■ Flash point 18 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral  
 ■ Ignition temp. 425 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2,

H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336, P210, P233, P305 + P351 + P338  
 ■ LGK 3  
 ■ Disposal 1  
 ■ ADR-RID UN 1219 Isopropanol, Lösung, 3, II  
 ■ IMDG-Code UN 1219 ISOPROPANOL SOLUTION, 3, II

■ IATA-DGR UN 1219 ISOPROPANOL SOLUTION, 3, II

Ord.No.	Packaging	Quantity	Price
1.09636.4000	Glass bottle	4 l	inquire

**815044 2-Propanol-D1 deuteration degree min. 98% for NMR spectroscopy MagniSolv™**

C<sub>3</sub>H<sub>7</sub>DO

Isopropanol, Isopropyl alcohol, *iPrOH*, *iso-Propanol*

■ CAS-No. 3979-51-9 ■ EC-No. 223-616-3  
 ■ Vapour pressure 43 hPa (20 °C)  
 ■ Spec. density 0.798 g/cm<sup>3</sup> ■ Explosive limit 2 - 12.7 % (V) ■ Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 61.1 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point -

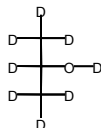
89.5 °C ■ Boiling point 82.4 °C (1013 hPa)  
 ■ Ignition temp. 425 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336; Eye irritation, Category 2, H319, P210, P223, P262, P305 + P351 + P338  
 ■ LC50 rat 46.5 mg/l  
 ■ LD50 oral rat 5045 mg/kg ■ LD50 dermal rabbit 12800 mg/kg  
 ■ EC-Index-No. 603-117-00-0 ■ LGK 3

■ HS-No. 2845 90 10 ■ Disposal 3  
 ■ ADR-RID UN 1219 Isopropanol, 3, II ■ IMDG-Code UN 1219 ISOPROPANOL, 3, II  
 ■ IATA-DGR UN 1219 ISOPROPANOL, 3, II

**Specification**

Deuteration degree..... ≥ 98 %

Ord.No.	Packaging	Quantity	Price
8.15044.0025	Glass bottle	25 ml	inquire

**815045 2-Propanol-D8 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™**

C<sub>3</sub>D<sub>8</sub>O

Isopropanol, Isopropyl alcohol, *iPrOH*, *iso-Propanol*

■ CAS-No. 22739-76-0 ■ EC-No. 245-189-2  
 ■ Vapour pressure 43 hPa (20 °C)  
 ■ Spec. density 0.786 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 2 - 12.7 % (V) ■ Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 68.14 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Melting point - 89.5 °C ■ Boiling point 82.4 °C (1013 hPa)  
 ■ Ignition temp. 425 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336; Eye irritation, Category 2, H319, P210, P223, P262, P305 + P351 + P338  
 ■ LC50 rat 46.5 mg/l

■ LD50 oral rat 5045 mg/kg ■ LD50 dermal rabbit 12800 mg/kg  
 ■ LGK 3

■ HS-No. 2845 90 10 ■ Disposal 3  
 ■ ADR-RID UN 1219 Isopropanol, 3, II ■ IMDG-Code UN 1219 ISOPROPANOL, 3, II  
 ■ IATA-DGR UN 1219 ISOPROPANOL, 3, II

**Specification**

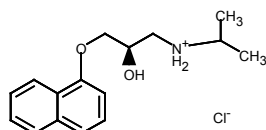
Deuteration degree..... ≥ 99.5 %

Ord.No.	Packaging	Quantity	Price
8.15045.0005	Glass ampoule	5 ml	inquire

iso-Propanol → page 293

n-Propanol → page 320

Propanolamine → 3-Amino-1-propanol page 401

**824472 (R)-(+)-Propanolol hydrochloride for synthesis**

C<sub>16</sub>H<sub>22</sub>ClNO<sub>2</sub>

(R)-(+)-1-(Isopropylamino)-3-(1-naphthylloxy)-2-

propanol hydrochloride

■ CAS-No. 13071-11-9 ■ EC-No. 235-961-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 295.81 g/mol ■ Melting point 192 - 195 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 19 85 ■ Disposal 3

**Specification**

Assay (argentometric)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 194 °C  
 Melting range (upper value)..... ≤ 197 °C  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in ethanol) 27.0 - 29.0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.24472.0500	Glass bottle	500 mg	inquire

Propanone → page 42

2-Propanone → page 42

Propargyl alcohol → 2-Propyn-1-ol page 1377

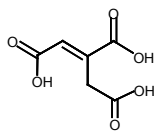
Propargylic acid → Acetylenecarboxylic acid page 347

Propargyltriphenylphosphonium bromide → 2-Propynyl-triphenylphosphonium bromide page 1372

2-Propene-1-ol → Allyl alcohol page 364

# Propen

## 814411 trans-Propene-1,2,3-tricarboxylic acid for synthesis



### Aconitic acid

- CAS-No. 4023-65-8 ■ EC-No. 223-688-6
- Spec. density 0.56 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 400 g/l (25 °C) ■ M = 174.11 g/mol
- Melting point 187 - 188 °C (decomposition)
- WGK 1
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 191 °C  
 Melting range (upper value)..... ≤ 196 °C  
 Identity (IR)..... conforms

C<sub>6</sub>H<sub>6</sub>O<sub>6</sub>

HOOCCH=C(COOH)CH<sub>2</sub>COOH

Ord.No.	Packaging	Quantity	Price
8.14411.0025	Glass bottle	25 g	inquire

2-Propenoic acid → Acrylic acid page 353

2-Propenoic acid-2-methyl-(2-dimethylamino)

ethyl ester → (2-Dimethylaminoethyl)

methacrylate page 777

2-Propen-1-ylamine → Allylamine page 364

4-Propenylanisole → trans-Anethole page 417

4-Propenyl-2-methoxyphenol → Isoeugenol page

1046

2-Propenyl-propanedioic acid diethyl ester →

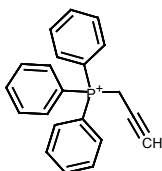
Diethyl allylmalonate page 737

N-2-Propenyl-2-propen-1-amine → Diallylamine

page 692

Propinol → 2-Propyn-1-ol page 1377

## 841338 2-Propinyl-triphenylphosphonium bromide for synthesis



- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 3464 Organische Phosphorverbindung, fest, giftig, n.a.g.(2-PROPINYL-TRIPHENYLPHOSPHONIUMBROMID), 6.1, III ■ IMDG-Code UN 3464 ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S.(PROPARGYL TRIPHENYLPHOSPHONIUM

BROMIDE), 6.1, III

■ IATA-DGR UN 3464 ORGANOPHOSPHORUS COMPOUND, SOLID, TOXIC, N.O.S.(PROPARGYL TRIPHENYLPHOSPHONIUM BROMIDE), 6.1, III

### Specification

Assay (argentometric)..... ≥ 97,0 %  
 Identity (IR)..... passes test

C<sub>21</sub>H<sub>18</sub>BrP

Propargyltriphenylphosphonium bromide, (2-

Propin-1-yl)-triphenylphosphonium bromide

■ CAS-No. 2091-46-5 ■ EC-No. 218-242-2

■ M = 381.25 g/mol ■ Melting point 177 - 178 °C

Ord.No.	Packaging	Quantity	Price
8.41338.0005	Glass bottle	5 g	inquire

(2-Propin-1-yl)-triphenylphosphonium bromide →

2-Propinyl-triphenylphosphonium bromide page 1372

Propiolic Acid → Acetylenecarboxylic acid page 347

Propiolic acid ethyl ester → Ethyl acetylenecarboxylate page 849

## 822133 Propionaldehyde for synthesis



C<sub>3</sub>H<sub>6</sub>O

CH<sub>3</sub>CH<sub>2</sub>CHO

Propanal

- CAS-No. 123-38-6 ■ EC-No. 204-623-0
- Refractive index 1.365 (20 °C, 589 nm) ■ Vapour pressure 343 hPa (20 °C) ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.3 - 21 % (V)
- Flash point -40 °C ■ Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 58.08 g/mol ■ Melting point -81 °C
- Boiling point 47 - 48 °C (1013 hPa)
- Ignition temp. 175 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P233, P302 + P352, P304 + P340, P305 + P351 + P338
- LC50 rat 62.6 mg/l
- LD50 oral rat 1410 mg/kg ■ LD50 dermal rabbit 2460 mg/kg
- EC-Index-No. 605-018-00-8 ■ LGK 3 ■ Store below +15°C.
- HS-No. 2912 19 00 ■ Disposal 3
- ADR-RID UN 1275 Propionaldehyd, 3, II

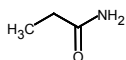
- IMDG-Code UN 1275 PROPIONALDEHYDE, 3, II
- IATA-DGR UN 1275 PROPIONALDEHYDE, 3, II

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.797 - 0.802  
 Water (GC)..... ≤ 2,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22133.0100	Glass bottle	100 ml	inquire
8.22133.1000	Glass bottle	1 l	inquire

## 821046 Propionamide for synthesis



C<sub>3</sub>H<sub>7</sub>NO

CH<sub>3</sub>CH<sub>2</sub>CONH<sub>2</sub>

■ CAS-No. 79-05-0 ■ EC-No. 201-172-1

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 73.1 g/mol

- Melting point 75 - 78 °C ■ Boiling point 213 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2924 19 00 ■ Disposal 3

### Specification

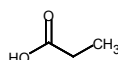
Assay (ex N)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 78 °C  
 Melting range (upper value)..... ≤ 82 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21046.0050	Plastic bottle	50 g	inquire
8.21046.0250	Plastic bottle	250 g	inquire



## 800605 Propionic acid for synthesis

C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>COOH*Methyl acetic acid*

- CAS-No. 79-09-4 ■ EC-No. 201-176-3
- Refractive index 1.386 (20 °C, 589 nm) ■ Vapour pressure 5 hPa (20 °C) ■ Spec. density 0.993 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 - 12 % (V)
- Flash point 50 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 74.08 g/mol ■ pH value 2.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -20 °C
- Boiling point 141 °C (1013 hPa)
- Ignition temp. 485 °C DIN 51794

- WGK 1
  - GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
  - LC50 rat > 5.4 mg/l
  - LD50 oral rat 2600 mg/kg ■ LD50 dermal rabbit 500 mg/kg
  - EC-Index-No. 607-089-00-0 ■ LGK 8 A
  - HS-No. 2915 50 00 ■ Disposal 4
  - ADR-RID UN 3463 Propionsäure, 8 (3), II
  - IMDG-Code UN 3463 PROPIONIC ACID WITH NOT LESS THEN 90%, 8 (3), II, Segregation Group: 1 (Acids)
  - IATA-DGR UN 3463 PROPIONIC ACID, 8 (3), II
- Specification**  
Assay (GC, area%)..... ≥ 99,0 Area %

Density (d 20 °C/ 4 °C).....0,993 - 0,994  
Water (K. F.)..... ≤ 0,30 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00605.0100	Glass bottle	100 ml	inquire
8.00605.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.00605.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.00605.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.00605.9025	Plastic container	25 l	inquire

Propionic acid butyl ester → Butyl propionate page 554

Propionic acid chloride → Propionyl chloride page 1374

Propionic acid ethyl ester → Ethyl propionate page 882

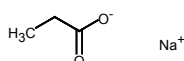
Propionic acid isoamyl ester → Isoamyl propionate page 1041

Propionic acid isobutyl ester → Isobutyl propionate page 1045

Propionic acid methyl ester → Methyl propionate page 1174

Propionic acid propyl ester → Propyl propionate page 1377

## 843793 Propionic acid sodium salt for synthesis

C<sub>3</sub>H<sub>5</sub>NaO<sub>2</sub>

- CAS-No. 137-40-6 ■ EC-No. 205-290-4
- Solub. in H<sub>2</sub>O 995 g/l (20 °C) ■ M = 96.06 g/mol
- pH value 8 - 9.5 (10 g/l, H<sub>2</sub>O, 20 °C)

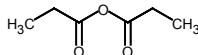
- Melting point 285 - 286 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Dermal, H312, P302 + P352
- LD50 oral rat 5600 mg/kg ■ LD50 dermal rabbit 1640 mg/kg
- LGK 10 - 13
- HS-No. 2915 50 00 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 99,0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43793.0100	Plastic bottle	100 g	inquire
8.43793.0500	Plastic bottle	500 g	inquire

## 800608 Propionic anhydride for synthesis

C<sub>6</sub>H<sub>10</sub>O<sub>3</sub>

- CAS-No. 123-62-6 ■ EC-No. 204-638-2
- Refractive index 1.404 (20 °C, 589 nm) ■ Vapour pressure 1 hPa (20 °C) ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 9.5 % (V)
- Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 130.14 g/mol
- pH value 2.5 (100 g/l, H<sub>2</sub>O, 20 °C) (calculated on the free acid) ■ Melting point -45 °C

- Boiling point 167 °C (1013 hPa)
- Ignition temp. 285 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2360 mg/kg ■ LD50 dermal rabbit 10000 mg/kg
- EC-Index-No. 607-010-00-X ■ LGK 8A
- HS-No. 2915 90 70 ■ Disposal 11
- ADR-RID UN 2496 Propionsäureanhydrid, 8, III
- IMDG-Code UN 2496 PROPIONIC ANHYDRIDE, 8, III, Segregation Group: 1 (Acids)

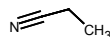
- IATA-DGR UN 2496 PROPIONIC ANHYDRIDE, 8, III

**Specification**

Assay (GC, area%)..... ≥ 98 %  
Density (d 20 °C/ 4 °C)..... 1.009 - 1.011  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.00608.0100	Glass bottle	100 ml	inquire
8.00608.0500	Glass bottle	500 ml	inquire
8.00608.1000	Glass bottle	1 l	inquire

## 807068 Propionitrile for synthesis

C<sub>3</sub>H<sub>5</sub>NCH<sub>3</sub>CH<sub>2</sub>CN*Ethyl cyanide*

- CAS-No. 107-12-0 ■ EC-No. 203-464-4
- Refractive index 1.366 (20 °C, 589 nm) ■ Vapour pressure 50 hPa (20 °C) ■ Spec. density 0.782 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.1 - 14 % (V)
- Flash point 12 °C ■ Solub. in H<sub>2</sub>O 99.4 g/l (20 °C) ■ M = 55.08 g/mol ■ pH value 10 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -92 °C

- Boiling point 97 °C (1013 hPa)
- Ignition temp. 515 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 4, Inhalation, H332; Eye irritation, Category 2, H319, P210, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LC50 rat 3.3 mg/l
- LD50 oral rat 39 mg/kg ■ LD50 dermal rabbit 40 - 56 mg/kg
- LGK 3

- HS-No. 2926 90 95 ■ Disposal 9
- ADR-RID UN 2404 Propionitril, 3 (6.1), II
- IMDG-Code UN 2404 PROPIONITRILE, 3 (6.1), II
- IATA-DGR UN 2404 PROPIONITRILE, 3 (6.1), II

**Specification**

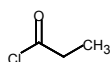
Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,781 - 0,783  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07068.0100	Glass bottle	100 ml	inquire
8.07068.0500	Glass bottle	500 ml	inquire

Propionylacetic acid ethyl ester → Ethyl 3-oxovalerate page 879

# Propio

## 807063 Propionyl chloride for synthesis



C<sub>3</sub>H<sub>5</sub>ClO  
 CH<sub>3</sub>CH<sub>2</sub>COCl  
**Propionic acid chloride**  
 ■ CAS-No. 79-03-8 ■ EC-No. 201-170-0  
 ■ Refractive index 1.4032 (20 °C, 589 nm)  
 ■ Vapour pressure 106 hPa (20 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.6 - 11.9 % (V) ■ Flash point 6.5 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)

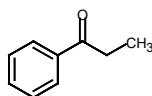
■ M = 92.52 g/mol ■ Melting point -94 °C  
 ■ Boiling point 80 °C (1013 hPa)  
 ■ Ignition temp. 270 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 823 mg/kg  
 ■ EC-Index-No. 607-093-00-2 ■ LGK 3  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 1815 Propionylchlorid, 3 (8), II  
 ■ IMDG-Code UN 1815 PROPIONYL CHLORIDE, 3

(8), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1815 PROPIONYL CHLORIDE, 3 (8), II

**Specification**  
 Assay (morpholine method) ..... ≥ 98,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,057 - 1,059  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07063.0100	Glass bottle	100 ml	inquire
8.07063.0500	Glass bottle	500 ml	inquire

## 807024 Propiophenone for synthesis



C<sub>9</sub>H<sub>10</sub>O  
 C<sub>6</sub>H<sub>5</sub>COC<sub>2</sub>H<sub>5</sub>  
**1-Phenyl-1-propanone, Ethyl phenyl ketone**  
 ■ CAS-No. 93-55-0 ■ EC-No. 202-257-6  
 ■ Refractive index 1.5258 (20 °C, 589 nm)

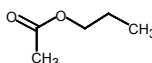
■ Vapour pressure 1.99 hPa (20 °C)  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C)  
 ■ M = 134.17 g/mol ■ Melting point 18 °C  
 ■ Boiling point 214 - 218 °C (1013 hPa)  
 ■ WGK 2  
 ■ LD50 oral rat 4490 mg/kg ■ LD50 dermal rabbit 4490 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,009 - 1,010  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07024.0250	Glass bottle	250 ml	inquire
8.07024.1000	Glass bottle	1 l	inquire

2,2-Propoxypropane → page 316

## 803183 Propyl acetate for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>  
 CH<sub>3</sub>COOCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>  
**Acetic acid propyl ester**  
 ■ CAS-No. 109-60-4 ■ EC-No. 203-686-1  
 ■ Vapour pressure 33 hPa (20 °C)  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 8 % (V) ■ Flash point 14 °C ■ Solub. in H<sub>2</sub>O 21.2 g/l (20 °C) ■ M = 102.13 g/mol

■ Melting point -95 °C ■ Boiling point 101.5 °C (1013 hPa) ■ Ignition temp. 430 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336, P210, P243, P305 + P351 + P338  
 ■ LD50 oral rat 9370 mg/kg  
 ■ EC-Index-No. 607-024-00-6 ■ LGK 3  
 ■ HS-No. 2915 39 00  
 ■ ADR-RID UN 1276 n-Propylacetat, 3, II ■ IMDG-Code UN 1276 N-PROPYL ACETATE, 3, II

■ IATA-DGR UN 1276 N-PROPYL ACETATE, 3, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,886 - 0,888  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.03183.0100	Glass bottle	100 ml	inquire
8.03183.1000	Glass bottle	1 l	inquire

Propylacetylene → 1-Pentyne page 1273

n-Propyl alcohol → page 308

## 807477 Propylamine for synthesis



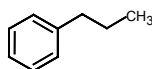
C<sub>3</sub>H<sub>9</sub>N  
 CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>  
**1-Aminopropane**  
 ■ CAS-No. 107-10-8 ■ EC-No. 203-462-3  
 ■ Refractive index 1.389 (20 °C, 589 nm) ■ Vapour pressure 330 hPa (20 °C) ■ Spec. density 0.72 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.1 - 13.6 % (V)  
 ■ Flash point -30 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 59.11 g/mol  
 ■ pH value 12.6 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point -83 °C ■ Boiling point 48 - 50 °C  
 ■ Ignition temp. 325 °C

■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P210, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 7.06 mg/l  
 ■ LD50 oral rat 370 mg/kg ■ LD50 dermal rabbit 400 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2921 19 99 ■ Disposal 3

■ ADR-RID UN 1277 Propylamin, 3 (8), II ■ IMDG-Code UN 1277 PROPYLAMINE, 3 (8), II  
 ■ IATA-DGR UN 1277 PROPYLAMINE, 3 (8), II  
**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,716 - 0,717  
 Water (K. F.) ..... ≤ 0,20 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07477.0100	Glass bottle	100 ml	inquire
8.07477.0500	Glass bottle	500 ml	inquire
8.07477.1000	Glass bottle	1 l	inquire

## 807521 Propylbenzene for synthesis



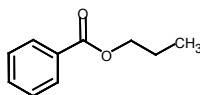
C<sub>9</sub>H<sub>12</sub>  
 C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>  
**1-Phenylpropane**  
 ■ CAS-No. 103-65-1 ■ EC-No. 203-132-9  
 ■ Refractive index 1.4912 (20 °C, 589 nm)  
 ■ Vapour pressure 13.3 hPa (43 °C)  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 6 % (V) ■ Flash point 30 °C ■ Solub. in H<sub>2</sub>O 0.06 g/l (20 °C) ■ M = 120.19 g/mol

■ Melting point -99 °C ■ Boiling point 159 °C (1013 hPa) ■ Ignition temp. 450 °C  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304; Specific target organ toxicity - single exposure, Category 3, H335; Chronic aquatic toxicity, Category 2, H411, P273, P301 + P310  
 ■ LD50 oral rat 6040 mg/kg  
 ■ EC-Index-No. 601-024-00-X ■ LGK 3  
 ■ HS-No. 2902 90 00 ■ Disposal 3  
 ■ ADR-RID UN 2364 n-Propylbenzen, 3, III  
 ■ IMDG-Code UN 2364 N-PROPYLBENZENE, 3, III

■ IATA-DGR UN 2364 N-PROPYLBENZENE, 3, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,861 - 0,862  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07521.0005	Glass bottle	5 ml	inquire
8.07521.0250	Glass bottle	250 ml	inquire
8.07521.1000	Glass bottle	1 l	inquire

## 821958 Propyl benzoate for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>C<sub>6</sub>H<sub>5</sub>COOCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>*Benzoic acid propyl ester*

- CAS-No. 2315-68-6 ■ EC-No. 219-020-8
- Refractive index 1.4981 (25 °C, 589 nm)

- Vapour pressure 0.181 hPa (25 °C)
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O 0.35 g/l (25 °C) ■ M = 164.2 g/mol ■ Melting point -52 °C
- Boiling point 231 °C (1013 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 2916 31 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,023 - 1,025  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21958.0005	Glass bottle	5 ml	inquire
8.21958.0250	Glass bottle	250 ml	inquire

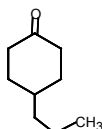
Propyl bromide → 1-Bromopropane page 512

iso-Propyl bromide → 2-Bromopropane page 512

n-Propylcarbonyl chloride → page 2

Propyl cyanide → Butyronitrile page 558

## 814584 4-Propylcyclohexanone for synthesis

C<sub>9</sub>H<sub>16</sub>O

- CAS-No. 40649-36-3 ■ EC-No. 406-810-4
- Vapour pressure 0.23 hPa (20 °C)
- Spec. density 0.91 g/cm<sup>3</sup> (20 °C)

- Flash point 90 °C ■ Solub. in H<sub>2</sub>O 1.96 g/l (20 °C) ■ M = 140.22 g/mol ■ pH value 6.0 (2 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -70 °C
- Boiling point 219 °C (1013 hPa)
- Ignition temp. 320 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352
- LD50 oral rat > 2000 mg/kg
- EC-Index-No. 606-057-00-3 ■ LGK 10 - 13

- HS-No. 2914 29 00

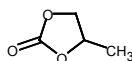
**Specification**

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,906 - 0,908  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14584.0005	Glass bottle	5 ml	inquire
8.14584.0025	Glass bottle	25 ml	inquire
8.14584.0250	Glass bottle	250 ml	inquire

Propyl diketone → 2,3-Hexanedione page 954

## 807051 Propylene carbonate for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>3</sub>

- 4-Methyl-1,3-dioxolan-2-one, Propylene glycol carbonate, Carbonic acid propylene glycol ester
- CAS-No. 108-32-7 ■ EC-No. 203-572-1
  - Refractive index 1.4209 (20 °C, 589 nm)
  - Vapour pressure 0.04 hPa (20 °C)
  - Spec. density 1.20 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 65.1 (25 °C) ■ El. dipole moment 5 (20 °C) ■ Explosive limit 1.8 - 14.3 % (V)

- Flash point 123 °C ■ Kin. viscosity 1.4 mm<sup>2</sup>/s (43 °C) ■ Solub. in H<sub>2</sub>O 240 g/l (20 °C)
- M = 102.09 g/mol ■ pH value 7.0 (200 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 0.2 g/m<sup>3</sup> (20 °C) Air
- Melting point -49 °C ■ Boiling point 243 °C (1013 hPa) ■ Ignition temp. 435 °C DIN 51794
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 20000 mg/kg
- EC-Index-No. 607-194-00-1 ■ LGK 10 - 13
- HS-No. 2920 90 10 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.204 - 1.206  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.07051.0100	Plastic bottle	100 ml	inquire
8.07051.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.07051.9025	Plastic container	25 l	inquire
8.07051.9200	Plastic barrel	200 l	inquire

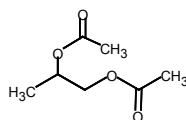
Propylenediamine → 1,2-Diaminopropane page 697

Propylene dibromide → 1,2-Dibromopropane page 705

1,3-Propylene glycol → 1,3-Propanediol page 308  
(S)-Propylene glycol → (S)-(+)-1,2-Propanediol page 1367

Propylene glycol carbonate → Propylene carbonate page 308

## 814588 1,2-Propylene glycol diacetate for synthesis

C<sub>7</sub>H<sub>12</sub>O<sub>4</sub>

- CAS-No. 623-84-7 ■ EC-No. 210-817-6
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 2.8 - 12.7 % (V) ■ Flash point 87 °C ■ Solub. in H<sub>2</sub>O 90 g/l (20 °C) ■ M = 160.16 g/mol
- Boiling point 190 - 191 °C (1013 hPa)
- Evaporation number < 0.06
- Ignition temp. 431 °C
- WGK 1
- LD50 oral rat 13530 mg/kg
- LGK 10
- HS-No. 2915 39 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.056 - 1.058  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14588.0250	Glass bottle	250 ml	inquire
8.14588.1000	Glass bottle	1 l	inquire

Propylene glycol monomethyl ether → page 305

1,2-Propylene glycol 1-monomethyl ether → page 1125

# Propyl

## 807027 1,2-Propylene oxide for synthesis



C<sub>3</sub>H<sub>6</sub>O

1,2-Epoxypropane, Methyloxirane

- CAS-No. 75-56-9 ■ EC-No. 200-879-2
- Refractive index 1.366 (20 °C, 589 nm) ■ Vapour pressure 585 hPa (20 °C) ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 36 % (V)
- Flash point -37 °C ■ Solub. in H<sub>2</sub>O 405 g/l (20 °C) ■ M = 58.07 g/mol ■ Melting point -112 °C ■ Boiling point 34.3 °C (1013 hPa)
- Ignition temp. 430 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 1,

- H224; Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P201, P210, P233, P240, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313
- LC50 rat 9.486 mg/l
- LD50 oral rat 380 mg/kg ■ LD50 dermal rabbit 1245 mg/kg
- EC-Index-No. 603-055-00-4 ■ LGK 3 ■ Store below +15°C.

- HS-No. 2910 20 00 ■ Disposal 9
- ADR-RID UN 1280 Propylenoxid, 3, I ■ IMDG-Code UN 1280 PROPYLENE OXIDE, 3, I
- IATA-DGR UN 1280 PROPYLENE OXIDE, 3, I

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,828 - 0,829  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07027.0100	Glass bottle	100 ml	inquire
8.07027.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 818567 (R)-(+)-1,2-Propylene oxide for synthesis



C<sub>3</sub>H<sub>6</sub>O

(R)-(+)-1,2-Epoxypropane, (R)-(+)-Methyloxirane

- CAS-No. 15448-47-2 ■ EC-No. 200-879-2
- Refractive index 1.366 (20 °C, 589 nm) ■ Vapour pressure 588 hPa (20 °C) ■ Spec. density 0.829 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 37 % (V)
- Flash point -37 °C ■ Solub. in H<sub>2</sub>O 405 g/l (20 °C) ■ M = 58.07 g/mol ■ Melting point -112 °C ■ Boiling point 34 - 35 °C (1013 hPa)
- Ignition temp. 430 °C DIN 51794
- WGK 3

- GHS: Danger, Flammable liquid, Category 1, H224; Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P201, P210, P233, P240, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313
- LC50 rat 9.6 mg/l
- LD50 oral rat 380 mg/kg ■ LD50 dermal rabbit 1243 mg/kg
- EC-Index-No. 603-055-00-4 ■ LGK 3 ■ Store below +15°C.

- below +15°C.
- HS-No. 2910 20 00 ■ Disposal 9
- ADR-RID UN 1280 Propylenoxid, 3, I ■ IMDG-Code UN 1280 PROPYLENE OXIDE, 3, I
- IATA-DGR UN 1280 PROPYLENE OXIDE, 3, I

### Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.829 - 0.832  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)] ..... 13.0 - 15.0 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18567.0001	Glass bottle	1 ml	inquire

## 818659 (S)-(-)-1,2-Propylene oxide for synthesis



C<sub>3</sub>H<sub>6</sub>O

(S)-(-)-Methyloxirane, (S)-(-)-1,2-Epoxypropane

- CAS-No. 16088-62-3 ■ EC-No. 240-241-0
- Refractive index 1.366 (20 °C, 589 nm) ■ Vapour pressure 588 hPa (20 °C) ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 37 % (V)
- Flash point -37 °C ■ Solub. in H<sub>2</sub>O 405 g/l (20 °C) ■ M = 58.07 g/mol ■ Melting point -112 °C ■ Boiling point 34 - 36 °C
- Ignition temp. 430 °C
- WGK 3

- GHS: Danger, Flammable liquid, Category 1, H224; Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P201, P210, P233, P240, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313
- LC50 rat 9.5 mg/l
- LD50 oral rat 380 mg/kg ■ LD50 dermal rabbit 1244 mg/kg
- EC-Index-No. 603-055-00-4 ■ LGK 3 ■ Store below +15°C.

- below +15°C.
- HS-No. 2910 20 00 ■ Disposal 9
- ADR-RID UN 1280 Propylenoxid, 3, I ■ IMDG-Code UN 1280 PROPYLENE OXIDE, 3, I
- IATA-DGR UN 1280 PROPYLENE OXIDE, 3, I

### Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 0.830 - 0.834  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (undiluted)] ..... -14.5 - -13.5 °  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18659.0001	Glass bottle	1 ml	inquire

1,3-Propylene oxide → 1,3-Trimethylene oxide page 1604

1,2-Propylenglycol-1-monomethylether → page 1125

## 800884 Propyl formate for synthesis



C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>

HCOOCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>

Formic acid propyl ester

- CAS-No. 110-74-7 ■ EC-No. 203-798-0
- Vapour pressure 84 hPa (20 °C)
- Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.4 - 7.8 % (V) ■ Flash point -5 °C ■ Solub. in H<sub>2</sub>O 28 g/l (20 °C) (slow decomposition)
- M = 88.1 g/mol ■ Melting point -93 °C

- Boiling point 81 °C (1013 hPa)
- Ignition temp. 450 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P210, P233, P304 + P340, P305 + P351 + P338
- LD50 oral rat 3980 mg/kg
- EC-Index-No. 607-016-00-2 ■ LGK 3
- HS-No. 2915 13 00 ■ Disposal 3

- ADR-RID UN 1281 Propylformiate, 3, II ■ IMDG-Code UN 1281 PROPYL FORMATES, 3, II
- IATA-DGR UN 1281 PROPYL FORMATES, 3, II

### Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,904 - 0,907  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00884.0050	Glass bottle	50 ml	inquire
8.00884.0250	Glass bottle	250 ml	inquire

Propyl gallate → Propyl 3,4,5-trihydroxybenzoate page 1377

Propyl iodide → 1-Iodopropane page 1013

2-Propylpentanoic acid → 2-Propylvaleric acid page 1377

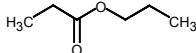
Propylidynetris(methanol) → 2-Ethyl-2-

Propyl mercaptan → 1-Propanethiol page 1368

(hydroxymethyl)-1,3-propanediol page 871



## 821048 Propyl propionate for synthesis

C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>CH<sub>3</sub>CH<sub>2</sub>COOCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>

- CAS-No. 106-36-5 ■ EC-No. 203-389-7
- Vapour pressure 13 hPa (20 °C)
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 % (V) ■ Flash point 22 °C ■ Solub. in H<sub>2</sub>O 5 g/l (20 °C) ■ M = 116.15 g/mol
- Melting point -76 °C ■ Boiling point 123 °C

(1013 hPa)

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332, P210, P260
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- EC-Index-No. 607-030-00-9 ■ LGK 3
- HS-No. 2915 50 00 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(PROPYLPROPIONAT), 3, II ■ IMDG-Code UN 3272 ESTERS, N.O.S.(PROPYL PROPIONATE), 3, II

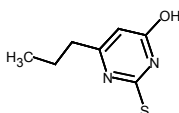
- IATA-DGR UN 3272 ESTERS, N.O.S.(PROPYL PROPIONATE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,880 - 0,881  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21048.0005	Glass bottle	5 ml	inquire
8.21048.0250	Glass bottle	250 ml	inquire

## 822137 4-Propyl-2-thiouracil for synthesis

C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>OS

4-Hydroxy-2-mercapto-6-propylpyrimidine

- CAS-No. 51-52-5 ■ EC-No. 200-103-2
- Flash point 300 °C ■ Solub. in H<sub>2</sub>O 1.1 g/l

(20 °C) ■ M = 170.22 g/mol ■ pH value 6 - 7.5 (5 g/l, H<sub>2</sub>O, 20 °C) (slurry)

- Melting point 216 - 220 °C
- Bulk density 159 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1250 mg/kg
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

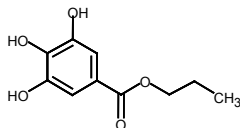
## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 216 °C  
 Melting range (upper value) ..... ≤ 220 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22137.0025	Plastic bottle	25 g	inquire
8.22137.0100	Plastic bottle	100 g	inquire

6-Propyl-2-thiouracil → 4-Propyl-2-thiouracil  
page 1377Propyl titanate(IV) → Tetrapropyl orthotitanate  
page 1547

## 820599 Propyl 3,4,5-trihydroxybenzoate for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>5</sub>3,4,5-(OH)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>COOCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>

Propyl gallate, Gallic acid propyl ester, 3,4,5-Trihydroxybenzoic acid propyl ester

- CAS-No. 121-79-9 ■ EC-No. 204-498-2
- Flash point 187 °C ■ Solub. in H<sub>2</sub>O 3.5 g/l (25 °C) ■ M = 212.2 g/mol
- Melting point 145 - 148 °C
- WGK 2

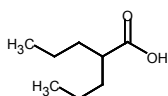
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317, P280, P302 + P352
- LD50 oral rat 2100 mg/kg
- EC-Index-No. 607-198-00-3 ■ LGK 10 - 13
- HS-No. 2918 29 00 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 146 °C  
 Melting range (upper value) ..... ≤ 150 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20599.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
8.20599.0500	Plastic bottle	500 g	inquire

## 814439 2-Propylvaleric acid for synthesis

C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>

Dipropylacetic acid, Valproic acid, 2-Propylpentanoic acid

- CAS-No. 99-66-1 ■ EC-No. 202-777-3
- Vapour pressure 0.01 hPa (20 °C)
- Spec. density 0.905 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1 % (V) ■ Flash point 111 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ M = 144.21 g/mol

- Boiling point 220 °C (1013 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Reproductive toxicity, Category 1, H360D, P201, P302 + P352, P305 + P351 + P338, P308 + P313
- LD50 oral rat 670 mg/kg
- LGK 6.1C

- HS-No. 2915 90 70 ■ Disposal 9

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,904 - 0,906  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14439.0025	Glass bottle	25 ml	inquire

## 807050 2-Propyn-1-ol for synthesis

C<sub>3</sub>H<sub>4</sub>O

Propargyl alcohol, Propinol, Ethynyl carbinol

- CAS-No. 107-19-7 ■ EC-No. 203-471-2
- Refractive index 1.4318 (20 °C, 589 nm)
- Vapour pressure 10 hPa (20 °C)
- Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.9 - 86.2 % (V) ■ Flash point 33.5 °C
- Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 56.06 g/mol ■ pH value 3 (500 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -53 °C
- Boiling point 114 - 115 °C
- Ignition temp. 365 °C
- WGK 2

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P280, P273, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 0.75 mg/l
- LD50 oral rat 56 mg/kg ■ LD50 dermal rabbit 88 mg/kg
- EC-Index-No. 603-078-00-X ■ LGK 3
- HS-No. 2905 29 90 ■ Disposal 9
- ADR-RID UN 2929 Giftiger organischer flüssiger Stoff, entzündbar, n.a.g.(2-PROPYN-1-OL), 6.1 (3),

II ■ IMDG-Code UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(2-PROPYN-1-OL), 6.1 (3), II

■ IATA-DGR UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.(2-PROPYN-1-OL), 6.1 (3), II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,948 - 0,950  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07050.0250	Glass bottle	250 ml	inquire
8.07050.1000	Glass bottle	1 l	inquire



# Protam

## 110123 Protamine sulfate for biochemistry

### Salmine sulfate

■ CAS-No. 9009-65-8

■ WGK 3

■ LGK 10 - 13

■ HS-No. 3504 00 90 ■ Disposal 3

Hardly soluble in water; agent for fractional precipitation of nucleic acids and proteins; used in the isolation of heparin.

### Specification

Nitrogen content (Kjeldahl; calc. on dried

substance)..... 22.5 - 25.5 %

Assay of sulfate (gravimetrically; calc. on dried substance) ..... 16 - 22 %  
Identity (IR-spectrum) ..... passes test  
Appearance ..... white to almost white, crystalline powder

Appearance of solution (5 g/l; water) ..... clear to almost clear, colorless to slightly yellow  
Absorbance (260-280 nm, 10 g/l, 1 cm, water) ....

..... ≤ 0.1

Spec. rotation ( $\alpha$  20/D, 10 g/l, hydrochloric acid

0.1 mol/l, calc. on dried substance) ..... -65 to -85°

Fe (Iron)..... ≤ 0.001 %

Hg (Mercury) ..... ≤ 0.001 %

Heavy metals (as Pb)..... ≤ 0.002 %

Loss on drying (105 °C; 3 h)..... ≤ 5 %

Ord.No.	Packaging	Quantity	Price
1.10123.0005	Glass bottle	5 g	inquire
1.10123.0025	Glass bottle	25 g	inquire

## Proteases and peptidases

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
485	101651	Bromelain	1274	107185	Pepsin	1556	112374	Thrombin
643	102307	$\alpha$ -Chymotrypsin	1274	107192	Pepsin	1619	108444	Trypsin
1260	107144	Papain	1366	107433	Pronase E			

## Protective groups

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
331	801366	Acetaldehyde diethyl acetal	758	802971	3,4-Dihydro-2H-pyran	1142	802357	Methyl chloroformate
331	820002	Acetaldehyde dimethyl acetal	770	841482	4,4'-Dimethoxybenzhydrol	1166	814175	3-Methyl-3-oxethanemethanol
346	112422	N-Acetyl-L-cysteine	302	802936	2,2-Dimethoxypropane	306	806127	Morpholine
349	821928	Acetylsalicyloyl chloride	773	818616	4,4'-Dimethoxytriphenylmethyl chloride	1217	822293	2-Nitrobenzaldehyde
420	841050	Anthracene-9-methanol				1220	820888	2-Nitrobenzyl alcohol
434	814221	Benzaldehyde dimethyl acetal	302	803525	Dimethyl carbonate	1227	820272	4-Nitrophenyl chloroformate
436	841297	1,2-Benzenedimethanol	792	810408	N,N-Dimethylhydrazine	1309	821127	Phenylmethanesulfonyl chloride
445	810442	3-Benzoylpropionic acid	792	840074	N,O-Dimethylhydroxylamine hydrochloride	1326	800592	Phthalic anhydride
449	801809	Benzyl chloride				1333	801276	Pivaloyl chloride
513	801021	3-Bromo-1-propene	819	841065	Diphenylphosphinic chloride	308	807481	1,3-Propanediol
545	818642	tert-Butyldimethylchlorosilane	821	818206	4,6-Diphenylthieno(3,4-d)-1,3-dioxol-2-one-5,5-dioxide	1367	821042	1,3-Propanedithiol
546	818313	tert-Butyldimethylsilyl trifluoromethanesulfonate	856	800881	Ethyl chloroformate	1390	800182	2-(2-Pyridyl)ethanol
596	802411	Chloroacetyl chloride	888	801391	Ethyl vinyl ether	1391	822261	Pyrocatechol
603	818186	4-Chlorobenzyl alcohol	895	818203	(9-Fluorenylmethyl) chloroformate	1536	818226	Tetrahydro-4H-pyran-4-one
609	814134	2-Chloro-3,5-dinitropyridine				1546	821104	Tetraphenyl-1,2-ethanediol
620	807037	4-(Chloromethyl)-pyridinium chloride	910	820493	Formaldehyde dimethyl acetal	1567	808326	4-Toluenesulfonyl chloride
			954	800105	2,5-Hexanedione	1576	822342	Trichloroacetic acid
637	814509	Chlorotriisopropylsilane	982	841506	(2-Hydroxyethyl) phenyl sulfide	1590	808261	Trifluoroacetic anhydride
638	808348	Chlorotriphenylmethane				1602	814055	2,4,6-Trimethylbenzenesulfonyl chloride
645	841321	Citraconic anhydride	1043	802358	Isobutyl chloroformate	1605	800885	Trimethyl orthoformate
702	822019	2,4'-Dibromoacetophenone	1101	805740	2-Mercaptoethanol	1607	841221	2-(Trimethylsilyl)-ethanol
712	803628	Dichloroacetyl chloride	1110	845044	Methanesulfonic acid	1630	822189	2-Vinylpyridine
732	818360	1,3-Dichloro-1,1,3,3-tetraisopropylidisiloxane	1110	806022	Methanesulfonic acid			
			1110	806021	Methanesulfonyl chloride			
735	803038	Dicyclopentadiene	1117	800460	4-Methoxybenzyl alcohol			
			1118	841583	4-Methoxybenzyl chloride			
			1123	821233	4-Methoxyphenol			

Protective groups → Nucleotide synthesis, and Peptide synthesis

Protein → page 81

## Protein and peptide sequence analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
515	801949	N-Bromosuccinimide	830	113760	Dodecyl sulfate sodium salt	1589	108178	Trifluoroacetic acid
665	820193	Cyanogen bromide	931	104219	Guanidinium chloride	1619	108444	Trypsin
778	103094	5-Dimethylaminonaphthalene-1-sulfonyl chloride	81	110307	Protein Kit	1625	108488	Urea
			81	110306	Protein Kit			
824	124511	1,4-Dithioerythritol	1589	108218	Trifluoroacetic acid			
825	111474	1,4-Dithiothreitol						

## 124568 Proteinase K (from *Tritirachium album*) chromatographically purified lyophilized 30 mAnson-U/mg for biochemistry and molecular biology EC 3.4.21.14



### *Tritirachium alkaline proteinase*

- CAS-No. 39450-01-6 ■ EC-No. 254-457-8
- Spec. density 1.1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.2 - 6.8 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 35 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Respiratory sensitisation, Category 1, H334, P302 + P352, P304 + P340, P304 + P341, P305 + P351 + P338
- EC-Index-No. 647-014-00-9 ■ LGK 10 - 13
- Store at +2°C to +8°C.

- HS-No. 3507 90 90 ■ Disposal 3
  - ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
  - IATA-DGR No Dangerous Good
- Highly active protease with low specificity. Aqueous solutions containing Ca<sup>2+</sup> (1-5 mmol/l) are stable for several weeks at pH 4-11.5 even at room temperature. Inactivation of DNases and RNases for the isolation of nucleic acids; structure-function investigations of proteins.

### Specification

- Appearance (colour) ..... white
- Appearance (description) ..... lyophilisate

- Activity (hemoglobin; pH 7.5; 37 °C) ..... ≥ 30.0 mAnsonU/mg
- Spec. activity (calc. on protein) ..... ≥ 40.0 mAnsonU/mg
- DNases (Nicking activity; pBR 322; 6 h; 37 °C) not detectable
- RNases (RNA; 2 h; 37°C) ..... not detectable

Ord.No.	Packaging	Quantity	Price
1.24568.0010	Glass bottle	10 g	inquire
1.24568.0100	Glass bottle	100 mg	inquire
1.24568.0500	Glass bottle	500 mg	inquire

## 107393 Proteinase K (from *Tritirachium album*) solution in Tris/HCl pH 7.5; 0.01 mol/l; 600 mAnson-U/ml; for molecular biology EC 3.4.21.14



- Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (25 °C) soluble ■ pH value 7.5 (H<sub>2</sub>O, 25 °C) (undiluted)
- WGK 1
- GHS: Danger, Respiratory sensitisation, Category 1, H334, P304 + P341, P342 + P311
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 3507 90 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

- Dangerous Good
- IATA-DGR No Dangerous Good

### Specification

- Appearance (colour) ..... colourless
- Appearance (clearness) ..... clear
- Activity (hemoglobin; pH 7.5; 37 °C) ..... ≥ 600 mAnsonU/ml
- Spec. activity (calc. on protein) ..... ≥ 40.0 mAnsonU/mg

- DNases (Nicking activity; pBR 322; 6 h; 37 °C) not detectable
- RNases (RNA; 2 h; 37°C) ..... not detectable
- Colony count (aerobic bacteria) ..... ≤ 10 CFU/ml

Ord.No.	Packaging	Quantity	Price
1.07393.0010	Glass bottle	10 ml	inquire

Protein determinations → page 81

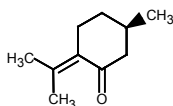
## Proteins and peptides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
357	112018	Albumin fraction V	81	110307	Protein Kit			
657	105206	Creatinine	81	110306	Protein Kit			
ProteoChrom® HPTLC cellulose plate → page 14			Proteose peptone → page 112			Protol → page 188		
ProteoChrom® HPTLC silica gel 60 → page 14			Protocatechualdehyde → 3,4-					
ProteoChrom® Peptide Staining Kit → page 14			Dihydroxybenzaldehyde page 760					
			Protocatechuic acid → 3,4-Dihydroxybenzoic acid page 761					

## Protoplasts, preparation of ...

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
586	102321	Cellulase Onozuka R-10	81	110306	Protein Kit			
Pseudocumol → 1,2,4-Trimethylbenzene page 1602			PTAD → 3,5-Dihydro-4-phenyl-4H-1,2,4-triazole-3,5-dione page 758			PTHF → Polytetrahydrofuran 1000 page 1341		
Pseudomonas Aeromonas selective agar → page 101			PTBBA → 4-tert-Butylbenzoic acid page 542			PTSA → 4-Toluenesulfonamide page 1566		
Pseudomonas agar F → page 103			PTC → Phenyl isothiocyanate page 1308			PTSA monohydrate → page 1566		
Pseudomonas agar P → page 103			PTFE-ferrule for capillaries with 3.2 mm O.D., for HPLC bottle adapter S40 → page 328					
Pseudomonas selective agar → page 106			PTFE protection foils → page 92					

## 818665 (R)-(+)-Pulegone for synthesis



C<sub>10</sub>H<sub>16</sub>O

- (R)-(+)-p-Menth-4(8)-en-3-one, (R)-(+)-2-Isopropylidene-5-methylcyclohexanone, (R)-(+)-5-Methyl-2-isopropylidenecyclohexanone
- CAS-No. 89-82-7 ■ EC-No. 201-943-2
- Refractive index 1.4864 (20 °C, 589 nm)

- Vapour pressure 0.16 hPa (25 °C)
- Spec. density 0.935 g/m<sup>3</sup> (20 °C)
- Flash point 82 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.23 g/mol
- Melting point ≤ 25 °C ■ Boiling point 97 °C (15.99 mbar)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 470 mg/kg ■ LD50 dermal rabbit 3090 mg/kg
- LGK 10

- HS-No. 2914 29 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

### Specification

- Assay (GC, area%) ..... ≥ 94.0 % (a/a)
- Density (20/4 °C) ..... 0.936 - 0.938
- Spec. rotation [α<sub>D</sub><sup>20</sup>] (undiluted) ..... 22.0 - 24.0 °
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18665.0010	Glass bottle	10 ml	inquire

## 102441 Pumice stone granular for elementary analysis

- HS-No. 2513 10 00
- Poish and abrasive material for metals, wood, ivory, marble, glass. Carrier for contact substances.

### Specification

Substances soluble in dilute hydrochloric acid (as

- SO<sub>4</sub>) ..... ≤ 5.0 %
- Loss on ignition (900 °C) ..... ≤ 5.0 %
- Bulk density ..... about 50 g/100mlg/100 ml
- Particle size (0.8 - 3 mm) ..... ≥ 90 %

Ord.No.	Packaging	Quantity	Price
1.02441.1000	Plastic bottle	1 kg	inquire

Pumps Withdrawal pumps → Laboratory equipment, auxiliaries

# Purifi

## Purification

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
330	101562	Absorption tube for CO <sub>2</sub>	922	104017	Glass beads 5 mm	1345	104928	Potassium carbonate
330	106107	Absorption tube for H <sub>2</sub> O	922	104018	Glass beads 6 mm	1346	104936	Potassium chloride
8	115256	Adsorber resin Amberlite® XAD-4	922	104086	Glass wool	1347	104952	Potassium chromate
363	106001	Alloy acc. to Wood	931	104206	Graphite	1354	104885	Potassium hydrogen sulfate
370	115754	Aluminium oxide	935	115265	Heating bath fluid	1362	105082	Potassium permanganate
406	105432	Ammonia solution 25%	967	100319	Hydrochloric acid 32%	1365	105125	Potassium thiocyanate
410	101145	Ammonium chloride	973	107209	Hydrogen peroxide 30%	1396	107536	QUARTZ FINE GRANULAR,
410	101126	Ammonium dihydrogen phosphate	1039	103956	Iron(II) sulfide	1413	107711	Sea sand
413	101188	Ammonium nitrate	1059	104440	Kaolin	1413	107712	Sea sand
414	101217	Ammonium sulfate	9	107910	Kieselguhr	1419	100656	Silicic acid
480	107912	Boiling chips granules	1075	107398	Lead(II) nitrate	1419	100657	Silicic acid
480	107913	Boiling chips granules	1081	105679	Lithium chloride	1419	107743	Silicon anti-foaming agent
520	104182	BTS catalyst	1086	105809	Magnesia rods	1419	107746	Silicone grease
165	102123	Calcium nitrate tetrahydrate	1088	105853	Magnesium nitrate hexahydrate	1419	107921	Silicone high vacuum grease heavy
564	102109	Calcium oxide from marble	1096	105957	Manganese(IV) oxide	1419	107742	Silicone oil
9	102686	Celite® 281	1097	105986	Marble granular	1424	106733	Sodalime
9	102692	Celite® 503	1188	105704	Molecular sieve 0.3 nm	1424	106839	Sodalime pellets with indicator
9	102693	Celite® 545	1189	105706	Molecular sieve 0.3 nm	1425	106267	Sodium acetate trihydrate
9	102688	Celite® Hyflo Supercel	1189	105741	Molecular sieve 0.3 nm	1429	106391	Sodium carbonate decahydrate
590	102186	Charcoal activated	1189	105708	Molecular sieve 0.4 nm	1430	106420	Sodium chlorate
590	102514	Charcoal activated	1189	105743	Molecular sieve 0.4 nm	1430	106404	Sodium chloride
590	102184	Charcoal activated	1189	105705	Molecular sieve 0.5 nm	1432	106336	Sodium dichromate dihydrate
590	102183	Charcoal activated	1189	105703	Molecular sieve 1.0 nm	1438	106579	di-Sodium hydrogen phosphate dodecahydrate
591	102204	Charcoal wood	1245	106900	Oil bath filling	1438	806356	Sodium hydrogen sulfite
652	102703	Copper	1260	107150	Paraffin	1441	105590	Sodium hydroxide solution about 32%
172	108390	Diethylenetriaminepentaacetic acid	1261	107151	Paraffin	1447	106535	Sodium nitrate
172	108407	Ethylendiamintetraacetic acid calcium disodium salt dihydrate	1261	107157	Paraffin	1448	106549	Sodium nitrite
172	108409	Ethylendiamintetraacetic acid magnesium dipotassium salt	1261	107300	Paraffin	1501	104318	Stopcock grease
172	108452	Ethylenedinitrilotetraacetic acid	1261	107337	Paraffin	1512	100731	Sulfuric acid 95-97%
172	104819	Ethylenedinitrilotetraacetic acid dipotassium salt dihydrate	1262	107160	Paraffin	1639	108780	Zinc
172	108454	Ethylenedinitrilotetraacetic acid disodium salt dihydrate	1341	107443	Polyvidone 25	1641	108833	Zinc nitrate tetrahydrate
922	104014	Glass beads 2 mm	1344	104905	Potassium bromide	1642	108883	Zinc sulfate heptahydrate
922	104015	Glass beads 3 mm						
922	104016	Glass beads 4 mm						

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- Purosphere® STAR RP-18 endcapped (5µm) Hibar® RT 250-3 → page 24
- Purosphere® STAR RP-18 endcapped (5µm) LiChroCART® 100-4.6 → page 25
- Purosphere® STAR RP-18 endcapped (5µm) LiChroCART® 150-3 → page 26
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- Purosphere® STAR RP-18 endcapped (5µm) LiChroCART® 250-4.6 → page 24
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- Putrescine dihydrochloride → 1,4-Diaminobutane dihydrochloride page 693
- PVDF double cones → page 36
- PVP → Polyvidone 25 page 1341
- PyBOP → page 279
- PyBroP → page 279
- PyClock → page 280
- Pyoktamin® yellow → page 191
- PyOxim → page 280
- Pyranones → Heterocycles
- Pyrans → Heterocycles

## 807064 Pyrazine for synthesis



C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>  
1,4-Diazole  
 ■ CAS-No. 290-37-9 ■ EC-No. 206-027-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 80.08 g/mol  
 ■ Melting point 49 - 52 °C  
 ■ Boiling point 115 - 118 °C (1013 hPa)  
 ■ WGK 3

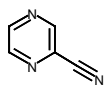
■ GHS: Danger, Flammable solid, Category 1, H228, P210, P262  
 ■ LGK 4.1B  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
 ■ ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(1,4-DIAZIN), 4.1, II ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(1,4-DIAZINE), 4.1, II  
 ■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(1,4-DIAZINE), 4.1, II

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 51 °C  
 Melting range (upper value)..... ≤ 54 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07064.0002	Glass bottle	2 g	inquire
8.07064.0010	Glass bottle	10 g	inquire
8.07064.0100	Glass bottle	100 g	inquire

## 814624 2-Pyrazinecarbonitril for synthesis



C<sub>5</sub>H<sub>3</sub>N<sub>3</sub>  
2-Cyanopyrazine  
 ■ CAS-No. 19847-12-2 ■ EC-No. 243-369-5  
 ■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 96 - 97 °C ■ M = 105.09 g/mol  
 ■ Melting point 20 °C ■ Boiling point 84 - 87 °C (24 - 26 hPa)

■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(2-CYANOPYRAZIN), 6.1, I ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(2-CYANOPYRAZINE), 6.1, I

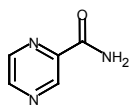
■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(2-CYANOPYRAZINE), 6.1, I

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,173 - 1,178  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14624.0010	Glass bottle	10 ml	inquire

## 821050 2-Pyrazinecarboxamide for synthesis



C<sub>5</sub>H<sub>5</sub>N<sub>3</sub>O  
Pyrazine-2-carboxamide  
 ■ CAS-No. 98-96-4 ■ EC-No. 202-717-6

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 123.12 g/mol ■ pH value 7 (H<sub>2</sub>O)  
 ■ Melting point 188 - 191 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3

## Specification

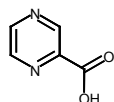
Assay (HPLC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 188 °C  
 Melting range (upper value)..... ≤ 191 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21050.0025	Glass bottle	25 g	inquire

Pyrazine-2-carboxamide → 2-Pyrazinecarboxamide page 1382

## 800615 2-Pyrazinecarboxylic acid for synthesis



C<sub>5</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>  
Pyrazinoic acid  
 ■ CAS-No. 98-97-5 ■ EC-No. 202-718-1

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 124.09 g/mol ■ Melting point 225 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3

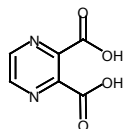
## Specification

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 220 °C

Melting range (upper value)..... ≤ 225 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00615.0025	Glass bottle	25 g	inquire
8.00615.0100	Glass bottle	100 g	inquire

## 800616 2,3-Pyrazinedicarboxylic acid for synthesis



C<sub>6</sub>H<sub>4</sub>N<sub>2</sub>O<sub>4</sub>  
 ■ CAS-No. 89-01-0 ■ EC-No. 201-875-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 168.11 g/mol ■ Melting point 188 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00616.0025	Glass bottle	25 g	inquire

Pyrazinoic acid → 2-Pyrazinecarboxylic acid page 1382

## 807572 Pyrazole for synthesis



C<sub>3</sub>H<sub>4</sub>N<sub>2</sub>  
1,2-Diazol  
 ■ CAS-No. 288-13-1 ■ EC-No. 206-017-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 68.07 g/mol  
 ■ Melting point 66 - 68 °C

■ Boiling point 186 - 188 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 1010 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 19 90 ■ Disposal 3

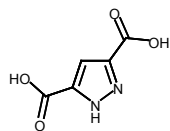
## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 66 °C  
 Melting range (upper value)..... ≤ 69 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07572.0025	Glass bottle	25 g	inquire



## 841164 Pyrazole-3,5-dicarboxylic acid monohydrate for synthesis

C<sub>5</sub>H<sub>4</sub>N<sub>2</sub>O<sub>4</sub> \* H<sub>2</sub>OC<sub>5</sub>H<sub>4</sub>N<sub>2</sub>(COOH)<sub>2</sub>

- CAS-No. 3112-31-0 ■ EC-No. 221-474-7
- M = 174.11 g/mol
- Melting point 290 °C (decomposition)
- WGK 3
- LGK 10 - 13
- HS-No. 2933 19 90 ■ Disposal 3

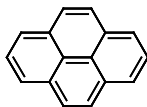
## Specification

Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 288 °C  
 Melting range (upper value)..... ≤ 292 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41164.0005	Plastic bottle	5 g	inquire
8.41164.0025	Plastic bottle	25 g	inquire

Pyrazoles → Heterocycles

## 821051 Pyrene for synthesis

C<sub>16</sub>H<sub>10</sub>

Benzo[def]phenanthrene

- CAS-No. 129-00-0 ■ EC-No. 204-927-3
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C)

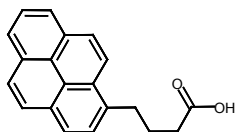
- Flash point 200 - 220 °C ■ Solub. in H<sub>2</sub>O 0.135 mg/l (25 °C) ■ M = 202.26 g/mol
- Melting point 148 - 150 °C
- Bulk density 650 kg/m<sup>3</sup> ■ Boiling point 393 °C (1013 hPa)
- WGK 2
- LD50 oral rat 2700 mg/kg
- LGK 10 - 13
- HS-No. 2902 90 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 96.0 Area %  
 Melting range (lower value)..... ≥ 147 °C  
 Melting range (upper value)..... ≤ 150 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21051.0005	Glass bottle	5 g	inquire
8.21051.0050	Plastic bottle	50 g	inquire
8.21051.0250	Plastic bottle	250 g	inquire

## 841269 4-(1-Pyrenyl)-butyric acid for synthesis

C<sub>20</sub>H<sub>16</sub>O<sub>2</sub>

- CAS-No. 3443-45-6 ■ EC-No. 222-354-7

- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 288.34 g/mol ■ Melting point 185 - 189 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 97.0 % (a/a)  
 Melting range (lower value)..... ≥ 185 °C  
 Melting range (upper value)..... ≤ 189 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41269.0001	Plastic bottle	1 g	inquire

## 841777 Pyridazine for synthesis

C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>

- CAS-No. 289-80-5 ■ EC-No. 206-025-5
- Spec. density 1.106 g/cm<sup>3</sup> ■ Flash point 85 °C

- M = 80.08 g/mol ■ Boiling point 208 °C (1013 hPa)
- WGK 3
- LGK 10
- HS-No. 2933 99 80 ■ Disposal 3

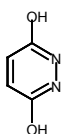
Density (d 20 °C/ 4 °C)..... 1,104 - 1,108  
 Identity (IR)..... passes test

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.41777.0005	Glass bottle	5 ml	inquire

## 820471 3,6-Pyridazinediol for synthesis

C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>

Maleic hydrazide, 1,2-Dihydro-3,6-

pyridazinedione, 3,6-Dihydroxypyridazine

- CAS-No. 123-33-1 ■ EC-No. 204-619-9
- Spec. density 1.60 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 4510 mg/l (25 °C) ■ M = 112.09 g/mol
- Melting point 292 °C
- WGK 2
- LD50 oral rat 3800 mg/kg ■ LD50 dermal rabbit > 4000 mg/kg
- LGK 10 - 13

- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20471.0100	Plastic bottle	100 g	inquire
8.20471.0500	Plastic bottle	500 g	inquire

Pyridinaldehydes → Heterocycles

# Pyridi

## Pyridine



C<sub>5</sub>H<sub>5</sub>N

Azine, Azabenzene

- CAS-No. 110-86-1 ■ EC-No. 203-809-9
- Vapour pressure 20 hPa (20 °C)
- Spec. density 0.982 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 12.3 (25 °C) ■ El. dipole moment 2.2 (20 °C) ■ Explosive limit 1.7 - 10.6 % (V)

- Flash point 17 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 79.1 g/mol ■ pH value 8.5 (16 g/l, H<sub>2</sub>O, 20 °C) ■ Saturation conc. 65 g/m<sup>3</sup> (20 °C) Air
- Melting point -42 °C ■ Boiling point 115 °C (1013 hPa) ■ Evaporation number 12.7
- Ignition temp. 482 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P302

- + P352, P304 + P340
- LC50 rat 17.75 mg/l
- LD50 oral rat 891 mg/kg ■ LD50 dermal rabbit 1121 mg/kg
- EC-Index-No. 613-002-00-7 ■ LGK 3
- HS-No. 2933 31 00 ■ Disposal 1
- ADR-RID UN 1282 Pyridin, 3, II ■ IMDG-Code UN 1282 PYRIDINE, 3, II
- IATA-DGR UN 1282 PYRIDINE, 3, II



### 107462 Pyridine EEMPLURA®

#### Specification

Purity (GC).....	≥ 99.0 %
Identity (IR).....	conforms
Density (d 20 °C/ 4 °C).....	0.982 - 0.984
Evaporation residue.....	≤ 0.01 %
Water.....	≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.07462.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.07462.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.07462.6026	Drum stainl. st.	25 l	inquire
1.07462.9190	Steel barrel	190 l	inquire

### 109728 Pyridine for analysis EMSURE® ACS, Reag. Ph Eur

#### Specification

Purity (GC).....	≥ 99.5 %
Identity (IR).....	conforms
Appearance.....	clear
Colour.....	≤ 10 Hazen
Solubility in water.....	conforms
Boiling point.....	114 - 116 °C
Reducing substances.....	conforms
Ammonia (NH <sub>3</sub> ).....	≤ 0.002 %
2-Picoline (GC).....	≤ 0.2 %
Piperidine (GC).....	≤ 0.01 %
Chloride (Cl).....	≤ 0.0005 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.0005 %
Al (Aluminium).....	≤ 0.00005 %
B (Boron).....	≤ 0.000002 %
Ba (Barium).....	≤ 0.00001 %

Ca (Calcium).....	≤ 0.00005 %
Cd (Cadmium).....	≤ 0.000005 %
Co (Cobalt).....	≤ 0.000002 %
Cr (Chromium).....	≤ 0.000002 %
Cu (Copper).....	≤ 0.000002 %
Fe (Iron).....	≤ 0.00001 %
Mg (Magnesium).....	≤ 0.00001 %
Mn (Manganese).....	≤ 0.000002 %
Ni (Nickel).....	≤ 0.000002 %
Pb (Lead).....	≤ 0.00001 %
Sn (Tin).....	≤ 0.00001 %
Zn (Zinc).....	≤ 0.00001 %
Evaporation residue.....	≤ 0.002 %
Water.....	≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.09728.0100	Glass bottle	100 ml	inquire
1.09728.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.09728.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09728.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09728.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.09728.6025	Drum stainl. st.	25 l	inquire
1.09728.9190	Steel barrel	190 lt	inquire

### 107463 Pyridine dried (max. 0.0075 % H<sub>2</sub>O) SeccoSolv®

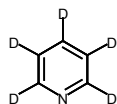
#### Specification

Purity (GC).....	≥ 99.9 %
Identity (IR).....	conforms
Colour.....	≤ 10 Hazen
2-Picoline (GC).....	≤ 0.2 %
Piperidine (GC).....	≤ 0.01 %
Reducing substances.....	conforms

Evaporation residue.....	≤ 10 mg/l
Water.....	≤ 0.0075 %

Ord.No.	Packaging	Quantity	Price
1.07463.0161	Septum bottle	150 ml	inquire
	Septum bottle	12 x 150 ml	inquire
1.07463.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.07463.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

### 107475 Pyridine-D<sub>5</sub> deuteration degree min 99.8% for NMR spectroscopy MagniSolv™



C<sub>5</sub>D<sub>5</sub>N

- CAS-No. 7291-22-7 ■ EC-No. 230-720-2
- Vapour pressure 20 hPa (20 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.7 - 10.6 % (V) ■ Flash point 20 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 84.13 g/mol
- pH value 8.5 (15.8 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -41 °C ■ Boiling point 114 °C

- (1013 hPa) ■ Ignition temp. 482 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P302 + P352, P304 + P340
- LC50 rat 17.75 mg/l
- LD50 oral rat 891 mg/kg ■ LD50 dermal rabbit 1121 mg/kg
- LGK 3
- HS-No. 2845 90 10 ■ Disposal 3
- ADR-RID UN 1282 Pyridin, 3, II ■ IMDG-

- Code UN 1282 PYRIDINE, 3, II
- IATA-DGR UN 1282 PYRIDINE, 3, II

#### Specification

Deuteration degree.....	≥ 99.8 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.02 %
Performance test (NMR-spectrum).....	passes test
Water (K. Fischer, H <sub>2</sub> O + D <sub>2</sub> O).....	≤ 0.03 %

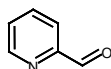
Ord.No.	Packaging	Quantity	Price
1.07475.0009	Glass ampoule	10x0.75 ml	inquire
1.07475.0010	Septum ampoule	10 ml	inquire

Pyridine-2-aldehyde → 2-Pyridinecarbaldehyde  
page 1385

Pyridine-3-aldehyde → 3-Pyridinecarbaldehyde  
page 1385

Pyridine-4-aldehyde → 4-Pyridinecarbaldehyde  
page 1385

## 807470 2-Pyridinecarbaldehyde for synthesis

C<sub>6</sub>H<sub>5</sub>NO2-(CHO)C<sub>5</sub>H<sub>4</sub>N

Pyridine-2-aldehyde

■ CAS-No. 1121-60-4 ■ EC-No. 214-333-6

■ Refractive index 1.5358 (20 °C, 589 nm)

■ Vapour pressure 1.2 hPa (20 °C)

■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)■ Flash point 73 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble■ M = 107.11 g/mol ■ pH value 6.5 (111 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point -21 °C

■ Boiling point 181 °C (1013 hPa)

■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P262, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310

■ LC50 rat 0.8 mg/l

■ LD50 oral rat 585 mg/kg ■ LD50 dermal rat &gt; 2000 mg/kg

■ LGK 6.1A ■ Store at +2°C to +8°C.

■ HS-No. 2933 39 99 ■ Disposal 9

■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(PYRIDIN-2-CARBALDEHYD), 6, 1, II

■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(PYRIDINE-2-CARBALDEHYDE), 6, 1, II

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(PYRIDINE-2-CARBALDEHYDE), 6, 1, II

## Specification

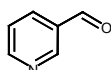
Assay (GC, area%)..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C)..... 1,120 - 1,122

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07470.0050	Glass bottle	50 ml	inquire
8.07470.0250	Glass bottle	250 ml	inquire

## 807468 3-Pyridinecarbaldehyde for synthesis

C<sub>6</sub>H<sub>5</sub>NO3-(CHO)C<sub>5</sub>H<sub>4</sub>N

Nicotinaldehyde, Pyridine-3-aldehyde

■ CAS-No. 500-22-1 ■ EC-No. 207-900-4

■ Refractive index 1.5493 (20 °C, 589 nm)

■ Vapour pressure 0.3 hPa (20 °C)

■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C)■ Flash point 84 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble■ M = 107.11 g/mol ■ pH value 5.4 (111 g/l, H<sub>2</sub>O,

20 °C) ■ Melting point 7 °C ■ Boiling point 202 °C

■ WGK 2

■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Serious eye damage, Category 1, H318; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P340, P305 + P351 + P338

■ LD50 oral rat 2355 mg/kg

■ LGK 8A ■ Store at +2°C to +8°C.

■ HS-No. 2933 39 99 ■ Disposal 3

■ ADR-RID UN 1760 Atzender flüssiger Stoff, n.a.g.(PYRIDIN-3-CARBALDEHYD), 8, III ■ IMDG-Code UN 1760 CORROSIVE LIQUID,

N.O.S.(PYRIDINE-3-CARBALDEHYDE), 8, III

■ IATA-DGR UN 1760 CORROSIVE LIQUID,

N.O.S.(PYRIDINE-3-CARBALDEHYDE), 8, III

## Specification

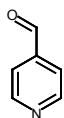
Assay (GC, area%)..... ≥ 97,0 Area %

Density (d 20 °C/ 4 °C)..... 1,141 - 1,145

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07468.0050	Glass bottle	50 ml	inquire
8.07468.0250	Glass bottle	250 ml	inquire

## 807469 4-Pyridinecarbaldehyde for synthesis

C<sub>6</sub>H<sub>5</sub>NO

Pyridine-4-aldehyde, Isonicotinaldehyde

■ CAS-No. 872-85-5 ■ EC-No. 212-832-3

■ Refractive index 1.544 (20 °C, 589 nm) ■ Vapour

pressure 0.02 hPa (20 °C) ■ Spec. density 1.138 g/

cm<sup>3</sup> (20 °C) ■ Flash point 77.8 °C ■ Solub. inH<sub>2</sub>O 20 g/l (20 °C) ■ M = 107.11 g/mol■ pH value 7 - 8 (H<sub>2</sub>O, 20 °C) (saturated aqueous

solution) ■ Melting point -4 °C

■ Boiling point 198 °C (1013 hPa)

■ WGK 1

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P262, P280, P302 + P352, P304 + P340, P305 + P351 + P338

■ LC50 rat &gt; 5.14 mg/l

■ LD50 oral rat 2355 mg/kg ■ LD50 dermal rat &gt;

2000 mg/kg

■ LGK 8A ■ Store at +2°C to +8°C.

■ HS-No. 2933 39 99 ■ Disposal 3

■ ADR-RID UN 1760 Atzender flüssiger Stoff, n.a.g.(PYRIDIN-4-CARBALDEHYD), 8, III ■ IMDG-

Code UN 1760 CORROSIVE LIQUID,

N.O.S.(PYRIDINE-4-CARBALDEHYDE), 8, III

■ IATA-DGR UN 1760 CORROSIVE LIQUID,

N.O.S.(PYRIDINE-4-CARBALDEHYDE), 8, III

## Specification

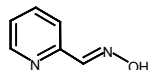
Assay (GC, area%)..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C)..... 1,137 - 1,138

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07469.0050	Glass bottle	50 ml	inquire
8.07469.0250	Glass bottle	250 ml	inquire

## 807466 2-Pyridinecarbaldehyde oxime for synthesis

C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O2-(CH=NOH)C<sub>5</sub>H<sub>4</sub>N

Picoline aldoxime

■ CAS-No. 873-69-8 ■ EC-No. 212-849-6

■ Solub. in H<sub>2</sub>O 15 g/l (20 °C) ■ M = 122.12 g/mol■ pH value 7 (13 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 110 - 112 °C

■ Bulk density 400 - 500 kg/m<sup>3</sup>

■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302

■ LD50 oral rat 388 mg/kg

■ LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)

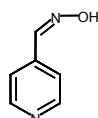
Melting range (lower value)..... ≥ 110 °C

Melting range (upper value)..... ≤ 112 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07466.0025	Plastic bottle	25 g	inquire
8.07466.0100	Plastic bottle	100 g	inquire

## 820714 4-Pyridinecarbaldehyde oxime for synthesis

C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O4-(CH=NOH)C<sub>5</sub>H<sub>4</sub>N

Isonicotinaldoxime

■ CAS-No. 696-54-8 ■ EC-No. 211-796-6

■ Vapour pressure &lt; 0.01 hPa (50 °C)

■ Flash point &gt; 110 °C DIN 51758 ■ Solub. in

H<sub>2</sub>O 10 g/l (20 °C) ■ M = 122.12 g/mol■ pH value 6.3 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 130 - 133 °C

■ Bulk density 610 kg/m<sup>3</sup>

■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P260, P262

■ LD50 oral rat 655 mg/kg

■ LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 99,0 % (a/a)

Melting range (lower value)..... ≥ 130 °C

Melting range (upper value)..... ≤ 133 °C

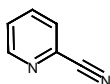
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20714.0050	Glass bottle	50 g	inquire

4-Pyridinecarbohydrazide → 4-Pyridinecarboxylic acid hydrazide page 1387

# Pyridi

## 802657 2-Pyridinecarbonitrile for synthesis



C<sub>6</sub>H<sub>4</sub>N<sub>2</sub>  
2-(CN)C<sub>5</sub>H<sub>4</sub>N  
2-Cyanopyridine, Picolinic acid nitrile, Picolinonitrile  
■ CAS-No. 100-70-9 ■ EC-No. 202-880-3  
■ Refractive index 1.5288 (20 °C, 589 nm)

■ Spec. density 1.08 g/cm<sup>3</sup> (25 °C)  
■ Flash point 89 °C ■ Solub. in H<sub>2</sub>O 67 g/l (20 °C)  
■ M = 104.11 g/mol ■ pH value 8.4 (100 g/l, H<sub>2</sub>O)  
■ Melting point 26 - 28 °C  
■ Boiling point 212 - 215 °C (1013 hPa)  
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P262, P305 + P351 + P338  
■ LD50 oral rat 960 mg/kg  
■ LGK 10 - 13

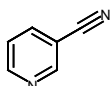
■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 25 °C  
Melting range (upper value) ..... ≤ 28 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02657.0100	Glass bottle	100 g	inquire

## 802658 3-Pyridinecarbonitrile for synthesis



C<sub>6</sub>H<sub>4</sub>N<sub>2</sub>  
3-(CN)C<sub>5</sub>H<sub>4</sub>N  
Nicotinonitrile, Nicotinic acid nitrile, 3-Cyanopyridine  
■ CAS-No. 100-54-9 ■ EC-No. 202-863-0

■ Vapour pressure 0.5 hPa (25 °C)  
■ Flash point 88 °C ■ Solub. in H<sub>2</sub>O 140 g/l (20 °C)  
■ M = 104.11 g/mol ■ Melting point 48 - 51 °C  
■ Boiling point 206 - 208 °C  
■ WGK 2  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LD50 oral rat 1185 mg/kg

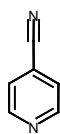
■ LGK 10 - 13  
■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 48 °C  
Melting range (upper value) ..... ≤ 51 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02658.0100	Glass bottle	100 g	inquire

## 802659 4-Pyridinecarbonitrile for synthesis



C<sub>6</sub>H<sub>4</sub>N<sub>2</sub>  
4-(CN)C<sub>5</sub>H<sub>4</sub>N  
Isonicotinonitrile, 4-Cyanopyridine, Isonicotinic acid nitrile

acid nitrile  
■ CAS-No. 100-48-1 ■ EC-No. 202-856-2  
■ Flash point 88 °C ■ Solub. in H<sub>2</sub>O 40 g/l (20 °C)  
■ M = 104.11 g/mol ■ Melting point 76 - 79 °C  
■ Boiling point 194 - 196 °C (1013 hPa)  
■ WGK 2  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 3

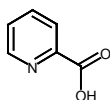
### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 76 °C  
Melting range (upper value) ..... ≤ 79 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.02659.0100	Glass bottle	100 g	inquire

3-Pyridinecarboxamide → Nicotinamide page 173

## 800735 2-Pyridinecarboxylic acid for synthesis



C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub>  
2-(HOOC)C<sub>5</sub>H<sub>4</sub>N  
Picolinic acid  
■ CAS-No. 98-98-6 ■ EC-No. 202-719-7

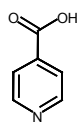
■ Flash point 139 °C ■ Solub. in H<sub>2</sub>O 887 g/l (20 °C) ■ M = 123.11 g/mol ■ pH value 3.1 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 134 - 137 °C  
■ Bulk density 500 - 700 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Warning, Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (acidimetric) ..... ≥ 98,0 % (m)  
Melting range (lower value) ..... ≥ 136 °C  
Melting range (upper value) ..... ≤ 139 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00735.0100	Glass bottle	100 g	inquire
8.00735.0250	Glass bottle	250 g	inquire

## 800736 4-Pyridinecarboxylic acid for synthesis



C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub>  
iso-Nicotinic acid  
■ CAS-No. 55-22-1 ■ EC-No. 200-228-2  
■ Solub. in H<sub>2</sub>O 6 g/l (20 °C) ■ M = 123.11 g/mol

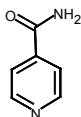
■ pH value 3 - 4 (6 g/l, H<sub>2</sub>O, 20 °C) (saturated solution) ■ Melting point 315 - 319 °C  
■ Bulk density 500 kg/m<sup>3</sup> ■ Boiling point 260 °C (20 hPa)  
■ WGK 1  
■ GHS: Warning, Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338  
■ LD50 oral rat 5000 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00736.0005	Glass bottle	5 g	inquire
8.00736.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire

## 814032 4-Pyridinecarboxylic acid amide for synthesis



C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O  
4-(H<sub>2</sub>NCO)C<sub>5</sub>H<sub>4</sub>N

Isonicotinic acid amide, Isonicotinamide  
■ CAS-No. 1453-82-3 ■ EC-No. 215-926-2  
■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 122.12 g/mol ■ Melting point 155 - 157 °C  
■ WGK 3  
■ LGK 10 - 13  
■ HS-No. 2933 39 99 ■ Disposal 3

### Specification

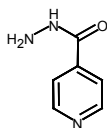
Assay (HClO<sub>4</sub>) ..... ≥ 99,0 % (m)  
Melting range (lower value) ..... ≥ 155 °C  
Melting range (upper value) ..... ≤ 157 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14032.0050	Plastic bottle	50 g	inquire

4-Pyridinecarboxylic acid chloride hydrochloride → 4-Pyridinoyl chloride hydrochloride page 1389  
2-Pyridinecarboxylic acid ethyl ester → Ethyl 2-pyridinecarboxylate page 883

3-Pyridinecarboxylic acid ethyl ester → Ethyl 3-pyridinecarboxylate page 883  
4-Pyridinecarboxylic acid ethyl ester → Ethyl 4-pyridinecarboxylate page 883

## 806753 4-Pyridinecarboxylic acid hydrazide for synthesis

C<sub>6</sub>H<sub>7</sub>N<sub>3</sub>O4-(H<sub>2</sub>NNHCO)C<sub>5</sub>H<sub>4</sub>N

Isoniazide, 4-Pyridinecarbohydrazide, Isonicotinic acid hydrazide

- CAS-No. 54-85-3 ■ EC-No. 200-214-6
- Flash point >250 °C ■ Solub. in H<sub>2</sub>O 125 g/l (20 °C) ■ M = 137.14 g/mol ■ pH value 6 - 8 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 169 - 172 °C
- Bulk density 800 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262
- LD50 oral rat 1250 mg/kg
- LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**

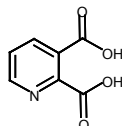
Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)  
 Melting range (lower value)..... ≥ 169 °C  
 Melting range (upper value)..... ≤ 172 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06753.0100	Glass bottle	100 g	inquire

3-Pyridinecarboxylic acid methyl ester → Methyl nicotinate page 1162

Pyridinecarboxylic acids → Heterocycles

## 800214 2,3-Pyridinedicarboxylic acid for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>4</sub>2,3-(HOOC)<sub>2</sub>C<sub>5</sub>H<sub>3</sub>N

Quinolinic acid

- CAS-No. 89-00-9 ■ EC-No. 201-874-8
- Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 167.12 g/mol
- Melting point 185 - 190 °C (decomposition)
- Bulk density 780 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P304 + P340, P305 + P351 + P338
- LD50 oral rat > 500 mg/kg

■ LGK 10 - 13

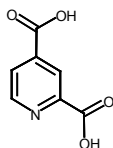
■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00214.0025	Plastic bottle	25 g	inquire
8.00214.0100	Plastic bottle	100 g	inquire

## 821052 2,4-Pyridinedicarboxylic acid for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>4</sub>2,4-(HOOC)<sub>2</sub>C<sub>5</sub>H<sub>3</sub>N

Lutidinic acid

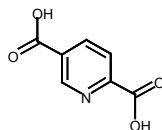
- CAS-No. 499-80-9 ■ EC-No. 207-892-2
- Solub. in H<sub>2</sub>O 2.49 g/l (25 °C) ■ M = 167.12 g/mol
- Melting point 242 - 243 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (acidimetric, calc. on anhydrous substance)..... ≥ 98,0 %  
 Water (K. F.)..... ≤ 1,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21052.0010	Glass bottle	10 g	inquire

## 821886 Pyridine-2,5-dicarboxylic acid for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>4</sub>2,5-(HOOC)<sub>2</sub>C<sub>5</sub>H<sub>3</sub>N

Isocinchomeronic acid

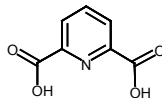
- CAS-No. 100-26-5 ■ EC-No. 202-834-2
- Solub. in H<sub>2</sub>O 1.2 g/l (25 °C) ■ M = 167.12 g/mol
- Melting point 236 - 237 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21886.0100	Plastic bottle	100 g	inquire
8.21886.0250	Plastic bottle	250 g	inquire

## 800614 Pyridine-2,6-dicarboxylic acid for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>4</sub>2,6-(HOOC)<sub>2</sub>C<sub>5</sub>H<sub>3</sub>N

Dipicolinic acid

- CAS-No. 499-83-2 ■ EC-No. 207-894-3
- Vapour pressure < 0.01 hPa (20 °C)

- Flash point 188 °C ■ Solub. in H<sub>2</sub>O 5 g/l (20 °C)
- M = 167.12 g/mol ■ pH value 2,0 (5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 224 - 255 °C
- Bulk density 700 kg/m<sup>3</sup> ■ Ignition temp. 620 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 10500 mg/kg

■ LGK 10 - 13

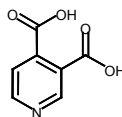
■ HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00614.0100	Plastic bottle	100 g	inquire
8.00614.1000	Plastic bottle	1 kg	inquire

## 841198 Pyridine-3,4-dicarboxylic acid for synthesis

C<sub>7</sub>H<sub>5</sub>NO<sub>4</sub>

Cinchomeronic acid

- CAS-No. 490-11-9 ■ EC-No. 207-705-4

- Solub. in H<sub>2</sub>O 2.34 g/l (25 °C) ■ M = 167.12 g/mol
- Melting point 266 - 270 °C (decomposition)
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

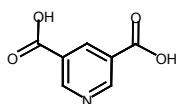
Assay (acidimetric)..... ≥ 97,0 %  
 Melting range (lower value)..... ≥ 252 °C  
 Melting range (upper value)..... ≤ 257 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41198.0005	Plastic bottle	5 g	inquire



# Pyridi

## 821054 Pyridine-3,5-dicarboxylic acid for synthesis



$C_7H_5NO_4$   
3,5-(HOOC) $_2$ C $_5$ H $_3$ N  
*Dinicotinic acid*  
■ CAS-No. 499-81-0 ■ EC-No. 207-893-8

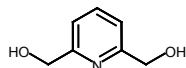
- Solub. in H $_2$ O 1.0 g/l (25 °C) ■ M = 167.12 g/mol
- Melting point 320 - 325 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (HPLC, area%) .....  $\geq$  97.0 % (a/a)  
Melting range (lower value) .....  $\geq$  320 °C  
Melting range (upper value) .....  $\leq$  325 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21054.0005	Glass bottle	5 g	inquire

## 841800 Pyridine-2,6-dimethanol for synthesis



$C_7H_9NO_2$   
■ CAS-No. 1195-59-1 ■ EC-No. 214-803-0  
■ M = 139.15 g/mol ■ Melting point 110 - 114 °C  
■ WGK 3

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

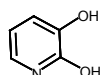
### Specification

Assay (HPLC, area%) .....  $\geq$  98,0 % (a/a)  
Melting range (lower value) .....  $\geq$  110 °C

Melting range (upper value) .....  $\leq$  114 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41800.0005	Plastic bottle	5 g	inquire

## 841665 2,3-Pyridinediol for synthesis



$C_5H_5NO_2$   
*2,3-Dihydroxypyridine*  
■ CAS-No. 16867-04-2 ■ EC-No. 240-887-3  
■ M = 111.1 g/mol

- Melting point 244 - 246 °C (decomposition)
- WGK 3
- GHS: P260, P262
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

### Specification

Assay (acidimetric) .....  $\geq$  97,0 % (m)  
Melting range (lower value) .....  $\geq$  248 °C

Melting range (upper value) .....  $\leq$  252 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41665.0025	Plastic bottle	25 g	inquire

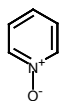
## 194601 Pyridine for analysis EMPARTA® ACS

Ord.No.	Packaging	Quantity	Price
1.94601.0500		0.5 l	inquire
1.94601.2500		2.5 l	inquire
1.94601.4000		4 l	inquire

Pyridine hydrochloride → Pyridinium chloride page 1389

2-Pyridinemethanamine → 2-(Aminomethyl)pyridine page 394

## 807506 Pyridine N-oxide for synthesis



$C_5H_5NO$   
■ CAS-No. 694-59-7 ■ EC-No. 211-774-6

- Flash point 143 °C ■ Solub. in H $_2$ O (20 °C) soluble ■ M = 95.1 g/mol
- Melting point 61 - 64 °C ■ Boiling point 270 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3

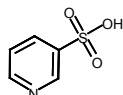
### Specification

Assay (HClO $_4$ ) .....  $\geq$  98,0 % (m)  
Melting range (lower value) .....  $\geq$  60 °C  
Melting range (upper value) .....  $\leq$  64 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07506.0100	Glass bottle	100 g	inquire

Pyridines → Heterocycles

## 841615 Pyridine-3-sulfonic acid for synthesis



$C_5H_5NO_3S$   
■ CAS-No. 636-73-7 ■ EC-No. 211-265-9  
■ Flash point >66 °C ■ M = 159.15 g/mol  
■ Melting point 357 °C

- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(PYRIDIN-3-SULFONSAEURE), 8, II ■ IMDG-Code UN 1759 CORROSIVE SOLID,

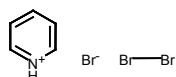
N.O.S.(PYRIDINE-3-SULPHONIC ACID), 8, II  
■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(PYRIDINE-3-SULPHONIC ACID), 8, II

### Specification

Assay (acidimetric) .....  $\geq$  98,0 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41615.0025	Glass bottle	25 g	inquire

## 814345 Pyridinium bromide-perbromide for synthesis



$C_5H_6Br_3N$   
■ CAS-No. 39416-48-3 ■ EC-No. 254-446-8  
■ Solub. in H $_2$ O (20 °C) (decomposition)  
■ M = 319.82 g/mol ■ Melting point 132 - 134 °C  
■ WGK 3  
■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion,

- Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A ■ Store below +15°C.
- HS-No. 2933 31 00 ■ Disposal 22
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(PYRIDINIUMBROMID-PERBROMID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(PYRIDINIUMBROMIDE-PERBROMIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

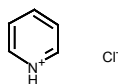
ORGANIC, N.O.S.(PYRIDINIUMBROMIDE-PERBROMIDE), 8, II

### Specification

Assay (iodometric) .....  $\geq$  85,0 % (m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14345.0050	Plastic bottle	50 g	inquire

## 821055 Pyridinium chloride for synthesis

C<sub>5</sub>H<sub>6</sub>ClNC<sub>5</sub>H<sub>5</sub>N \* HCl

Pyridine hydrochloride

■ CAS-No. 628-13-7 ■ EC-No. 211-027-4

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 115.56 g/

mol ■ Melting point 142 - 147 °C

■ Boiling point 222 - 224 °C

■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338

■ LD50 oral rat 1600 mg/kg

■ LGK 10 - 13

■ HS-No. 2933 31 00 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 98.0 %

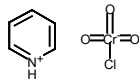
Melting range (lower value)..... ≥ 142 °C

Melting range (upper value)..... ≤ 147 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21055.0100	Glass bottle	100 g	inquire
8.21055.0250	Glass bottle	250 g	inquire

## 818189 Pyridinium chlorochromate for synthesis

C<sub>5</sub>H<sub>6</sub>ClCrNO<sub>3</sub>

PCC

■ CAS-No. 26299-14-9 ■ EC-No. 247-595-5

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 215.55 g/

mol ■ Melting point 205 °C (decomposition)

■ WGK 3

■ GHS: Danger, Carcinogenicity, Category 1B,

H350i; Oxidising solid, Category 2, H272; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P280, P273, P221, P308 + P313, P302 + P352

■ EC-Index-No. 024-017-00-8 ■ LGK 5.1 B

■ HS-No. 2933 31 00 ■ Disposal 24

■ ADR-RID UN 1479 Entzündend (oxidierend)

wirkender fester Stoff,

n.a.g.(PYRIDINIUMCHLORCHROMAT), 5.1, II

■ IMDG-Code UN 1479 OXIDIZING SOLID,

N.O.S.(PYRIDINIUM CHLORCHROMATE), 5.1, II

■ IATA-DGR UN 1479 OXIDIZING SOLID,

N.O.S.(PYRIDINIUM CHLORCHROMATE), 5.1, II

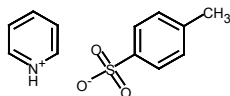
## Specification

Assay (iodometric)..... ≥ 98.0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18189.0025	Glass bottle	25 g	inquire
8.18189.0100	Glass bottle	100 g	inquire

## 814330 Pyridinium 4-toluenesulfonate for synthesis

C<sub>12</sub>H<sub>13</sub>NO<sub>3</sub>S4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H \* C<sub>5</sub>H<sub>5</sub>N

■ CAS-No. 24057-28-1 ■ EC-No. 246-002-7

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 251.30 g/

mol ■ Melting point 112 - 119 °C (dry substance)

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2933 31 00

## Specification

Assay (acidimetric)..... ≥ 99,0 % (m)

Melting range (after drying)..... 112 - 119 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14330.0025	Plastic bottle	25 g	inquire
8.14330.0100	Plastic bottle	100 g	inquire

2-Pyridinol → 2-Hydroxypyridine page 994

## 807036 3-Pyridinol for synthesis

C<sub>5</sub>H<sub>5</sub>NO3-(OH)C<sub>5</sub>H<sub>4</sub>N

3-Hydroxypyridine, 3-Pyridone

■ CAS-No. 109-00-2 ■ EC-No. 203-637-4

■ Flash point 173 °C ■ Solub. in H<sub>2</sub>O 33 g/l (20 °C)

■ M = 95.1 g/mol ■ pH value 6.0 - 6.5 (33 g/l,

H<sub>2</sub>O, 20 °C) ■ Melting point 123 - 126 °C■ Bulk density 600 kg/m<sup>3</sup> ■ Ignition temp. >500 °C

■ WGK 2

■ GHS: Warning, Skin irritation, Category 2, H315;

Eye irritation, Category 2, H319; Specific target

organ toxicity - single exposure, Category 3, H335,

P302 + P352, P304 + P340, P305 + P351 + P338

■ LD50 oral rat &gt; 4000 mg/kg

■ LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (HPLC, area%)..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 123 °C

Melting range (upper value)..... ≤ 126 °C

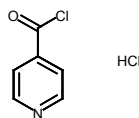
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07036.0050	Glass bottle	50 g	inquire

4-Pyridinol → 1,4-Dihydro-4-pyridinone page 759

2-Pyridinone → 2-Hydroxypyridine page 994

## 814838 4-Pyridinoyl chloride hydrochloride for synthesis

C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>NOC<sub>6</sub>H<sub>4</sub>ClNO \* HCl

Isonicotinoyl chloride hydrochloride, 4-

Pyridinecarboxylic acid chloride hydrochloride

■ CAS-No. 39178-35-3 ■ EC-No. 254-331-2

■ M = 178.02 g/mol

■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8A

■ HS-No. 2933 39 99 ■ Disposal 3

■ ADR-RID UN 3261 Ätzender saurer organischer

fester Stoff, n.a.g.(PYRIDIN-4-

CARBONSAEURECHLORIDHYDROCHLORID), 8, II

■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC,

ORGANIC, N.O.S.(PYRIDINE-4-CARBONYL

CHLORIDE HYDROCHLORIDE), 8, II, Segregation

Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(PYRIDINE-4-CARBONYL CHLORIDE HYDROCHLORIDE), 8, II

## Specification

Assay (HPLC, area%)..... ≥ 95,0 % (a/a)

Melting range (lower value)..... ≥ 159 °C

Melting range (upper value)..... ≤ 162 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14838.0010	Glass bottle	10 g	inquire

4-(2-Pyridinylazo)-1,3-dihydroxybenzene → 4-(2'-Pyridylazo)-resorcinol page 1390

2-Pyridone → 2-Hydroxypyridine page 994

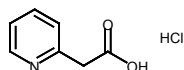
3-Pyridone → 3-Pyridinol page 1389

4(1H)-Pyridone → 1,4-Dihydro-4-pyridinone page

759

3-Pyridylacetic acid ethyl ester → Ethyl 3-pyridylacetate page 883

## 841251 2-Pyridylacetic acid hydrochloride for synthesis

C<sub>7</sub>H<sub>8</sub>ClNO<sub>2</sub>

■ CAS-No. 16179-97-8 ■ EC-No. 240-316-8

■ M = 173.59 g/mol

■ Melting point 132 - 133 °C (decomposition)

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2933 39 99 ■ Disposal 3

## Specification

Assay (argentometric)..... ≥ 98.0 %

Melting range (lower value)..... ≥ 130 °C

Melting range (upper value)..... ≤ 135 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41251.0005	Plastic bottle	5 g	inquire

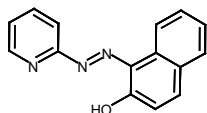
# Pyridy

2-Pyridylamine → 2-Aminopyridine page 402

3-Pyridylamine → 3-Aminopyridine page 402

4-Pyridylamine → 4-Aminopyridine page 403

## 107531 1-(2-Pyridylazo)-2-naphthol (PAN) metal indicator Reag. Ph Eur



C<sub>15</sub>H<sub>11</sub>N<sub>3</sub>O

PAN

- CAS-No. 85-85-8 ■ EC-No. 201-637-9
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 249.27 g/mol
- Melting point 136 - 141 °C
- Bulk density 190 kg/m<sup>3</sup>

- WGK 2
  - LGK 10 - 13
  - HS-No. 2933 39 99 ■ Disposal 3
- Use as metal indicator: 0.01%-0.1% in ethanol (96%)
- Specification**
- Identity (UV/VIS-Spectrum)..... passes test
- Appearance ..... brick-red to orange-brown fine powder, eventually cohesive
- Appearance of solution (1.0 g/l; ethanol)... Clear to almost clear, red-orange to brown-orange
- Melting point ..... 136 - 141 °C

Absorption maximum λ max (Ethanol)..... 461 - 465 nm

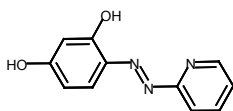
Spec. Absorptivity A 1%/1cm (λmax; 0.01 g/l; Ethanol)..... 670 - 720

Suitability as indicator (for metal titration)... passes test

Sensitivity test (Reag. Ph. Eur.)..... passes test

Ord.No.	Packaging	Quantity	Price
1.07531.0005	Glass bottle	5 g	inquire

## 841016 4-(2'-Pyridylazo)-resorcinol for synthesis



C<sub>11</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub>

- 4-(2-Pyridylazo)-1,3-dihydroxybenzene
- CAS-No. 1141-59-9 ■ EC-No. 214-528-6
  - M = 215.21 g/mol ■ Melting point 187 - 189 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2927 00 00 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 98.0 %

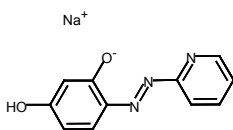
Melting range (lower value)..... ≥ 182 °C

Melting range (upper value)..... ≤ 187 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41016.0005	Plastic bottle	5 g	inquire

## 107533 4-(2-Pyridylazo)resorcinol monosodium salt monohydrate metal indicator Reag. Ph Eur



C<sub>11</sub>H<sub>8</sub>N<sub>3</sub>NaO<sub>2</sub> · H<sub>2</sub>O

PAR

- CAS-No. 16593-81-0 ■ EC-No. 236-339-8
  - Solub. in H<sub>2</sub>O 38 g/l (20 °C) ■ M = 255.21 g/mol
  - pH value 9.8 (10 g/l, H<sub>2</sub>O, 20 °C)
  - Bulk density 630 kg/m<sup>3</sup>
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2933 39 99 ■ Disposal 3
- Use as metal indicator: 0.05 %-0.2 % in water

**Specification**

Assay (Perchloric acid titration, calc. on anhydrous substance)..... ≥ 99%

Appearance of solution ..... passes test

Water (according to Karl Fischer)..... 7 - 8%

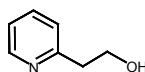
Suitability as indicator (for metal titration)... passes test

Ord.No.	Packaging	Quantity	Price
1.07533.0005	Glass bottle	5 g	inquire

2-Pyridylcarbinol → 2-Pyridylmethanol page 1390

3-Pyridylcarbinol → 3-Pyridylmethanol page 1390

## 800182 2-(2-Pyridyl)ethanol for synthesis



C<sub>7</sub>H<sub>9</sub>NO

2-(HOCH<sub>2</sub>CH<sub>2</sub>)C<sub>5</sub>H<sub>4</sub>N

2-(2-Hydroxyethyl)pyridine, 2-Ethanolpyridine

- CAS-No. 103-74-2 ■ EC-No. 203-140-2
- Refractive index 1.5368 (20 °C, 589 nm)
- Vapour pressure 0.14 hPa (20 °C)
- Spec. density 1.095 g/cm<sup>3</sup> (20 °C)

- Flash point 116 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 123.15 g/mol
- pH value 8 - 9 (100 g/l, H<sub>2</sub>O, 20 °C)
- Boiling point 235 - 238 °C (1013 hPa)
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P304 + P340, P305 + P351 + P338
- LD50 oral rat 9500 mg/kg
- LGK 10 - 13

- HS-No. 2933 39 99 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98.0 Area %

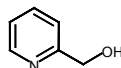
Density (d 20 °C/ 4 °C)..... 1,093 - 1,095

Water (K. F.)..... ≤ 0,50 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00182.0100	Glass bottle	100 ml	inquire

## 807029 2-Pyridylmethanol for synthesis



C<sub>6</sub>H<sub>7</sub>NO

2-(HOCH<sub>2</sub>)C<sub>5</sub>H<sub>4</sub>N

2-(Hydroxymethyl)pyridine, 2-Pyridylcarbinol

- CAS-No. 586-98-1 ■ EC-No. 209-592-7
- Refractive index 1.542 (20 °C, 589 nm) ■ Vapour pressure 0.04 hPa (20 °C) ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)

- Flash point 117 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 109.12 g/mol
- pH value 6 - 8 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -6 °C ■ Boiling point 220 °C (1013 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 2933 39 99

**Specification**

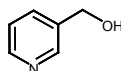
Assay (GC, area%)..... ≥ 97.5 %

Density (d 20 °C/ 4 °C)..... 1.131 - 1.133

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.07029.0050	Glass bottle	50 ml	inquire

## 807030 3-Pyridylmethanol for synthesis



C<sub>6</sub>H<sub>7</sub>NO

3-(HOCH<sub>2</sub>)C<sub>5</sub>H<sub>4</sub>N

Nicotinylalcohol, 3-(Hydroxymethyl)pyridine, 3-Pyridylcarbinol

- CAS-No. 100-55-0 ■ EC-No. 202-864-6
- Refractive index 1.5445 (20 °C, 589 nm)

- Vapour pressure < 0.01 hPa
- Spec. density 1.14 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C ■ Solub. in H<sub>2</sub>O 1000 mg/l (25 °C) ■ M = 109.12 g/mol ■ pH value 7 - 8 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -7 °C
- Boiling point 259 °C
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 10 - 13
- HS-No. 2933 39 99

**Specification**

Assay (GC, area%)..... ≥ 98.0 Area %

Density (d 20 °C/ 4 °C)..... 1,134 - 1,136

Identity (IR)..... conforms

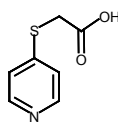
Ord.No.	Packaging	Quantity	Price
8.07030.0050	Glass bottle	50 ml	inquire

3-Pyridylmethanamine → 3-(Aminomethyl)pyridine page 395

3-(2-Pyridyl)-5,6-bis(4-phenylsulfonic acid)-1,2,4-triazine disodium salt → Ferrospectral® page 893

N-(4-Pyridyl)pyrrolidine → 4-(1-Pyrrolidinyl)pyridine page 1394

## 814029 (4-Pyridylthio)acetic acid for synthesis

C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>S

- CAS-No. 10351-19-6 ■ EC-No. 233-765-6
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 169.19 g/mol
- Melting point 255 - 258 °C decomposes
- Bulk density 340 - 390 kg/m<sup>3</sup>

- Ignition temp. 305 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(4-PYRIDYLTHIO-ESSIGSAEURE), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.((4-PYRIDYLTHIO)-ACETIC ACID), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,  
 N.O.S.((4-PYRIDYLTHIO)-ACETIC ACID), 6.1, III

**Specification**

Assay (acidimetric).....≥ 98,0 % (m)  
 Identity (IR).....passes test

4,6-Pyrimidinediol → 4,6-Dihydroxypyrimidine page 763

Pyrimidines → Heterocycles

2-Pyrimidinethiol → 2-Mercaptopyrimidine page 1102

2-Pyrimidinol hydrochloride → 2-

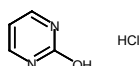
Hydroxypyrimidinium chloride page 994

2(1H)-Pyrimidinone hydrochloride → 2-Hydroxypyrimidinium chloride page 994

Ord.No.	Packaging	Quantity	Price
8.14029.0025	Plastic bottle	25 g	inquire

Ord.No.	Packaging	Quantity	Price
8.43938.0025	Plastic bottle	25 g	inquire
8.43938.0100	Plastic bottle	100 g	inquire

## 843938 2(1H)-pyrimidinone monohydrochloride for synthesis

C<sub>4</sub>H<sub>5</sub>ClN<sub>2</sub>OC<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O \* HCl

2(1H)-Pyrimidinone hydrochloride, 2-Pyrimidinol hydrochloride

- CAS-No. 38353-09-2 ■ EC-No. 253-897-8
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 132.55 g/mol
- Melting point 200 - 205 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 53 90 ■ Disposal 3

**Specification**

Colour (visual).....yellow to orange

Appearance of substance (visual).....powder  
 Assay (HPLC, area%) .....≥ 97,0 Area %  
 Water (K. F.).....≤ 0,30 % (m)  
 Identity (IR).....conforms

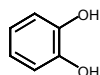
2-Pyrimidinylamine → 2-Aminopyrimidine page 403

Pyrocarbonic acid di-tert-butyl ester → Di-tert-butyl dicarbonate page 707

Pyrocarbonic acid diethyl ester → Diethyl dicarbonate page 741

Pyrocarbonic acid dimethyl ester → Dimethyl dicarbonate page 786

## 822261 Pyrocatechol for synthesis

C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,2-(OH)<sub>2</sub>

1,2-Dihydroxybenzene, Catechol

- CAS-No. 120-80-9 ■ EC-No. 204-427-5
- Vapour pressure 13 hPa (118 °C)
- Spec. density 1.37 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.97 % (V) ■ Flash point 127 °C
- Solub. in H<sub>2</sub>O 430 g/l (20 °C) ■ M = 110.11 g/mol
- pH value 6 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 103 - 105 °C
- Boiling point 246 °C (1013 hPa)

- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 260 mg/kg ■ LD50 dermal rabbit 800 mg/kg
- EC-Index-No. 604-016-00-4 ■ LGK 6.1C
- HS-No. 2907 29 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,2-DIHYDROXYBENZENE), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,2-DIHYDROXYBENZENE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

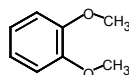
N.O.S.(1,2-DIHYDROXYBENZENE), 6.1, III

**Specification**

Assay (GC, area%).....≥ 99,0 % (a/a)  
 Melting range (lower value).....≥ 103 °C  
 Melting range (upper value).....≤ 105 °C  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.22261.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
8.22261.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

## 808529 Pyrocatechol dimethyl ether for synthesis

C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>(CH<sub>3</sub>O)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>

Veratrole, 1,2-Dimethoxybenzene

- CAS-No. 91-16-7 ■ EC-No. 202-045-3
- Refractive index 1.5346 (20 °C, 589 nm)
- Vapour pressure 0.63 hPa (25 °C)

- Spec. density 1.085 g/cm<sup>3</sup> (20 °C)
- Flash point 87 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 138.16 g/mol
- Melting point 17.5 °C
- Boiling point 205 - 206 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 890 mg/kg
- LGK 10 - 13

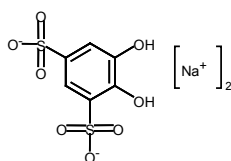
■ HS-No. 2909 30 90 ■ Disposal 3

**Specification**

Assay (GC, area%).....≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C).....1,084 - 1,086  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.08529.0250	Glass bottle	250 ml	inquire
8.08529.1000	Glass bottle	1 l	inquire

## 101922 3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate (Tiron) metal indicator

C<sub>6</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>8</sub>S<sub>2</sub> \* H<sub>2</sub>O

1,2-Dihydroxy-3,5-benzenedisulfonic acid disodium salt, di-Sodium 4,5-dihydroxy-1,3-benzenedisulfonate, Sodium pyrocatechol-3,5-disulfonate, Tiron

- CAS-No. 149-45-1 ■ EC-No. 205-741-5
  - Solub. in H<sub>2</sub>O 1350 g/l (20 °C) ■ M = 332.22 g/mol
  - pH value 5.0 (10 g/l, H<sub>2</sub>O, 20 °C)
  - Melting point 300 °C ■ Bulk density 465 kg/m<sup>3</sup>
  - WGK 2
  - GHS: Warning, Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P302 + P352, P305 + P351 + P338
  - LGK 10 - 13
  - HS-No. 2908 99 00 ■ Disposal 3
- Use as metal indicator: 2 % in water

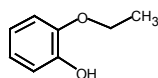
**Specification**

Identity (UV/VIS-Spectrum).....passes test

Absorption maximum λ<sub>max</sub> (buffer pH 2.5).....290 - 291 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.005 %; buffer pH 2.5; calculated on dried substance).....100 - 125  
 Water (according to Karl Fischer).....4.5 - 6.5 %  
 Suitability as indicator (for metal titration).....passes test

Ord.No.	Packaging	Quantity	Price
1.01922.0100	Glass bottle	100 g	inquire

## 801917 Pyrocatechol monoethyl ether for synthesis



C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>  
 2-(C<sub>2</sub>H<sub>5</sub>O)C<sub>6</sub>H<sub>4</sub>OH  
*Guaethol, 2-Ethoxyphenol*  
 ■ CAS-No. 94-71-3 ■ EC-No. 202-358-5  
 ■ Refractive index 1.5291 (25 °C, 589 nm)  
 ■ Vapour pressure 1 hPa (45 °C)

■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O 9 g/l (30 °C)  
 ■ M = 138.16 g/mol ■ Melting point 24 - 28 °C  
 ■ Boiling point 214 - 216 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P302 + P352,  
 P305 + P351 + P338  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2909 50 00 ■ Disposal 3

**Specification**

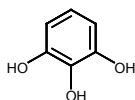
Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 24 °C  
 Melting range (upper value) ..... ≤ 28 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.01917.0250	Glass bottle	250 ml	inquire

Pyrocatechol monomethyl ether → 2-Methoxyphenol page 1122

Pyrogallol → page 1392

## Pyrogallol



C<sub>6</sub>H<sub>6</sub>O<sub>3</sub>  
 C<sub>6</sub>H<sub>3</sub>(OH)<sub>3</sub>  
*Pyrogallol, 1,2,3-Trihydroxybenzene*  
 ■ CAS-No. 87-66-1 ■ EC-No. 201-762-9  
 ■ Vapour pressure 2 - 4 hPa (140 °C)  
 ■ Spec. density 1.45 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 625 g/l (25 °C) ■ M = 126.11 g/mol  
 ■ pH value 4 - 5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 131 - 135 °C  
 ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 309 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Germ cell mutagenicity, Category 2, H341; Chronic aquatic toxicity, Category 3, H412, P273,

P281, P302 + P352, P308 + P313  
 ■ LD50 oral rat 790 mg/kg  
 ■ EC-Index-No. 604-009-00-6 ■ LGK 10 - 13  
 ■ HS-No. 2907 29 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Reagent for Sb, Bi, Nb, Os, Ta and for the reduction of Ag<sup>2+</sup>, Au<sup>2+</sup>, and Hg<sup>2+</sup>-salts.

## 822302 Pyrogallol for synthesis

**Specification**  
 Assay (acidimetric) ..... ≥ 99.0 %  
 Melting range (lower value) ..... ≥ 132 °C  
 Melting range (upper value) ..... ≤ 135 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22302.0050	Glass bottle	50 g	inquire
8.22302.0250	Glass bottle	250 g	inquire
8.22302.1000	Glass bottle	1 kg	inquire

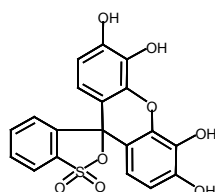
## 100612 Pyrogallol GR for analysis ACS,Reag. Ph Eur

**Specification**  
 Assay (GC) ..... ≥ 99.5 %  
 Identity (IR-spectrum) ..... conforms  
 Melting point ..... 131.0 - 135.0 °C  
 Chloride (Cl) ..... ≤ 0.001 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 5 ppm  
 Fe (Iron) ..... ≤ 0.001 %  
 Sulfated ash ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.00612.0050	Glass bottle	50 g	inquire
1.00612.0250	Glass bottle	250 g	inquire

## 107534 Pyrogallol red metal indicator



C<sub>19</sub>H<sub>12</sub>O<sub>8</sub>S  
*Pyrogallol acid*  
 ■ CAS-No. 32638-88-3 ■ EC-No. 251-134-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 400.36 g/mol ■ Melting point >300 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 Use as metal indicator: 0.05 % in ethanol (50%)

**Specification**

Appearance of solution ..... conforms  
 Loss on drying (110 °C) ..... ≤ 5.0 %  
 Suitability as indicator (for metal titration) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.07534.0001	Glass bottle	1 g	inquire

DL-Pyroglutamic acid → DL-2-Pyrrolidone-5-carboxylic acid page 1394

L-Pyroglutamic acid → (S)-(-)-2-Pyrrolidone-5-carboxylic acid page 1394

L-Pyroglutamic acid pentachlorophenyl ester → page 254

Pyromellitic acid → 1,2,4,5-Benzenetetracarboxylic acid page 438

Pyromellitic dianhydride → 1,2,4,5-Benzenetetracarboxylic-1,2,4,5-dianhydride page 438

Pyromucic acid methyl ester → Methyl 2-furancarboxylate page 1152

Pyronine G (C.I. 45005) → page 190



Pyrrrole



C<sub>4</sub>H<sub>5</sub>N

- CAS-No. 109-97-7 ■ EC-No. 203-724-7
- Refractive index 1.5082 (20 °C, 589 nm)
- Vapour pressure 8.7 hPa (20 °C)
- Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.10 - 14.8 % (V) ■ Flash point 39 °C ■ Solub. in H<sub>2</sub>O 60 g/l (20 °C) ■ M = 67.09 g/mol

- pH value >6 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -24 °C
- Boiling point 130 - 131 °C (1013 hPa)
- Ignition temp. 550 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 3, Oral, H301; Serious eye damage, Category 1, H318, P210, P280, P305 + P351 + P338, P309 + P310
- LC50 rat 2.27 mg/l

- LD50 oral rat 137 mg/kg
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2933 99 80 ■ Disposal 9
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(PYRROL), 3 (6.1), III ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(PYRROLE), 3 (6.1), III
- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(PYRROLE), 3 (6.1), III



807492 Pyrrrole for synthesis

Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,967 - 0,971  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07492.0010	Glass bottle	10 ml	inquire
8.07492.0025	Glass bottle	25 ml	inquire
8.07492.0100	Glass bottle	100 ml	inquire

845055 Pyrrrole for pharma synthesis, non-GMP

Specification

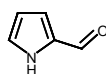
Colour (visual)..... yellow  
 Appearance of substance (visual)..... liquid  
 Assay (GC, area%)..... ≥ 97,0 Area %

Density (d 20 °C/ 4 °C)..... 0,967 - 0,971  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45055.0025	Glass bottle	25 ml	inquire
8.45055.0100	Glass bottle	100 ml	inquire

Pyrrrole-2-aldehyde → 2-Pyrrrolicarbaldehyde page 1393

807574 2-Pyrrrolicarbaldehyde for synthesis



C<sub>5</sub>H<sub>5</sub>NO

Pyrrrole-2-aldehyde, Pyrrrole-2-carboxaldehyde, 2-Formylpyrrrole

- CAS-No. 1003-29-8 ■ EC-No. 213-705-5
- Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 95.1 g/mol

- Melting point 43 - 46 °C
- Boiling point 217 - 219 °C
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

Melting range (lower value)..... ≥ 43 °C  
 Melting range (upper value)..... ≤ 46 °C  
 Identity (IR)..... conforms

Specification

Assay (GC, area%)..... ≥ 98,0 Area %

Ord.No.	Packaging	Quantity	Price
8.07574.0010	Glass bottle	10 g	inquire
8.07574.0050	Glass bottle	50 g	inquire

Pyrrrole-2-carboxaldehyde → 2-Pyrrrolicarbaldehyde page 1393

Pyrrroles → Heterocycles

807494 Pyrrrolidine for synthesis



C<sub>4</sub>H<sub>9</sub>N

Tetramethyleimine

- CAS-No. 123-75-1 ■ EC-No. 204-648-7
- Refractive index 1.4435 (20 °C, 589 nm)
- Vapour pressure 65 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 10.6 % (V) ■ Flash point 3 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 71.12 g/mol
- pH value 12.9 (100 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. 466 g/m<sup>3</sup> (20 °C) Air

- Melting point -63 °C ■ Boiling point 86 - 88 °C (1013 hPa) ■ Ignition temp. 345 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P210, P233, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 11.7 mg/l
- LD50 oral rat 433 mg/kg
- LGK 3
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 1922 Pyrrrolidin, 3 (8), II ■ IMDG-

Code UN 1922 PYRROLIDINE, 3 (8), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1922 PYRROLIDINE, 3 (8), II

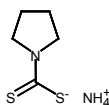
Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,859 - 0,861  
 Water (K. F.)..... ≤ 0,50 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07494.0005	Glass bottle	5 ml	inquire
8.07494.0250	Glass bottle	250 ml	inquire
8.07494.1000	Glass bottle	1 l	inquire

(S)-(-)-Pyrrrolidine-2-carboxylic acid → (S)-(-)-Proline page 1366

Pyrrrolidine-1-dithiocarboxylic acid ammonium salt



C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>S<sub>2</sub>

Ammonium-N,N-

tetramethylenedithiocarbamate, N,N-

Tetramethylenedithiocarbaminic acid ammoniumsalt

- CAS-No. 5108-96-3 ■ EC-No. 225-834-4
- Solub. in H<sub>2</sub>O 190 g/l (20 °C) ■ M = 164.28 g/mol ■ pH value 6 - 7 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 146 - 151 °C
- Bulk density 400 kg/m<sup>3</sup>
- WGK 3

- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good
- Reagent for copper.

821100 Pyrrrolidine-1-dithiocarboxylic acid ammonium salt for synthesis

Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21100.0025	Plastic bottle	25 g	inquire
8.21100.0100	Plastic bottle	100 g	inquire

# Pyrrrol

## 107495 Pyrrolidine-1-dithiocarboxylic acid ammonium salt GR for analysis

### Specification

Identity..... IR spectrum conforms  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.001 %

Sulfated ash..... ≤ 0.10 %

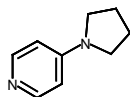
Ord.No.	Packaging	Quantity	Price
1.07495.0010	Glass bottle	10 g	inquire

Pyrrrolidines → Heterocycles

Pyrrrolidino[1,2:a]1,4,5,6-tetrahydropyrimidine →  
 1,5-Diazabicyclo[4.3.0]non-5-ene page 699

Pyrrrolidinomethanephosphonic acid diethyl ester  
 → Diethyl pyrrrolidinomethanephosphonate page  
 749

## 818884 4-(1-Pyrrrolidinyl)pyridine for synthesis



C<sub>9</sub>H<sub>12</sub>N<sub>2</sub>

*N*-(4-Pyrridyl)pyrrrolidine

■ CAS-No. 2456-81-7 ■ EC-No. 219-534-2  
 ■ Flash point 142 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) slightly soluble ■ M = 148.2 g/mol  
 ■ pH value 10.5 (3 g/l, H<sub>2</sub>O, 21 °C)  
 ■ Melting point 54 - 58 °C ■ Bulk density 550 kg/  
 m<sup>3</sup> ■ Boiling point 171 - 173 °C (27 hPa)

■ Ignition temp. 330 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral,  
 H301; Skin corrosion, Category 1A, H314, P280,  
 P301 + P330 + P331, P305 + P351 + P338, P309  
 + P310  
 ■ LD50 oral rat 176 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2933 39 99 ■ Disposal 9  
 ■ ADR-RID UN 2923 Ätzender fester Stoff, giftig,  
 n.a.g.(4-(1-PYRROLIDINYL)-PYRIDIN), 8 (6.1), II  
 ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC,  
 N.O.S.(4-(1-PYRROLIDINYL)-PYRIDINE), 8 (6.1), II

Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC,  
 N.O.S.(4-(1-PYRROLIDINYL)-PYRIDINE), 8 (6.1), II

### Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 56 °C  
 Melting range (upper value)..... ≤ 60 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18884.0010	Glass bottle	10 g	inquire

## 807041 2-Pyrrrolidone for synthesis



C<sub>4</sub>H<sub>7</sub>NO

*γ*-Butyrolactam

■ CAS-No. 616-45-5 ■ EC-No. 210-483-1  
 ■ Refractive index 1.48 (20 °C, 589 nm) ■ Vapour  
 pressure 0.04 hPa (20 °C) ■ Spec. density 1.11 g/  
 cm<sup>3</sup> (20 °C) ■ El. dipole moment 2.3 (20 °C)  
 ■ Explosive limit 1.8 - 16.6 % (V)

■ Flash point 138 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) soluble ■ M = 85.11 g/mol  
 ■ pH value 9 - 11 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 24 - 26 °C ■ Boiling point 250 °C  
 (1013 hPa) ■ Ignition temp. 390 °C  
 ■ WGK 1  
 ■ LD50 oral rat > 3200 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 79 00 ■ Disposal 1

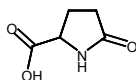
### Specification

Assay (GC, area%)..... ≥ 99,0 Area %

Density (d 20 °C/ 4 °C)..... 1,110 - 1,112  
 Water (K. F.)..... ≤ 0,20 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07041.0005	Glass bottle	5 ml	inquire
8.07041.0250	Glass bottle	250 ml	inquire
8.07041.1000	Glass bottle	1 l	inquire

## 820943 DL-2-Pyrrrolidone-5-carboxylic acid for synthesis



C<sub>5</sub>H<sub>7</sub>NO<sub>3</sub>

*5-Oxo-DL-proline, DL-Pyrrrolidone-5-carboxylic acid*

■ CAS-No. 149-87-1 ■ EC-No. 205-748-3

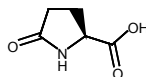
■ Solub. in H<sub>2</sub>O 52 g/l (13 °C) ■ M = 129.11 g/mol  
 ■ pH value 1.7 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 183 - 186 °C  
 ■ Bulk density 660 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 79 00 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 99,0 %  
 Melting range (lower value)..... ≥ 183 °C  
 Melting range (upper value)..... ≤ 186 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20943.0050	Plastic bottle	50 g	inquire

## 820942 (S)-(-)-2-Pyrrrolidone-5-carboxylic acid for synthesis



C<sub>5</sub>H<sub>7</sub>NO<sub>3</sub>

*5-Oxo-L-proline, L-Pyrrrolidone-5-carboxylic acid*

■ CAS-No. 98-79-3 ■ EC-No. 202-700-3  
 ■ Solub. in H<sub>2</sub>O 476 g/l (13 °C) ■ M = 129.11 g/

mol ■ pH value 1.7 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 154 - 162 °C  
 ■ Bulk density 660 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 79 00 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 155 °C

Melting range (upper value)..... ≤ 163 °C  
 Spec. rotation [α<sup>20</sup>/D (c=2 in water).....  
 ..... -12,0 - -10,0 °  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20942.0025	Plastic bottle	25 g	inquire

DL-5-Pyrrrolidone-2-carboxylic acid → DL-2-

Pyrrrolidone-5-carboxylic acid page 1394

L-5-Pyrrrolidone-2-carboxylic acid → (S)-(-)-2-

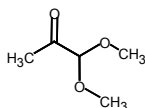
Pyrrrolidone-5-carboxylic acid page 1394

Pyrrrolidones → Heterocycles

1 H-Pyrrolo[2,3 : b]pyridine → 7-Azaindole page

427

## 821060 Pyruvaldehyde 1,1-dimethyl acetal for synthesis



C<sub>5</sub>H<sub>10</sub>O<sub>3</sub>  
 CH<sub>3</sub>COCH(OCH<sub>3</sub>)<sub>2</sub>  
 1,1-Dimethoxy-2-propanone, α,α-Dimethoxyacetone, Methylglyoxal 1,1-dimethyl acetal  
 ■ CAS-No. 6342-56-9 ■ EC-No. 228-735-4  
 ■ Refractive index 1.3989 (20 °C, 589 nm)  
 ■ Vapour pressure 11 hPa (20 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 2.5 - 12.3 % (V) ■ Flash point 34 °C ■ Solub. in H<sub>2</sub>O 350 g/l (20 °C) ■ M = 118.13 g/mol  
 ■ pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point -57 °C  
 ■ Boiling point 136 - 138 °C (1013 hPa)  
 ■ Ignition temp. 285 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 6800 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2914 50 00 ■ Disposal 3  
 ■ ADR-RID UN 1224 Ketone, flüssig, n.a.g.(BRENZTRAUBENALDEHYD-1,1-

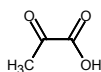
(DIMETHYLACETAL)), 3, III ■ IMDG-Code UN 1224 KETONES, LIQUID, N.O.S.(PYRUVALDEHYDE-1,1-(DIMETHYLACETAL)), 3, III  
 ■ IATA-DGR UN 1224 KETONES, LIQUID, N.O.S.(PYRUVALDEHYDE-1,1-(DIMETHYLACETAL)), 3, III

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.995 - 1.005  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21060.0250	Glass bottle	250 ml	inquire

## 820170 Pyruvic acid for synthesis



C<sub>3</sub>H<sub>4</sub>O<sub>3</sub>  
 ■ CAS-No. 127-17-3 ■ EC-No. 204-824-3  
 ■ Refractive index 1.428 (20 °C, 589 nm)  
 ■ Spec. density 1.27 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 82 - 83 °C ■ M = 88.06 g/mol  
 ■ pH value 1.2 (90 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 12 °C ■ Ignition temp. 305 °C

■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2918 30 00  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(BRENZTRAUBENSAEURE), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PYRUVIC ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(PYRUVIC ACID), 8, III

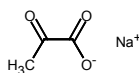
**Specification**

Assay (acidimetric) ..... ≥ 98.0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,269 - 1,276  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20170.0100	Plastic bottle	100 ml	inquire
8.20170.0500	Plastic bottle	500 ml	inquire

Pyruvic acid ethyl ester → Ethyl pyruvate page 883

## 106619 Pyruvic acid sodium salt for biochemistry



C<sub>3</sub>H<sub>3</sub>NaO<sub>3</sub>  
 Sodium pyruvate, Pyruvate  
 ■ CAS-No. 113-24-6 ■ EC-No. 204-024-4  
 ■ Spec. density 1.718 g/cm<sup>3</sup> (25 °C)  
 ■ M = 110.04 g/mol ■ Melting point 220 - 230 °C  
 ■ WGK 1

■ LD50 oral rat 5600 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 30 00 ■ Disposal 3

**Specification**

Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Chloride (Cl) ..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.002 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %

Loss on drying (105 °C; 3 h) ..... ≤ 0.5 %  
 Suitability as enzyme substrate (tested with LDH) ..  
 ..... passes test

Ord.No.	Packaging	Quantity	Price
1.06619.0050	Plastic bottle	50 g	inquire
1.06619.0250	Plastic bottle	250 g	inquire
1.06619.1000	Plastic bottle	1 kg	inquire

# Quadra

Quadratic acid → 1,2-Dihydroxy-3,4-cyclobutenedione page 762

## 107536 QUARTZ FINE GRANULAR, WASHED AND CALCINED GR FOR ANALYSIS

O<sub>2</sub>Si  
SiO<sub>2</sub>  
 ■ CAS-No. 14808-60-7 ■ EC-No. 238-878-4  
 ■ Spec. density 2.65 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 60.08 g/mol  
 ■ Melting point 1713 °C ■ Bulk density 1400 kg/m<sup>3</sup> ■ Boiling point >2200 °C  
 ■ WGK nwg  
 ■ GHS: P260  
 ■ LGK 10 - 13  
 ■ HS-No. 2506 10 00 ■ Disposal 14  
 Catalyst carrier, maceration agent.  
**Specification**  
 Substances soluble in hydrochloric acid ... ≤ 0.05 %  
 Chloride (Cl) ..... ≤ 0.01 %

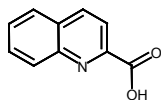
Loss on ignition (900 °C) ..... ≤ 0.05 %  
 Particle size (0.2 - 0.8 mm) ..... ≥ 40 %

Ord.No.	Packaging	Quantity	Price
1.07536.0250	Plastic bottle	250 g	inquire
1.07536.1000	Plastic bottle	1 kg	inquire
1.07536.5000	Plastic bottle	5 kg	inquire

Quaternary Ammonium Compounds → page 81

Quinacetophenone → 2',5'-Dihydroxyacetophenone page 759

## 840010 Quinaldic acid for synthesis



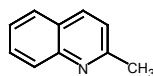
C<sub>10</sub>H<sub>7</sub>NO<sub>2</sub>  
 Quinoline-2-carboxylic acid  
 ■ CAS-No. 93-10-7 ■ EC-No. 202-218-3  
 ■ Solub. in H<sub>2</sub>O 14 g/l (25 °C) ■ M = 173.17 g/mol

■ pH value 3.0 - 3.5 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 154 - 157 °C  
 ■ Bulk density 625 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 90 ■ Disposal 3

**Specification**  
 Assay (acidimetric) ..... ≥ 97,0 %  
 Melting range (lower value) ..... ≥ 155 °C  
 Melting range (upper value) ..... ≤ 158 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40010.0025	Glass bottle	25 g	inquire

## 805805 Quinaldine for synthesis



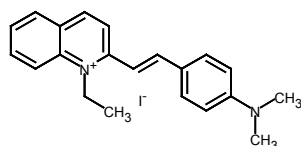
C<sub>10</sub>H<sub>9</sub>N  
 2-Methylquinoline  
 ■ CAS-No. 91-63-4 ■ EC-No. 202-085-1  
 ■ Refractive index 1.6126 (20 °C, 589 nm)  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 79 °C ■ Solub. in H<sub>2</sub>O 2.5 g/l (20 °C)

■ M = 143.18 g/mol ■ pH value 6.9 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution)  
 ■ Melting point -2 °C ■ Boiling point 246.9 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P262, P302 + P352  
 ■ LD50 oral rat 1230 mg/kg ■ LD50 dermal rabbit 1870 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C / 4 °C) ..... 1,059 - 1,061  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05805.0100	Glass bottle	100 ml	inquire
8.05805.0250	Glass bottle	250 ml	inquire

## 102282 Quinaldine red indicator Reag. Ph Eur



C<sub>21</sub>H<sub>23</sub>N<sub>2</sub>  
 ■ CAS-No. 117-92-0 ■ EC-No. 204-221-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble

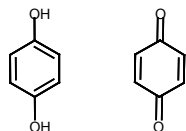
■ M = 430.33 g/mol  
 ■ Melting point 240 °C (decomposition)  
 ■ Bulk density 290 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 90 ■ Disposal 3  
 Use as pH indicator: 0.1 g in 100 ml ethanol (60%)  
**Specification**  
 Identity (UV/VIS-Spectrum) ..... passes test

Transition range..... pH 1.4 - pH 3.2 colourless - red  
 Absorption maximum λ<sub>max</sub>. (Acetic acid) ..... 528 - 533 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.005 g/l; acetic acid glacial; calculated on anhydrous substance) ..... 1150 - 1480  
 Water (according to Karl Fischer) ..... ≤ 5 %

Ord.No.	Packaging	Quantity	Price
1.02282.0005	Glass bottle	5 g	inquire

Quinetine → 6-(Furfurylamino)purine page 919

## 102284 Quinhydrone GR for analysis



C<sub>12</sub>H<sub>10</sub>O<sub>4</sub>  
 C<sub>6</sub>H<sub>4</sub>O<sub>2</sub> \* C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>  
 ■ CAS-No. 106-34-3 ■ EC-No. 203-387-6  
 ■ Spec. density 1.40 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 4 g/l (20 °C) ■ M = 218.21 g/mol  
 ■ Melting point 168 - 171 °C

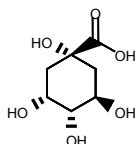
■ Bulk density 300 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400, P273, P262, P309 + P310  
 ■ LD50 oral rat 225 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2942 00 00 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(CHINHYDRON), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(QUINHYDRONE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(QUINHYDRONE), 6.1, III  
 Used in the quinhydrone electrode.

**Specification**  
 Assay p-Benzoquinone ..... 48 - 52%  
 assay hydroquinone ..... 48 - 52%  
 Identity (IR-spectrum) ..... passes test  
 Matter insoluble in ethanol ..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Sulfated ash ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.02284.0100	Glass bottle	100 g	inquire

**800218 (-)-Quinic acid for resolution of racemates for synthesis**



C<sub>7</sub>H<sub>12</sub>O<sub>6</sub>  
1,3,4,5-Tetrahydroxycyclohexanecarboxylic acid  
■ CAS-No. 77-95-2 ■ EC-No. 201-072-8

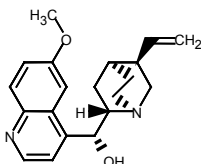
- Spec. density 1.64 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 290 g/l (9 °C) (experimental) ■ M = 192.17 g/mol ■ pH value 2.0 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 162.5 °C
- Bulk density 670 - 750 kg/m<sup>3</sup>
- WGK 1
- GHS: P262
- LGK 10 - 13
- HS-No. 2918 19 98 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98,0 %(m)  
Melting range (lower value)..... ≥ 160 °C  
Melting range (upper value)..... ≤ 165 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=10 in water)..... -44,0 - -42,0 °  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00218.0050	Plastic bottle	50 g	inquire

**802304 (-)-Quinine for resolution of racemates for synthesis**



C<sub>20</sub>H<sub>24</sub>N<sub>2</sub>O<sub>2</sub>  
6-Methoxy-α-(5-vinyl-2-quinuclidinyl)-4-quinolinemethanol

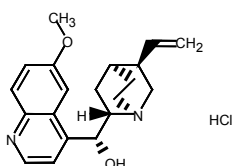
- CAS-No. 130-95-0 ■ EC-No. 205-003-2
- Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 324.43 g/mol
- pH value 9.0 (0.5 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 174 - 178 °C (decomposition)
- Bulk density 110 - 140 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P341, P342 + P311
- LGK 10 - 13
- HS-No. 2939 20 00 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 99,0 %(m)  
Melting range (lower value)..... ≥ 174 °C  
Melting range (upper value)..... ≤ 178 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (c=1 in H<sub>2</sub>SO<sub>4</sub> 0.1 mol/l)..... -285,0 - -275,0 °  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02304.0025	Plastic bottle	25 g	inquire

**822194 (-)-Quinine hydrochloride dihydrate for synthesis**



C<sub>20</sub>H<sub>25</sub>ClN<sub>2</sub>O<sub>2</sub> \* 2 H<sub>2</sub>O  
■ CAS-No. 6119-47-7 ■ EC-No. 205-001-1  
■ Flash point 122 °C ■ Solub. in H<sub>2</sub>O 62.5 g/l

- (20 °C) ■ M = 396.91 g/mol ■ pH value 6.0 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 115 °C (decomposition)
- Bulk density 310 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317, P260, P262, P280, P302 + P352, P304 + P341, P342 + P311
- LD50 oral rat 620 mg/kg
- LGK 10 - 13

- HS-No. 2939 20 00 ■ Disposal 3

**Specification**

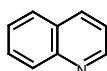
Assay (acidimetric)..... ≥ 99,0 %(m)  
Spec. rotation [α<sub>D</sub><sup>20</sup>/D (calculated on dried substance)..... -258,0 - -245,0 °  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22194.0025	Plastic bottle	25 g	inquire
8.22194.0100	Plastic bottle	100 g	inquire

Quinitol → 1,4-Cyclohexanediol page 671

Quinizarin → 1,4-Dihydroxyanthraquinone page 759

**802407 Quinoline for synthesis**



C<sub>9</sub>H<sub>7</sub>N  
1-Azanaphthalene  
■ CAS-No. 91-22-5 ■ EC-No. 202-051-6  
■ Refractive index 1.6268 (20 °C, 589 nm)  
■ Vapour pressure 0.08 hPa (20 °C)  
■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 9 (25 °C) ■ Explosive limit 1.2 - 7 %(V)  
■ Flash point 107 °C ■ Solub. in H<sub>2</sub>O 6 g/l (20 °C)  
■ M = 129.16 g/mol ■ pH value 7.3 (5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -15 °C  
■ Boiling point 237 - 238 °C (1013 hPa)

- Ignition temp. 480 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Dermal, H311; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, H350; Chronic aquatic toxicity, Category 2, H411, P201, P273, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 270 mg/kg ■ LD50 dermal rabbit 590 mg/kg
- EC-Index-No. 613-281-00-5 ■ LGK 6.1C
- HS-No. 2933 49 90 ■ Disposal 3
- ADR-RID UN 2656 Chinolin, 6.1, III ■ IMDG-

Code UN 2656 QUINOLINE, 6.1, III, Marine  
Pollutant: P  
■ IATA-DGR UN 2656 QUINOLINE, 6.1, III

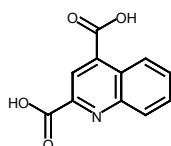
**Specification**

Assay (GC, area%)..... ≥ 97,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,092 - 1,094  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.02407.0005	Glass bottle	5 ml	inquire
8.02407.0250	Glass bottle	250 ml	inquire
8.02407.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

Quinoline-2-carboxylic acid → Quinaldic acid page 1396

**815103 Quinoline-2,4-dicarboxylic acid for synthesis**



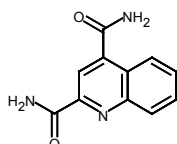
- C<sub>11</sub>H<sub>7</sub>NO<sub>4</sub>
- CAS-No. 5323-57-9
- M = 217.18 g/mol ■ Melting point 229 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2933 49 10 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 96,0 Area %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.15103.0025	Glass bottle	25 g	inquire

**815104 Quinoline-2,4-dicarboxylic acid amide for synthesis**



- C<sub>11</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub>
- CAS-No. 32743-31-0
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 215.21 g/mol ■ Melting point >250 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2933 49 10 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 95,0 Area %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.15104.0005	Glass bottle	5 g	inquire



# Quinol

Quinolines → Heterocycles

8-Quinololin → page 995

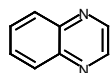
Quinones → Ketones

Quinolinic acid → 2,3-Pyridinedicarboxylic acid  
page 1387

p-Quinone → p-Benzoquinone page 442

Quinosol → 8-Hydroxyquinoline sulfate  
monohydrate page 995

## 820262 Quinoxaline for synthesis



- Flash point 98 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 130.14 g/mol ■ Melting point 30 - 33 °C
- Boiling point 220 - 223 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

Melting range (lower value)..... ≥ 30 °C  
Melting range (upper value)..... ≤ 33 °C  
Identity (IR)..... passes test

C<sub>8</sub>H<sub>6</sub>N<sub>2</sub>

Benzopyrazine, 1,4-Benzodiazine

■ CAS-No. 91-19-0 ■ EC-No. 202-047-4

■ Spec. density 1.133 g/cm<sup>3</sup> (45 °C)

### Specification

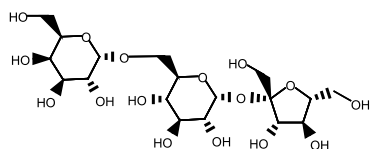
Assay (GC, area%)..... ≥ 98.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.20262.0100	Glass bottle	100 g	inquire

R-10 / RVS medium → page 104

Racemate cleavage → Chiralica®

### 107419 Raffinose pentahydrate for biochemistry



C<sub>18</sub>H<sub>32</sub>O<sub>16</sub> \* 5 H<sub>2</sub>O

Melitose

- CAS-No. 17629-30-0 ■ EC-No. 208-146-9
- Spec. density 1.465 g/cm<sup>3</sup> (20 °C) ■ Solub. in

- H<sub>2</sub>O (20 °C) soluble ■ M = 594.52 g/mol
- pH value 5.5 - 7.0 (100 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 80 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2940 00 00 ■ Disposal 3

**Specification**

- Purity (HPLC) ..... ≥ 97.0 %
- Identity (IR-spectrum) ..... conforms
- Appearance ..... white, crystalline powder
- Appearance of solution (100 g/l, water) .. clear and

colourless

- Spec. rotation (α 20/D, 100 g/l, water, calc. on anhydrous substance) ..... 122.0° to 124.0°
- Heavy metals (as Pb) ..... ≤ 0.001 %
- Reducing sugars (as glucose) ..... ≤ 1.0 %
- Water (according to Karl Fischer) ..... 14.0 - 16.0 %

Ord.No.	Packaging	Quantity	Price
1.07419.0050	Glass bottle	50 g	inquire

Ramage Amide AM resin → page 265

RAMP → (R)-(+)-1-Amino-2-(methoxymethyl)pyrrolidine page 392

### 820876 Raney nickel catalyst activated for hydrogenation (with about 50% water) for synthesis



Nickel catalyst acc. Raney

- Spec. density >1.2 g/cm<sup>3</sup> ■ pH value 9 - 11 (H<sub>2</sub>O, 20 °C) suspension
- WGK 2
- GHS: Danger, Pyrophoric liquid, Category 1, H250; Carcinogenicity, Category 2, H351; Specific target organ toxicity - repeated exposure, Category 1, H372; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412,

- P273, P281, P302 + P352, P308 + P313
- LGK 4.2
- HS-No. 3815 11 00 ■ Disposal 26
- ADR-RID UN 1378 Metallkatalysator, angefeuchtet(ENTH. NICKEL), 4,2, II ■ IMDG-Code UN 1378 METAL CATALYST, WETTED(CONT. NICKEL), 4,2, II
- IATA-DGR UN 1378 METAL CATALYST, WETTED(CONT. NICKEL), 4,2, II

**Specification**

- Assay of Ni, calc. on dried substance... ≥ 90,0 % (m)
- Assay of Al, calc. on dried substance... ≤ 10,0 % (m)
- Suitable for hydrogenation catalyst ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20876.0100	Plastic bottle	100 g	inquire
8.20876.0250	Plastic bottle	250 g	inquire

Rapid-action connecting nipple → page 327

Rapid-action connector → page 327

Rapid-action connector for product tube 3x1.5 mm → page 327

Rapid-action nipple with tube connection 6x4 mm → page 327

Rapid staining → Hemacolor®

Rapid Tests for Water Analysis → page

RC / RCM medium → page 103

RCM → page 103

4R-trans-Dimethyl 2,2-dimethyl-1,3-dioxolane-4,5-dicarboxylate → (2R,3R)-(-)-Dimethyl-2,3-O-isopropylidene tartrate page 793

Reaction vessels for thermoreactor → page 93

Reagent bottles, 100 ml → page 14

Reagent for detection of textile fibres → page 191

Reagent for phenol and bovine serum albumine acc. to Folin and Ciocalteu → Folin-Ciocalteu's phenol reagent page 910

### Reagent kits for food analysis

#### 110537 Carrez Clarification Kit reagent kit for sample preparation in food analysis, 5-fold concentrate



- GHS: Danger, P273, P280, P305 + P351 + P338
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 3822 00 00
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(ENTH. ZINKSULFAT), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CONT. ZINC SULFATE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CONT.

- ZINC SULFATE), 9, III
- For sample preparation in food analysis. For precipitation of proteins, elimination of turbidity and breaking of emulsions prior to photometric detections.

**Specification**

- Appearance (Carrez-solution I) ..... clear, yellowish solution
- Assay (potassium hexacyanoferrate (II)-trihydrate)

- ..... 14.5 - 15.5 g/100ml
- Appearance (Carrez-solution II) ..... clear, colourless solution
- Assay (zincsulphate-heptahydrate) ..... 29.5 - 30.5 g/100ml
- Performance test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.10537.0001	Fibre case	2 x 100 ml	inquire

#### 110307 Protein Kit (Biuret Method) reagent solution for approx. 250 determinations



- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.2 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338
- LGK 8 B ■ Store at +2°C to +8°C.

- HS-No. 3822 00 00
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III
- Ready-to-use reagent for rapid and simple total protein assay using the Biuret method (1-3).

Measuring ranges: 1 - 10 g/l or 0.5 - 5 g/l.

**Specification**

- Appearance ..... clear, light blue solution
- Performance test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.10307.0500	Plastic bottle	500 ml	inquire

#### 110306 Protein Kit (Bradford Method) reagent solution for approx. 200 determinations



- Spec. density 1.068 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.8 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 2, H371, P240, P309 + P310
- LGK 8 B ■ Store at +2°C to +8°C.
- HS-No. 3822 00 00
- ADR-RID UN 2922 Ätzender flüssiger Stoff,

- giftig, n.a.g.(PHOSPHORSAEURE UND METHANOL), 8 (6.1), III ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(PHOSPHORIC ACID AND METHANOL), 8 (6.1), III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(PHOSPHORIC ACID AND METHANOL), 8 (6.1), III
- Ready-to-use reagent for the rapid and simple total protein assay. Measuring ranges:

- 0.1 - 1.4 mg/ml (standard-assay) or 0.01 - 0.1 mg/ml (micro-assay).

**Specification**

- Appearance ..... clear, dark brown solution
- Performance test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.10306.0500	Glass bottle	500 ml	inquire

# Reagen

## 112979 Total dietary fiber Kit reagent kit for 100 determinations



■ GHS: Danger, P280, P302 + P352, P304 + P341, P305 + P351 + P338, P342 + P311  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 3507 90 90  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

Enzymatic-gravimetric method for the determination of Total Dietary Fiber in foodstuffs.  
**Specification**  
 Appearance (Reagent 1).. brownish-yellow solution  
 Appearance (Reagent 2)..... clear, brownish solution  
 Appearance (Reagent 3)..... dark brown solution

Performance test..... passes test

Ord.No.	Packaging	Quantity	Price
1.12979.0001	Fibre case	100 tests	inquire

### Reagent papers, rolls

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
68	109511	Lead(II)acetate paper	81	159225	Potassium iodate-starch paper	81	109512	Potassium iodide-starch paper

Reagents for combinatorial chemistry → Solvents  
 GR, solvents for synthesis, catalysts, peptide synthesis

Reagents for detection of textile fibres → page 191

### Reagents for enantioselective synthesis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
392	818270	(R)-(+)-1-Amino-2-(methoxymethyl)pyrrolidine	756	818314	(2R,5SR)-(-)-2,5-Dihydro-3,6-dimethoxy-2-isopropyl- 5-methylpyrazine	996	814193	(R)-(+)-2-Hydroxy-1,2,2-triphenylethyl acetate
392	814082	(S)-(+)-2-Amino-3-methyl-1-butanol	757	818316	(2S,5SR)-(+)-2,5-Dihydro-3,6-dimethoxy-2-isopropyl- 5-methylpyrazine	996	814192	(S)-(-)-2-Hydroxy-1,2,2-triphenylethyl acetate
455	814473	(S)-(-)-2-(N-Benzylpropyl)aminobenzophenone	757	818315	(2R)-(-)-2,5-Dihydro-3,6-dimethoxy-2-isopropylpyrazine	1055	818310	(S)-(-)-4-Isopropyl-2-oxazolidinone
468	818470	(2R,3R)-(-)-4,5-Bis(diphenylhydroxymethyl)-2,2-dimethyl- 1,3-dioxolane	757	818317	(2S)-(+)-2,5-Dihydro-3,6-dimethoxy-2-isopropylpyrazine	1076	818367	L-(+)-tert-Leucine
566	814564	(1S)-(+)-Camphorlactone-sulfonyloxaziridine	768	818719	(2S,3S)-(-)-Diisopropyl tartrate	1099	814113	(-)-Menthol
568	814397	(1S,2R)-(-)-2,10-Camphorsultame	921	814464	Gibberellic acid	1202	814180	(R)-(-)-1-(1-Naphthyl)ethyl isocyanate
719	814672	(-)-[[8,8-Dichlorocamphoryl]-sulfonyl]-oxaziridine	961	814359	L-(-)-Homoserine	1256	814388	(1S)-(-)-3-Oxocamphorsulfonylimine
750	821217	(2R,3R)-(+)-Diethyl tartrate	989	818259	(2S,2'S)-(-)-2-Hydroxymethyl-1-[[1-methylpyrrolidine- 2-yl)-methyl]-pyrrolidine	1304	814080	(R)-(+)-1-Phenylethyl isocyanate
750	818685	(2S,3S)-(-)-Diethyl tartrate	993	818342	(1S,2S,5S)-(-)-2-Hydroxypinan-3-one			

Reagents for enantioselective synthesis → Chiralica®

Reagents for Iron(II) and molybdenum → 2,2'-Bipyridine page 462

### Reagents for Pharmacopoeia analysis, standards

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
587	100269	Colour Reference Solutions R	1497	108962	Refractive index standard kit 1	1493	108163	UV-VIS Standard 3: Sodium iodide solution
587	100265	Colour Reference Solutions B	1497	108961	Refractive index standard kit 2	1493	108164	UV-VIS Standard 4: Potassium chloride solution
587	100266	Colour Reference Solutions BY	1497	108963	Refractive index standard kit 3	1493	108165	UV-VIS Standard 5: Toluene solution in n-hexane
587	100268	Colour Reference Solutions GY	1493	108160	UV-VIS Standard 1: Potassium dichromate solution	1493	108166	UV-VIS Standard 6: holmium oxide solution
587	100267	Colour Reference Solutions Y	1493	108161	UV-VIS Standard 2: Sodium nitrite solution	1493	104660	UV-VIS Standard 1a: Potassium dichromate solution (600 mg/l)

## Reagents for Pharmacopoeia analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
334	159166	Acetic acid 30%	930	104191	Glyoxalbis(2-hydroxyanil)	1354	104885	Potassium hydrogen sulfate
336	100063	Acetic acid (glacial) 100%	318	104379	n-Heptane	1354	105021	Potassium hydroxide
336	101830	Acetic acid (glacial) 100%	318	104367	n-Hexane	1354	105029	Potassium hydroxide
337	100042	Acetic anhydride	318	104374	n-Hexane	1358	105051	Potassium iodate
315	100014	Acetone	963	104603	Hydrazinium sulfate	81	159225	Potassium iodate-starch paper
315	100003	Acetonitrile	967	101834	Hydrochloric acid fuming 37%	1359	105043	Potassium iodide
370	101047	Aluminium potassium sulfate dodecahydrate	968	100317	Hydrochloric acid fuming 37%	81	109512	Potassium iodide-starch paper
407	105423	Ammonia solution 28-30%	166	104619	Hydroxylammonium chloride	1360	105063	Potassium nitrate
407	101116	Ammonium acetate	985	104616	Hydroxylammonium chloride	1361	105073	di-Potassium oxalate monohydrate
408	101220	Ammonium amidosulfonate	995	107098	8-Hydroxyquinoline	1361	105076	Potassium perchlorate
408	101125	Ammonium bromide	998	104716	Imidazole	1362	105082	Potassium permanganate
409	159504	Ammonium carbonate	1005	104761	Iodine	166	105084	Potassium permanganate
409	102276	Ammonium cerium(IV) nitrate	8	104765	Ion exchanger I	1363	105092	Potassium peroxodisulfate
410	101145	Ammonium chloride	8	104835	Ion exchanger IV	1363	108087	Potassium sodium tartrate tetrahydrate
410	101126	Ammonium dihydrogen phosphate	1038	103943	Iron(III) chloride hexahydrate	1364	105153	Potassium sulfate
411	101164	Ammonium fluoride	1039	103883	Iron(III) nitrate nonahydrate	1365	105125	Potassium thiocyanate
411	101182	Ammonium heptamolybdate tetrahydrate	1039	103965	Iron(II) sulfate heptahydrate	320	100997	1-Propanol
411	101154	di-Ammonium hydrogen citrate	319	100979	Isoamyl alcohol	320	109634	2-Propanol
412	101207	di-Ammonium hydrogen phosphate	319	100984	Isobutanol	320	109728	Pyridine
412	103776	Ammonium iron(III) sulfate dodecahydrate	319	106146	Isobutyl methyl ketone	172	107531	1-(2-Pyridylazo)-2-naphthol (PAN)
412	101226	Ammonium monovanadate	319	104727	Isooctane	172	107533	4-(2-Pyridylazo)resorcinol monosodium salt monohydrate
413	101192	di-Ammonium oxalate monohydrate	9	107910	Kieselguhr	1392	100612	Pyrogallol
414	101201	Ammonium peroxodisulfate	1074	107375	Lead(II) acetate trihydrate	1396	102282	Quinaldine red
414	101217	Ammonium sulfate	1074	107381	Lead(II) carbonate	1421	101515	Silver diethyldithiocarbamate
415	101213	Ammonium thiocyanate	1075	107414	Lead(II) hydroxide acetate	1421	101512	Silver nitrate
421	101468	Anthrone	1075	107398	Lead(II) nitrate	1423	101509	Silver sulfate
426	100128	Aurin tricarboxylic acid ammonium salt	1081	105680	Lithium carbonate	1425	106268	Sodium acetate
430	101704	Barium acetate	1081	105679	Lithium chloride	1425	106267	Sodium acetate trihydrate
431	101714	Barium carbonate	1084	105694	Lithium sulfate monohydrate	1429	106393	Sodium carbonate
431	101719	Barium chloride dihydrate	1086	105819	Magnesium acetate tetrahydrate	1429	106391	Sodium carbonate decahydrate

# Reagen

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
432	101737	Barium hydroxide octahydrate	1087	105833	Magnesium chloride hexahydrate	1430	106404	Sodium chloride
432	101729	Barium nitrate				1431	106448	tri-Sodium citrate dihydrate
315	101783	Benzene	1088	105853	Magnesium nitrate hexahydrate	1432	106336	Sodium dichromate dihydrate
441	100136	Benzoic acid	1088	105866	Magnesium oxide	1432	106689	Sodium diethyldithiocarbamate trihydrate
475	101878	Bismuth(III) nitrate	1089	105886	Magnesium sulfate heptahydrate	1433	106342	Sodium dihydrogen phosphate dihydrate
480	100165	Boric acid				1433	106346	Sodium dihydrogen phosphate monohydrate
486	101948	Bromine	1095	105927	Manganese(II) chloride tetrahydrate	1433	106591	tetra-Sodium diphosphate decahydrate
497	103025	Bromocresol purple	1096	105941	Manganese(II) sulfate monohydrate	1434	106528	Sodium disulfite
516	103026	Bromothymol blue				1435	106449	Sodium fluoride
516	101895	Bromothymol blue sodium salt	1103	104410	Mercury(II) acetate	1435	106443	Sodium formate
315	101990	1-Butanol	1103	104421	Mercury(II) bromide	1436	102521	Sodium hexanitrocobaltate(III)
316	109629	tert-Butanol	1104	104419	Mercury(II) chloride	1436	106329	Sodium hydrogen carbonate
560	102027	Cadmium sulfate hydrate	1105	104428	Mercury(II) iodide	1437	106586	di-Sodium hydrogen phosphate
561	102066	Calcium carbonate	1105	104439	Mercury(II) nitrate monohydrate	1438	106579	di-Sodium hydrogen phosphate dodecahydrate
562	102378	Calcium chloride				1438	106575	di-Sodium hydrogen phosphate heptahydrate
562	102382	Calcium chloride dihydrate	1106	104480	Mercury(II) sulfate	1439	106495	Sodium hydroxide
563	102047	Calcium hydroxide	1107	104484	Mercury(II) thiocyanate	1439	106469	Sodium hydroxide
564	102121	Calcium nitrate tetrahydrate	1108	159267	Metanil yellow	1445	106523	Sodium iodide
592	102426	Chloramine T trihydrate	319	106009	Methanol	1446	106597	Sodium metaperiodate
316	102445	Chloroform	1113	104343	Methenamine	1447	106537	Sodium nitrate
641	101036	Chromium(III) potassium sulfate dodecahydrate	1123	159712	Methoxyphenylacetic acid	1448	106549	Sodium nitrite
172	102498	Chromotropic acid disodium salt dihydrate	1134	104527	3-Methyl-2-benzothiazolinone-hydrazonehydrochloride	1448	106541	Sodium nitroprusside dihydrate
646	100244	Citric acid monohydrate				167	106563	Sodium peroxide
648	102539	Cobalt(II) chloride hexahydrate	1149	159270	Methylene blue (C.I. 52015)	1450	106578	tri-Sodium phosphate dodecahydrate
649	102554	Cobalt(II) nitrate hexahydrate	1166	101322	Methyl orange (C.I. 13025)	1452	106649	Sodium sulfate
651	101340	Congo red (C.I. 22120)	1179	106076	Methyl red (C.I. 13020)	1452	106648	Sodium sulfate decahydrate
653	102739	Copper(I) chloride	1189	105708	Molecular sieve 0.4 nm	1452	106657	Sodium sulfite
653	102733	Copper(II) chloride dihydrate	1190	100532	Molybdatophosphoric acid hydrate	167	106308	di-Sodium tetraborate decahydrate
173	102767	Copper oxide				1454	106669	Sodium tetraphenyl borate
173	102765	Copper oxide	172	106161	Murexide	1455	106516	Sodium thiosulfate pentahydrate
			1200	106202	1-Naphtholbenzein			
			1208	106762	Ninhydrin			
			1212	101832	Nitric acid 69%			
			1212	101799	Nitric acid 69%			
			1212	100455	Nitric acid fuming 100%			
			1245	101487	Oracet blue 2R (C.I. 61110)			



Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
656	102790	Copper(II) sulfate pentahydrate	1253	100495	Oxalic acid dihydrate	1502	107865	Strontium chloride hexahydrate
659	105225	Cresol red	1261	107162	Paraffin	1505	107687	Sucrose (saccharose)
663	105227	Cupferron	1275	100518	Perchloric acid 60%	1505	111799	Sulfanilamide
316	109666	Cyclohexane	166	100514	Perchloric acid 70%	1506	100686	Sulfanilic acid
722	109676	2',7'-Dichlorofluorescein	1276	100519	Perchloric acid 70-72%	1512	101833	Sulfuric acid 95-97%
316	106050	Dichloromethane	1279	159542	Petroleum benzene	167	100732	Sulfuric acid 95-97%
732	103037	2,6-Dichloroquinone-4-chloroimide	319	101775	Petroleum benzene	1519	100804	L(+)-Tartaric acid
316	100921	Diethyl ether	1287	107223	1,10-Phenanthroline chloride monohydrate	320	109731	Tetrahydrofuran
316	100867	Diisopropyl ether	1289	100206	Phenol	1539	108123	Tetramethylammonium hydroxide solution 10%
776	103058	4-(Dimethylamino) benzaldehyde	1290	107233	Phenolphthalein	1549	108170	Thioacetamide
317	103053	N,N-Dimethylformamide	1290	107241	Phenol red	1551	100700	Thioglycolic acid
791	103062	Dimethylglyoxime	1290	159375	Phenol red	1554	107979	Thiourea
317	102952	Dimethyl sulfoxide	1290	111748	Phenol red sodium salt	1556	108176	Thymol blue
317	109671	1,4-Dioxane	1306	107253	Phenylhydrazinium chloride	1556	108175	Thymolphthalein
815	103091	1,5-Diphenylcarbazine	76	109514	pH-indicator paper Congo red	1557	107806	Tin
815	103087	1,5-Diphenylcarbazone			paper	1558	107815	Tin(II) chloride dihydrate
172	103092	Dithizone	1320	107069	Phloroglucinol	1559	110789	Titanium(III) chloride solution about 15%
172	103170	Eriochrome black T (C.I. 14645)	1321	100573	ortho-Phosphoric acid 85%	1560	100808	Titanium(IV) oxide
317	100983	Ethanol	1323	100570	di-Phosphorus pentoxide	1560	101307	Titan yellow (C.I. 19540)
317	159010	Ethanol 96%	172	107297	Phthalein purple	172	108417	Titriplex® II
317	109623	Ethyl acetate	1344	104905	Potassium bromate	172	108418	Titriplex® III
318	109621	Ethylene glycol	1345	104928	Potassium bromide	320	108325	Toluene
318	100859	Ethylene glycol monomethyl ether	1345	104928	Potassium carbonate	1576	100807	Trichloroacetic acid
318	109708	Ethyl methyl ketone	1346	104933	Potassium chloride	321	111872	Trichloroethylene
895	103887	Fluorescein sodium (C.I. 45350)	1347	104952	Potassium chromate	1616	108382	Tris(hydroxymethyl) aminomethane
			1347	104967	Potassium cyanide	1625	108487	Urea
			1348	104864	Potassium dichromate	173	108677	Xylenol orange tetrasodium salt
			166	104865	Potassium dichromate	1639	108756	Zinc
185	104003	Formaldehyde solution min. 37%	1349	104877	Potassium dihydrogen phosphate	1641	108816	Zinc chloride
318	109684	Formamide	1350	105107	Potassium disulfate (Potassium pyrosulfate)	1642	108849	Zinc oxide
913	100253	Formic acid 89-91%				1642	108883	Zinc sulfate heptahydrate
913	100264	Formic acid 98-100%	1351	104973	Potassium hexacyanoferrate(III)			
918	104013	Furfural	1351	104984	Potassium hexacyanoferrate(II) trihydrate			
923	108337	D(+)-Glucose						
318	104092	Glycerol	1353	104874	Potassium hydrogen phthalate			

### Reagents for resolving racemates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
399	807073	(R)-(-)- $\alpha$ -Aminophenylacetic acid	1092	800763	D-(+)-Malic acid	1304	807115	(S)-(-)-N-(1-Phenylethyl) phthalamic acid
519	818308	(-)-Brucine	1092	800384	L-(-)-Malic acid	1305	807111	(R)-(+)-N-(1-Phenylethyl) succinamic acid
565	818254	(1R)-(+)-Camphanic acid	1094	806914	(R)-(-)-Mandelic acid	1305	807113	(S)-(-)-N-(1-Phenylethyl) succinamic acid
565	818207	(1S)-(-)-Camphanic acid	1094	806925	(S)-(+)-Mandelic acid	1305	818457	L-(+)- $\alpha$ -Phenylglycine
567	822311	(1S)-(+)-Camphor-10-sulfonic acid	1152	818318	D(-)-N-Methylglucamine	1397	800218	(-)-Quinic acid
567	818358	(1R)-(-)-Camphor-10-sulfonic acid chloride	1164	824467	(R)-(+)- $\alpha$ -Methyl-4-nitrobenzylamine hydrochloride	1397	802304	(-)-Quinine
643	818453	(-)-Cinchonidine	1164	824466	(S)-(-)- $\alpha$ -Methyl-4-nitrobenzylamine hydrochloride	1417	824476	(-)-Shikimic acid
643	802506	(+)-Cinchonine	1208	820877	(-)-Nicotine	1518	818531	(2R,3R)-(+)-Tartaric acid
825	818725	(2R,3R)-(-)-Di-O-4-toluoyl-L-tartaric acid	1303	807031	(R)-(+)-1-Phenylethylamine	1518	800799	(2S,3S)-(-)-Tartaric acid
825	818724	(2S,3S)-(+)-Di-O-4-toluoyl-D-tartaric acid	1303	807047	(S)-(-)-1-Phenylethylamine			

Reagents Karl Fischer → Karl Fischer Reagents

Reagents of highest purity → Suprapur®

Recalibration Set → page 91

Rectangular cells → page 92

Rectangular cells quartz → page 92

### Redox indicators

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
190	101167	Amido black 10 B (C.I. 20470)	814	103590	Diphenylamine-4-sulfonic acid sodium salt	190	115946	Nile blue (hydrogen sulfate) (C.I. 51180)
462	103098	2,2'-Bipyridine	815	820530	N,N'-Diphenylbenzidine	1287	107223	1,10-Phenanthroline chloride monohydrate
189	101368	Brilliant cresyl blue zinc chloride double salt	892	109161	Ferrou indicator solution	1288	107225	1,10-Phenanthroline monohydrate
729	103028	2,6-Dichlorophenol-indophenol sodium salt dihydrate	892	109193	Ferrou solution	1298	820979	N-Phenylanthranilic acid
172	103122	3,3'-Dimethylnaphthidine	1002	104724	Indigo carmine (C.I. 73015)	190	115948	Safranin O (C.I. 50240)
798	103067	N,N-Dimethyl-1,4-phenylenediammonium dichloride	190	115943	Methylene blue (C.I. 52015)	190	115929	Thionine (acetate) (C.I. 52000)
814	100255	Diphenylamine-4-sulfonic acid barium salt	1205	101369	Neutral red (C.I. 50040)			

# Reduce

Reducer (PE) → page 327  
Reducers → page 327

Reducer (stainless steel) → page 327  
Reducer (V2A) from 2-inch to S 40 → page 327

Reducing valve, 0.2 bar with 2 tube connections 6 x 8 mm and integrated excess pressure safety device 0.5 bar → page 327

## Reduction

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
371	801079	Aluminium triisopropylate	997	104633	Hypophosphorous acid 50%	1434	106528	Sodium disulfite
390	820082	Aminoiminomethanesulfonic acid	1038	103861	Iron(II) chloride tetrahydrate	1434	106507	Sodium dithionite for analysis
442	801801	Benzophenone	1079	805661	Lithium aluminium hydride	1436	814552	Sodium hydride suspension
477	818504	Bis(triphenylphosphine) copper(I) borohydride	1079	814763	Lithium aluminium hydride	1516	100761	Sulfurous acid 5–6% SO <sub>2</sub>
482	820496	Boron hydride dimethylamine	1079	818875	Lithium aluminium hydride	1523	841188	Tetra-n-butylammonium borohydride
563	802100	Calcium hydride	1079	818876	Lithium aluminium hydride	1541	818414	1,1,3,3-Tetramethyldisiloxane
640	802482	Chromium(II) chloride	1080	818877	Lithium aluminium hydride	1553	808159	Thiophenol
640	818090	Chromium(III) chloride	1082	820753	Lithium hydride	1554	818591	Thiourea
652	102700	Copper	1084	822197	Lithium tetrahydroborate	1557	107826	Tin
690	105341	Devarda's alloy	1101	805740	2-Mercaptoethanol	1557	818150	Tin(II) chloride
747	818473	N,N-Diethylhydroxylamine	1328	818632	(1R)-(+)- $\alpha$ -Pinene	1559	110789	Titanium(III) chloride solution about 15%
764	818838	Diisobutylaluminium hydride	1328	818405	(1S)-(-)- $\alpha$ -Pinene	1559	808307	Titanium(III) chloride solution about 15%
303	800947	Ethylenediamine	1333	801302	Pivalic anhydride	1560	112384	Titanium hydride
885	808332	Ethyl 4-toluenesulfonate	1340	818063	Poly(methyl hydrogen siloxane)	1576	814109	Tributyltin hydride
912	822254	Formic acid	1344	820747	Potassium borohydride	1588	818806	Triethylsilane
914	818028	Formic acid-triethylamine 5:2 addition compound	1350	105057	Potassium disulfite	1603	821180	Trimethyl borate
951	818071	Hexamethyltriaminophosphine	1352	818890	Potassium hydride	1612	808270	Triphenylphosphine
963	804604	Hydrazin hydrate	1392	100612	Pyrogallol	1613	818458	Triphenylsilane
963	104603	Hydrazinium sulfate	1399	820876	Raney nickel catalyst	1614	841536	Triphenyltin hydride
974	100344	Hydroiodic acid 57%	1427	818823	Sodium borohydride	1628	818718	Vanillin
975	822333	Hydroquinone	1432	818053	Sodium cyanoborohydride	1639	108756	Zinc
985	104616	Hydroxylammonium chloride						
985	104617	Hydroxylammonium sulfate						

Reference colour solutions → Standards

Reference material, traceable → Standards

Reference material → Standards

Reference Standard → page 96

## Reference substances for gas chromatography

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
44	109646	Benzene	44	109687	n-Hexane	44	109716	n-Octane
44	109656	D-Camphor	292	109643	2-Methylbutane	44	109607	n-Pentadecane
292	109667	Cyclohexanol	44	109637	Methyl decanoate	44	109719	n-Pentane
44	109603	n-Decane	44	109693	Methyl laurate	44	109608	n-Tetradecane
44	109658	n-Dodecane	44	109754	Methyl margarate	44	109768	Toluene
44	109635	Ethylbenzene	44	109736	Methyl myristate	44	109609	n-Tridecane
44	109709	Ethyl methyl ketone	44	109633	Methyl octanoate	44	109794	n-Undecane
44	109604	n-Heptadecane	44	109743	Methyl oleate	44	109797	m-Xylene
44	109686	n-Heptane	44	109602	Methyl stearate	44	109798	o-Xylene
44	109605	n-Hexadecane	44	109606	n-Octadecane	44	109799	p-Xylene

Reflectometer → page 91

## Reflectometer and accessories

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
52	117963	Ascorbic Acid Test RQeasy®	71	117961	Nitrate Test RQeasy®	91	116998	Software
91	116729	Cell adapter	91	116954	Recalibration Set	91	116953	Strip adapter
91	116957	Check Set	91	116970	Reflectometer			
91	116727	Empty cells	91	116955	Reflectometer			

## Reflectoquant Test kits

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
50	116892	Ammonium Test	67	116982	Iron Test	75	116731	Peroxide Test
50	116899	Ammonium Test	67	116983	Iron Test	79	117942	Phosphate Test
50	116977	Ammonium Test	67	116127	Lactic Acid Test	79	116978	Phosphate Test
52	116981	Ascorbic Acid Test	68	116124	Magnesium Test	77	116894	pH Test
52	117963	Ascorbic Acid Test RQeasy®	68	116128	Malic Acid Test	77	116996	pH Test
90	116730	Blank Strips	71	116995	Nitrate Test	77	116898	pH Test in cooling lubricants
53	116125	Calcium Test	71	116971	Nitrate Test	80	117945	Potassium Test
53	116993	Calcium Test	71	117961	Nitrate Test RQeasy®	80	116992	Potassium Test
56	116896	Chlorine Test	72	116732	Nitrite Test	83	116141	Sucrose (Saccharose) Test
64	116989	Formaldehyde Test	73	116973	Nitrite Test	84	116987	Sulfite Test
65	116137	Free Sulfurous Acid	75	116975	Peracetic Acid Test	86	116135	Total Acidity Test pH 7.0
65	116720	Glucose Test	75	116976	Peracetic Acid Test	87	116997	Total Hardness Test
66	117952	Hydroxymethylfurfural (HMF) Test	75	116974	Peroxide Test	88	116136	Total Sugar Test (glucose and fructose)

Reflectoquant® test strips → Analytical Test Kits

REM resin (50–100 mesh) → page 267

Residual Hardness Cell Test → page 81

Refractive index standards → page

Replacement filter → page 7

Residual Hardness Test → page 81

Reinforced clostridial agar → page 103

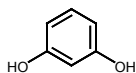
Replacement filters for Extrelut 1 and Extrelut 3  
→ page 7

Resin-based ion-exchangers → page 8

Reinforced clostridial medium → page 103

Resacetophenone → 2',4'-Dihydroxyacetophenone  
page 759

## Resorcinol

C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>C<sub>6</sub>H<sub>4</sub>(OH)<sub>2</sub>

1,3-Dihydroxybenzene

■ CAS-No. 108-46-3 ■ EC-No. 203-585-2

■ Vapour pressure 0.1 hPa (20 °C)

■ Spec. density 1.28 g/cm<sup>3</sup> (20 °C) ■ Explosive  
limit 1.4 % (V) ■ Flash point 127 °C ■ Solub. inH<sub>2</sub>O 1000 g/l (20 °C) ■ M = 110.11 g/mol■ pH value 4 - 6 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 109 - 111 °C

■ Bulk density 600 - 700 kg/m<sup>3</sup>

■ Boiling point 281 °C (1013 hPa)

■ Ignition temp. 605 °C

■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Oral,  
H302; Eye irritation, Category 2, H319; Skin  
irritation, Category 2, H315; Acute aquatic  
toxicity, Category 1, H400, P273, P302 + P352,

P305 + P351 + P338

■ LD50 oral rat 301 mg/kg ■ LD50 dermal rabbit  
3360 mg/kg

■ EC-Index-No. 604-010-00-1 ■ LGK 6.1C

■ HS-No. 2907 21 00 ■ Disposal 3

■ ADR-RID UN 2876 Resorcinol, 6.1, III ■ IMDG-  
Code UN 2876 RESORCINOL, 6.1, III

■ IATA-DGR UN 2876 RESORCINOL, 6.1, III

Reagent for aldehydes, inverted sugar, alkaloids,  
Co, Zn, Pb, V and U.

## 822303 Resorcinol for synthesis

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)

Melting range (lower value)..... ≥ 108 °C

Melting range (upper value)..... ≤ 112 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22303.0250	Plastic bottle	250 g	inquire
8.22303.1000	Plastic bottle	1 kg	inquire

## 107593 Resorcinol GR for analysis

## Specification

Assay (bromatometric, calculated on dried

substance)..... ≥ 99.0 %

Identity (IR-spectrum)..... passes test

Melting range (lower value)..... ≥ 109.0 °C

Melting range (upper value)..... ≤ 111.0 °C

Chloride (Cl)..... ≤ 0.001 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %

Heavy metals (as Pb)..... ≤ 0.0005 %

Catechol..... ≤ 0.1 %

Phenol..... ≤ 0.01 %

Sulfated ash..... ≤ 0.02 %

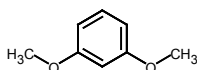
Loss on drying..... ≤ 1.0 %

Residues of metal catalysts or metal reagents acc.  
to EMEA/C HMP/SWP/4446/2000 are not likely to

be present.

Ord.No.	Packaging	Quantity	Price
1.07593.0100	Plastic bottle	100 g	inquire
1.07593.0250	Plastic bottle	250 g	inquire

## 807595 Resorcinol dimethyl ether for synthesis

C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,3-(OCH<sub>3</sub>)<sub>2</sub>

1,3-Dimethoxybenzene

■ CAS-No. 151-10-0 ■ EC-No. 205-783-4

■ Refractive index 1.524 (20 °C, 589 nm)

■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)

■ Flash point 88 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 138.16 g/mol

■ Melting point -52 °C

■ Boiling point 217 - 218 °C

■ WGK 2

■ LD50 oral rat 2829 mg/kg

■ LGK 10

■ HS-No. 2909 30 90 ■ Disposal 1

## Specification

Assay (GC, area%)..... ≥ 97.0 Area %

Density (d 20 °C/ 4 °C)..... 1,067 - 1,069

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07595.0050	Glass bottle	50 ml	inquire
8.07595.0250	Glass bottle	250 ml	inquire

Resorcinol monomethyl ether → 3-Methoxyphenol  
page 1122β-Resorcylaldehyde → 2,4-Dihydroxybenzaldehyde  
page 760α-Resorcyclic acid → 3,5-Dihydroxybenzoic acid  
page 761γ-Resorcyclic Acid → 2,6-Dihydroxybenzoic acid  
page 761β-Resorcyclic acid → 2,4-Dihydroxybenzoic acid  
page 760Reticulin silver plating kit acc. to Gordon & Sweets  
→ page 202

Reversed phase plates (RP plates) → page 12

Reversed phases (RP carriers) → page 16

## 814565 di-Rhenium decacarbonyl for synthesis

C<sub>10</sub>O<sub>10</sub>Re<sub>2</sub>Re<sub>2</sub>(CO)<sub>10</sub>

■ CAS-No. 14285-68-8 ■ EC-No. 238-202-8

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. inH<sub>2</sub>O (20 °C) insoluble ■ M = 652.51 g/mol

■ Melting point 181 - 184 °C

■ WGK 3

■ LGK 6.1A

■ HS-No. 2931 90 90 ■ Disposal 27

■ ADR-RID UN 3466 Metallcarbonyl, fest,  
n.a.g. (DI-RHENIUMDECACARBONYL), 6.1, III■ IMDG-Code UN 3466 METAL CARBONYLS,  
SOLID, N.O.S. (DI-RHENIUMDECACARBONYL), 6.1,  
III■ IATA-DGR UN 3466 METAL CARBONYLS, SOLID,  
N.O.S. (DI-RHENIUMDECACARBONYL), 6.1, III

## Specification

Assay (ex C)..... ≥ 99.0 % (m)

Melting range (lower value)..... ≥ 181 °C

Melting range (upper value)..... ≤ 185 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14565.0001	Glass bottle	1 g	inquire

Rhenium, determination → page 1554

Rhenium heptoxide → Rhenium(VII) oxide (77% Re)  
page 1406

# Rheniu

## 812309 Rhenium(VII) oxide (77% Re) hydrogenation catalyst for synthesis

O<sub>7</sub>Re<sub>2</sub>  
 Re<sub>2</sub>O<sub>7</sub>  
*Rhenium heptoxide*  
 ■ CAS-No. 1314-68-7 ■ EC-No. 215-241-9  
 ■ Spec. density 6 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) decomposes ■ M = 484.4 g/mol  
 ■ Melting point 220 °C ■ Boiling point 363 °C  
 ■ WGK 2  
 ■ GHS: Danger, Oxidising solid, Category 2, H272; Skin corrosion, Category 1B, H314, P210, P280,

P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 5.1 B  
 ■ HS-No. 2825 90 85 ■ Disposal 27  
 ■ ADR-RID UN 3085 Entzündend (oxidierend) wirkender fester Stoff, ätzend, n.a.g.(RHEINIUM(VII)-OXID), 5.1 (8), II ■ IMDG-Code UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(RHENIUM(VII)-OXIDE), 5.1 (8), II  
 ■ IATA-DGR UN 3085 OXIDIZING SOLID,

CORROSIVE, N.O.S.(RHENIUM(VII)-OXIDE), 5.1 (8), II

### Specification

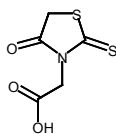
Assay of Re..... 75,0 - 78,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.12309.0001	Glass bottle	1 g	inquire

Rhodamine B (C.I. 45170) → page 191

Rhodanine → 2-Thioxo-4-thiazolidinone page 1555

## 814271 Rhodanine-N-acetic acid for synthesis



*4-Oxo-2-thioxo-3-thiazolidinylacetic acid*  
 ■ CAS-No. 5718-83-2 ■ EC-No. 227-220-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 191.21 g/mol  
 ■ Melting point 139 - 142 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 10 00 ■ Disposal 3

### Specification

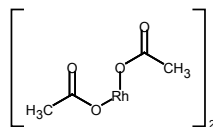
Assay (acidimetric)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 144 °C  
 Melting range (upper value)..... ≤ 148 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14271.0025	Plastic bottle	25 g	inquire

C<sub>5</sub>H<sub>8</sub>NO<sub>3</sub>S<sub>2</sub>

β-Rhodinol → (S)-(-)-β-Citronellol page 646

## 824435 Rhodium(II) acetate dimer (46.5% Rh) for synthesis



■ M = 441.99 g/mol ■ Melting point 205 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(RHODIUM(II)-ACETAT), 6.1, II ■ IMDG-

Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(RHODIUM(II)-ACETATE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(RHODIUM(II)-ACETATE), 6.1, II

### Specification

Assay of Rh ..... 45.0 - 47.0 %

Ord.No.	Packaging	Quantity	Price
8.24435.0250	Glass bottle	250 mg	inquire

C<sub>8</sub>H<sub>12</sub>O<sub>8</sub>Rh<sub>2</sub>

■ CAS-No. 15956-28-2 ■ EC-No. 240-084-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble

## 818851 Rhodium/activated charcoal (5% Rh) hydrogenation catalyst for synthesis

■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ Bulk density 260 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 3815 12 00 ■ Disposal 27  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

### Specification

Assay on Rh, calculated on anhydrous substance..... 4.8 - 5.2 %  
 Suitable for hydrogenation catalyst..... passes test  
 Identity ( RFA)..... passes test

Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(RHODIUM(II)-ACETATE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(RHODIUM(II)-ACETATE), 6.1, II

Ord.No.	Packaging	Quantity	Price
8.18851.0001	Glass bottle	1 g	inquire
8.18851.0005	Plastic bottle	5 g	inquire

## 843837 Rhodium (approx.5%) on alumina for synthesis

■ WGK 1  
 ■ GHS: P260  
 ■ LGK 10 - 13  
 ■ HS-No. 3815 12 00 ■ Disposal 27

### Specification

Assay of Rh ..... 4.5 - 5.5 %

Ord.No.	Packaging	Quantity	Price
8.43837.0001	Glass bottle	1 g	inquire
8.43837.0005	Plastic bottle	5 g	inquire

Rhodium bis(triphenylphosphine)carbonyl chloride → Bis(triphenylphosphine)carbonylrhodium(I) chloride page 477

## 807632 Rhodium(III) chloride trihydrate (38% Rh) for synthesis

Cl<sub>3</sub>Rh \* 3 H<sub>2</sub>O  
 RhCl<sub>3</sub> \* 3 H<sub>2</sub>O  
*Rhodium trichloride*  
 ■ CAS-No. 13569-65-8 ■ EC-No. 233-165-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 263.31 g/mol  
 ■ pH value < 2 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Corrosive to metals, Category 1, H290, P260, P280, P305 + P351 + P338, P313

■ LD50 oral rat 753 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 8B  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(RHODIUM(III)-CHLORID), 8, III ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(RHODIUM(III)-CHLORIDE), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC,

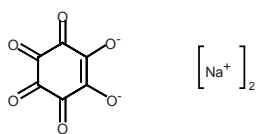
INORGANIC, N.O.S.(RHODIUM(III)-CHLORIDE), 8, III  
**Specification**  
 Gehalt aus Cl (calc. on anhydrous substance).....  
 Water (K. F.)..... ≥ 96,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.07632.0001	Glass bottle	1 g	inquire

Rhodium, determination → Sodium diethyldithiocarbamate trihydrate page 1432

Rhodium trichloride → Rhodium(III) chloride trihydrate (38% Rh) page 1406

## 106595 Rhodizonic acid disodium salt indicator for sulfate titration

C<sub>6</sub>Na<sub>2</sub>O<sub>6</sub>

1,2-Dihydroxy-3,4,5,6-tetraoxo-1-cyclohexene disodium salt, Sodium rhodizionate

- CAS-No. 523-21-7 ■ EC-No. 208-340-3
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 214.04 g/mol ■ Melting point >300 °C
- Bulk density 620 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2914 40 90 ■ Disposal 3

Use as metal indicator: 1 % in water

**Specification**

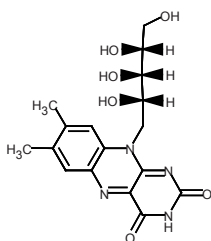
Assay (perchloric acid titration)..... ≥ 98.5 %

Identity (UV/VIS-Spectrum)..... passes test  
 Absorption maximum λ max (Hydrochloric acid 0.1 mol/l) ..... 317 - 320 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.02 g/l; hydrochloric acid 0.1 mol/l) ..... ≥ 540  
 Suitability as indicator (for sulfate titration) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.06595.0005	Fibre case	5 g	inquire

Ribitol → page 111

## 107609 Riboflavin for biochemistry

C<sub>17</sub>H<sub>20</sub>N<sub>4</sub>O<sub>6</sub>Lactoflavine, Vitamin B<sub>2</sub>

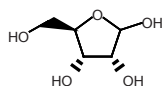
- CAS-No. 83-88-5 ■ EC-No. 201-507-1
- Solub. in H<sub>2</sub>O 0.07 g/l (20 °C) ■ M = 376.36 g/mol ■ pH value 5.5 - 7.2 (0.07 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 290 °C (decomposition)
- Bulk density 100 kg/m<sup>3</sup>
- WGK 1
- LC50 rat > 5.4 mg/l
- LD50 oral rat > 10000 mg/kg
- LGK 10 - 13
- HS-No. 2936 23 00 ■ Disposal 3

**Specification**

Assay (spectrophotometrically; calc. on dried substance) ..... 98.0 - 102.0 %  
 Identity (IR-spectrum) ..... conforms  
 Spec. rotation [α<sup>20</sup>/D (5 g/l, sodium hydroxide (0.05 mol/l), calc. on dried substance, Ph. Eur.) ..... -135 - -115 °  
 Lumiflavine (HPLC) ..... conforms %  
 Loss on drying (105 °C) ..... ≤ 1.5 %

Ord.No.	Packaging	Quantity	Price
1.07609.0010	Plastic bottle	10 g	inquire
1.07609.0100	Plastic bottle	100 g	inquire

## 107605 D(-)-Ribose for biochemistry

C<sub>5</sub>H<sub>10</sub>O<sub>5</sub>

- CAS-No. 50-69-1 ■ EC-No. 200-059-4
- Spec. density 0.80 g/cm<sup>3</sup> (20 °C) ■ Solub. in

- H<sub>2</sub>O (20 °C) soluble ■ M = 150.13 g/mol
- pH value 7 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 90 - 95 °C ■ Bulk density 480 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2940 00 00 ■ Disposal 3

**Specification**

Identity (IR-spectrum) ..... passes test  
 Spec. rotation (α 20/D; 2 %; water)-21.0 - -18.5 °  
 TLC-Test ..... conforms  
 Water ..... ≤ 0.5 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.07605.0050	Plastic bottle	50 g	inquire

Rink Acid resin (100-200 mesh) → page 265

Rink Amide AM resin (100-200 mesh) → page 265

Rink Amide AM resin (200-400 mesh) → page 264

Rink Amide AM resin LL (100-200 mesh) → page 265

Rink Amide MBHA resin (100-200 mesh) → page 264

Rink Amide MBHA resin LL (100-200 mesh) → page 264

Rink Amide NovaGel™ → page 264

Rink Amide PEGA resin → page 264

Rink Amide resin (100-200 mesh) → page 264

Rink Amide resin HL (100-200 mesh) → page 269

Rink Amide SpheriTime™ resin → page 265

Rodac plates → Microbiology / Envirocheck

ROGOSA agar → page 104

RonaCare™ CPC → Cetylpyridinium chloride

Rongalit® (= Trade mark of BASF) → Sodium formaldehydesulfoxylate hydrate page 1435

119310 Round Robin Test Solution Wastewater Inlet COD, TOC, NO<sub>3</sub>-N, NH<sub>4</sub>-N, Total-N, PO<sub>4</sub>-P, Total-P Spectroquant®

- Spec. density 1.00 g/cm<sup>3</sup>
- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.

- HS-No. 3824 90 97 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.19310.0250	Plastic bottle	250 ml	inquire

119311 Round Robin Test Solution Wastewater Outlet COD, TOC, NO<sub>3</sub>-N, NH<sub>4</sub>-N, Total-N, PO<sub>4</sub>-P, Total-P Spectroquant®

- Spec. density 1.00 g/cm<sup>3</sup>
- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.

- HS-No. 3824 90 97 ■ Disposal 28

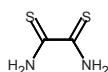
Ord.No.	Packaging	Quantity	Price
1.19311.0250	Plastic bottle	250 ml	inquire

RP column packing materials (HPLC adsorbents) → page 16

RP plates (TLC/HPTLC) → page 12

Rubean-hydrogen → Rubeanic acid page 1407

## 100629 Rubeanic acid GR for analysis

C<sub>2</sub>H<sub>4</sub>N<sub>2</sub>S<sub>2</sub>

Dithiooxamide, Rubean-hydrogen, Ethanedithioamide

- CAS-No. 79-40-3 ■ EC-No. 201-203-9
- Solub. in H<sub>2</sub>O 0.37 g/l (20 °C) ■ M = 120.20 g/mol ■ Melting point 200 °C (decomposition)

- Bulk density 650 kg/m<sup>3</sup>
  - WGK 2
  - GHS: Warning, Acute toxicity, Category 4, Oral, H302
  - LD50 oral rat 500 mg/kg
  - LGK 10 - 13
  - HS-No. 2930 90 99 ■ Disposal 3
- For the determination of Cu, Os; for the detection of Bi, Co, Fe, Ni, Pt, Ru.

**Specification**

Assay (alkalimetric) ..... ≥ 98.0 %  
 Identity (IR-spectrum) ..... conforms  
 Suitability for copper determination ..... conforms

Ord.No.	Packaging	Quantity	Price
1.00629.0010	Glass bottle	10 g	inquire
1.00629.0100	Plastic bottle	100 g	inquire





# Rubidi

## 843858 Rubidium carbonate for synthesis



CO<sub>3</sub>Rb<sub>2</sub>  
Rb<sub>2</sub>CO<sub>3</sub>  
 ■ CAS-No. 584-09-8 ■ EC-No. 209-530-9  
 ■ Solub. in H<sub>2</sub>O 4500 g/l (20 °C) ■ M = 230.95 g/mol  
 ■ pH value 11.7 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 837 °C  
 ■ WGK 1  
 ■ GHS: Warning, Specific target organ toxicity -

single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 2625 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2836 99 17 ■ Disposal 27

### Specification

Assay..... ≥ 98.0 %  
 Identity (Carbonat)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43858.0010	Glass bottle	10 g	inquire
8.43858.0050	Glass bottle	50 g	inquire

## 107615 Rubidium chloride for analysis EMSURE®

ClRb  
RbCl  
 ■ CAS-No. 7791-11-9 ■ EC-No. 232-240-9  
 ■ Spec. density 2.76 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 910 g/l (20 °C) ■ M = 120.92 g/mol  
 ■ pH value (50 g/l, H<sub>2</sub>O, 20 °C) neutral  
 ■ Melting point 715 °C  
 ■ Bulk density 1000 - 1200 kg/m<sup>3</sup>  
 ■ Boiling point 1390 °C  
 ■ WGK 1

■ LD50 oral rat 4440 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 27

### Specification

Assay (argentometric)..... ≥ 98.0 %  
 Identity..... passes test  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.2 %  
 Total nitrogen (N)..... ≤ 0.003 %  
 Al (Aluminium)..... ≤ 0.001 %

Cu (Copper)..... ≤ 0.0003 %  
 Fe (Iron)..... ≤ 0.0003 %  
 Mg (Magnesium)..... ≤ 0.0005 %  
 Pb (Lead)..... ≤ 0.003 %  
 Zn (Zinc)..... ≤ 0.0003 %

Ord.No.	Packaging	Quantity	Price
1.07615.0025	Glass bottle	25 g	inquire

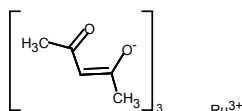
Rubidium, determination → Sodium tetraphenyl borate page 1454

Rupture discs → page 92

## Ruthenium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1287	107223	1,10-Phenanthroline chloride monohydrate	1407	100629	Rubeanic acid	1554	107979	Thiourea

## 814056 Ruthenium(III) acetylacetonate for synthesis



Tris(acetylacetonato)ruthenium(III), Tris(pentane-2,4-dionato)ruthenium(III)

■ CAS-No. 14284-93-6 ■ EC-No. 238-193-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 398.39 g/mol  
 ■ Melting point 230 - 235 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2843 90 90 ■ Disposal 27

### Specification

Assay (out of Ru)..... ≥ 99.0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14056.0001	Glass bottle	1 g	inquire
8.14056.0005	Glass bottle	5 g	inquire

C<sub>15</sub>H<sub>21</sub>O<sub>6</sub>Ru  
 (CH<sub>3</sub>C(O)=CHCOCH<sub>3</sub>)<sub>3</sub>Ru

## 119247 Ruthenium(III) chloride hydrate



Cl<sub>3</sub>Ru\*xH<sub>2</sub>O  
 RuCl<sub>3</sub> \* x H<sub>2</sub>O  
 Ruthenium trichloride  
 ■ CAS-No. 14898-67-0 ■ EC-No. 233-167-5  
 ■ Spec. density 3.11 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 2 (H<sub>2</sub>O, 20 °C) Aqueous solution  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1C, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 595 mg/kg  
 ■ LGK 8 B  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(RUTHENIUM(III)-CHLORID), 8, III ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC,

N.O.S.(RUTHENIUM(III)-CHLORIDE), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(RUTHENIUM(III)-CHLORIDE), 8, III

### Specification

Identity (elemental analysis)..... passes test  
 Assay (Ru)..... 35.0 - 40.0 %  
 Ag (Silver)..... ≤ 50 ppm  
 Al (Aluminium)..... ≤ 10 ppm  
 Au (Gold)..... ≤ 100 ppm  
 Ca (Calcium)..... ≤ 50 ppm  
 Cd (Cadmium)..... ≤ 10 ppm  
 Co (Cobalt)..... ≤ 10 ppm  
 Cr (Chromium)..... ≤ 50 ppm  
 Cu (Copper)..... ≤ 50 ppm  
 Fe (Iron)..... ≤ 100 ppm  
 Hg (Mercury)..... ≤ 100 ppm

Ir (Iridium)..... ≤ 100 ppm  
 K (Potassium)..... ≤ 50 ppm  
 Mg (Magnesium)..... ≤ 50 ppm  
 Mn (Manganese)..... ≤ 10 ppm  
 Na (Sodium)..... ≤ 100 ppm  
 Ni (Nickel)..... ≤ 10 ppm  
 Os (Osmium)..... ≤ 100 ppm  
 Pb (Lead)..... ≤ 50 ppm  
 Pd (Palladium)..... ≤ 100 ppm  
 Pt (Platinum)..... ≤ 100 ppm  
 Rh (Rhodium)..... ≤ 100 ppm  
 Zn (Zinc)..... ≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.19247.0005	Glass bottle	5 g	inquire
1.19247.0025	Glass bottle	25 g	inquire

## 810560 Ruthenium(IV) oxide hydrate (60% Ru) for synthesis



O<sub>2</sub>Ru \* xH<sub>2</sub>O  
 RuO<sub>2</sub>\*xH<sub>2</sub>O  
 ■ CAS-No. 32740-79-7 ■ EC-No. 234-840-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ WGK nwg  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P260, P305 + P351 + P338

■ LD50 oral rat 4580 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2843 90 90 ■ Disposal 27

### Specification

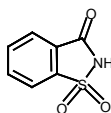
Assay (Ru)..... ≥ 60.0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.10560.0001	Glass bottle	1 g	inquire
8.10560.0005	Glass bottle	5 g	inquire

SABOURAUD 2% dextrose agar → page 104  
 SABOURAUD 2% dextrose broth (GROVE and  
 RANDALL medium No. 13) → page 106

SABOURAUD 4% dextrose agar → page 106  
 SABOURAUD 4% maltose agar → page 106

## 820128 Saccharin for synthesis



C<sub>7</sub>H<sub>5</sub>NO<sub>3</sub>S

■ CAS-No. 81-07-2 ■ EC-No. 201-321-0

- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 183.18 g/mol ■ pH value 2 (35 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 228 - 230 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2925 11 00

### Specification

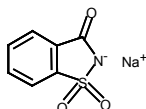
Assay (acidimetric)..... ≥ 98,0 %(m)

Melting range (lower value)..... ≥ 226 °C  
 Melting range (upper value)..... ≤ 230 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20128.0250	Plastic bottle	250 g	inquire
8.20128.1000	Plastic bottle	1 kg	inquire

Saccharine insoluble → Saccharin page 1409

## 814114 Saccharin sodium salt dihydrate for synthesis



C<sub>7</sub>H<sub>4</sub>NNaO<sub>3</sub>S \* 2 H<sub>2</sub>O

■ CAS-No. 6155-57-3 ■ EC-No. 204-886-1

■ Flash point >200 °C ■ Solub. in H<sub>2</sub>O 1000 g/l

(20 °C) ■ M = 241.19 g/mol ■ pH value 6.0 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 600 - 800 kg/m<sup>3</sup>

- WGK nwg
- LD50 oral rat 14200 mg/kg
- LGK 10 - 13
- HS-No. 2925 11 00

### Specification

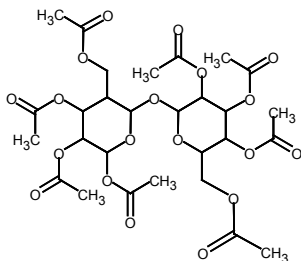
Assay (HClO<sub>4</sub>, calc. on anhydrous substance).....

..... ≥ 99,0 %(m)  
 Water (K. F.)..... 13,0 - 15,0 %(m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14114.0100	Plastic bottle	100 g	inquire
8.14114.1000	Plastic bottle	1 kg	inquire

Saccharose → page 112

## 822144 D-(+)-Saccharose octaacetate for synthesis



C<sub>28</sub>H<sub>38</sub>O<sub>19</sub>

Octaacetyl/sucrose

■ CAS-No. 126-14-7 ■ EC-No. 204-772-1

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

■ M = 678.59 g/mol ■ Melting point 82 - 87 °C

■ Boiling point 250 °C (1.3 hPa)

■ WGK 1

■ LD50 oral rat 5000 mg/kg ■ LD50 dermal rabbit 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2940 00 00 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 99,0 %(m)

Melting range (lower value)..... ≥ 82 °C

Melting range (upper value)..... ≤ 87 °C

Spec. rotation [α<sup>20</sup>/D (c=10 in chloroform).....

..... 58,0 - 62,0 °

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22144.0250	Plastic bottle	250 g	inquire

Sachets → Standards

Safety carrier → page 328

## Safety items

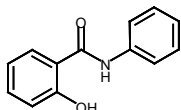
Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
327	902698	Pressure safety device 0.5 bar	328	963533	Safety carrier	328	902319	Wire carrier
327	964205	Reducing valve, 0.2 bar with 2 tube connections 6 x 8 mm and integrated excess pressure safety device 0.5 bar	328	140140	Safety carrier for 4l glass bottles (Merck Millipore)			

Safety Products → Perex Test®, Perex Kit®, Water detection paste, Boiling chips, Glass beads

Safranin O (C.I. 50240) → page 190

Salicyl alcohol → 2-Hydroxybenzyl alcohol page 979

## 821064 Salicylanilide for synthesis



C<sub>13</sub>H<sub>11</sub>NO<sub>2</sub>

2-Hydroxybenzanilide, N-

Phenylsalicylamide, Salicylic acid anilide

■ CAS-No. 87-17-2 ■ EC-No. 201-727-8

■ Solub. in H<sub>2</sub>O 0.055 g/l (20 °C) ■ M = 213.24 g/mol

■ pH value 7 - 7.5 (50 g/l, H<sub>2</sub>O, 25 °C)

■ Melting point 136 - 138 °C

■ Bulk density 455 kg/m<sup>3</sup>

- Boiling point >300 °C (decomposition)
- Ignition temp. >300 °C
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2924 29 98 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(SALICYLANILID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS

⚠️ ⚠️  
 SUBSTANCE, SOLID, N.O.S.(SALICYLANILIDE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SALICYLANILIDE), 9, III

### Specification

Assay (HPLC, area%)..... ≥ 98,0 % (a/a)

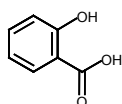
Melting range (lower value)..... ≥ 133 °C

Melting range (upper value)..... ≤ 136 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21064.0250	Plastic bottle	250 g	inquire

## 818731 Salicylic acid for synthesis



C<sub>7</sub>H<sub>6</sub>O<sub>3</sub>  
 HOOC<sub>6</sub>H<sub>4</sub>COOH  
 2-Hydroxybenzoic acid  
 ■ CAS-No. 69-72-7 ■ EC-No. 200-712-3  
 ■ Vapour pressure < 1 hPa (100 °C)  
 ■ Spec. density 1.443 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 157 °C ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C)  
 ■ M = 138.12 g/mol ■ pH value 2.4

(H<sub>2</sub>O) (saturated solution)  
 ■ Melting point 157 - 159 °C  
 ■ Bulk density 400 - 500 kg/m<sup>3</sup>  
 ■ Boiling point 211 °C (1013 hPa)  
 ■ Ignition temp. 500 °C  
 ■ WGK 1  
 ■ GHS: Danger, Serious eye damage, Category 1, H318; Acute toxicity, Category 4, Oral, H302, P280, P305 + P351 + P338, P313  
 ■ LC50 rat > 0.9 mg/l  
 ■ LD50 oral rat 1250 - 1580 mg/kg  
 ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2918 21 00 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99,0 %(m)  
 Melting range (lower value)..... ≥ 158 °C  
 Melting range (upper value)..... ≤ 161 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18731.0100	Plastic bottle	100 g	inquire
8.18731.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

Salicylic acid anilide → Salicylanilide page 1409

Salicylic acid ethyl ester → Ethyl salicylate page 884

Salicylic acid nitrile → 2-Hydroxybenzotrile page 978

Salicylic acid (2-hydroxyethyl) ester → (2-Hydroxyethyl)-salicylate page 983

Salicylsulfonic acid → 5-Sulfosalicylic acid dihydrate page 1508

Saligenine → 2-Hydroxybenzyl alcohol page 979

Salmine sulfate → Protamine sulfate page 1378

Salmonella agar → page 98

Salmonella enrichment broth → page 104

Salmonella Shigella agar → page 104

Salmosyst® broth base → page 104

Salmosyst® selective supplement tablets → page 108

## Salts for analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
368	101031	Aluminium ammonium sulfate dodecahydrate	1075	107398	Lead(II) nitrate	1363	105092	Potassium peroxodisulfate
			1081	105680	Lithium carbonate	1363	105091	Potassium peroxodisulfate
370	101063	Aluminium nitrate nonahydrate	1081	105679	Lithium chloride	1363	108087	Potassium sodium tartrate tetrahydrate
370	101047	Aluminium potassium sulfate dodecahydrate	1084	105694	Lithium sulfate monohydrate			
			1086	105819	Magnesium acetate tetrahydrate	1364	105153	Potassium sulfate
407	101116	Ammonium acetate				1364	105134	Potassium sulfide
408	101125	Ammonium bromide	1087	105833	Magnesium chloride hexahydrate	1365	105125	Potassium thiocyanate
409	101134	Ammonium carbamate				1408	107615	Rubidium chloride
409	102276	Ammonium cerium(IV) nitrate	1087	105827	Magnesium hydroxide carbonate	1421	101512	Silver nitrate
409	102273	Ammonium cerium(IV) sulfate dihydrate	1088	105853	Magnesium nitrate hexahydrate	1423	101509	Silver sulfate
			1089	105873	Magnesium perchlorate hydrate	1425	106268	Sodium acetate
410	101145	Ammonium chloride	1089	105873	Magnesium perchlorate hydrate	1425	106267	Sodium acetate trihydrate
410	101126	Ammonium dihydrogen phosphate	1089	105874	Magnesium perchlorate hydrate	1426	106682	Sodium ammonium hydrogen phosphate tetrahydrate
			1089	106067	Magnesium sulfate anhydrous			
411	101164	Ammonium fluoride	1089	105886	Magnesium sulfate heptahydrate	1429	106393	Sodium carbonate
411	101182	Ammonium heptamolybdate tetrahydrate				1429	106392	Sodium carbonate
			1095	105927	Manganese(II) chloride tetrahydrate	1429	106391	Sodium carbonate decahydrate
411	101154	di-Ammonium hydrogen citrate				1430	106404	Sodium chloride
412	101207	di-Ammonium hydrogen phosphate	1096	105940	Manganese(II) nitrate tetrahydrate	1431	106448	tri-Sodium citrate dihydrate
						1432	106336	Sodium dichromate dihydrate
412	103776	Ammonium iron(III) sulfate dodecahydrate	1096	105941	Manganese(II) sulfate monohydrate	1433	106346	Sodium dihydrogen phosphate monohydrate
412	103792	Ammonium iron(II) sulfate hexahydrate	1097	102786	Manganese(II) sulfate tetrahydrate	1433	106591	tetra-Sodium diphosphate decahydrate
412	101226	Ammonium monovanadate	1103	104410	Mercury(II) acetate	1434	106528	Sodium disulfite
413	101188	Ammonium nitrate	1103	104421	Mercury(II) bromide	1435	106449	Sodium fluoride
413	101192	di-Ammonium oxalate monohydrate	1104	104425	Mercury(I) chloride	1435	106443	Sodium formate
			1104	104419	Mercury(II) chloride	1436	102521	Sodium hexanitrocobaltate(III)
414	101201	Ammonium peroxodisulfate	1105	104428	Mercury(II) iodide	1436	106329	Sodium hydrogen carbonate
414	101217	Ammonium sulfate	1105	104437	Mercury(II) nitrate dihydrate	1437	106586	di-Sodium hydrogen phosphate
415	101213	Ammonium thiocyanate	1105	104439	Mercury(II) nitrate monohydrate	1437	106559	di-Sodium hydrogen phosphate anhydrous
422	107838	Antimony(III) chloride						
430	101704	Barium acetate	1106	104480	Mercury(II) sulfate	1437	106580	di-Sodium hydrogen phosphate dihydrate
431	101714	Barium carbonate	1107	104484	Mercury(II) thiocyanate			
431	101719	Barium chloride dihydrate	1206	106717	Nickel(II) chloride hexahydrate	1438	106579	di-Sodium hydrogen phosphate dodecahydrate
432	101737	Barium hydroxide octahydrate	1206	106721	Nickel(II) nitrate hexahydrate			
432	101729	Barium nitrate	1207	106727	Nickel(II) sulfate hexahydrate	1438	106575	di-Sodium hydrogen phosphate heptahydrate
432	101738	Barium perchlorate	1344	104912	Potassium bromate			
475	101878	Bismuth(III) nitrate	1344	104905	Potassium bromide	1438	106352	Sodium hydrogen sulfate monohydrate
559	102003	Cadmium acetate dihydrate	1345	104928	Potassium carbonate			
560	102027	Cadmium sulfate hydrate	1346	104944	Potassium chlorate	1445	106525	Sodium iodate
561	102066	Calcium carbonate	1346	104933	Potassium chloride	1446	106597	Sodium metaperiodate
562	102382	Calcium chloride dihydrate	1346	104936	Potassium chloride	1447	106521	Sodium molybdate dihydrate
563	102047	Calcium hydroxide	1347	104952	Potassium chromate	1447	106537	Sodium nitrate
564	102121	Calcium nitrate tetrahydrate	1347	104967	Potassium cyanide	1448	106549	Sodium nitrite
565	102161	Calcium sulfate dihydrate	1348	104864	Potassium dichromate	1448	106541	Sodium nitroprusside dihydrate
587	102274	Cerium(IV) sulfate tetrahydrate	166	104865	Potassium dichromate	1448	106557	di-Sodium oxalate
588	102038	Cesium chloride	1349	104877	Potassium dihydrogen phosphate	167	106563	Sodium peroxide
641	102481	Chromium(III) nitrate nonahydrate	1349	104873	Potassium dihydrogen phosphate	1450	106572	tri-Sodium phosphate dodecahydrate
641	101036	Chromium(III) potassium sulfate dodecahydrate	1350	105107	Potassium disulfate (Potassium pyrosulfate)	1450	106578	tri-Sodium phosphate dodecahydrate
647	102529	Cobalt(II) acetate tetrahydrate				1450	106601	Sodium salicylate
648	102539	Cobalt(II) chloride hexahydrate	1350	105057	Potassium disulfite	1452	106649	Sodium sulfate
649	102536	Cobalt(II) nitrate hexahydrate	1351	104994	Potassium fluoride	1452	106648	Sodium sulfate decahydrate
649	102554	Cobalt(II) nitrate hexahydrate	1351	104973	Potassium hexacyanoferrate(III)	1452	106657	Sodium sulfite
650	102556	Cobalt(II) sulfate heptahydrate	1351	104984	Potassium hexacyanoferrate(II) trihydrate	1453	106663	di-Sodium tartrate dihydrate
652	102711	Copper(II) acetate monohydrate				1455	106516	Sodium thiosulfate pentahydrate
653	102739	Copper(I) chloride	1352	105110	Potassium hexahydroxoantimonate(V)	1456	106673	Sodium tungstate dihydrate
653	102733	Copper(II) chloride dihydrate				1502	107865	Strontium chloride hexahydrate
654	102753	Copper(II) nitrate trihydrate	1352	104854	Potassium hydrogen carbonate	1502	107872	Strontium nitrate
			1352	104867	Potassium hydrogen diiodate			
			1353	105104	di-Potassium hydrogen phosphate			
			1353	105099	di-Potassium hydrogen phosphate trihydrate			

# Saltsf

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
656	102791	Copper(II) sulfate anhydrous	1353	104874	Potassium hydrogen phthalate	1546	108150	Tetraphenylarsonium chloride monohydrate
656	102790	Copper(II) sulfate pentahydrate	1354	104885	Potassium hydrogen sulfate	1558	107815	Tin(II) chloride dihydrate
1038	103943	Iron(III) chloride hexahydrate	1358	105051	Potassium iodate	167	107814	Tin(II) chloride dihydrate
1038	103861	Iron(II) chloride tetrahydrate	1359	105043	Potassium iodide	1558	107823	Tin(II) sulfate
1039	103883	Iron(III) nitrate nonahydrate	1360	105063	Potassium nitrate	1640	108802	Zinc acetate dihydrate
1039	103965	Iron(II) sulfate heptahydrate	1360	105067	Potassium nitrite	1641	108816	Zinc chloride
166	112219	Lanthanum(III) chloride heptahydrate 98%	1361	105073	di-Potassium oxalate monohydrate	1641	108828	Zinc iodide
166	105326	Lanthanum nitrate hexahydrate	1361	105076	Potassium perchlorate	1641	108833	Zinc nitrate tetrahydrate
1074	107375	Lead(II) acetate trihydrate	1362	105082	Potassium permanganate	1642	108883	Zinc sulfate heptahydrate
1074	107381	Lead(II) carbonate	166	105084	Potassium permanganate			

SAMA-OPfp → page 262

## 814479 Samarium powder for synthesis

Sm  
 ■ CAS-No. 7440-19-9 ■ EC-No. 231-128-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 150.36 g/mol ■ Melting point 1072 °C  
 ■ WGK 3  
 ■ GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases, Category 1, H260  
 ■ LGK 4.3  
 ■ HS-No. 2805 30 90 ■ Disposal 27  
 ■ ADR-RID UN 3208 Metallischer Stoff, mit Wasser reagierend, n.a.g.(SAMARIUM), 4.3, I  
 ■ IMDG-Code UN 3208 METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.(SAMARIUM), 4.3, I  
 ■ IATA-DGR UN 3208 METALLIC SUBSTANCE,

WATER-REACTIVE, N.O.S.(SAMARIUM), 4.3, I

### Specification

Assay (on Sm)..... ≥ 99,7 % (m)

Ord.No.	Packaging	Quantity	Price
8.14479.0001	Glass bottle	1 g	inquire
8.14479.0010	Glass bottle	10 g	inquire

## 112321 Samarium(III) oxide 99+

O<sub>3</sub>Sm<sub>2</sub>  
 Sm<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 12060-58-1 ■ EC-No. 235-043-6  
 ■ Spec. density 8.347 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 348.72 g/mol  
 ■ pH value 8.0 (10 g/l, H<sub>2</sub>O, 25 °C) (slurry)  
 ■ Melting point 2325 °C ■ Bulk density 850 kg/m<sup>3</sup>  
 ■ WGK nwg  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2846 90 00 ■ Disposal 27  
 Specification  
 Assay (calculated on calcined substance) ≥ 99,0 %

Loss on ignition ..... ≤ 2,0 %  
 Identity (elemental analysis)..... passes test

Ord.No.	Packaging	Quantity	Price
1.12321.0010	Glass bottle	10 g	inquire

SAMP → (S)-(-)-1-Amino-2-(methoxymethyl)pyrrolidine page 392

## Sample Preparation for Inorganic Trace Analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
164	100066	Acetic acid (glacial) 100%	164	101518	Nitric acid 60%	167	111724	Spectromelt® A 14
164	105428	Ammonia solution 25 %	164	100441	Nitric acid 65%	167	112996	Spectromelt® A 20
164	100765	Boric acid	164	100517	Perchloric acid 70%	167	112630	Spectromelt® A 100
297	102931	Dimethyl sulfoxide	164	100552	ortho-Phosphoric acid 85%	167	113175	Spectromelt® A 1000
167	109014	Hoechst wax C micropowder	165	104926	Potassium carbonate-1.5-hydrate	167	106304	Spectromelt® B 10
164	100306	Hydrobromic acid 47%				167	113990	Spectromelt® C 10
164	100318	Hydrochloric acid 30%	1346	104944	Potassium chlorate	167	113934	Spectromelt® C 20
164	101514	Hydrochloric acid 30%	1350	105107	Potassium disulfate (Potassium pyrosulfate)	1465	107916	Spectrosolv® PSS
164	100335	Hydrofluoric acid 40%				164	100714	Sulfuric acid 96%
164	101513	Hydrofluoric acid 48%	165	106395	Sodium carbonate	164	101516	Sulfuric acid 96%
165	107298	Hydrogen peroxide 30%	164	105589	Sodium hydroxide solution 30%	1618	108603	Triton® X-100
164	106097	Hydrogen peroxide solution 31%	167	106563	Sodium peroxide	1633	100473	Water
165	105676	Lithium carbonate	166	106309	di-Sodium tetraborate	164	101262	Water
			167	110783	Spectromelt® A 10			
			167	111802	Spectromelt® A 12			

SAMS™ Gradient Suppressor → page 40

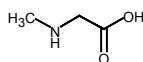
SAMS™ Standard Suppressor → page 40

Sangodiff® G → page 199

SAMS™ Installation Kit → page 40

Sangodiff® → page 199

## 807666 Sarcosine for synthesis



C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>  
 CH<sub>3</sub>NHCH<sub>2</sub>COOH  
 Methylaminoacetic acid, N-Methylglycine  
 ■ CAS-No. 107-97-1 ■ EC-No. 203-538-6

■ Solub. in H<sub>2</sub>O 1481 g/l (20 °C) ■ M = 89.09 g/mol  
 ■ pH value 6.1 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 208 °C ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 49 85 ■ Disposal 3

Melting range (lower value)..... ≥ 208 °C  
 Melting range (upper value) ..... ≤ 213 °C  
 Identity (IR)..... passes test

Specification  
 Assay (HClO<sub>4</sub>)..... ≥ 99,0 %

Ord.No.	Packaging	Quantity	Price
8.07666.0250	Glass bottle	250 g	inquire

Sarcosine anhydride → 1,4-Dimethylpiperazine-2,5-dione page 799

Sarcosyl → N-Lauryl sarcosine sodium salt page 1073

## Scandium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
930	104191	Glyoxalbis(2-hydroxyanil)	995	107098	8-Hydroxyquinoline			

Schardinger α-dextrin → α-Cyclodextrine page 667



**109034 Schiff's reagent** for detection of aldehydes

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.5 (H<sub>2</sub>O, 20 °C)
  - WGK nwg
  - LGK 10 - 13
  - HS-No. 3822 00 00 ■ Disposal 28
- For the analytical determination of aldehydes in

the ppm range. For histology we recommend Schiff's reagent item 1.09033.

**Specification**  
 Assay (SO<sub>2</sub>) ..... 0.15 - 0.30 %  
 Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09034.0250	Glass bottle	250 ml	inquire
1.09034.1000	Glass bottle	1 l	inquire

Schiff's reagent → page 201

Schlippe's salt → Sodium thioantimonate(V) nonahydrate page 1454

Schoellkopf-Hartwig-Reagent → (2R,5SR)-(-)-2,5-Dihydro-3,6-dimethoxy-2-isopropyl-5-methylpyrazine page 756

Screw caps → page 86

SDS → page 830

Sealing element → page 35

Seal (O-ring 14x2.5 mm) → page 328

Seal (O-ring 56x3.6 mm) → page 328

**Sea sand**

- O<sub>2</sub>Si
- SiO<sub>2</sub>
- CAS-No. 7631-86-9 ■ EC-No. 231-545-4
- Spec. density (20 °C) not applicable ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 60.08 g/mol

- pH value 7 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 1710 °C
- Bulk density 200 - 1430 kg/m<sup>3</sup>
- Boiling point 2230 °C (1013 hPa)
- WGK nwg

- GHS: P260
- LGK 10 - 13
- HS-No. 2505 10 00 ■ Disposal 32

**107711 Sea sand extra pure****Specification**

- Substances soluble in hydrochloric acid ..... ≤ 0.5 %
- Chloride (Cl) ..... ≤ 0.01 %
- Loss on ignition (900 °C) ..... ≤ 0.5 %

Particle size (0.1 - 0.315 mm) ..... ≥ 90 %

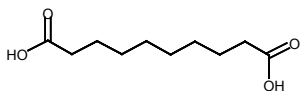
Ord.No.	Packaging	Quantity	Price
1.07711.1000	Plastic bottle	1 kg	inquire
1.07711.5000	Plastic bottle	5 kg	inquire
1.07711.9025	Fibre carton	25 kg	inquire

**107712 Sea sand purified by acid and calcined for analysis****Specification**

- Substances soluble in hydrochloric acid ..... ≤ 0.2 %
- Chloride (Cl) ..... ≤ 0.005 %
- Acid-soluble Iron (Fe) ..... ≤ 0.01 %
- Loss on ignition (900 °C) ..... ≤ 0.05 %

Particle size (0.1 - 0.315 mm) ..... ≥ 90 %

Ord.No.	Packaging	Quantity	Price
1.07712.1000	Plastic bottle	1 kg	inquire
1.07712.5000	Plastic bottle	5 kg	inquire
1.07712.9010	Plastic bottle	10 kg	inquire
1.07712.9025	Fibre carton	25 kg	inquire

**800753 Sebacic acid** for synthesis

C<sub>10</sub>H<sub>18</sub>O<sub>4</sub>

HOOC(CH<sub>2</sub>)<sub>8</sub>COOH

*Decanedioic acid*

- CAS-No. 111-20-6 ■ EC-No. 203-845-5
- Vapour pressure 1.3 hPa (183 °C)
- Spec. density 1.21 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 1 g/l

- (20 °C) ■ M = 202.24 g/mol
- Melting point 130 - 133 °C
- Bulk density 600 - 620 kg/m<sup>3</sup>
- Boiling point 295 °C (133 hPa)
- WGK 1
- LD50 oral rat 3400 - 14500 mg/kg
- LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2917 13 10 ■ Disposal 3

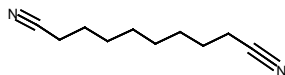
**Specification**

Assay (GC, area%) ..... ≥ 98,0 Area %

- Melting range (lower value) ..... ≥ 131 °C
- Melting range (upper value) ..... ≤ 134 °C
- Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00753.0100	Plastic bottle	100 g	inquire
8.00753.0500	Plastic bottle	500 g	inquire
8.00753.1000	Plastic bottle	1 kg	inquire
8.00753.9050	Fibre carton	50 kg	inquire

Sebacic acid diethyl ester → Diethyl sebacate page 749

**814070 Sebacic acid dinitrile** for synthesis

C<sub>10</sub>H<sub>16</sub>N<sub>2</sub>

CN(CH<sub>2</sub>)<sub>8</sub>CN

*Decanedinitrile, Decanedioic acid dinitrile, Sebaconitrile*

- CAS-No. 1871-96-1 ■ EC-No. 217-494-0

- Refractive index 1.4474 (20 °C, 589 nm)
- Spec. density 0.91 g/cm<sup>3</sup> (20 °C)
- Flash point >93 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 164.24 g/mol
- Melting point 7 - 8 °C
- Boiling point 199 - 204 °C (20 hPa)
- WGK 1
- LGK 10
- HS-No. 2926 90 95 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,913 - 0,914  
 Identity (IR) ..... conforms

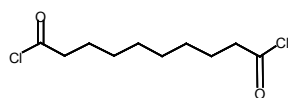
Ord.No.	Packaging	Quantity	Price
8.14070.0025	Glass bottle	25 ml	inquire

Sebacic acid monomethyl ester → Monomethyl sebacate page 1192

Sebaconitrile → Sebacic acid dinitrile page 1413

Sebacoyl chloride → Sebacoyl dichloride page 1414

## 818899 Sebacyl dichloride for synthesis



C<sub>10</sub>H<sub>16</sub>Cl<sub>2</sub>O<sub>2</sub>  
 ClOC(CH<sub>2</sub>)<sub>8</sub>COCl  
**Sebacyl chloride**  
 ■ CAS-No. 111-19-3 ■ EC-No. 203-843-4  
 ■ Refractive index 1.4684 (18 °C, 589 nm)  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 113 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) (decomposition) ■ M = 239.14 g/mol  
 ■ Melting point -5 °C ■ Boiling point 161 °C

(19 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 400 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2917 19 90 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(SEBACINSAEUREDICHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(SEBACOYL DICHLORIDE),

8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(SEBACOYL DICHLORIDE), 8, II

**Specification**  
 Assay (morpholine method) ..... ≥ 99,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18899.0005	Glass bottle	5 ml	inquire
8.18899.0025	Glass bottle	25 ml	inquire
8.18899.0100	Glass bottle	100 ml	inquire

## SeccoSolv® Solvents dried

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
297	100299	Acetone	297	102375	N,N-Dimethylformamide	298	106012	Methanol
297	100004	Acetonitrile	297	102931	Dimethyl sulfoxide	298	100994	2-Propanol
297	112636	Acetonitrile	297	103110	1,4-Dioxane	298	107463	Pyridine
297	113212	Acetonitrile	297	100990	Ethanol	298	108107	Tetrahydrofuran
297	102395	Chloroform	297	102396	Ethyl acetate	298	108326	Toluene
297	106051	Dichloromethane	297	104373	n-Hexane			
297	100929	Diethyl ether	298	104715	Isooctane			

Secondary amines → Amines and ammonium compounds  
 Secondary reference material → Standards  
 Seebach reagent → [2R,3R]-(-)-4,5-Bis(diphenylhydroxymethyl)-2,2-dimethyl-1,3-dioxolane page 468  
 Selective agar for lactobacillus → page 104  
 Selective agar for pathogenic fungi → page 104  
 Selenic compounds → Organoelement compounds  
 Selenious anhydride → page 1414  
 Selenite-cystine broth → page 104  
 Selenite enrichment broth → page 104

## 107714 Selenium black 99+



Se  
 ■ CAS-No. 7782-49-2 ■ EC-No. 231-957-4  
 ■ Vapour pressure 0.001 hPa (20 °C)  
 ■ Spec. density 4.28 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 78.96 g/mol  
 ■ Melting point 217 °C ■ Bulk density 1270 kg/m<sup>3</sup>  
 ■ Boiling point 685 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic

toxicity, Category 4, H413, P273, P304 + P340, P309 + P310  
 ■ LD50 oral rat 6700 mg/kg  
 ■ EC-Index-No. 034-001-00-2 ■ LGK 6.1A  
 ■ HS-No. 2804 90 00 ■ Disposal 17  
 Catalyst for the selenium reaction mixture in Kjeldahl analysis. Modification: crystalline

Fe (Iron) ..... ≤ 0,05 %  
 Pb (Lead) ..... ≤ 0,05 %  
 Residue on ignition ..... ≤ 0,5 %  
 Particle size (> 150 µm) ..... ≤ 5 %

**Specification**  
 Identity ..... passes test  
 Assay (gravimetrically) ..... ≥ 99,0 %  
 Cu (Copper) ..... ≤ 0,005 %

Ord.No.	Packaging	Quantity	Price
1.07714.0050	Plastic bottle	50 g	inquire
1.07714.0250	Plastic bottle	250 g	inquire
1.07714.1000	Plastic bottle	1 kg	inquire

Selenium, determination → page 1554

## Selenium dioxide



O<sub>2</sub>Se  
 SeO<sub>2</sub>  
**Selenious anhydride, Selenium(IV) oxide**  
 ■ CAS-No. 7446-08-4 ■ EC-No. 231-194-7  
 ■ Vapour pressure 16 hPa (70 °C) ■ Solub. in H<sub>2</sub>O 384 g/l (14 °C) ■ M = 110.96 g/mol  
 ■ pH value 2 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Bulk density 1500 kg/m<sup>3</sup>  
 ■ WGK 2

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P309 + P310, P304 + P340, P314  
 ■ LD50 oral rat 68.1 mg/kg  
 ■ EC-Index-No. 034-002-00-8 ■ LGK 6.1B

■ HS-No. 2811 29 90 ■ Disposal 17  
 ■ ADR-RID UN 3283 Selenverbindung, fest, n.a.g.(SELENDIOXID), 6.1, II ■ IMDG-Code UN 3283 SELENIUM COMPOUND, SOLID, N.O.S.(SELENIUM DIOXIDE), 6.1, II  
 ■ IATA-DGR UN 3283 SELENIUM COMPOUND, SOLID, N.O.S.(SELENIUM DIOXIDE), 6.1, II

## 800653 Selenium dioxide (sublimed) for synthesis

**Specification**  
 Assay (iodometric) ..... ≥ 98,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.00653.0005	Glass bottle	5 g	inquire
8.00653.0050	Glass bottle	50 g	inquire
8.00653.0250	Glass bottle	250 g	inquire
8.00653.1000	Glass bottle	1 kg	inquire

## 845008 Selenium dioxide (sublimed) for pharma synthesis, non-GMP

**Specification**  
 Colour (visual) ..... white  
 Appearance of substance (visual) ..... powder  
 Assay (iodometric) ..... ≥ 98,0 %(m)

Te (Tellur) (ICP MS) ..... lot specific result

Ord.No.	Packaging	Quantity	Price
8.45008.0050	Glass bottle	50 g	inquire
8.45008.1000	Glass bottle	1 kg	inquire

## 843845 Selenium disulfide for synthesis



Se<sub>2</sub>S<sub>2</sub>  
 SeS<sub>2</sub>  
 ■ CAS-No. 7488-56-4 ■ EC-No. 231-303-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ M = 143.09 g/mol  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic

toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P309 + P310  
 ■ LD50 oral rat 138 mg/kg  
 ■ EC-Index-No. 034-002-00-8 ■ LGK 6.1B  
 ■ HS-No. 2813 90 90 ■ Disposal 17  
 ■ ADR-RID UN 3283 Selenverbindung, fest, n.a.g.(SELENDISULFID), 6.1, II ■ IMDG-Code UN 3283 SELENIUM COMPOUND, SOLID, N.O.S.(SELENIUM DISULFIDE), 6.1, II

■ IATA-DGR UN 3283 SELENIUM COMPOUND, SOLID, N.O.S.(SELENIUM DISULFIDE), 6.1, II  
**Specification**  
 Assay (iodometric) ..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.43845.0025	Glass bottle	25 g	inquire

Selenium(IV) oxide → page 1414

## 108030 Selenium reagent mixture GR (for the determination of nitrogen acc. to Wieninger)



Wieninger's reagent

■ Solub. in H<sub>2</sub>O (20 °C) partly soluble  
 ■ pH value 5.4 (50 g/l, H<sub>2</sub>O, 25 °C) (slurry)  
 ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Chronic aquatic toxicity, Category 2, H411, P273  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 17  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff,

fest, n.a.g.(KUPFER(II)-SULFAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(COPPER(II)-SULPHATE), 9, III  
 Composition: 1.6% copper sulfate, 1.6% selenium, 96.8% sodium sulfate

**Specification**  
 Copper sulfate content (complexometric) ≥ 1.45 %  
 Sodium sulfate content (acidimetric)..... ≥ 94.0 %  
 Selenium content (gravimetrically)..... ≥ 1.5 %  
 Application test (total nitrogen)..... conforms%

Ord.No.	Packaging	Quantity	Price
1.08030.1000	Plastic bottle	1 kg	inquire
1.08030.5000	Plastic bottle	5 kg	inquire

109915 Selenium standard 1000 mg Se, (SeO<sub>2</sub> in HNO<sub>3</sub>) Titrisol®

Selenium standard for aqueous matrices

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 17  
 ■ ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2031 NITRIC ACID, 8, II  
**Specification**  
 content (Se) ..... 1000 mg / Ampoule

Determination method: ICP-OES. (traceable of NIST - SRM 3149) Accuracy of the method: +/- 5 mg

Ord.No.	Packaging	Quantity	Price
1.09915.0001	Plastic ampoule	1 amp	inquire

Selenium standard for aqueous matrices →  
 Selenium standard page 1415

Selenium standard for aqueous matrices ready for use → page 1470

Self-colour of water → page 62

## Semicarbazide hydrochloride



CH<sub>6</sub>CIN<sub>3</sub>O  
 CH<sub>5</sub>N<sub>3</sub>O \* HCl  
 ■ CAS-No. 563-41-7 ■ EC-No. 209-247-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 111.53 g/mol ■ pH value 1.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 175 - 177 °C (decomposition)  
 ■ Bulk density 740 kg/m<sup>3</sup>  
 ■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 123 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2928 00 90 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester

Stoff, n.a.g.(SEMICARBAZIDHYDROCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(SEMICARBAZIDE HYDROCHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(SEMICARBAZIDE HYDROCHLORIDE), 6.1, III  
 For the determination of aldehydes and ketones.

## 818369 Semicarbazide hydrochloride for synthesis

**Specification**

Assay (argentometric)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18369.0100	Plastic bottle	100 g	inquire
8.18369.0500	Plastic bottle	500 g	inquire

## 107722 Semicarbazide hydrochloride GR for analysis

**Specification**

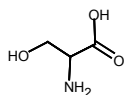
Assay (argentometric)..... ≥ 99.5 %  
 Identity (IR-spectrum)..... passes test  
 In water insoluble matter ..... ≤ 0.02 %  
 Hydrazine..... ≤ 0.01 %  
 Alcohols (GC sum)..... ≤ 0.01 %  
 Sulfated ash..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.07722.0100	Plastic bottle	100 g	inquire

# Semimi

Semi-microcells → page 92	SeQuant® ZIC®-HILIC (3.5µm,100Å) 150 x 1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 20 x 2.1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 50 x 2.1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 100 x 2.1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 150 x 2.1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 150 x 4.6 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,100Å) PEEK 250 x 2.1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,200Å) 30 x 0.3 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,200Å) 30 x 1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,200Å) 100 x 0.1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,200Å) 150 x 0.3 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,200Å) 150 x 1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,200Å) PEEK 50 x 2.1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,200Å) PEEK 50 x 4.6 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,200Å) PEEK 100 x 2.1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,200Å) PEEK 150 x 2.1 mm → page 26	SeQuant® ZIC®-HILIC (3.5µm,200Å) PEEK 150 x 4.6 mm → page 26	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 100 x 4.6 mm → page 27	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 150 x 2.1 mm → page 27	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 150 x 4.6 mm → page 27	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 150 x 7.5 mm → page 27	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 250 x 2.1 mm → page 27	SeQuant® ZIC®-HILIC (5µm,200Å) PEEK 250 x 4.6 mm → page 27	SeQuant® ZIC®-HILIC Guard Fitting PEEK 14 x 1 mm → page 27	SeQuant® ZIC®-HILIC Guard Kit PEEK 20 x 2.1 mm → page 27	SeQuant® ZIC®-HILIC Guard PEEK 20 x 2.1 mm → page 27	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 50 x 2.1 mm → page 27	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 50 x 4.6 mm → page 27	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 100 x 2.1 mm → page 27	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 100 x 4.6 mm → page 27	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 150 x 2.1 mm → page 27	SeQuant® ZIC®-pHILIC (5µm polymer) PEEK 150 x 4.6 mm → page 27	SeQuant® ZIC®-pHILIC Guard Kit PEEK 20 x 2.1 mm → page 27	SeQuant® ZIC®-pHILIC Guard PEEK 20 x 2.1 mm → page 27
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## 841235 DL-Serine for synthesis



C<sub>3</sub>H<sub>7</sub>NO<sub>3</sub>  
DL-2-Amino-3-hydroxypropionic acid, Ser  
■ CAS-No. 302-84-1 ■ EC-No. 206-130-6

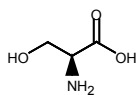
- Spec. density 1.537 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 50.2 g/l (25 °C) ■ M = 105.09 g/mol
- Melting point 239 °C (decomposition)
- WGK 1
- LGK 10 - 13
- HS-No. 2922 50 00 ■ Disposal 3

**Specification**  
Assay (HClO<sub>4</sub>)..... ≥ 99.0 %

Melting range (lower value)..... ≥ 235 °C  
Melting range (upper value) ..... ≤ 240 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41235.0100	Plastic bottle	100 g	inquire

## 107769 L-Serine for biochemistry



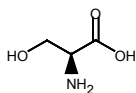
C<sub>3</sub>H<sub>7</sub>NO<sub>3</sub>  
3-Hydroxy-L-alanine, Ser  
■ CAS-No. 56-45-1 ■ EC-No. 200-274-3  
■ Solub. in H<sub>2</sub>O 364 g/l (20 °C) ■ M = 105.09 g/mol  
■ pH value 5 - 6 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 215 - 225 °C decomposes  
■ Bulk density 570 kg/m<sup>3</sup>  
■ WGK 1  
■ LGK 10 - 13  
■ HS-No. 2922 50 00 ■ Disposal 3  
Soluble in water and mineral acids; insoluble in organic solvents. Unstable in hot alkalis. L-Serine racemizes in aqueous solutions at pH 9.

**Specification**  
Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %  
Identity (IR-spectrum)..... passes test  
Appearance..... white to almost white or colorless, needle-shaped crystals  
Appearance of solution (1 mol/l, water).... clear and colorless  
Spec. rotation  
(α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance)..... +14.3 to +15.8°  
UV-Absorption  
(260 nm; 1 mol/l; 1 cm; water)..... ≤ 0.05  
UV-Absorption  
(280 nm; 1 mol/l; 1 cm; water)..... ≤ 0.02  
Chloride (Cl)..... ≤ 0.02 %  
Sulfate (SO<sub>4</sub>)..... ≤ 0.01 %  
Heavy metals (as Pb)..... ≤ 0.001 %  
As (Arsenic)..... ≤ 0.0005 %

Ca (Calcium) ..... ≤ 0.001 %  
Co (Cobalt) ..... ≤ 0.0005 %  
Fe (Iron)..... ≤ 0.0005 %  
K (Potassium)..... ≤ 0.0005 %  
Mg (Magnesium)..... ≤ 0.0005 %  
Na (Sodium)..... ≤ 0.005 %  
NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %  
Zn (Zinc)..... ≤ 0.0005 %  
Foreign amino acids ..... ≤ 0.3 %  
Other ninhydrine positive substances ..... ≤ 0.1 %  
Loss on drying (105 °C; 3 h)..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.07769.0010	Glass bottle	10 g	inquire
1.07769.0100	Plastic bottle	100 g	inquire
1.07769.1000	Plastic bottle	1 kg	inquire
1.07769.9010	Plastic drum	10 kg	inquire

## 816020 (S)-(+)-Serine for synthesis

C<sub>3</sub>H<sub>7</sub>NO<sub>3</sub>

3-Hydroxy-L-alanine, Ser

■ CAS-No. 56-45-1 ■ EC-No. 200-274-3

■ Solub. in H<sub>2</sub>O 364 g/l (20 °C) ■ M = 105.09 g/mol ■ pH value 5 - 6 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 215 - 225 °C decomposes

■ Bulk density 570 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13

■ HS-No. 2922 50 00 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)Spec. rotation [ $\alpha^20$ /D (c=10 in HCl 2 mol/l).....

.....14,0 - 15,5 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16020.0025	Plastic bottle	25 g	inquire
8.16020.0100	Plastic bottle	100 g	inquire

L-Serine → (S)-(+)-Serine page 1417

Serinoloxalate → 2-Amino-1,3-propanediol oxalate

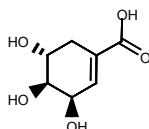
(2:1) page 400

Serum albumin → Albumin fraction V page 357

Sesamol → 3,4-Methylenedioxyphenol page 1150

Shift reagents → Nuclear magnetic resonance spectroscopy

## 824476 (-)-Shikimic acid for synthesis

C<sub>7</sub>H<sub>10</sub>O<sub>5</sub>

(3R,4S,5R)-3,4,5-Trihydroxy-1-

cyclohexenecarboxylic acid

■ CAS-No. 138-59-0 ■ EC-No. 205-334-2

■ Solub. in H<sub>2</sub>O 180 g/l (20 °C) ■ M = 174.15 g/

mol ■ Melting point 190 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2918 19 98 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 97,0 %

Spec. rotation [ $\alpha^20$ /D (c=2 in water).....

.....-185,0 - -175,0 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.24476.0250	Glass bottle	250 mg	inquire
8.24476.1000	Glass bottle	1 g	inquire

Shorr staining solution → page 196

## 100719 SICACIDE with indicator sulfuric acid drying agent for desiccators on inert carrier material

Sulfuric acid drying agent, granulated

■ Spec. density 0.4 g/cm<sup>3</sup> ■ Solub. inH<sub>2</sub>O (20 °C) partly soluble■ Bulk density 350 - 400 kg/m<sup>3</sup>

■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1A, H314,

P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310

■ LGK 8 B

■ HS-No. 3824 90 97 ■ Disposal 12

■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(ENTH. SCHWEFELSAEURE), 8, II ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(CONT. SULPHURIC ACID), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(CONT. SULPHURIC ACID), 8, II Colour changes from red-violet to pale yellow

**Specification**

Identity..... passes test

Water absorption capacity..... ≥ 45 %

Ord.No.	Packaging	Quantity	Price
1.00719.0500	Glass bottle	500 ml	inquire
1.00719.2800	Glass bottle	2.8 l	inquire

## 100543 SICAPENT® with indicator (phosphorus pentoxide drying agent for desiccators) on inert carrier material

Phosphorus pentoxide drying agent, granulated

■ Spec. density 0.3 g/cm<sup>3</sup> ■ Solub. inH<sub>2</sub>O (20 °C) Risk of violent reaction. ■ pH value 1.5(10 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 300 kg/m<sup>3</sup>

■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1A, H314,

P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310

■ LGK 8 B

■ HS-No. 3824 90 97 ■ Disposal 12

■ ADR-RID UN 1807 Phosphorpentoxid, 8, II

■ IMDG-Code UN 1807 PHOSPHORUS PENTOXIDE,

8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1807 PHOSPHORUS PENTOXIDE,

8, II

Colour changes from colourless to blue

**Specification**

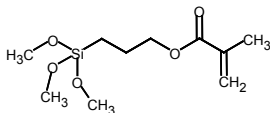
Water absorption capacity..... ≥ 50 %

colour change to blue..... conforms

Ord.No.	Packaging	Quantity	Price
1.00543.0500	Glass bottle	500 ml	inquire
1.00543.2800	Glass bottle	2.8 l	inquire

Sieber Amide resin → page 265

## 107673 Silane A 174 adhesion promoter

C<sub>10</sub>H<sub>20</sub>O<sub>5</sub>Si

Polyfix® 100, Methacryloxypropyl trimethoxysilane

■ CAS-No. 2530-85-0 ■ EC-No. 219-785-8

■ Vapour pressure &lt; 1.3 hPa (20 °C)

■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C)■ Flash point 108 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow

decomposition), Hydrolysis ■ M = 248.35 g/mol

■ Melting point -48 °C ■ Boiling point 255 °C (1013 hPa)

■ WGK 1

■ LC50 rat &gt; 2.28 mg/l

■ LD50 oral rat &gt; 2000 mg/kg ■ LD50 dermal rat

&gt; 2000 mg/kg

■ LGK 10

■ HS-No. 2931 90 90 ■ Disposal 3

Soluble in methanol, ethanol, chloroform, acetone,

benzene, toluene and xylene, also in water

adjusted pH 3.5-4.0. Adhesion promoter for fixing

polyacrylamide gels on glass plates. Silane A 174

pretreated gels are widely used in combination

withtreating the other glass plate with dichlorodimethylsilane (2 % in trichloroethane) that gives water repellent properties to the other plate.

**Specification**

Assay (GC)..... ≥ 97 %

Identity (IR-spectrum)..... passes test

Water (according to Karl Fischer)..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.07673.0050	Glass bottle	50 ml	inquire



# Silica

## Silica gel

O<sub>2</sub>Si  
 ■ CAS-No. 7631-86-9 ■ EC-No. 231-545-4 ■ Melting point 1710 °C  
 ■ Spec. density (20 °C) no data available ■ Solub. ■ Bulk density 750 - 800 kg/m<sup>3</sup>  
 in H<sub>2</sub>O (20 °C) insoluble ■ M = 60.08 g/mol ■ WGK nwg  
 ■ pH value 7 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry) ■ GHS: P260  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2811 22 00 ■ Disposal 32  
 Drying agent (Desiccant)

### 107735 Silica gel beads, desiccant ~ 2 - 5 mm

**Specification** humidity) ..... ≥ 27 %  
 Bulk density ..... about 75g/100 ml  
 Loss on drying (180 °C) ..... ≤ 2.0 %  
 Water absorption capacity (24 hrs.,80 % relative

Ord.No.	Packaging	Quantity	Price
1.07735.1000	Plastic bottle	1 kg	inquire

### 101905 Silica gel granules, desiccant ~ 0.2 - 1 mm

**Specification** humidity) ..... ≥ 27.0 %  
 Bulk density ..... 60 - 70g/100 ml  
 Loss on drying (180 °C) ..... ≤ 2.0 %  
 Water absorption capacity (24 hrs.,80 % relative

Ord.No.	Packaging	Quantity	Price
1.01905.1000	Plastic bottle	1 kg	inquire

### 101907 Silica gel granules, desiccant ~ 2 - 5 mm

**Specification** humidity) ..... ≥ 25.0 %  
 Bulk density ..... about 70g/100 ml  
 Loss on drying (180 °C) ..... ≤ 2.0 %  
 Water absorption capacity (24 hrs.,80 % relative

Ord.No.	Packaging	Quantity	Price
1.01907.1000	Plastic bottle	1 kg	inquire
1.01907.5000	Plastic drum	5 kg	inquire

Silica gel 60 G → page 14	Silica gel 60 HF <sub>254</sub> → page 14	Silica gel 60 PF <sub>254</sub> containing gypsum → page 14
Silica gel 60 GF <sub>254</sub> → page 14	Silica gel 60 HF <sub>254+366</sub> → page 14	Silica gel 60 PF <sub>254+366</sub> → page 14
Silica gel 60 H → page 14	Silica gel 60 PF <sub>254</sub> → page 14	Silica gel 60 silanised (for preparative column chromatography) → page 37

## Silica gel as desiccant

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1418	107735	Silica gel	1418	101907	Silica gel	1418	101972	Silica gel with moisture indicator (brown gel)
1418	101905	Silica gel	1418	101969	Silica gel with indicator (orange gel),			
Silica gel (powder) for PLC → page 14			Silica gel (powder) for TLC → page 14			Silica gel pre-coated plates → page 12		

### 101969 Silica gel with indicator (orange gel), granulate ~ 1 - 3 mm

■ Solub. in H<sub>2</sub>O 1 g/l ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point >1000 °C  
 ■ Water absorption 250 g/kg (20 °C)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 3824 90 97  
 Colour changes from pink to colourless

**Specification**  
 Water absorption capacity (24 hrs.,80 % relative humidity) ..... ≥ 25.0 %  
 Loss on drying (140 °C) ..... ≤ 2.0 %  
 Bulk density ..... about 70g/100 ml

Ord.No.	Packaging	Quantity	Price
1.01969.1000	Plastic bottle	1 kg	inquire
1.01969.5000	Plastic bottle	5 kg	inquire
1.01969.9025	Plastic drum	25 kg	inquire

### 101972 Silica gel with moisture indicator (brown gel) desiccant ~ 1 - 4 mm

■ pH value 2 - 10 (50 g/l, H<sub>2</sub>O) (slurry)  
 ■ Melting point >1000 °C ■ Bulk density 0.7 g/cm<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 3824 90 97 ■ Disposal 14  
 Colour changes from brown to yellowish

**Specification**  
 Bulk density ..... about 75g/100 ml  
 Loss on drying (150 °C) ..... ≤ 2.0 %  
 Water absorption capacity (24 hrs.,80 % relative humidity) ..... ≥ 20.0 %

Ord.No.	Packaging	Quantity	Price
1.01972.1000	Plastic bottle	1 kg	inquire
1.01972.5000	Plastic bottle	5 kg	inquire
1.01972.9025	Plastic drum	25 kg	inquire

## Silicate

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1451	105621	Sodium silicate solution						

## Silicates, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
167	100163	di-Boron trioxide	561	102067	Calcium carbonate			
Silicate (Silicic Acid) Test → page 82			Silicate (Silicic Acid) Test Refill pack → page 82					

## Silicic acid

O<sub>2</sub>Si \*x H<sub>2</sub>O

SiO<sub>2</sub> \*x H<sub>2</sub>O

■ CAS-No. 10279-57-9 ■ EC-No. 231-545-4

■ Spec. density 2 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 60.08 g/mol

■ Melting point 1710 °C ■ Bulk density 60 kg/m<sup>3</sup>

■ WGK nwg

■ LD50 oral rat > 10000 mg/kg

■ LD50 dermal rabbit > 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2811 22 00 ■ Disposal 14

### 100657 Silicic acid precipitated extra pure light DAB

#### Specification

Particle size (<.0.1.mm)..... about 99 %

Ord.No.	Packaging	Quantity	Price
1.00657.1000	Fibre carton	1 kg	inquire
1.00657.9010	Fibre carton	10 kg	inquire

### 100656 Silicic acid precipitated extra pure heavy

#### Specification

Particle size (<.0.1.mm)..... about 99 %

Ord.No.	Packaging	Quantity	Price
1.00656.1000	Plastic bottle	1 kg	inquire
1.00656.9020	Fibre carton	20 kg	inquire

Silicic acid → Phosphate and Silicate

Silicium compounds → Organoelement compounds

Silicon(IV) chloride → Silicon tetrachloride page

1420

Silicon, determination → page 82

## 109762 Silicon oil 550 for gas chromatography

■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C)

■ Flash point 270 °C ■ Kin. viscosity 208 mm<sup>2</sup>/s

(20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically

insoluble ■ Melting point < -35 °C

■ Ignition temp. >400 °C DIN 51794

■ WGK 1

■ LGK 10

■ HS-No. 3910 00 00 ■ Disposal 3

#### Specification

Thermogravimetry (thermogravimetric) .....

..... 2 % lost of weight over 230 °C

Ord.No.	Packaging	Quantity	Price
1.09762.0100	Glass bottle	100 ml	inquire

## Silicon preparations for the laboratory

### 107743 Silicon anti-foaming agent

#### Anti-foaming agent

■ Vapour pressure 19 hPa (20 °C)

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C)

■ Kin. viscosity 4.0 mm<sup>2</sup>/s (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ Boiling point 300 °C

(1013 hPa)

■ WGK 1

■ LD50 oral rat > 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 3910 00 00 ■ Disposal 3

#### Specification

Identity (IR-spectrum)..... conforms

Density (d 20/4)..... 0.98 - 1.01 g/ml

Application test..... conforms

Ord.No.	Packaging	Quantity	Price
1.07743.0100	Plastic bottle	100 g	inquire
1.07743.0500	Plastic bottle	500 ml	inquire

### 107746 Silicone grease

■ Vapour pressure 0.1 hPa (20 °C)

■ Spec. density 1 g/cm<sup>3</sup> (20 °C)

■ Flash point >300 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ Ignition temp. >400 °C

■ WGK 1

■ LGK 10 - 13

■ HS-No. 3910 00 00 ■ Disposal 3

#### Specification

Solubility..... passes test

penetration in rest..... about 240 - 260 mpr

Ord.No.	Packaging	Quantity	Price
1.07746.0100	Fibre case	100 g	inquire

### 107921 Silicone high vacuum grease heavy

■ Vapour pressure 0.1 hPa (20 °C)

■ Spec. density 0.98 g/cm<sup>3</sup> (25 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ pH value (H<sub>2</sub>O) not

applicable ■ Ignition temp. >400 °C

■ WGK 1

■ LGK 10 - 13

■ HS-No. 3910 00 00 ■ Disposal 3

#### Specification

Solubility..... passes test

penetration in rest..... about 220 - 240 mpr

Application test..... passes test

Ord.No.	Packaging	Quantity	Price
1.07921.0100	Fibre case	100 g	inquire

### 107742 Silicone oil for oil baths up to 250 °C

■ CAS-No. 68083-14-7

■ Vapour pressure 47 hPa (20 °C)

■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C)

■ Flash point 315 °C ■ Kin. viscosity 200 mm<sup>2</sup>/s

(20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble

■ Boiling point >250 °C (1013 hPa)

■ Ignition temp. 460 °C

■ WGK 1

■ LGK 10 - 13

■ HS-No. 3910 00 00 ■ Disposal 3

#### Specification

Density (d 20 °C/ 4 °C)..... 1.02 - 1.05

Suitability for heating bath..... passes test

flash point: about 250 °C viscosity (mPa s at 25 °C):  
about 200 °C

Ord.No.	Packaging	Quantity	Price
1.07742.0100	Plastic bottle	100 ml	inquire
1.07742.1000	Plastic bottle	1 l	inquire

## 109947 Silicon standard 1000 mg Si, (SiCl<sub>4</sub> in 14% NaOH) Titrisol®

■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)

■ WGK 1

■ GHS: Danger, Corrosive to metals, Category 1,

H290; Skin corrosion, Category 1B, H314, P280,

P301 + P330 + P331, P305 + P351 + P338, P309

+ P310

■ LGK 8 B

■ HS-No. 3822 00 00 ■ Disposal 13

■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, II

■ IMDG-Code UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, II

#### Specification

content (Si)..... 1000 mg / Ampoule

Determination method: ICP-OES (traceable to NIST

- SRM 3150) Accuracy of the method: +/- 5 mg

Ord.No.	Packaging	Quantity	Price
1.09947.0001	Plastic ampoule	1 amp	inquire

Silicon standard for aqueous matrices → Silicon standard page 1419

# Silico

## 843974 Silicon tetraacetate for synthesis

$C_8H_{12}O_8Si$   
 ■ CAS-No. 562-90-3 ■ EC-No. 209-239-7  
 ■ M = 264.26 g/mol ■ Melting point 111 - 115 °C  
 ■ Boiling point 148 °C (6.67 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310  
 ■ LGK 8 A  
 ■ HS-No. 2915 29 00 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(TETRAACETOXYSILOAN), 8, II  
 ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(TETRAACETOXYSILOANE), 8, II,

Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(TETRAACETOXYSILOANE), 8, II

Ord.No.	Packaging	Quantity	Price
8.43974.0100	Plastic bottle	100 g	inquire

## 807706 Silicon tetrachloride for synthesis

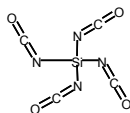
$Cl_4Si$   
 $SiCl_4$   
*Silicon(IV) chloride, Tetrachlorosilane*  
 ■ CAS-No. 10026-04-7 ■ EC-No. 233-054-0  
 ■ Vapour pressure 260 hPa (20 °C)  
 ■ Spec. density 1.48 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.248 (273.2 K) ■ Solub. in  $H_2O$  (20 °C) (decomposition) ■ M = 169.90 g/mol  
 ■ pH value 1 (5 g/l,  $H_2O$ ) ■ Melting point -70 °C  
 ■ Boiling point 57 °C (1013 hPa)  
 ■ WGK 1

■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P304 + P340, P309 + P310  
 ■ LC50 rat 60.7 mg/l  
 ■ LD50 oral rat 238 mg/kg  
 ■ EC-Index-No. 014-002-00-4 ■ LGK 8B  
 ■ HS-No. 2812 10 99 ■ Disposal 24  
 ■ ADR-RID UN 1818 Siliciumtetrachlorid, 8, II  
 ■ IMDG-Code UN 1818 SILICON TETRACHLORIDE, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1818 SILICON TETRACHLORIDE, 8, II  
**Specification**  
 Assay (argentometric)..... ≥ 99,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.07706.0100	Glass bottle	100 ml	inquire
8.07706.1000	Glass bottle	1 l	inquire

## 810600 Silicon tetraisocyanate for synthesis



$C_4N_4O_4Si$   
 $Si(NCO)_4$   
 ■ CAS-No. 3410-77-3 ■ EC-No. 222-297-8  
 ■ Spec. density 1.43 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 50 °C ■ Solub. in  $H_2O$  (20 °C) (decomposition) ■ M = 196.15 g/mol  
 ■ Melting point 25 - 28 °C ■ Boiling point 186 °C

(1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Respiratory sensitisation, Category 1, H334; Skin irritation, Category 2, H315; Acute toxicity, Category 2, Inhalation, H330; Eye irritation, Category 2, H319, P210, P260, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310, P342 + P311  
 ■ LGK 6.1A ■ Store below +15°C.  
 ■ HS-No. 2842 90 80 ■ Disposal 11  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(SILICIUMTETRAISOCYANAT), 6.1, II

■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(SILICIUMTETRAISOCYANATE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O. S.(SILICIUMTETRAISOCYANATE), 6.1, II  
**Specification**  
 Assay (ex Si)..... ≥ 98,0 %(m)  
 Melting range (lower value)..... ≥ 25 °C  
 Melting range (upper value)..... ≤ 28 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.10600.0006	Glass bottle	5 g	inquire
8.10600.0012	Glass bottle	10 g	inquire

Siliciumtungstic acid → Tungstosilic acid hydrate  
 page 1621

Silk-screen printing, layer removal for... → Sodium metaperiodate, Periodic acid, Perhydrit tablets

Silvan → 2-Methylfuran page 1152

## Silver, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
443	822315	1H-Benzotriazole	791	103062	Dimethylglyoxime	995	107098	8-Hydroxyquinoline
172	102498	Chromotropic acid disodium salt dihydrate	791	103061	Dimethylglyoxime disodium salt octahydrate	1432	106689	Sodium diethyldithiocarbamate trihydrate
776	103059	5-(4-Dimethylamino-benzylidene)-rhodanine	172	103092	Dithizone			

## 101506 Silver wool for elemental analysis

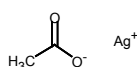
Ag  
 ■ CAS-No. 7440-22-4 ■ EC-No. 231-131-3  
 ■ Spec. density 10.5 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  (20 °C) insoluble ■ M = 107.86 g/mol  
 ■ Melting point 961.9 °C ■ Boiling point 2212 °C (1013 hPa)  
 ■ WGK nwg  
 ■ LD50 oral rat > 2000 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 7106 92 00 ■ Disposal 27  
 Absorption of halogens and sulfur in elemental analysis. A possible darkening of the silver wool (tarnishing) does not affect its use in elementary analysis. If necessary a silvery surface can be obtained at any time by heating to red heat.

**Specification**  
 Identity..... passes test  
 Assay (argentometric)..... ≥ 99,9 %  
 Diameter of fibre..... about 45 - 55 µm

Ord.No.	Packaging	Quantity	Price
1.01506.0010	Glass bottle	10 g	inquire

## 801504 Silver acetate for synthesis



$C_2H_3AgO_2$   
 $CH_3COOAg$   
*Acetic acid silver salt*  
 ■ CAS-No. 563-63-3 ■ EC-No. 209-254-9  
 ■ Spec. density 3.26 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  10.2 g/l (20 °C) ■ M = 166.91 g/mol  
 ■ WGK 3

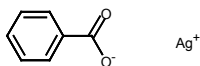
■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P313  
 ■ LGK 8 B  
 ■ HS-No. 2843 29 00 ■ Disposal 27  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(SILBER(I)-ACETAT), 8, III ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(SILVER(I) ACETATE)

, 8, III  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(SILVER(I) ACETATE), 8, III

**Specification**  
 Assay (from Ag) ..... ≥ 98,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.01504.0005	Glass bottle	5 g	inquire
8.01504.0025	Glass bottle	25 g	inquire
8.01504.0100	Glass bottle	100 g	inquire

## 821067 Silver benzoate for synthesis

C<sub>7</sub>H<sub>5</sub>AgO<sub>2</sub>C<sub>6</sub>H<sub>5</sub>COOAg

Benzoic acid silver salt

■ CAS-No. 532-31-0 ■ EC-No. 208-533-2

■ Solub. in H<sub>2</sub>O 2.6 g/l (20 °C) ■ M = 228.98 g/mol

- WGK 3
- LGK 8 A
- HS-No. 2843 29 00 ■ Disposal 27
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(SILBERBENZOAT), 8, III ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(SILVER BENZOATE), 8, III
- IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(SILVER BENZOATE), 8, III

## Specification

Assay (from Ag) ..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.21067.0005	Glass bottle	5 g	inquire
8.21067.0050	Glass bottle	50 g	inquire

## 119203 Silver chloride 99+

AgCl

■ CAS-No. 7783-90-6 ■ EC-No. 232-033-3

■ Spec. density 5.56 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.00188 g/l (25 °C) ■ M = 143.32 g/mol■ pH value (H<sub>2</sub>O) not applicable

■ Melting point 455 °C ■ Boiling point 1554 °C (1013 hPa)

■ WGK 2

■ LD50 oral rat &gt; 5110 mg/kg

- LGK 10 - 13
- HS-No. 2843 29 00 ■ Disposal 27

## Specification

Identity (elemental analysis)..... passes test

Assay (calculated of Ag)..... 99.4 - 100.0 %

Ag (Silver)..... 74.9 - 75.3 %

Cu (Copper)..... ≤ 0.001 %

Pb (Lead)..... ≤ 0.002 %

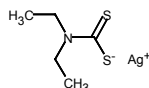
Fe (Iron)..... ≤ 0.001 %

Cd (Cadmium)..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.19203.0025	Plastic bottle	25 g	inquire
1.19203.0100	Plastic bottle	100 g	inquire

## 101515 Silver diethyldithiocarbamate for analysis (reagent for arsenic and antimony) EMSURE® ACS, Reag. Ph

Eur

C<sub>6</sub>H<sub>10</sub>AgNS<sub>2</sub>

Diethyldithiocarbamic acid silver salt

■ CAS-No. 1470-61-7 ■ EC-No. 216-003-7

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 256.14 g/mol■ pH value 5.0 - 6.5 (H<sub>2</sub>O) suspension

■ Melting point 178 - 183 °C

■ Bulk density 340 kg/m<sup>3</sup>

- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2843 29 00 ■ Disposal 27
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Purity (DSC (differential scanning calorimetry)).....

..... ≥ 99 %

Identity (IR-spectrum)..... passes test

Appearance of solution (in pyridine)..... passes test

pH-value (aqueous suspension)..... 5.0 - 6.5

Melting range (DSC (differential scanning calorimetry))..... 178 - 183 °C

Spec. Absorptivity A 1%/1cm (of the As-complex; 525 nm; 0.00033 %; 1 cm; pyridine)..... ≥ 1500

Nitrate (NO<sub>3</sub>)..... ≤ 0.01 %

Loss on drying (105 °C)..... ≤ 0.5 %

Sensitivity (for determination of arsenic)..... passes test

..... passes test

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## 101512 Silver nitrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur

AgNO<sub>3</sub>

■ CAS-No. 7761-88-8 ■ EC-No. 231-853-9

■ Spec. density 4.35 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 2160 g/l (20 °C) ■ M = 169.87 g/mol■ pH value 5.4 - 6.4 (100 g/l, H<sub>2</sub>O, 20 °C)■ Melting point 212 °C ■ Bulk density 2350 kg/m<sup>3</sup>

■ Boiling point 444 °C (1013 hPa) (decomposition)

■ WGK 3

■ GHS: Danger, Oxidising solid, Category 2, H272;

Skin corrosion, Category 1B, H314; Acute aquatic

toxicity, Category 1, H400; Chronic aquatic

toxicity, Category 1, H410, P210, P221, P273,

P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310

■ LD50 oral rat 1173 mg/kg

■ EC-Index-No. 047-001-00-2 ■ LGK 5.1B

■ HS-No. 2843 21 00 ■ Disposal 27

■ ADR-RID UN 1493 Silbernitrat, 5.1, II ■ IMDG-

Code UN 1493 SILVER NITRATE, 5.1, II,

Segregation Group: 7 (Heavy metals and their

salts (including their organometallic compounds))

■ IATA-DGR UN 1493 SILVER NITRATE, 5.1, II

## Specification

Assay (argentometric)..... 99.8 - 100.5 %

Identity..... passes test

Acidity or alkalinity ..... passes test

Free acid ..... passes test

Appearance of solution ..... passes test

Chloride (Cl)..... ≤ 0.0005 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %

Cd (Cadmium)..... ≤ 0.0001 %

Cu (Copper)..... ≤ 0.0002 %

Fe (Iron)..... ≤ 0.0002 %

Mn (Manganese)..... ≤ 0.0005 %

Ni (Nickel)..... ≤ 0.0005 %

Pb (Lead)..... ≤ 0.001 %

Tl (Thallium)..... ≤ 0.001 %

Zn (Zinc)..... ≤ 0.0001 %

Copper and substances precipitated by NH<sub>3</sub> (Al, Bi, Cu, Pb)..... passes test

Substances not precipitated by hydrochloric acid (as sulphate)..... ≤ 0.01 %

Substances not precipitated by hydrochloric acid ...

..... ≤ 0.3 %

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## Silver nitrate volumetric solutions

111718 Silver nitrate solution c(AgNO<sub>3</sub>) = 0.05 mol/l (0.05 N) Titripur®■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6 (H<sub>2</sub>O, 20 °C)

■ WGK 2

■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273

■ LGK 10 - 13

■ HS-No. 2843 21 00 ■ Disposal 27

■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(SILBERNITRATLÖSUNG), 9, III

■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(SILVER

NITRATE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(SILVER NITRATE), 9, III

## Specification

Amount-of-substance concentration 0.05000 mol/l

The concentration of this volumetric solution was

determined with volumetric standard sodium

chloride (Merck article number 1.02406). The

determined titer at 20°C was 1.000 with an

expanded measurement uncertainty of ± 0.003

(k=2 coverage factor for 95% coverage

probability). The certified value is traceable to

primary standard NIST SRM 999b (NIST: National

Institute of Standards and Technology, USA) by

means of volumetric standard sodium chloride,

measured in the accredited calibration laboratory of

Merck KGaA in accordance to DIN EN ISO/IEC

17025.

Ord.No.	Packaging	Quantity	Price
1.11718.1000	Plastic bottle	1 l	inquire

# Silver

## 109081 Silver nitrate solution $c(\text{AgNO}_3) = 0.1 \text{ mol/l}$ (0.1 N) Titripur®



■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4 - 5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338  
 ■ LGK 8B  
 ■ HS-No. 2843 21 00 ■ Disposal 28  
 ■ ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(SILBERNITRATLOESUNG), 8, III ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(SILVER NITRATE), 8, III

■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(SILVER NITRATE), 8, III  
**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP). Amount-of-substance concentration .0.1000 mol/l  
 The concentration of this volumetric solution was determined with volumetric standard sodium chloride (Merck articlenumber 1.02406). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to

primary standard NIST SRM 999b (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard sodium chloride, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09081.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09081.2500	Plastic bottle	2.5 l	inquire
1.09081.4000	Titripac PE/Alu	4 l	inquire
1.09081.9010	Titripac PE/Alu	10 l	inquire

## 109080 Silver nitrate solution $c(\text{AgNO}_3) = 1 \text{ mol/l}$ (1 N) Titripur®



■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7 - 9 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2843 21 00 ■ Disposal 27  
 ■ ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(SILBERNITRATLOESUNG), 8, II ■ IMDG-

Code UN 1760 CORROSIVE LIQUID, N.O.S.(SILVER NITRATE), 8, II  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(SILVER NITRATE), 8, II  
**Specification**  
 Amount-of-substance concentration ....1.000 mol/l  
 The concentration of this volumetric solution was determined with volumetric standard sodium chloride (Merck article number 1.02406). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003

(k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 999b (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard sodium chloride, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09080.1000	Plastic bottle	1 l	inquire

## 109990 Silver nitrate solution for 1000 ml, $c(\text{AgNO}_3) = 0.1 \text{ mol/l}$ (0.1 N) Titrisol®



■ Spec. density 1.27 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7 - 9 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410; Corrosive to metals, Category 1, H290, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(SILBERNITRATLOESUNG), 8, II ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(SILVER

NITRATE), 8, II  
 ■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(SILVER NITRATE), 8, II  
**Specification**  
 Concentration after dilution to 1 liter:  $c(\text{AgNO}_3) = 0.1 \text{ mol/l}$   
 Amount-of-substance concentration .0.1000 mol/l  
 Determination method: Argentometric titration.  
 The concentration of this solution was determined with volumetric standard sodium chloride (Merck article number 1.02406). The determined titer at 20°C was 1.000 with an expanded measurement

uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 999b (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard sodium chloride, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09990.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	24 x 1 amp	inquire

## 119208 Silver oxide 99+



Ag<sub>2</sub>O  
 ■ CAS-No. 20667-12-3 ■ EC-No. 243-957-1  
 ■ Spec. density 7.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 231.74 g/mol  
 ■ Melting point >200 °C decomposes  
 ■ Bulk density 950 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Oxidising solid, Category 2, H272; Skin corrosion, Category 1B, H314, P210, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 2820 mg/kg  
 ■ LGK 5.1A ■ Store below +15°C.  
 ■ HS-No. 2843 29 00 ■ Disposal 27  
 ■ ADR-RID UN 3085 Entzündend (oxidierend) wirkender fester Stoff, ätzend, n.a.g.(SILBEROXID), 5.1 (8), II ■ IMDG-Code UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(SILVER OXIDE),

5.1 (8), II  
 ■ IATA-DGR UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(SILVER OXIDE), 5.1 (8), II  
**Specification**  
 Identity (elemental analysis)..... passes test  
 Assay (calculated of Ag).....99.0 - 101.0 %  
 Ag (Silver)..... 92.2 - 94.0 %  
 Al (Aluminium)..... ≤ 10 ppm  
 Ca (Calcium)..... ≤ 50 ppm  
 Cd (Cadmium)..... ≤ 10 ppm  
 Co (Cobalt)..... ≤ 10 ppm  
 Cr (Chromium)..... ≤ 10 ppm  
 Cu (Copper)..... ≤ 50 ppm  
 Fe (Iron)..... ≤ 50 ppm  
 Hg (Mercury)..... ≤ 100 ppm  
 Ir (Iridium)..... ≤ 100 ppm

K (Potassium)..... ≤ 50 ppm  
 Mg (Magnesium)..... ≤ 50 ppm  
 Mn (Manganese)..... ≤ 10 ppm  
 Na (Sodium)..... ≤ 100 ppm  
 Ni (Nickel)..... ≤ 10 ppm  
 Os (Osmium)..... ≤ 100 ppm  
 Pb (Lead)..... ≤ 50 ppm  
 Pd (Palladium)..... ≤ 100 ppm  
 Pt (Platinum)..... ≤ 100 ppm  
 Rh (Rhodium)..... ≤ 100 ppm  
 Ru (Ruthenium)..... ≤ 100 ppm  
 Zn (Zinc)..... ≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.19208.0025	Plastic bottle	25 g	inquire
1.19208.0100	Plastic bottle	100 g	inquire

Silver plating kit acc. to von Kossa → page 202

## 109906 Silver standard 1000 mg Ag, (AgNO<sub>3</sub> in HNO<sub>3</sub> 5%) Titrisol®



■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28

■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG UND SILBERNITRATLOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID AND SILVER NITRATE), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID AND SILVER NITRATE), 8, III

**Specification**  
 content (Ag)..... 1000 mg / Ampoule  
 Determination method: Argentometric titration. (traceable to NIST - SRM 999a) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09906.0001	Plastic ampoule	1 amp	inquire

Silver standard for aqueous matrices → Silver standard page 1422

Silver standard for aqueous matrices ready for use → page 1471



## Silver sulfate

Ag<sub>2</sub>O<sub>4</sub>SAg<sub>2</sub>SO<sub>4</sub>

■ CAS-No. 10294-26-5 ■ EC-No. 233-653-7  
 ■ Spec. density 5.45 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 8 g/l (25 °C) ■ M = 311.8 g/mol

■ pH value 5 - 6 (5 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 655 °C ■ Bulk density 1200 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Serious eye damage, Category 1, H318, P260, P280, P305 + P351 + P338, P313

■ LD50 oral rat 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2843 29 00 ■ Disposal 27  
 Catalyst in the COD determination.

## 101534 Silver sulfate extra pure

## Specification

Assay (argentometric)..... ≥ 98.5 %  
 Identity..... passes test  
 Chloride (Cl)..... ≤ 0.002 %  
 Cu (Copper)..... ≤ 0.005 %

Fe (Iron)..... ≤ 0.005 %  
 Pb (Lead)..... ≤ 0.005 %  
 Substances not precipitated by hydrochloric acid (as SO<sub>4</sub>)..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.01534.0050	Plastic bottle	50 g	inquire
1.01534.0250	Plastic bottle	250 g	inquire

## 101509 Silver sulfate GR for analysis ACS

## Specification

Assay (argentometric)..... ≥ 98.5 %  
 Identity..... passes test  
 Insoluble matter and silver chloride..... ≤ 0.02 %  
 Chloride (Cl)..... ≤ 0.001 %  
 Nitrate (NO<sub>3</sub>)..... ≤ 0.001 %

Cu (Copper)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.001 %  
 Pb (Lead)..... ≤ 0.001 %  
 Substances not precipitated by hydrochloric acid (as SO<sub>4</sub>)..... ≤ 0.03 %

Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.01509.0025	Plastic bottle	25 g	inquire
1.01509.0100	Plastic bottle	100 g	inquire

## Silver sulfate solutions

## 101517 Silver sulfate solution 10 g/l in sulfuric acid (D = 1.84 g/ml) for COD determination

■ Spec. density 1.84 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid  
 ■ WGK 2  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 27  
 ■ ADR-RID UN 1830 Schwefelsäure, 8, II ■ IMDG-Code UN 1830 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1830 SULPHURIC ACID, 8, II

## Specification

Concentration (Ag<sub>2</sub>SO<sub>4</sub>)..... 9.8 - 10.2 g/l  
 Concentration (H<sub>2</sub>SO<sub>4</sub>)..... 1665 - 1735 g/l

Ord.No.	Packaging	Quantity	Price
1.01517.1000	Glass bottle	1 l	inquire
1.01517.2500	Glass bottle	2.5 l	inquire

## 101574 Silver sulfate solution 80 g/l in sulfuric acid (D=1.84 g/ml) for COD determination acc. to DIN 38409-H 43-1

■ Spec. density 1.88 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (development of heat)  
 ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

P310  
 ■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 27  
 ■ ADR-RID UN 1830 Schwefelsäure, 8, II ■ IMDG-Code UN 1830 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1830 SULPHURIC ACID, 8, II

## Specification

Concentration (Ag<sub>2</sub>SO<sub>4</sub>)..... 78.8 - 81.2 g/l  
 Concentration (H<sub>2</sub>SO<sub>4</sub>)..... 1665 - 1735 g/l

Ord.No.	Packaging	Quantity	Price
1.01574.1000	Glass bottle	1 l	inquire

Silver Test → page 82

## 818881 Silver tetrafluoroborate for synthesis

AgBF<sub>4</sub>

Tetrafluoroboric acid silver salt

■ CAS-No. 14104-20-2 ■ EC-No. 237-956-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 194.67 g/mol ■ Melting point 70 - 73 °C  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B

■ HS-No. 2843 29 00 ■ Disposal 27  
 ■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(SILBERTETRAFLUOROBORAT), 8, II ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(SILVER TETRAFLUOROBORATE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(SILVER TETRAFLUOROBORATE),

8, II

## Specification

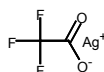
Assay (from Ag)..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.18881.0005	Glass bottle	5 g	inquire
8.18881.0025	Glass bottle	25 g	inquire

Silver 4-toluenesulfonate → Toluene 4-sulfonic acid silver salt page 1567

Silver tosylate → Toluene 4-sulfonic acid silver salt page 1567

## 818003 Silver trifluoroacetate for synthesis

C<sub>2</sub>AgF<sub>3</sub>O<sub>2</sub>CF<sub>3</sub>COOAg

Trifluoroacetic acid silver salt

■ CAS-No. 2966-50-9 ■ EC-No. 221-004-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 220.88 g/mol ■ Melting point 257 - 260 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation,

Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P273, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2843 29 00 ■ Disposal 27  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(SILBERTRIFLUORACETAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SILVER TRIFLUOROACETATE), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds))

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SILVER TRIFLUOROACETATE), 9, III

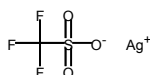
## Specification

Assay (from Ag)..... ≥ 98%  
 Identity (IR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18003.0010	Glass bottle	10 g	inquire
8.18003.0025	Glass bottle	25 g	inquire

# Silver

## 814325 Silver trifluoromethanesulfonate for synthesis



CAgF<sub>3</sub>O<sub>3</sub>S  
CF<sub>3</sub>SO<sub>3</sub>Ag  
Trifluoromethanesulfonic acid silver salt  
CAS-No. 2923-28-6 ■ EC-No. 220-882-2

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 256.94 g/mol  
■ Melting point 356 °C  
■ WGK 3  
■ GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313  
■ LGK 10 - 13  
■ HS-No. 2843 29 00 ■ Disposal 27

### Specification

Assay (argentometric)..... ≥ 97,0 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14325.0005	Glass bottle	5 g	inquire
8.14325.0025	Glass bottle	25 g	inquire

## Silylation

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
367	814062	Allyltrimethylsilane	739	818152	Diethylaminotrimethylsilane	1584	821619	3-(Triethoxysilyl)propylamine
477	818727	N,O-Bis(trimethylsilyl)acetamide	780	814282	Dimethylaminotrimethylsilane	1588	818806	Triethylsilane
518	814324	Bromotrimethylsilane	820	814023	Diphenylsilane	1598	841359	Triisopropylsilane
545	818642	tert-Butyldimethylchlorosilane	950	818889	Hexamethyldisilane	1606	818403	N-(Trimethylsilyl)acetamide
545	814219	N-tert-Butyldimethylsilyl-N-methyltrifluoroacetamide	950	804324	1,1,1,3,3,3-Hexamethyldisilazane	1607	818026	Trimethylsilyl azide
546	818313	tert-Butyldimethylsilyl trifluoromethanesulfonate	950	814051	Hexamethyldisiloxane	1607	818171	Trimethylsilyl cyanide
546	814047	tert-Butyl-diphenylchlorosilane	1014	814079	Iodotrimethylsilane	1608	818204	N-(Trimethylsilyl)imidazole
608	814104	Chlorodimethylsilane	1185	841102	N-Methyl-N-trimethylsilyl-trifluoroacetamide	1608	818129	Trimethylsilyl trifluoromethanesulfonate
637	821139	Chlorotriethylsilane	1541	814060	1,1,3,3-Tetramethyldisilazane	1613	818458	Triphenylsilane
638	818737	Chlorotrimethylsilane	1541	818414	1,1,3,3-Tetramethyldisiloxane			

Silylation reagents for GC → page 44

SIM medium → page 104

SIMMONS citrate agar → page 104

Skatole → 3-Methylindole page 1157

Skim milk powder → page 112

Soda bleaching lye → Sodium hypochlorite solution page 1445

## 106733 Sodalime with indicator, granules ~ 1 - 2.5 mm

■ Spec. density 0.75 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value (50 g/l, H<sub>2</sub>O, 20 °C) alkaline, (filtered slurry)  
■ Bulk density 750 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Danger, Serious eye damage, Category 1, H318; Specific target organ toxicity - single exposure, Category 3, H335, P280, P305 + P351 +

P338  
■ LGK 10 - 13  
■ HS-No. 3824 90 97 ■ Disposal 13  
Absorption of CO<sub>2</sub>. Colour changes from colourless to violet.

### Specification

Identity..... passes test

Absorption capacity for CO<sub>2</sub> (according to NF).....  
..... ≥ 25 %  
Bulk density..... about 85g/100 ml

Ord.No.	Packaging	Quantity	Price
1.06733.0501	Plastic bottle	500 g	inquire
1.06733.2500	Plastic bottle	2.5 kg	inquire

## 106839 Sodalime pellets with indicator for analysis

■ Spec. density 0.75 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ pH value (50 g/l, H<sub>2</sub>O, 20 °C) alkaline, (filtered slurry)  
■ Bulk density 750 kg/m<sup>3</sup>  
■ WGK 1  
■ GHS: Danger, Serious eye damage, Category 1, H318; Specific target organ toxicity - single exposure, Category 3, H335, P280, P305 + P351 + P338

■ LGK 10 - 13  
■ HS-No. 3824 90 97 ■ Disposal 13  
Absorption of CO<sub>2</sub>. Colour changes from colourless to violet.

### Specification

Identity..... passes test

Absorption capacity for CO<sub>2</sub> (method NF XVII).....

..... ≥ 25 %

Loss on drying (105 °C)..... 13.0 - 18.0 %  
Bulk density..... about 75g/100 ml  
Particle size (2 - 5 mm)..... about 95 %

Ord.No.	Packaging	Quantity	Price
1.06839.1000	Plastic bottle	1 l	inquire
1.06839.5000	Plastic bottle	5 l	inquire
1.06839.9026	Fibre carton	25 l	inquire

## Sodium

Na  
■ CAS-No. 7440-23-5 ■ EC-No. 231-132-9  
■ Vapour pressure 1.6 hPa (400 °C)  
■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) explosion decomposition  
■ M = 22.99 g/mol ■ pH value (H<sub>2</sub>O) (rigorous decomposition), strongly alkaline

■ Melting point 97.8 °C ■ Boiling point 889 °C (1013 hPa) ■ Ignition temp. >115 °C  
■ WGK 1  
■ GHS: Danger, Substances, which in contact with water, emit flammable gases, Category 1, H260; Skin corrosion, Category 1B, H314, P280, P301 +

P330 + P331, P305 + P351 + P338, P309 + P310, P370 + P378  
■ EC-Index-No. 011-001-00-0 ■ LGK 4.3  
■ HS-No. 2805 11 00 ■ Disposal 26  
■ ADR-RID UN 1428 Natrium, 4.3, I ■ IMDG-Code UN 1428 SODIUM, 4.3, I  
■ IATA-DGR UN 1428 SODIUM, 4.3, I

## 822284 Sodium rods (protective liquid: paraffin oil) for synthesis

### Specification

Content at Na..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
8.22284.0250	Glass bottle	250 g	inquire
8.22284.1000	Glass bottle	1 kg	inquire

## 106260 Sodium rod diameter 2.5 cm (protective liquid: paraffin oil)

### Specification

Identity..... passes test

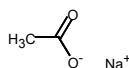
Chloride (Cl)..... ≤ 0.01 %

Ca (Calcium)..... ≤ 0.1 %

K (Potassium)..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.06260.0250	Glass bottle	250 g	inquire
1.06260.1000	Glass bottle	1 kg	inquire

## Sodium acetate

C<sub>2</sub>H<sub>3</sub>NaO<sub>2</sub>CH<sub>3</sub>COONa

Acetic acid sodium salt

■ CAS-No. 127-09-3 ■ EC-No. 204-823-8

■ Vapour pressure (20 °C) not applicable

■ Spec. density 1.52 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >250 °C ■ Solub. in H<sub>2</sub>O 365 g/l (20 °C) ■ M = 82.03 g/mol ■ pH value 7.5 - 9.2 (30 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 324 °C (decomposition)  
 ■ Boiling point >400 °C (decomposition)  
 ■ Ignition temp. 607 °C  
 ■ WGK 1  
 ■ LC50 rat > 30 mg/l

■ LD50 oral rat 3530 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 29 00  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

## 106268 Sodium acetate anhydrous for analysis EMSURE® ACS,Reag. Ph Eur

## Specification

Assay (perchloric acid titration).....≥ 99.0 %  
 Identity.....passes test  
 Appearance of solution.....passes test  
 Insoluble matter.....≤ 0.01 %  
 pH-value (5 %; water).....7.0 - 9.2  
 Chloride (Cl).....≤ 0.002 %  
 Phosphate (PO<sub>4</sub>).....≤ 0.001 %  
 Sulphate (SO<sub>4</sub>).....≤ 0.003 %

Heavy metals (as Pb).....≤ 0.001 %  
 Al (Aluminium).....≤ 0.001 %  
 Ca (Calcium).....≤ 0.005 %  
 Cu (Copper).....≤ 0.0003 %  
 Fe (Iron).....≤ 0.001 %  
 K (Potassium).....≤ 0.05 %  
 Mg (Magnesium).....≤ 0.002 %  
 Loss on drying (120 °C).....≤ 1.0 %

Corresponds to ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06268.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.06268.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06268.2500	Plastic bottle	2.5 kg	inquire

## 106264 Sodium acetate anhydrous 99.99 Suprapur®

## Specification

Purity (metallic).....≥ 99.99 %  
 Assay (perchloric acid titration).....≥ 99 %  
 Chloride (Cl).....≤ 5 ppm  
 Phosphate (PO<sub>4</sub>).....≤ 5 ppm  
 Sulphate (SO<sub>4</sub>).....≤ 20 ppm  
 Al (Aluminium).....≤ 0.05 ppm  
 Ba (Barium).....≤ 5.0 ppm  
 Bi (Bismuth).....≤ 0.01 ppm  
 Ca (Calcium).....≤ 0.10 ppm  
 Cd (Cadmium).....≤ 0.005 ppm  
 Ce (Cerium).....≤ 0.005 ppm

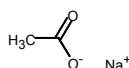
Co (Cobalt).....≤ 0.005 ppm  
 Cr (Chromium).....≤ 0.010 ppm  
 Cs (Cesium).....≤ 2.0 ppm  
 Cu (Copper).....≤ 0.005 ppm  
 Fe (Iron).....≤ 0.05 ppm  
 K (Potassium).....≤ 5 ppm  
 La (Lanthanum).....≤ 0.005 ppm  
 Mg (Magnesium).....≤ 0.10 ppm  
 Mn (Manganese).....≤ 0.050 ppm  
 Ni (Nickel).....≤ 0.010 ppm  
 Pb (Lead).....≤ 0.005 ppm

Rb (Rubidium).....≤ 0.5 ppm  
 Sc (Scandium).....≤ 0.005 ppm  
 Sm (Samarium).....≤ 0.005 ppm  
 Sr (Strontium).....≤ 0.10 ppm  
 Tl (Thallium).....≤ 0.005 ppm  
 Y (Yttrium).....≤ 0.005 ppm  
 Zn (Zinc).....≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.06264.0050	Plastic bottle	50 g	inquire
1.06264.0500	Plastic bottle	500 g	inquire

## 106267 Sodium acetate trihydrate for analysis indifferent to potassium permanganate EMSURE® ACS,ISO,Reag. Ph Eur

Eur

C<sub>2</sub>H<sub>3</sub>NaO<sub>2</sub> \* 3 H<sub>2</sub>OCH<sub>3</sub>COONa \* 3 H<sub>2</sub>O

■ CAS-No. 6131-90-4 ■ EC-No. 204-823-8

■ Vapour pressure (20 °C) not applicable

■ Spec. density 1.42 g/cm<sup>3</sup> (20 °C)

■ Flash point &gt;250 °C (anhydrous substance)

■ Solub. in H<sub>2</sub>O 613 g/l (20 °C) ■ M = 136.08 g/mol■ pH value 7.5 - 9.2 (50 g/l, H<sub>2</sub>O, 20 °C)■ Melting point 58 °C ■ Bulk density 900 kg/m<sup>3</sup>

■ Boiling point &gt;400 °C (anhydrous substance)

, (decomposition) ■ Ignition temp. 607 °C

■ WGK 1

■ LC50 rat &gt; 30 mg/l

■ LD50 oral rat 3530 mg/kg ■ LD50 dermal rabbit

&gt; 10000 mg/kg

■ LGK 10 - 13

■ HS-No. 2915 29 00 ■ Disposal 14

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

## Specification

Assay (perchloric acid titration).....99.0 - 101.0 %  
 Assay (perchloric acid titration, calculated on dried substance).....99.0 - 101.0 %  
 Identity.....passes test  
 Appearance of solution.....passes test  
 Insoluble matter.....≤ 0.005 %  
 pH-value (5 %; water).....7.5 - 9.0  
 Chloride (Cl).....≤ 0.0005 %  
 Phosphate (PO<sub>4</sub>).....≤ 0.0002 %  
 Sulphate (SO<sub>4</sub>).....≤ 0.002 %  
 Total nitrogen (N).....≤ 0.001 %  
 Heavy metals (as Pb).....≤ 0.0005 %  
 Al (Aluminium).....≤ 0.0005 %  
 As (Arsenic).....≤ 0.0002 %  
 Ca (Calcium).....≤ 0.001 %  
 Cu (Copper).....≤ 0.0003 %  
 Fe (Iron).....≤ 0.0005 %  
 K (Potassium).....≤ 0.005 %  
 Mg (Magnesium).....≤ 0.0005 %

Pb (Lead).....≤ 0.0005 %  
 Calcium and Magnesium (as Ca).....≤ 0.005 %  
 Substances reducing permanganate.....passes test  
 Reducing substances.....≤ 0.005 %  
 Loss on drying (130 °C).....39.0 - 40.5 %  
 UV absorption (254 nm; 1 mol/l; 1 cm; water).....≤ 0.02  
 UV absorption (280 nm; 1 mol/l; 1 cm; water).....≤ 0.01  
 UV absorption (350 nm; 1 mol/l; 1 cm; water).....≤ 0.01

Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06267.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06267.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06267.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.06267.9050	Fibre carton	50 kg	inquire

Sodium aluminium silicate → page 1189

## 814095 Sodium amide crystalline for synthesis

H<sub>2</sub>NNaNaNH<sub>2</sub>

■ CAS-No. 7782-92-5 ■ EC-No. 231-971-0

■ Spec. density 1.39 g/cm<sup>3</sup> (25 °C) ■ Solub. inH<sub>2</sub>O (20 °C) (decomposition) ■ M = 39.01 g/mol

■ Melting point 210 °C ■ Boiling point 400 °C

(1013 hPa) ■ Ignition temp. 450 °C

■ WGK 2

■ GHS: Danger, Substances and mixtures, which in

contact with water, emit flammable gases,

Category 2, H261; Skin corrosion, Category 1B,  
 H314, P280, P301 + P330 + P331, P305 + P351 +  
 P338, P309 + P310

■ LGK 4.3

■ HS-No. 2853 00 90

■ ADR-RID UN 1390

Alkalimetallamide(NATRIUMAMID), 4.3, II ■ IMDG-

Code UN 1390 ALKALI METAL AMIDE(SODIUM

AMIDE), 4.3, II

■ IATA-DGR UN 1390 ALKALI METAL AMIDES,

4.3, II

## Specification

Assay (acidimetric).....≥ 95,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.14095.0100	Glass bottle	100 g	inquire
8.14095.1000	Glass bottle	1 kg	inquire

# Sodium

## 106682 Sodium ammonium hydrogen phosphate tetrahydrate for analysis EMSURE®

H<sub>5</sub>NNaO<sub>4</sub>P \* 4 H<sub>2</sub>O  
 NaNH<sub>4</sub>HPO<sub>4</sub> \* 4 H<sub>2</sub>O  
**Ammonium sodium hydrogen phosphate, Microcosmic salt**  
 ■ CAS-No. 7783-13-3 ■ EC-No. 235-860-8  
 ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 167 g/l (20 °C) ■ M = 209.07 g/mol  
 ■ pH value 8.3 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 79 °C  
 ■ WGK 1

■ LGK 10 - 13  
 ■ HS-No. 2835 29 90 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

Heavy metals (as Pb)..... ≤ 0.0005 %  
 As (Arsenic)..... ≤ 0.00005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.001 %

**Specification**  
 Assay (acidimetric)..... ≥ 99.0 %  
 Chloride (Cl)..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.06682.1000	Plastic bottle	1 kg	inquire

Sodium p-anisat → 4-Methoxybenzoic acid sodium salt page 1116

Sodium p-anisate → 4-Methoxybenzoic acid sodium salt page 1116

## 106277 Sodium arsenite solution c(NaAsO<sub>2</sub>) = 0.05 mol/l (0,1 N) Titripur®

■ Spec. density 1.005 g/m<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.3 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1A, H350; Chronic aquatic toxicity, Category 3, H412, P201, P273, P308 + P313  
 ■ LGK 6.1B  
 ■ HS-No. 2842 90 80 ■ Disposal 15  
 ■ ADR-RID UN 1686 Natriumarsenit, wässrige Lösung, 6.1, II ■ IMDG-Code UN 1686 SODIUM ARSENITE, AQUEOUS SOLUTION, 6.1, II  
 ■ IATA-DGR UN 1686 SODIUM ARSENITE,

AQUEOUS SOLUTION, 6.1, II  
**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (USP).  
 Amount-of-substance concentration 0.05000 mol/l  
 The concentration of this volumetric solution was determined with iodine standard solution (Merck article number 1.09099) standardized by sodium thiosulfate against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an

expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.06277.1000	Plastic bottle	1 l	inquire

## 822335 Sodium azide for synthesis

N<sub>3</sub>Na  
 NaN<sub>3</sub>  
**Hydrazoic azid sodium salt**  
 ■ CAS-No. 26628-22-8 ■ EC-No. 247-852-1  
 ■ Spec. density 1.85 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 420 g/l (17 °C) ■ M = 65.01 g/mol  
 ■ Melting point 275 °C (decomposition)  
 ■ Boiling point 300 °C (rigorous decomposition)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute aquatic toxicity, Category 1, H400;

Chronic aquatic toxicity, Category 1, H410, P273, P309 + P310  
 ■ LD50 oral rat 27 mg/kg ■ LD50 dermal rabbit 20 mg/kg  
 ■ EC-Index-No. 011-004-00-7 ■ LGK 6.1A  
 ■ HS-No. 2850 00 60 ■ Disposal 21  
 ■ ADR-RID UN 1687 Natriumazid, 6.1, II ■ IMDG-Code UN 1687 SODIUM AZIDE, 6.1, II, Segregation Group: 17 (Azides)  
 ■ IATA-DGR UN 1687 SODIUM AZIDE, 6.1, II

**Specification**  
 Assay (cerimetric)..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
8.22335.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
8.22335.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
8.22335.1000	Plastic bottle	1 kg	inquire

## 106687 Sodium azide tablets for the preservation of milk samples for testing one tablet 0.1 g (1 tablet contains about 8 mg sodium azide)

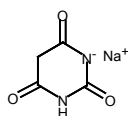
■ Solub. in H<sub>2</sub>O 250 g/l (20 °C) ■ pH value 8.2 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273  
 ■ LGK 6.1 C

■ HS-No. 3822 00 00 ■ Disposal 21  
 ■ ADR-RID UN 3288 Giftiger anorganischer fester Stoff, n.a.g.(ENTH. NATRIUMAZID), 6.1, III ■ IMDG-Code UN 3288 TOXIC SOLID, INORGANIC, N.O.S.(CONT. SODIUM AZIDE), 6.1, III, Segregation Group: 17 (Azides)  
 ■ IATA-DGR UN 3288 TOXIC SOLID, INORGANIC,

N.O.S.(CONT. SODIUM AZIDE), 6.1, III  
**Specification**  
 Application test..... conforms

Ord.No.	Packaging	Quantity	Price
1.06687.0001	Plastic can	5000 tabs	inquire

## 820233 Sodium barbiturate for synthesis



C<sub>4</sub>H<sub>3</sub>N<sub>2</sub>NaO<sub>3</sub>

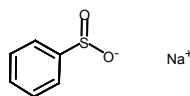
**Malonylurea natrium salt**  
 ■ CAS-No. 4390-16-3 ■ EC-No. 224-507-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 150.06 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 52 00 ■ Disposal 3

**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 97.0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.20233.0100	Plastic bottle	100 g	inquire
8.20233.0250	Plastic bottle	250 g	inquire

di-Sodium benzene-1,3-disulfonate → 1,3-Benzenedisulfonic acid disodium salt page 437

## 843230 Sodium benzenesulphinate for synthesis



C<sub>6</sub>H<sub>5</sub>NaO<sub>2</sub>S

■ CAS-No. 873-55-2 ■ EC-No. 212-842-8

■ M = 164.16 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
**Specification**  
 Assay (HPLC, area%)..... ≥ 98.0 % (a/a)  
 Water (K. F.)..... ≤ 1.0 %

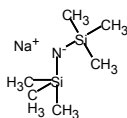
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43230.0025	Glass bottle	25 g	inquire
8.43230.0100	Glass bottle	100 g	inquire

Sodium baborate decahydrate → page 177

Sodium biselenite → page 112

## Sodium bis(trimethylsilyl)-amide



■ Spec. density 0.9 g/cm<sup>3</sup> (20 °C) ■ Flash point - 17 °C ■ Ignition temp. 230 °C (THF)

■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 1, H224; Skin corrosion, Category 1B, H314, P210, P240, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 3824 90 97 ■ Disposal 26  
 ■ ADR-RID UN 2924 Entzündbarer flüssiger Stoff,

ätzend, n.a.g.(NATRIUM-BIS(TRIMETHYLSILYL)-AMID UND ENTH. TETRAHYDROFURAN), 3 (8), II  
 ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(SODIUM BIS(TRIMETHYLSILYL)AMIDE AND CONT. TETRAHYDROFURANE), 3 (8), II  
 ■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(SODIUM BIS(TRIMETHYLSILYL)AMIDE AND CONT. TETRAHYDROFURANE), 3 (8), II

## 841750 Sodium bis(trimethylsilyl)-amide (1 M solution in tetrahydrofuran) for synthesis

## Specification

Assay (HClO<sub>4</sub>)..... 0,90 - 1,10 mol/l

Ord.No.	Packaging	Quantity	Price
8.41750.0100	Glass bottle	100 ml	inquire

## 816023 Sodium-bis(trimethylsilyl)amide (2 molare solution in tetrahydrofurane) for synthesis

## Specification

Assay (HClO<sub>4</sub>)..... ~2 mol/l

Ord.No.	Packaging	Quantity	Price
8.16023.0100	Glass bottle	100 ml	inquire

Sodium bisulfite → page 1438

Sodium boranate → page 1427

Sodium bisulfite solution → page 1438

Sodium borate decahydrate → page 177

## Sodium borohydride

H<sub>2</sub>BNa

NaBH<sub>4</sub>

Sodium tetrahydridoborate

■ CAS-No. 16940-66-2 ■ EC-No. 241-004-4  
 ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.02 % (V) ■ Flash point 69 °C not applicable  
 ■ Solub. in H<sub>2</sub>O 550 g/l (25 °C) (slow decomposition) ■ M = 37.83 g/mol ■ pH value 11 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 400 °C (slow decomposition) ■ Bulk density 350 - 500 kg/m<sup>3</sup>  
 ■ Boiling point 500 °C (decomposition)

■ Ignition temp. 220 °C  
 ■ WGK 2  
 ■ GHS: Danger, Substances, which in contact with water, emit flammable gases, Category 1, H260; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 160 mg/kg ■ LD50 dermal rabbit 230 mg/kg  
 ■ LGK 4.3

■ HS-No. 2850 00 20 ■ Disposal 26  
 ■ ADR-RID UN 1426 Natriumborhydrid, 4.3, I  
 ■ IMDG-Code UN 1426 SODIUM BOROHYDRIDE, 4.3, I  
 ■ IATA-DGR UN 1426 SODIUM BOROHYDRIDE, 4.3, I  
 Reducing agent for aldehydes, ketones, quinones etc., auxiliary for the determination of hydride formers by AAS.

## 818823 Sodium borohydride (tablets) for synthesis

## Specification

Assay (hypochlorite)..... ≥ 96,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18823.0025	Glass bottle	25 g	inquire
8.18823.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire

## 806373 Sodium borohydride fine granular for synthesis

## Specification

Assay (hypochlorite)..... ≥ 98,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.06373.0010	Glass bottle	10 g	inquire
8.06373.0025	Glass bottle	25 g	inquire
	Glass bottle	6 x 25 g	inquire
8.06373.0100	Glass btl. pl.coat.	100 g	inquire
	Glass btl. pl.coat.	6 x 100 g	inquire
8.06373.0500	Glass bottle	500 g	inquire

## 106371 Sodium borohydride for analysis

## Specification

Assay (oxidimetric)..... ≥ 96.0 %  
 Identity..... passes test  
 Chloride (Cl)..... ≤ 0.5 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Heavy metals (as Pb)..... ≤ 0.005 %  
 As (Arsenic)..... ≤ 0.001 %  
 Bi (Bismuth)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.005 %  
 Hg (Mercury)..... ≤ 0.00001 %  
 Sb (Antimony)..... ≤ 0.005 %

Se (Selenium)..... ≤ 0.0002 %

Ord.No.	Packaging	Quantity	Price
1.06371.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire

## 845048 Sodium borohydride (fine granular) for pharma synthesis, non-GMP

## Specification

Colour (visual)..... white  
 Appearance of substance (visual)..... granulate  
 Assay (hypochlorite)..... ≥ 98,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.45048.0100	Glass bottle	100 g	inquire
8.45048.0500	Glass bottle	500 g	inquire



# Sodium

## Sodium bromate



BrNaO<sub>3</sub>  
NaBrO<sub>3</sub>  
 ■ CAS-No. 7789-38-0 ■ EC-No. 232-160-4  
 ■ Spec. density 3.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 364 g/l (20 °C) ■ M = 150.89 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral, Aqueous solution  
 ■ Melting point 381 °C (decomposition)

■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 1, H271; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 400 mg/kg

■ LGK 5.1A  
 ■ HS-No. 2829 90 40 ■ Disposal 22  
 ■ ADR-RID UN 1494 Natriumbromat, 5.1, II  
 ■ IMDG-Code UN 1494 SODIUM BROMATE, 5.1, II, Segregation Group: 3 (Bromates)  
 ■ IATA-DGR UN 1494 SODIUM BROMATE, 5.1, II

### 814368 Sodium bromate for synthesis

#### Specification

Assay (iodometric) ..... ≥ 99,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.14368.0250	Plastic bottle	250 g	inquire
8.14368.1000	Plastic bottle	1 kg	inquire
8.14368.9025	Fibre carton	25 kg	inquire

### 845066 Sodium bromate for pharma synthesis, non-GMP

#### Specification

Colour (visual) ..... white  
 Appearance of substance (visual) ..... crystals  
 Assay (iodometric) ..... ≥ 99,0 %(m)  
 pH-value (10 % in water) ..... 6,0 - 7,0

Ord.No.	Packaging	Quantity	Price
8.45066.0250	Plastic bottle	250 g	inquire
8.45066.1000	Plastic bottle	1 kg	inquire

## 106363 Sodium bromide 99.995 Suprapur®

BrNa  
NaBr  
Bromo sodium  
 ■ CAS-No. 7647-15-6 ■ EC-No. 231-599-9  
 ■ Vapour pressure 1.3 hPa (806 °C)  
 ■ Spec. density 3.20 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 905 g/l (20 °C) ■ M = 102.89 g/mol  
 ■ pH value 5.4 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 755 °C ■ Bulk density 1750 kg/m<sup>3</sup>  
 ■ Boiling point 1393 °C  
 ■ WGK 1  
 ■ LD50 oral rat 3500 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 51 00 ■ Disposal 14

Assay (argentometric) ..... ≥ 99.0 %  
 Phosphate (PO<sub>4</sub>) (as P) ..... ≤ 10 ppm  
 Sulphate (SO<sub>4</sub>) (as S) ..... ≤ 20 ppm  
 Al (Aluminium) ..... ≤ 0.05 ppm  
 Ba (Barium) ..... ≤ 5 ppm  
 Ca (Calcium) ..... ≤ 0.10 ppm  
 Cd (Cadmium) ..... ≤ 0.010 ppm  
 Ce (Cerium) ..... ≤ 0.010 ppm  
 Co (Cobalt) ..... ≤ 0.01 ppm  
 Cr (Chromium) ..... ≤ 0.01 ppm  
 Cs (Cesium) ..... ≤ 5 ppm  
 Cu (Copper) ..... ≤ 0.05 ppm  
 Eu (Europium) ..... ≤ 0.010 ppm  
 Fe (Iron) ..... ≤ 0.05 ppm  
 K (Potassium) ..... ≤ 10 ppm  
 La (Lanthanum) ..... ≤ 0.010 ppm  
 Li (Lithium) ..... ≤ 0.1 ppm

Mg (Magnesium) ..... ≤ 0.05 ppm  
 Mn (Manganese) ..... ≤ 0.05 ppm  
 Ni (Nickel) ..... ≤ 0.05 ppm  
 Pb (Lead) ..... ≤ 0.05 ppm  
 Rb (Rubidium) ..... ≤ 5 ppm  
 Sc (Scandium) ..... ≤ 0.010 ppm  
 Sm (Samarium) ..... ≤ 0.010 ppm  
 Sr (Strontium) ..... ≤ 0.05 ppm  
 Tl (Thallium) ..... ≤ 0.05 ppm  
 Y (Yttrium) ..... ≤ 0.010 ppm  
 Yb (Ytterbium) ..... ≤ 0.010 ppm  
 Zn (Zinc) ..... ≤ 0.05 ppm

#### Specification

Purity (metallic) ..... ≥ 99.995 %

Ord.No.	Packaging	Quantity	Price
1.06363.0100	Plastic bottle	100 g	inquire
1.06363.0250	Plastic bottle	250 g	inquire

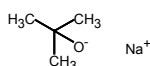
Sodium 2-bromoethanesulfonate → 2-

Bromoethanesulfonic acid sodium salt page 499

Sodium-t-butoxide → Sodium tert-butylate page

1428

## 818374 Sodium tert-butylate for synthesis



■ GHS: Danger, Self-heating substances, Category 1, H251; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 4.2  
 ■ HS-No. 2905 19 00 ■ Disposal 13  
 ■ ADR-RID UN 3206 Alkalimetallalkoholate, selbsterhitzungsfähig, ätzend, n.a.g.(NATRIUM-TERT-BUTYLAT), 4.2 (8), II ■ IMDG-Code UN 3206 ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.(SODIUM-TERT-BUTYLATE), 4.2

(8), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 3206 ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.(SODIUM-TERT-BUTYLATE), 4.2 (8), II

#### Specification

Assay (acidimetric) ..... ≥ 96,0 %(m)  
 Free NaOH ..... ≤ 2,0 %(m)  
 Identity (IR) ..... conforms

C<sub>4</sub>H<sub>9</sub>NaO

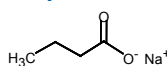
(CH<sub>3</sub>)<sub>3</sub>CONa

Sodium-t-butoxide

■ CAS-No. 865-48-5 ■ EC-No. 212-741-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 96.1 g/mol ■ Melting point 263 °C  
 ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 1

Ord.No.	Packaging	Quantity	Price
8.18374.0100	Glass bottle	100 g	inquire

## Sodium butyrate



CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>COONa  
 Butyric acid sodium salt  
 ■ CAS-No. 156-54-7 ■ EC-No. 205-857-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 110.09 g/mol ■ Melting point 244 °C

■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 60 19 ■ Disposal 3

C<sub>4</sub>H<sub>7</sub>NaO<sub>2</sub>

### 820236 Sodium butyrate for synthesis

#### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98,0 %(m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20236.0250	Plastic bottle	250 g	inquire
8.20236.1000	Plastic bottle	1 kg	inquire

### 817500 Sodium butyrate special quality

#### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98.5 %  
 Identity (IR) ..... passes test  
 Appearance (white powder) ..... passes test  
 Free acid/base ..... ≤ 2.0 ml  
 Heavy metals (Pb) ..... ≤ 0.0005 %  
 Endotoxins ..... ≤ 1.0 I.U./g

Ord.No.	Packaging	Quantity	Price
8.17500.0100	Glass bottle	100 g	inquire

**845144 Sodium butyrate** for pharma synthesis, non-GMP

<b>Specification</b>	Identity (IR)..... passes test
Colour (visual)..... white	Methanol (GC)..... lot specific result
Appearance of substance (visual)..... powder	
Assay (HClO <sub>4</sub> )..... ≥ 99,0 %	

Ord.No.	Packaging	Quantity	Price
8.45144.0100	Glass bottle	100 g	inquire

Sodium cacodylate → Dimethylarsinic acid sodium salt trihydrate page 782

**Sodium carbonate**

CNa <sub>2</sub> O <sub>3</sub>	■ pH value 11.5 (50 g/l, H <sub>2</sub> O, 25 °C)	■ LC50 rat 5750 mg/l
Na <sub>2</sub> CO <sub>3</sub>	■ Melting point 854 °C ■ Bulk density 1100 kg/m <sup>3</sup>	■ LD50 oral rat 4090 mg/kg
<i>anhydrous soda</i>	■ Boiling point 1600 °C (decomposition)	■ EC-Index-No. 011-005-00-2 ■ LGK 10 - 13
■ CAS-No. 497-19-8 ■ EC-No. 207-838-8	■ WGK 1	■ HS-No. 2836 20 00 ■ Disposal 14
■ Spec. density 2.53 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O 220 g/l (20 °C) ■ M = 105.99 g/mol	■ GHS: Warning, Eye irritation, Category 2, H319, P260, P305 + P351 + P338	

**106393 Sodium carbonate** anhydrous, for analysis EMSURE® ACS,ISO,Reag. Ph Eur

<b>Specification</b>	Heavy metals (as Pb)..... ≤ 0.0005 %	Loss on drying (300 °C)..... ≤ 1.0 %
Assay (acidimetric; dried substance)..... ≥ 99.9 %	Al (Aluminium)..... ≤ 0.001 %	Corresponds to ACS,ISO,Reag. Ph Eur
Insoluble matter..... ≤ 0.01 %	As (Arsenic)..... ≤ 0.0001 %	
Chloride (Cl)..... ≤ 0.001 %	Ca (Calcium)..... ≤ 0.005 %	
Phosphate (PO <sub>4</sub> )..... ≤ 0.001 %	Fe (Iron)..... ≤ 0.0005 %	
Silicate (as SiO <sub>2</sub> )..... ≤ 0.005 %	K (Potassium)..... ≤ 0.005 %	
Total sulfur (as SO <sub>4</sub> )..... ≤ 0.003 %	Mg (Magnesium)..... ≤ 0.0005 %	
Total nitrogen (N)..... ≤ 0.001 %		

Ord.No.	Packaging	Quantity	Price
1.06393.1000	Plastic bottle	1 kg	inquire
1.06393.9050	Fibre carton	50 kg	inquire

**106392 Sodium carbonate** anhydrous for analysis EMSURE® ISO

<b>Specification</b>	Ca (Calcium)..... ≤ 0.005 %	Ord.No.	Packaging	Quantity	Price
Assay (acidimetric; calculated on dried substance)..... ≥ 99.9 %	Fe (Iron)..... ≤ 0.0005 %	1.06392.0500	Plastic bottle	500 g	inquire
Chloride (Cl)..... ≤ 0.002 %	K (Potassium)..... ≤ 0.01 %		Plastic bottle	6 x 500 g	inquire
Phosphate (PO <sub>4</sub> )..... ≤ 0.001 %	Mg (Magnesium)..... ≤ 0.0005 %	1.06392.1000	Plastic bottle	1 kg	inquire
Silicate (as SiO <sub>2</sub> )..... ≤ 0.002 %	Loss on drying (300 °C)..... ≤ 1.0 %		Plastic bottle	6 x 1 kg	inquire
Total sulfur (as SO <sub>4</sub> )..... ≤ 0.005 %	Corresponds to ISO	1.06392.5000	Plastic bottle	5 kg	inquire
Total nitrogen (N)..... ≤ 0.001 %			Plastic bottle	4 x 5 kg	inquire
Heavy metals (as Pb)..... ≤ 0.0005 %		1.06392.9025	Fibre carton	25 kg	inquire
Al (Aluminium)..... ≤ 0.001 %		1.06392.9050	Fibre carton	50 kg	inquire

**106395 Sodium carbonate** anhydrous 99.999 Suprapur®

<b>Specification</b>	Co (Cobalt)..... ≤ 0.005 ppm	Pb (Lead)..... ≤ 0.010 ppm
Purity (metallic)..... ≥ 99.999 %	Cr (Chromium)..... ≤ 0.010 ppm	Sc (Scandium)..... ≤ 0.010 ppm
Assay (acidimetric)..... ≥ 99.5 %	Cu (Copper)..... ≤ 0.005 ppm	Sm (Samarium)..... ≤ 0.010 ppm
Chloride (Cl)..... ≤ 10 ppm	Eu (Europium)..... ≤ 0.010 ppm	Sr (Strontium)..... ≤ 0.10 ppm
Phosphate (PO <sub>4</sub> )..... ≤ 0.05 ppm	Fe (Iron)..... ≤ 0.05 ppm	Tl (Thallium)..... ≤ 0.01 ppm
Silicate (SiO <sub>2</sub> )..... ≤ 5 ppm	Hg (Mercury)..... ≤ 0.05 ppm	Y (Yttrium)..... ≤ 0.010 ppm
Sulphate (SO <sub>4</sub> )..... ≤ 10 ppm	K (Potassium)..... ≤ 1.0 ppm	Yb (Ytterbium)..... ≤ 0.010 ppm
Al (Aluminium)..... ≤ 0.05 ppm	La (Lanthanum)..... ≤ 0.010 ppm	Zn (Zinc)..... ≤ 0.010 ppm
As (Arsenic)..... ≤ 0.1 ppm	Li (Lithium)..... ≤ 0.5 ppm	
Ba (Barium)..... ≤ 5.0 ppm	Mg (Magnesium)..... ≤ 0.10 ppm	
Ca (Calcium)..... ≤ 0.10 ppm	Mn (Manganese)..... ≤ 0.010 ppm	
Cd (Cadmium)..... ≤ 0.005 ppm	Ni (Nickel)..... ≤ 0.010 ppm	
Ce (Cerium)..... ≤ 0.010 ppm		

Ord.No.	Packaging	Quantity	Price
1.06395.0050	Plastic bottle	50 g	inquire
1.06395.0500	Plastic bottle	500 g	inquire

**102405 Sodium carbonate** volumetric standard, secondary reference material for acidimetry, traceable to NIST SRM Certipur®

Ord.No.	Packaging	Quantity	Price
1.02405.0080	Glass bottle	80 g	inquire

**106391 Sodium carbonate decahydrate** for analysis EMSURE® ISO,Reag. Ph Eur

CNa <sub>2</sub> O <sub>3</sub> * 10 H <sub>2</sub> O	■ HS-No. 2836 20 00 ■ Disposal 14	Total nitrogen (N)..... ≤ 0.0005 %
Na <sub>2</sub> CO <sub>3</sub> * 10 H <sub>2</sub> O	■ ADR-RID Kein Gefahrgut ■ IMDG-Code No	Heavy metals (as Pb)..... ≤ 0.0005 %
<i>Soda, Sodium Carbonate decahydrate</i>	Dangerous Good	Al (Aluminium)..... ≤ 0.0005 %
■ CAS-No. 6132-02-1 ■ EC-No. 207-838-8	■ IATA-DGR No Dangerous Good	As (Arsenic)..... ≤ 0.0002 %
■ Spec. density 1.44 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O 210 g/l (20 °C) ■ M = 286.14 g/mol	<b>Specification</b>	Ca (Calcium)..... ≤ 0.002 %
■ pH value 11 - 12 (50 g/l, H <sub>2</sub> O, 25 °C)	Assay (acidimetric, Na <sub>2</sub> CO <sub>3</sub> )..... 36.7 - 40.0 %	Fe (Iron)..... ≤ 0.0002 %
■ Melting point 33 °C Elimination of water of crystallisation ■ Bulk density 700 - 900 kg/m <sup>3</sup>	Assay (acidimetric)..... 99.0 - 102.0 %	K (Potassium)..... ≤ 0.005 %
■ WGK 1	Identity..... passes test	Mg (Magnesium)..... ≤ 0.0002 %
■ GHS: Warning, Eye irritation, Category 2, H319, P280, P305 + P351 + P338	Appearance of solution..... passes test	Corresponds to ISO,Reag. Ph Eur
■ LC50 rat 5750 mg/l	Alcalihydroxides and Alcalihydrogencarbonates..... passes test	
■ LD50 oral rat 4090 mg/kg	Chloride (Cl)..... ≤ 0.0005 %	
■ EC-Index-No. 011-005-00-2 ■ LGK 10 - 13	Sulphate (SO <sub>4</sub> )..... ≤ 0.003 %	
■ Store at +15°C to +25°C.	Phosphate and Silicate (as SiO <sub>2</sub> )..... ≤ 0.002 %	
	Total sulfur (as SO <sub>4</sub> )..... ≤ 0.003 %	

Ord.No.	Packaging	Quantity	Price
1.06391.1000	Plastic bottle	1 kg	inquire
1.06391.5000	Plastic bottle	5 kg	inquire
1.06391.9025	Fibre carton	25 kg	inquire

# Sodium

## 109940 Sodium carbonate solution for 1000 ml, c(Na<sub>2</sub>CO<sub>3</sub>) = 0.05 mol/l (0.1 N) Titrisol®

- Spec. density 1.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.6 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 2836 20 00 ■ Disposal 28

### Specification

Concentration after dilution to 1 liter: c(Na<sub>2</sub>CO<sub>3</sub>) = 0.05 mol/l  
Amount-of-substance concentration .0500 mol/l  
The concentration of this solution was determined

with hydrochloric acid standard solution (Merck article number 1.09060) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of

volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09940.0001	Plastic ampoule	1 amp	inquire

Sodium Cell Test in nutrient solutions for fertilization → page 82

## 106420 Sodium chlorate pure



- ClNaO<sub>3</sub>
- NaClO<sub>3</sub>
- Sodium Chlorate*
- CAS-No. 7775-09-9 ■ EC-No. 231-887-4
- Spec. density 2.49 g/cm<sup>3</sup> (15 °C) ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 106.44 g/mol
- pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 255 °C (decomposition)
- Bulk density 1500 kg/m<sup>3</sup>
- Boiling point 300 °C (decomposition)
- WGK 2
- GHS: Danger, Oxidising solid, Category 1, H271;

Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P210, P221, P273

- LC50 rat > 7 mg/l
- LD50 oral rat 1200 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg
- EC-Index-No. 017-005-00-9 ■ LGK 5.1A
- HS-No. 2829 11 00 ■ Disposal 22
- ADR-RID UN 1495 Natriumchlorat, 5.1, II
- IMDG-Code UN 1495 SODIUM CHLORATE, 5.1, II, Segregation Group: 4 (Chlorates)
- IATA-DGR UN 1495 SODIUM CHLORATE, 5.1, II

### Specification

Assay (argentometric)..... ≥ 98.0 %  
Chloride (Cl)..... ≤ 0.1 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
Heavy metals (as Pb)..... ≤ 0.005 %  
Fe (Iron)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.06420.1000	Plastic bottle	1 kg	inquire
1.06420.9050	Plastic drum	50 kg	inquire

## Sodium chloride

- ClNa
- NaCl
- CAS-No. 7647-14-5 ■ EC-No. 231-598-3
- Vapour pressure 1.3 hPa (865 °C)
- Spec. density 2.17 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 358 g/l (20 °C) ■ M = 58.44 g/mol

- pH value 4.5 - 7.0 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 801 °C ■ Bulk density 1140 kg/m<sup>3</sup>
- Boiling point 1461 °C (1013 hPa)
- WGK 1
- LD50 oral rat 3000 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg

- LGK 10 - 13
- HS-No. 2501 00 99 ■ Disposal 14
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## 106404 Sodium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

**Specification**  
Assay (argentometric)..... ≥ 99.5 %  
Assay (argentometric; calculated on dried substance)..... 99.0 - 100.5 %  
Identity..... passes test  
Appearance of solution..... passes test  
Acidity or alkalinity..... passes test  
pH-value (5 %; water)..... 5.0 - 8.0  
Insoluble matter..... ≤ 0.005 %  
Bromide (Br)..... ≤ 0.005 %  
Chlorate and Nitrate (as NO<sub>3</sub>)..... ≤ 0.003 %  
Hexacyanoferrate II..... ≤ 0.0001 %  
Ferrocyanides..... passes test  
Iodide (I)..... ≤ 0.001 %  
Iodide (I)..... passes test

Nitrite (NO<sub>2</sub>)..... passes test  
Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %  
Sulphate (SO<sub>4</sub>)..... ≤ 0.001 %  
Total nitrogen (N)..... ≤ 0.0005 %  
Heavy metals (as Pb)..... ≤ 0.0005 %  
As (Arsenic)..... ≤ 0.00004 %  
Ba (Barium)..... passes test  
Ca (Calcium)..... ≤ 0.002 %  
Cu (Copper)..... ≤ 0.0002 %  
Fe (Iron)..... ≤ 0.0001 %  
K (Potassium)..... ≤ 0.005 %  
Mg (Magnesium)..... ≤ 0.001 %  
Calcium, Magnesium and R<sub>2</sub>O<sub>3</sub>-precipitate..... ≤ 0.005 %  
Magnesium and alkaline-earth metals (as Ca).....

..... ≤ 0.0100 %  
Loss on drying (105 °C, 2 h)..... ≤ 0.5 %  
Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06404.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06404.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06404.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.06404.9025	Fibre carton	25 kg	inquire
1.06404.9050	Fibre carton	50 kg	inquire

## 106406 Sodium chloride 99.99 Suprapur®

**Specification**  
Purity (metallic)..... ≥ 99.99 %  
Assay (argentometric)..... ≥ 99.5 %  
Bromide (Br)..... ≤ 10 ppm  
Iodide (I)..... ≤ 10 ppm  
Phosphate (PO<sub>4</sub>)..... ≤ 5 ppm  
Sulphate (SO<sub>4</sub>)..... ≤ 10 ppm  
Total nitrogen (N)..... ≤ 10 ppm  
Hexacyanoferrate (Fe(CN)<sub>6</sub>)..... ≤ 1.0 ppm  
Al (Aluminium)..... ≤ 0.010 ppm  
Ba (Barium)..... ≤ 2.0 ppm  
Ca (Calcium)..... ≤ 0.10 ppm  
Cd (Cadmium)..... ≤ 0.005 ppm  
Ce (Cerium)..... ≤ 0.005 ppm

Co (Cobalt)..... ≤ 0.005 ppm  
Cr (Chromium)..... ≤ 0.010 ppm  
Cs (Cesium)..... ≤ 5 ppm  
Cu (Copper)..... ≤ 0.005 ppm  
Eu (Europium)..... ≤ 0.005 ppm  
Fe (Iron)..... ≤ 0.050 ppm  
K (Potassium)..... ≤ 5.0 ppm  
La (Lanthanum)..... ≤ 0.005 ppm  
Li (Lithium)..... ≤ 0.5 ppm  
Mg (Magnesium)..... ≤ 0.05 ppm  
Mn (Manganese)..... ≤ 0.010 ppm  
Ni (Nickel)..... ≤ 0.010 ppm  
Pb (Lead)..... ≤ 0.005 ppm

Rb (Rubidium)..... ≤ 0.5 ppm  
Sc (Scandium)..... ≤ 0.005 ppm  
Sm (Samarium)..... ≤ 0.005 ppm  
Sr (Strontium)..... ≤ 0.10 ppm  
Tl (Thallium)..... ≤ 0.005 ppm  
Y (Yttrium)..... ≤ 0.005 ppm  
Yb (Ytterbium)..... ≤ 0.005 ppm  
Zn (Zinc)..... ≤ 0.020 ppm

Ord.No.	Packaging	Quantity	Price
1.06406.0050	Plastic bottle	50 g	inquire
1.06406.0250	Plastic bottle	250 g	inquire
1.06406.0500	Plastic bottle	500 g	inquire

## 102406 Sodium chloride volumetric standard, secondary reference material for argentometry, traceable to NIST SRM Certipur®

Ord.No.	Packaging	Quantity	Price
1.02406.0080	Glass bottle	80 g	inquire

**109945 Sodium chloride solution** for 1000 ml,  $c(\text{NaCl}) = 0.1 \text{ mol/l}$  (0.1 N) Titrisol®

- Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.8 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 2501 00 99 ■ Disposal 28

**Specification**

Amount-of-substance concentration .....

..... $c(\text{NaCl})=0.1000 \text{ mol/l}$  +/- 0.2 %  
 Titer (20 °C) ..... 1.000  
 This volumetric solution was checked by means of Silver nitrate standard solution tested against a Merck volumetric standard. Merck volumetric standards are directly traceable to the Standard Reference Materials of NIST (National Institute of

Standards and Technology, USA).

Ord.No.	Packaging	Quantity	Price
1.09945.0001	Plastic ampoule	1 amp	inquire

**814815 Sodium chlorite** (25% solution in water) for synthesis

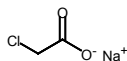
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C)
- pH value (H<sub>2</sub>O) no data available
- Boiling point 100 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LD50 oral rat 1136 mg/kg

- LGK 8 B
- HS-No. 2828 90 00 ■ Disposal 22
- ADR-RID UN 1908 Chloritlösung, 8, II ■ IMDG-Code UN 1908 CHLORITE SOLUTION, 8, II, Segregation Group: 5 (Chlorites)
- IATA-DGR UN 1908 CHLORITE SOLUTION, 8, II

**Specification**

Assay (iodometric) ..... 23,0 - 26,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,200 - 1,220

Ord.No.	Packaging	Quantity	Price
8.14815.0250	Glass bottle	250 ml	inquire
8.14815.1000	Glass bottle	1 l	inquire

**820293 Sodium chloroacetate** for synthesisC<sub>2</sub>H<sub>2</sub>ClNaO<sub>2</sub>ClCH<sub>2</sub>COONa

Chloroacetic acid sodium salt

- CAS-No. 3926-62-3 ■ EC-No. 223-498-3
- Flash point 270 °C ■ Solub. in H<sub>2</sub>O 820 g/l (20 °C) ■ M = 116.47 g/mol ■ pH value 4.5 - 9.0 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 850 kg/m<sup>3</sup>

- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400, P273, P302 + P352, P309 + P310
- LD50 oral rat 95 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- EC-Index-No. 607-158-00-5 ■ LGK 6.1C
- HS-No. 2915 40 00 ■ Disposal 9
- ADR-RID UN 2659 Natriumchloroacetat, 6.1, III
- IMDG-Code UN 2659 SODIUM CHLOROACETATE,

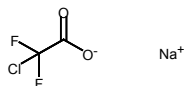
6.1, III

- IATA-DGR UN 2659 SODIUM CHLOROACETATE, 6.1, III

**Specification**

Assay (HClO<sub>4</sub>) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20293.0100	Plastic bottle	100 g	inquire
8.20293.0500	Plastic bottle	500 g	inquire

**841122 Sodium chlorodifluoroacetate** for synthesisC<sub>2</sub>ClF<sub>2</sub>NaO<sub>2</sub>

Chlorodifluoroacetic acid sodium salt

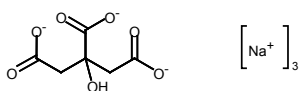
- CAS-No. 1895-39-2 ■ EC-No. 217-586-0
- M = 152.46 g/mol

- Melting point 193 - 195 °C (decomposition)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2915 90 70 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>) ..... ≥ 93.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41122.0010	Plastic bottle	10 g	inquire

**106448 tri-Sodium citrate dihydrate** for analysis EMSURE® ACS,ISO,Reag. Ph EurC<sub>6</sub>H<sub>5</sub>Na<sub>3</sub>O<sub>7</sub> \* 2 H<sub>2</sub>O

Trisodium Citrate, Sodium Citrate, Dihydrate

- CAS-No. 6132-04-3 ■ EC-No. 200-675-3
- Spec. density 1.76 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 425 g/l (25 °C) ■ M = 294.10 g/mol ■ pH value 7.5 - 9.0 (50 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 150 °C (anhydrous substance)
- Bulk density 600 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat > 8000 mg/kg
- LGK 10 - 13
- HS-No. 2918 15 00 ■ Disposal 3

- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (perchloric acid titration) ..... 99.0 - 101.0 %  
 Assay (Perchloric acid titration, calc. on anhydrous substance) ..... 99.0 - 101.0 %  
 Identity ..... passes test  
 Appearance of solution ..... passes test  
 Insoluble matter ..... ≤ 0.005 %  
 pH-value (5 %; water; 25 °C) ..... 7.5 - 9.0  
 Acidity or alkalinity ..... passes test  
 Chloride (Cl) ..... ≤ 0.001 %  
 Oxalate (C<sub>2</sub>O<sub>4</sub>) ..... ≤ 0.03 %  
 Phosphate (PO<sub>4</sub>) ..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.004 %  
 Total nitrogen (N) ..... ≤ 0.001 %

Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 NH<sub>3</sub> (Ammonia) ..... ≤ 0.003 %  
 Readily carbonisable substance ..... passes test  
 Water ..... 11.0 - 13.0 %  
 Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06448.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06448.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06448.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.06448.9050	Fibre carton	50 kg	inquire

Sodium cobaltinitrite → Sodium hexanitrocobaltate(III) page 1436

**106437 Sodium cyanide** pure

CNNa

NaCN

- CAS-No. 143-33-9 ■ EC-No. 205-599-4
- Vapour pressure (20 °C) not applicable
- Spec. density 1.6 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 370 g/l (20 °C) ■ M = 49.01 g/mol
- pH value 11.7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 563 °C
- Bulk density 750 - 900 kg/m<sup>3</sup>
- Boiling point 1496 °C (1013 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1,

- Dermal, H310; Acute toxicity, Category 2, Oral, H300; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 4.7 mg/kg ■ LD50 dermal rabbit 7.7 mg/kg
- EC-Index-No. 006-007-00-5 ■ LGK 6.1B
- HS-No. 2837 11 00 ■ Disposal 6
- ADR-RID UN 1689 Natriumcyanid, fest, 6.1, I
- IMDG-Code UN 1689 SODIUM CYANIDE, SOLID, 6.1, I, Marine Pollutant: P, Segregation Group: 6 (Cyanides)
- IATA-DGR UN 1689 SODIUM CYANIDE, SOLID,

6.1, I

**Specification**

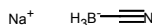
Assay (argentometric) ..... ≥ 95.0 %  
 Identity ..... passes test  
 Chloride (Cl) ..... ≤ 0.05 %  
 Hexacyanoferrate ..... ≤ 0.05 %  
 Sulphide (S) ..... ≤ 0.02 %  
 Pb (Lead) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.06437.1000	Plastic bottle	1 kg	inquire
1.06437.9050	Plastic drum	50 kg	inquire



# Sodium

## 818053 Sodium cyanoborohydride for synthesis



CH<sub>3</sub>BNNa  
NaBH<sub>3</sub>CN  
*Sodium cyanotrihydridoborate*  
■ CAS-No. 25895-60-7 ■ EC-No. 247-317-2  
■ Solub. in H<sub>2</sub>O 2100 g/l (20 °C) (slow decomposition) ■ M = 62.84 g/mol  
■ Melting point 241 - 243 °C  
■ WGK 3  
■ GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases, Category 1, H260; Acute toxicity, Category 2, Oral,

H300; Chronic aquatic toxicity, Category 1, H410; Skin corrosion, Category 1B, H314; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 2, Inhalation, H330; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LGK 4.3  
■ HS-No. 2837 20 00 ■ Disposal 26  
■ ADR-RID UN 1409 Metallhydride, mit Wasser reagierend, n.a.g.(NATRIUMCYANOBORHYDRID), 4.3, I ■ IMDG-Code UN 1409 METAL HYDRIDES, WATER-REACTIVE, N.O.S.(SODIUM CYANOBOROHYDRIDE), 4.3, I

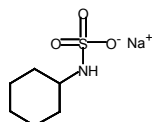
■ IATA-DGR UN 1409 METAL HYDRIDES, WATER-REACTIVE, N.O.S.(SODIUM CYANOBOROHYDRIDE), 4.3, I

**Specification**  
Assay (iodometric) ..... ≥ 95,0 %(m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18053.0005	Glass bottle	5 g	inquire
8.18053.0010	Glass bottle	10 g	inquire
8.18053.0025	Glass bottle	25 g	inquire

Sodium cyanotrihydridoborate → Sodium cyanoborohydride page 1432

## 822006 Sodium cyclamate for synthesis



C<sub>6</sub>H<sub>12</sub>NNaO<sub>3</sub>S  
C<sub>6</sub>H<sub>11</sub>NHO<sub>3</sub>SNa

■ CAS-No. 139-05-9 ■ EC-No. 205-348-9  
■ Solub. in H<sub>2</sub>O 200 g/l (20 °C) ■ M = 201.22 g/mol  
■ pH value 5.5 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Bulk density 600 - 700 kg/m<sup>3</sup>  
■ WGK 1  
■ LD50 oral rat 15250 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2929 90 00

**Specification**  
Assay (HClO<sub>4</sub>) ..... ≥ 99,0 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22006.0100	Plastic bottle	100 g	inquire
8.22006.0500	Plastic bottle	500 g	inquire

Sodium 1-decanesulphonate → Decane-1-sulfonic acid sodium salt page 686

## 815055 Sodiumdeuterium oxide 30% solution in D<sub>2</sub>O deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™

■ Spec. density 1.462 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8 B  
■ HS-No. 2845 90 10 ■ Disposal 13  
■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, II  
■ IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

**Specification**  
Deuteration degree ..... ≥ 99,5 %  
Assay (weight%) ..... ≥ 30 %

Ord.No.	Packaging	Quantity	Price
8.15055.0025	Glass bottle	25 ml	inquire

## 106336 Sodium dichromate dihydrate for analysis EMSURE® ACS

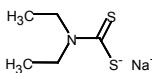
Cr<sub>2</sub>Na<sub>2</sub>O<sub>7</sub>·2H<sub>2</sub>O  
Na<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> · 2 H<sub>2</sub>O  
*Sodium bichromate, Sodium pyrochromate*  
■ CAS-No. 7789-12-0 ■ EC-No. 234-190-3  
■ Spec. density 2.35 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 731.8 g/l (20 °C) ■ M = 298.00 g/mol  
■ pH value 3.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 356.7 °C (anhydrous substance)  
■ Bulk density 1200 kg/m<sup>3</sup>  
■ Boiling point 400 °C (decomposition)  
■ WGK 3  
■ GHS: Danger, Oxidising solid, Category 2, H272; Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 1B, H340; Reproductive toxicity, Category 1B, H360FD; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Specific target organ toxicity - repeated

exposure, Category 1, H372; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LC50 oral 0.124 mg/l  
■ LD50 oral rat 50 mg/kg ■ LD50 dermal rabbit 1000 mg/kg  
■ EC-Index-No. 024-004-00-7 ■ LGK 5.1B  
■ HS-No. 2841 30 00 ■ Disposal 22  
■ ADR-RID UN 3086 Giftiger fester Stoff, entzündend (oxidierend) wirkend, n.a.g.(NATRIUMDICHROMAT), 6.1 (5.1), II ■ IMDG-Code UN 3086 TOXIC SOLID, OXIDIZING, N.O.S.(SODIUM DICHROMATE), 6.1 (5.1), II  
■ IATA-DGR UN 3086 TOXIC SOLID, OXIDIZING, N.O.S.(SODIUM DICHROMATE), 6.1 (5.1), II

**Specification**  
Assay (iodometric) ..... 99.5 - 100.5 %  
Identity ..... passes test  
Insoluble matter ..... ≤ 0.005 %  
Chloride (Cl) ..... ≤ 0.002 %  
Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
Al (Aluminium) ..... ≤ 0.002 %  
Ca (Calcium) ..... ≤ 0.002 %  
Cu (Copper) ..... ≤ 0.001 %  
Fe (Iron) ..... ≤ 0.002 %  
K (Potassium) ..... ≤ 0.01 %  
Mg (Magnesium) ..... ≤ 0.005 %  
Pb (Lead) ..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.06336.0250	Plastic bottle	250 g	inquire
1.06336.1000	Plastic bottle	1 kg	inquire

## 106689 Sodium diethyldithiocarbamate trihydrate (reagent for copper) GR for analysis ACS



C<sub>5</sub>H<sub>10</sub>NNaS<sub>2</sub> · 3 H<sub>2</sub>O  
*Diethyldithiocarbamic acid sodium salt*  
■ CAS-No. 20624-25-3 ■ EC-No. 205-710-6  
■ Solub. in H<sub>2</sub>O 600 g/l (20 °C) ■ M = 225.31 g/mol  
■ pH value 7 (20 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 93 °C  
■ WGK 3  
■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400,

P273  
■ LD50 oral rat 1500 mg/kg ■ LD50 dermal rat > 1000 mg/kg  
■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
■ HS-No. 2930 20 00 ■ Disposal 3  
■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(NATRIUMDIETHYLDITHIOCARBAMINAT-TRIHYDRAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SODIUM DIETHYLDITHIOCARBAMATE TRIHYDRATE), 9, III, Marine Pollutant: P  
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SODIUM

DIETHYLDITHIOCARBAMATE TRIHYDRATE), 9, III  
**Specification**  
Assay (HClO<sub>4</sub>) ..... ≥ 97,0 %  
Sulfated ash ..... 30.0 - 36.0 %  
Sensitivity (as reagent of copper) ..... passes test  
Identity (IR) ..... passes test  
Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.06689.0025	Plastic bottle	25 g	inquire
1.06689.0100	Plastic bottle	100 g	inquire



## 106370 Sodium dihydrogen phosphate anhydrous 99.99 Suprapur®

H<sub>2</sub>NaO<sub>4</sub>P  
 NaH<sub>2</sub>PO<sub>4</sub>  
*Sodium biphosphate*  
 ■ CAS-No. 7558-80-7 ■ EC-No. 231-449-2  
 ■ Solub. in H<sub>2</sub>O 850 g/l (20 °C) ■ M = 119.98 g/mol  
 ■ pH value 4.5 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Bulk density 940 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat 8290 mg/kg ■ LD50 dermal rabbit > 7940 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2835 22 00 ■ Disposal 14

**Specification**

Purity (metallic) ..... ≥ 99.99 %  
 Assay (acidimetric) ..... ≥ 99.0 %  
 Spec. Absorbance A at 260 nm (2 cm; 10 %) ..... ≤ 0.020

Chloride (Cl) ..... ≤ 5 ppm  
 Sulphate (SO<sub>4</sub>) ..... ≤ 30 ppm  
 Total nitrogen (N) ..... ≤ 10 ppm  
 As (Arsenic) ..... ≤ 0.05 ppm  
 Ba (Barium) ..... ≤ 10.0 ppm  
 Ca (Calcium) ..... ≤ 0.50 ppm  
 Cd (Cadmium) ..... ≤ 0.010 ppm  
 Ce (Cerium) ..... ≤ 0.010 ppm  
 Co (Cobalt) ..... ≤ 0.010 ppm  
 Cs (Cesium) ..... ≤ 5 ppm  
 Cu (Copper) ..... ≤ 0.010 ppm  
 Eu (Europium) ..... ≤ 0.010 ppm  
 Fe (Iron) ..... ≤ 0.05 ppm  
 Hg (Mercury) ..... ≤ 0.05 ppm  
 K (Potassium) ..... ≤ 5.0 ppm  
 La (Lanthanum) ..... ≤ 0.010 ppm  
 Li (Lithium) ..... ≤ 1.0 ppm

Mg (Magnesium) ..... ≤ 0.50 ppm  
 Mn (Manganese) ..... ≤ 0.010 ppm  
 Ni (Nickel) ..... ≤ 0.010 ppm  
 Pb (Lead) ..... ≤ 0.010 ppm  
 Rb (Rubidium) ..... ≤ 5.0 ppm  
 Sm (Samarium) ..... ≤ 0.010 ppm  
 Sr (Strontium) ..... ≤ 0.50 ppm  
 Tl (Thallium) ..... ≤ 0.01 ppm  
 Y (Yttrium) ..... ≤ 0.010 ppm  
 Yb (Ytterbium) ..... ≤ 0.010 ppm  
 Zn (Zinc) ..... ≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.06370.0050	Plastic bottle	50 g	inquire

## 106342 Sodium dihydrogen phosphate dihydrate for analysis EMSURE® Reag. Ph Eur

H<sub>2</sub>NaO<sub>4</sub>P \* 2 H<sub>2</sub>O  
 NaH<sub>2</sub>PO<sub>4</sub> \* 2 H<sub>2</sub>O  
*mono-Sodium orthophosphate, Sodium biphosphate, Sodium phosphate monobasic*  
 ■ CAS-No. 13472-35-0 ■ EC-No. 231-449-2  
 ■ Spec. density 1.915 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 850 g/l (20 °C) ■ M = 156.02 g/mol  
 ■ pH value 4.5 (12 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 60 °C ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat 8290 mg/kg ■ LD50 dermal rabbit > 7940 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2835 22 00 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**

Identity ..... passes test

Appearance of solution ..... passes test  
 Assay (alkalimetric, calculated on dried substance) ..... 99.0 - 100.5 %  
 In water insoluble matter (calculated on dried substance) ..... ≤ 0.15 %  
 pH-value (1 %, water) ..... 4.1 - 5.0  
 pH-value (5 %, water) ..... 4.2 - 4.5  
 Chloride (Cl) ..... ≤ 0.0005 %  
 Fluoride (F) ..... ≤ 0.001 %  
 Total nitrogen (as N) ..... ≤ 0.001 %  
 Hydrogenphosphate (HPO<sub>4</sub>) ..... ≤ 0.5 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Al, Ca and other elements detectable with ammonia ..... passes test  
 As (Arsenic) ..... ≤ 0.00005 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Cd (Cadmium) ..... ≤ 0.0001 %  
 Co (Cobalt) ..... ≤ 0.005 %

Cu (Copper) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Hg (Mercury) ..... ≤ 0.0001 %  
 K (Potassium) ..... ≤ 0.005 %  
 Mg (Magnesium) ..... ≤ 0.005 %  
 Ni (Nickel) ..... ≤ 0.005 %  
 Pb (Lead) ..... ≤ 0.0004 %  
 Zn (Zinc) ..... ≤ 0.025 %  
 Substances reducing potassium permanganate (as O) ..... passes test  
 Loss on drying (130 °C) ..... 21.5 - 24.0 %  
 Corresponds to Reag. Ph. Eur.

Ord.No.	Packaging	Quantity	Price
1.06342.0250	Plastic bottle	250 g	inquire
1.06342.1000	Plastic bottle	1 kg	inquire
1.06342.2500	Plastic bottle	2.5 kg	inquire

## 106346 Sodium dihydrogen phosphate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur

H<sub>2</sub>NaO<sub>4</sub>P \* H<sub>2</sub>O  
 NaH<sub>2</sub>PO<sub>4</sub> \* H<sub>2</sub>O  
 ■ CAS-No. 10049-21-5 ■ EC-No. 231-449-2  
 ■ Spec. density 2.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 850 g/l (20 °C) ■ M = 137.99 g/mol  
 ■ pH value 4.1 - 4.5 (50 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Bulk density 880 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit > 7940 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2835 22 00

**Specification**

Assay (alkalimetric) ..... 99.0 - 102.0 %  
 Insoluble matter ..... ≤ 0.01 %  
 pH-value (5 %, water, 25 °C) ..... 4.1 - 4.5  
 UV absorption (280 nm; 1 mol/l; 1 cm; water) ..... ≤ 0.05  
 Chloride (Cl) ..... ≤ 0.0005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.003 %  
 Total nitrogen (N) ..... ≤ 0.001 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Ca (Calcium) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.0005 %

K (Potassium) ..... ≤ 0.005 %  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06346.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06346.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06346.9025	Fibre carton	25 kg	inquire
1.06346.9050	Fibre carton	50 kg	inquire

di-Sodium 4,5-dihydroxy-1,3-benzenedisulfonate  
 → 3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate page 172

Sodium 4-(dimethylamino)azobenzene-4'-sulfonate → Methyl orange (C.I. 13025) page 1166

## 106591 tetra-Sodium diphosphate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur

Na<sub>4</sub>O<sub>7</sub>P<sub>2</sub> \* 10 H<sub>2</sub>O  
 Na<sub>4</sub>P<sub>2</sub>O<sub>7</sub> \* 10 H<sub>2</sub>O  
*tetra-Sodium pyrophosphate, TSPP*  
 ■ CAS-No. 13472-36-1 ■ EC-No. 231-767-1  
 ■ Spec. density 1.82 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C) (anhydrous substance)  
 ■ M = 446.06 g/mol ■ pH value 9.5 - 10.5 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 990 °C (anhydrous substance) ■ Bulk density 650 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2835 39 00 ■ Disposal 14

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**

Assay (acidimetric) ..... 99.0 - 103.0 %  
 Insoluble matter ..... ≤ 0.01 %  
 pH-value (5 %, water, 25 °C) ..... 9.5 - 10.5  
 Chloride (Cl) ..... ≤ 0.001 %  
 Orthophosphate (PO<sub>4</sub>) ..... ≤ 0.1 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Total nitrogen (N) ..... ≤ 0.001 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %

Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.005 %  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06591.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06591.2500	Plastic bottle	2.5 kg	inquire
	Plastic bottle	4 x 2.5 kg	inquire
1.06591.9050	Fibre carton	50 kg	inquire

# Sodium

## 106528 Sodium disulfite (sodium metabisulfite) for analysis EMSURE® ACS, Reag. Ph Eur



Na<sub>2</sub>O<sub>5</sub>S<sub>2</sub>  
*Sodium metabisulfite, Sodium pyrosulfite, Disulfite, Pyrosulfite*  
 ■ CAS-No. 7681-57-4 ■ EC-No. 231-673-0  
 ■ Spec. density 2.36 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 650 g/l (20 °C) ■ M = 190.11 g/mol  
 ■ pH value 3.5 - 5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 150 °C (decomposition)  
 ■ Bulk density 1000 - 1200 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313  
 ■ LD50 oral rat 1540 mg/kg ■ LD50 dermal rat > 2000 mg/kg

■ EC-Index-No. 016-063-00-2 ■ LGK 10 - 13  
 ■ HS-No. 2832 10 00 ■ Disposal 6  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

Heavy metals (as Pb)..... ≤ 0.001 %  
 As (Arsenic)..... ≤ 0.0001 %  
 Fe (Iron)..... ≤ 0.0005 %

**Specification**  
 Assay (iodometric).....98.0 - 100.5 %  
 Identity.....passes test  
 Appearance of solution.....passes test  
 pH-value (5 %; water).....3.5 - 5.0  
 Insoluble matter.....≤ 0.005 %  
 Chloride (Cl).....≤ 0.005 %  
 Thiosulfate (S<sub>2</sub>O<sub>3</sub>).....≤ 0.05 %  
 Thiosulfate (S<sub>2</sub>O<sub>3</sub>).....passes test

Ord.No.	Packaging	Quantity	Price
1.06528.0100	Plastic bottle	100 g	inquire
1.06528.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06528.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06528.5000	Plastic bottle	5 kg	inquire
1.06528.9050	Fibre carton	50 kg	inquire

## Sodium dithionite



Na<sub>2</sub>O<sub>4</sub>S<sub>2</sub>  
 Na<sub>2</sub>S<sub>2</sub>O<sub>4</sub>  
*Sodium hydrosulfite, Sodium hypodisulfite*  
 ■ CAS-No. 7775-14-6 ■ EC-No. 231-890-0  
 ■ Spec. density 2.5 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 250 g/l (20 °C) (slow decomposition) ■ M = 174.11 g/mol  
 ■ pH value 7 - 9 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 100 °C (decomposition)  
 ■ Bulk density 1250 kg/m<sup>3</sup>  
 ■ Ignition temp. >200 °C  
 ■ WGK 1  
 ■ GHS: Danger, Self-heating substances, Category 1, H251; Acute toxicity, Category 4, Oral, H302, P210, P370 + P378  
 ■ LD50 oral rat 2500 mg/kg

■ EC-Index-No. 016-028-00-1 ■ LGK 4.2  
 ■ HS-No. 2831 10 00 ■ Disposal 6  
 ■ ADR-RID UN 1384 Natriumdithionit, 4.2, II  
 ■ IMDG-Code UN 1384 SODIUM DITHIONITE, 4.2, II  
 ■ IATA-DGR UN 1384 SODIUM DITHIONITE, 4.2, II

## 106507 Sodium dithionite for analysis

**Specification**  
 Assay (iodometric)..... ≥ 85 %  
 Identity.....passes test  
 Chloride (Cl)..... ≤ 0.01 %

Fe (Iron)..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.06507.0500	Metal can	500 g	inquire
1.06507.2500	Metal can	2.5 kg	inquire

## 106505 Sodium dithionite technical grade

**Specification**  
 Assay (iodometric)..... ≥ 85.0 %  
 Identity.....passes test  
 Chloride (Cl)..... ≤ 0.05 %

Fe (Iron)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.06505.1000	Metal can	1 kg	inquire
1.06505.9050	Steel drum	50 kg	inquire

Sodium dodecyl sulfate → page 830

Sodium ethanolate → page 1434

## Sodium ethoxide



C<sub>2</sub>H<sub>5</sub>NaO  
 C<sub>2</sub>H<sub>5</sub>ONa  
*Sodium ethylate, Sodium ethanolate*  
 ■ CAS-No. 141-52-6 ■ EC-No. 205-487-5  
 ■ Vapour pressure 31 hPa (20 °C)  
 ■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.6 - 19 % (V) ■ Flash point 23 °C ■ Solub. in H<sub>2</sub>O (20 °C) decomposes, Hydrolysis ■ M = 68.05 g/mol

mol ■ pH value 11 (H<sub>2</sub>O) ■ Melting point 260 °C  
 ■ Bulk density 300 kg/m<sup>3</sup> ■ Boiling point 91 °C (1013 hPa) ■ Ignition temp. 425 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P210, P233, P240, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 598 mg/kg  
 ■ EC-Index-No. 603-041-00-8 ■ LGK 3 ■ Store

below +15 °C.  
 ■ HS-No. 3824 90 97 ■ Disposal 13  
 ■ ADR-RID UN 3274 Alkoholate, Lösung, n.a.g. (NATRIUMETHYLAT IN ETHANOL), 3 (8), II  
 ■ IMDG-Code UN 3274 ALCOHOLATES SOLUTION, N.O.S. (SODIUM ETHYLATE IN ETHANOL), 3 (8), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 3274 ALCOHOLATES SOLUTION, N.O.S. (SODIUM ETHYLATE IN ETHANOL), 3 (8), II

## 818199 Sodium ethoxide (20% solution in ethanol) for synthesis

**Specification**  
 Assay (acidimetric).....20,0 - 22,0 % (m)  
 Density (d 20 °C/ 4 °C).....0,875 - 0,880

Ord.No.	Packaging	Quantity	Price
8.18199.0100	Glass bottle	100 ml	inquire
8.18199.1000	Glass bottle	1 l	inquire

## 820871 Sodium ethoxide for synthesis

**Specification**  
 Assay (acidimetric)..... ≥ 95,0 % (m)  
 Free NaOH..... ≤ 2,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.20871.0250	Glass bottle	250 g	inquire
8.20871.1000	Glass bottle	1 kg	inquire

Sodium ethylate → page 1434

## 845101 Sodium ethylate for pharma synthesis, non-GMP

Na<sup>+</sup>C<sub>2</sub>H<sub>5</sub>NaOC<sub>2</sub>H<sub>5</sub>ONa

Sodium ethylate, Sodium ethanolate

- CAS-No. 141-52-6 ■ EC-No. 205-487-5
- Solub. in H<sub>2</sub>O (20 °C) (decomposition)
- M = 68.05 g/mol ■ pH value 13 (5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 260 °C
- Bulk density 300 kg/m<sup>3</sup>
- Ignition temp. 30 - 50 °C
- WGK 1
- GHS: Danger, Self-heating substances, Category

1, H251; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310, P370 + P378

- LD50 oral rat 598 mg/kg
- EC-Index-No. 603-041-00-8 ■ LGK 4.2 ■ Store below +15 °C.
- HS-No. 2905 19 00 ■ Disposal 13
- ADR-RID UN 3206 Alkalimetallalkoholate, selbsterhitzungsfähig, ätzend, n.a.g.(NATRIUMETHYLAT), 4.2 (8), II ■ IMDG-Code UN 3206 ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.(SODIUMETHYLATE), 4.2 (8), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 3206 ALKALI METAL ALCOHOLATES, SELF-HEATING, CORROSIVE, N.O.S.(SODIUMETHYLATE), 4.2 (8), II

## Specification

Colour (visual).....white to yellowish  
 Appearance of substance (visual).....powder  
 Assay (acidimetric).....≥ 95.0 %  
 Free NaOH.....≤ 2.0 %

Ord.No.	Packaging	Quantity	Price
8.45101.0250	Glass bottle	250 g	inquire
8.45101.1000	Glass bottle	1 kg	inquire

## Sodium fluoride

FNa

NaF

- CAS-No. 7681-49-4 ■ EC-No. 231-667-8
- Vapour pressure 1 hPa (1077 °C)
- Spec. density 2.8 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 42 g/l (20 °C) ■ M = 41.98 g/mol
- pH value 10.2 (40 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 993 °C ■ Bulk density 800 kg/m<sup>3</sup>

■ Boiling point 1704 °C

- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 25 - 200 mg/kg
- EC-Index-No. 009-004-00-7 ■ LGK 6.1 D

■ HS-No. 2826 19 10

- ADR-RID UN 1690 Natriumfluorid, fest, 6.1, III
- IMDG-Code UN 1690 SODIUM FLUORIDE, SOLID, 6.1, III
- IATA-DGR UN 1690 SODIUM FLUORIDE, SOLID, 6.1, III

## 106449 Sodium fluoride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

## Specification

Assay (precipitative titration).....≥ 99.5 %  
 In water insoluble matter.....≤ 0.01 %  
 Free alkali (as NaOH).....≤ 0.04 %  
 Free acid (as hydrofluoric acid).....≤ 0.05 %  
 Chloride (Cl).....≤ 0.003 %  
 Hexafluorosilicate (SiF<sub>6</sub>).....≤ 0.1 %  
 Sulphate (SO<sub>4</sub>).....≤ 0.01 %

Sulfite (SO<sub>3</sub>).....≤ 0.005 %  
 Heavy metals (as Pb).....≤ 0.001 %  
 Ca (Calcium).....≤ 0.004 %  
 Cu (Copper).....≤ 0.0002 %  
 Fe (Iron).....≤ 0.002 %  
 K (Potassium).....≤ 0.02 %  
 Loss on drying (150 °C, 4 h).....≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.06449.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.06449.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06449.9050	Fibre carton	50 kg	inquire

## 106450 Sodium fluoride 99.99 Suprapur®

## Specification

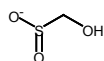
Purity (metallic).....≥ 99.99 %  
 Ba (Barium).....≤ 5 ppm  
 Ca (Calcium).....≤ 5 ppm  
 Co (Cobalt).....≤ 0.05 ppm  
 Cu (Copper).....≤ 0.05 ppm  
 Fe (Iron).....≤ 0.5 ppm

K (Potassium).....≤ 2 ppm  
 Li (Lithium).....≤ 0.5 ppm  
 Mg (Magnesium).....≤ 1 ppm  
 Mn (Manganese).....≤ 0.05 ppm  
 Ni (Nickel).....≤ 0.05 ppm  
 Pb (Lead).....≤ 0.1 ppm

Sr (Strontium).....≤ 1 ppm  
 Zn (Zinc).....≤ 0.2 ppm

Ord.No.	Packaging	Quantity	Price
1.06450.0025	Plastic bottle	25 g	inquire

## 806455 Sodium formaldehydesulfoxylate hydrate (stabilised with sodium carbonate) for synthesis

Na<sup>+</sup>CH<sub>2</sub>NaO<sub>3</sub>S \* xH<sub>2</sub>O (x ca. 2)CH<sub>2</sub>SO<sub>3</sub>Na \* xH<sub>2</sub>O (x ca. 2)

- CAS-No. 6035-47-8 ■ EC-No. 205-739-4
- Spec. density 1.8 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 600 g/l (20 °C) ■ M = 154.12 g/mol
- pH value 9.5 - 10.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Saturation conc. (20 °C) Air, no data available

■ Melting point 63 °C ■ Bulk density 950 kg/m<sup>3</sup>

- WGK 1
- LD50 oral rat 6400 mg/kg
- LGK 10 - 13
- HS-No. 2831 10 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (iodometric, calc. as dihydrate).....≥ 97.0 % (m)  
 Sodium sulfite (Na<sub>2</sub>SO<sub>3</sub>) (iodometric).....≤ 5.0 % (m)

Iron (Fe).....≤ 0,003 % (m)  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.06455.0100	Plastic bottle	100 g	inquire
8.06455.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.06455.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
8.06455.9050	Fibre carton	50 kg	inquire

## 106443 Sodium formate for analysis EMSURE® ACS,Reag. Ph Eur

CHNaO<sub>2</sub>

HCOONa

- CAS-No. 141-53-7 ■ EC-No. 205-488-0
- Spec. density 1.92 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 550 g/l (20 °C) ■ M = 68.01 g/mol
- pH value 7.0 - 8.5 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 253 °C ■ Bulk density 635 kg/m<sup>3</sup>

- WGK 1
- LD50 oral rat > 3000 mg/kg
- LGK 10 - 13
- HS-No. 2915 12 00 ■ Disposal 3

## Specification

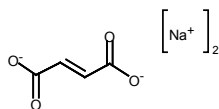
Assay (perchloric acid titration).....≥ 99.0 %  
 Insoluble matter.....≤ 0.005 %  
 pH-value (5 %; water).....7.0 - 8.5  
 Chloride (Cl).....≤ 0.001 %  
 Phosphate (PO<sub>4</sub>).....≤ 0.001 %  
 Sulphate (SO<sub>4</sub>).....≤ 0.001 %

Heavy metals (as Pb).....≤ 0.0005 %  
 Ca (Calcium).....≤ 0.0005 %  
 Fe (Iron).....≤ 0.0005 %  
 Loss on drying (150 °C).....≤ 0.5 %  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06443.0500	Plastic bottle	500 g	inquire
1.06443.9050	Fibre carton	50 kg	inquire

# Sodium

## 820584 di-Sodium fumarate for synthesis



*Fumaric acid disodium salt*  
 ■ CAS-No. 17013-01-3 ■ EC-No. 241-087-7  
 ■ Solub. in H<sub>2</sub>O 228 g/l (25 °C) ■ M = 160.04 g/mol  
 ■ pH value 7 - 8 (50 g/l, H<sub>2</sub>O)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

### Specification

Assay (HClO<sub>4</sub>)..... ≥ 99.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20584.0100	Plastic bottle	100 g	inquire
8.20584.0500	Plastic bottle	500 g	inquire
8.20584.1000	Plastic bottle	1 kg	inquire

C<sub>4</sub>H<sub>2</sub>Na<sub>2</sub>O<sub>4</sub>  
 NaOOCCH=CHCOONa

Sodium gluconate → Gluconic acid sodium salt  
 page 922

Sodium D-gluconate → D(+)-Gluconic acid  
 sodium salt monohydrate page 923

## 102521 Sodium hexanitrocobaltate(III) [sodium cobalt(III)nitrite] for analysis EMSURE® ACS, Reag. Ph Eur



CoNa<sub>6</sub>Na<sub>3</sub>O<sub>12</sub>  
 Na<sub>3</sub>[Co(NO<sub>2</sub>)<sub>6</sub>]  
*Cobalt(III) sodium nitrite, Sodium cobaltinitrite*  
 ■ CAS-No. 13600-98-1 ■ EC-No. 237-077-7  
 ■ Spec. density 0.48 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 720 g/l  
 (20 °C) ■ M = 403.93 g/mol ■ pH value 5 (100 g/l,  
 H<sub>2</sub>O, 20 °C) ■ Melting point 220 °C  
 ■ Bulk density 480 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Warning, Oxidising solid, Category 3,  
 H272; Carcinogenicity, Category 2, H351; Skin

sensitisation, Category 1, H317, P280, P308 +  
 P313, P302 + P352  
 ■ LGK 5.1 B  
 ■ HS-No. 2842 90 80 ■ Disposal 14  
 ■ ADR-RID UN 1479 Entzündend (oxidierend)  
 wirkender fester Stoff,  
 n.a.g.(NATRIUMHEXANITROCOBALSTAT), 5.1, III  
 ■ IMDG-Code UN 1479 OXIDIZING SOLID,  
 N.O.S.(SODIUM HEXANITROCOBALTATE), 5.1, III  
 ■ IATA-DGR UN 1479 OXIDIZING SOLID,  
 N.O.S.(SODIUM HEXANITROCOBALTATE), 5.1, III

### Specification

Identity..... passes test  
 Insoluble matter..... ≤ 0.02 %  
 Chloride (Cl)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.002 %  
 Suitability for Potassium determination passes test

Ord.No.	Packaging	Quantity	Price
1.02521.0025	Plastic bottle	25 g	inquire
1.02521.0100	Plastic bottle	100 g	inquire

Sodium hippurate → Hippuric acid sodium salt page 959

## 814552 Sodium hydride suspension (60% suspension in paraffin oil) for synthesis



HNa  
 NaH  
 ■ CAS-No. 7646-69-7 ■ EC-No. 231-587-3  
 ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O (20 °C) (rigorous decomposition)  
 ■ M = 24.0 g/mol ■ Bulk density 500 - 700 kg/  
 m<sup>3</sup> not applicable ■ Boiling point >225 °C  
 (1013 hPa) (decomposition)  
 ■ WGK 1

■ GHS: Danger, Substances, which in contact with  
 water, emit flammable gases, Category 1, H260;  
 Skin corrosion, Category 1B, H314, P280, P301 +  
 P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ EC-Index-No. 001-003-00-X ■ LGK 4.3  
 ■ HS-No. 3824 90 97 ■ Disposal 26  
 ■ ADR-RID UN 1427 Natriumhydrid, 4.3, I  
 ■ IMDG-Code UN 1427 SODIUM HYDRIDE, 4.3, I  
 ■ IATA-DGR UN 1427 SODIUM HYDRIDE, 4.3, I

### Specification

Assay (by gasvolumetry)..... ≥ 57.0 %

Ord.No.	Packaging	Quantity	Price
8.14552.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire

## 106329 Sodium hydrogen carbonate for analysis EMSURE® ACS, Reag. Ph Eur

CHNaO<sub>3</sub>  
 NaHCO<sub>3</sub>  
*Sodium bicarbonate*  
 ■ CAS-No. 144-55-8 ■ EC-No. 205-633-8  
 ■ Spec. density 2.22 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O 96 g/l (20 °C) ■ M = 84.01 g/mol  
 ■ pH value 8.6 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 270 °C (decomposition)  
 ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat 4220 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2836 30 00 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No  
 Dangerous Good  
 ■ IATA-DGR No Dangerous Good

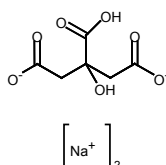
Identity..... passes test  
 Assay (acidimetric; calculated on dried substance).  
 ..... 99.7 - 100.3 %  
 Assay (acidimetric)..... 99.0 - 101.0 %  
 Insoluble matter..... ≤ 0.015 %  
 pH-value (5 %; water)..... ≤ 8.6  
 Chloride (Cl)..... ≤ 0.002 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.015 %  
 Phosphate and Silicate (as SiO<sub>2</sub>)..... ≤ 0.005 %  
 Sulfur compounds (as SO<sub>4</sub>)..... ≤ 0.003 %  
 Total nitrogen (N)..... ≤ 0.0005 %  
 Ammonium (NH<sub>4</sub>)..... ≤ 0.0005 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 As (Arsenic)..... ≤ 0.0002 %  
 Ca (Calcium)..... ≤ 0.01 %  
 Cu (Copper)..... ≤ 0.0002 %  
 Fe (Iron)..... ≤ 0.0005 %

K (Potassium)..... ≤ 0.005 %  
 Mg (Magnesium)..... ≤ 0.005 %  
 Pb (Lead)..... ≤ 0.0005 %  
 Iodine reducing matter (as I)..... ≤ 0.0065 %  
 Loss on drying (Silica gel)..... ≤ 0.20 %  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06329.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06329.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06329.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.06329.9025	Plastic drum	25 kg	inquire
1.06329.9050	Fibre carton	50 kg	inquire

**Specification**  
 Appearance of solution..... passes test

## 112264 di-Sodium hydrogen citrate 1,5-hydrate 99+



■ CAS-No. 6132-05-4 ■ EC-No. 205-623-3  
 ■ M = 263.11 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 15 00 ■ Disposal 3

### Specification

Assay (alcalimetric, calculated on anhydrous  
 substance)..... 99.0 - 104.0 %  
 Identity (IR)..... passes test

Appearance..... white to almost white, crystalline  
 powder  
 Appearance of solution (100 g/l, water).....  
 ..... clear and colorless  
 Water (according to Karl Fischer)..... 10 - 14 %

Ord.No.	Packaging	Quantity	Price
1.12264.0500	Plastic bottle	500 g	inquire

C<sub>6</sub>H<sub>6</sub>Na<sub>2</sub>O<sub>7</sub> \* 1,5H<sub>2</sub>O

## di-Sodium hydrogen phosphate anhydrous

HNa<sub>2</sub>O<sub>4</sub>PNa<sub>2</sub>HPO<sub>4</sub>

■ CAS-No. 7558-79-4 ■ EC-No. 231-448-7

■ Solub. in H<sub>2</sub>O 77 g/l (20 °C) ■ M = 141.96 g/mol■ pH value 8.7 - 9.3 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 250 °C (decomposition)

■ Bulk density 880 kg/m<sup>3</sup>

■ WGK 1

■ LD50 oral rat &gt; 2000 mg/kg

■ LGK 10 - 13

■ HS-No. 2835 22 00

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

## 106559 di-Sodium hydrogen phosphate anhydrous for analysis particle size about 0.2-1 mm (~18-80 mesh ASTM) EMSURE®

## Specification

Assay (acidimetric).....	≥ 99.0 %	Heavy metals (as Pb).....	≤ 0.001 %
pH-value (5 %; water).....	8.9 - 9.2	Fe (Iron).....	≤ 0.001 %
Chloride (Cl).....	≤ 0.001 %	K (Potassium).....	≤ 0.01 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.005 %	Particle size (0.2 - 1 mm).....	about 90 %
Total nitrogen (N).....	≤ 0.001 %	Loss on drying (105 °C).....	≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.06559.0500	Plastic bottle	500 g	inquire
1.06559.9025	Fibre carton	25 kg	inquire

## 106586 di-Sodium hydrogen phosphate anhydrous for analysis EMSURE® ACS,Reag. Ph Eur

## Specification

Assay (alkalimetric).....	≥ 99.0 %	Fe (Iron).....	≤ 0.001 %
Insoluble matter.....	≤ 0.01 %	K (Potassium).....	≤ 0.01 %
pH-value (5 %; water, 25 °C).....	8.7 - 9.3	Pb (Lead).....	≤ 0.001 %
Chloride (Cl).....	≤ 0.001 %	Loss on drying (105 °C).....	≤ 0.2 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.005 %	Corresponds to ACS,Reag. Ph Eur	
Heavy metals (as Pb).....	≤ 0.001 %		
Cu (Copper).....	≤ 0.0003 %		

Ord.No.	Packaging	Quantity	Price
1.06586.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06586.1000	Plastic bottle	1 kg	inquire
1.06586.2500	Plastic bottle	2.5 kg	inquire
1.06586.9050	Fibre carton	50 kg	inquire

## 106566 di-Sodium hydrogen phosphate anhydrous 99.99 Suprapur®

## Specification

Purity (metallic).....	≥ 99.99 %	Cr (Chromium).....	≤ 0.050 ppm
Assay (acidimetric).....	≥ 99.0 %	Cs (Cesium).....	≤ 5 ppm
Absorbance (at 260 nm; 10 %; 2 cm; water).....	≤ 0.010	Cu (Copper).....	≤ 0.010 ppm
Chloride (Cl).....	≤ 5 ppm	Eu (Europium).....	≤ 0.010 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 30 ppm	Fe (Iron).....	≤ 0.05 ppm
Total nitrogen (N).....	≤ 10 ppm	Hg (Mercury).....	≤ 0.05 ppm
As (Arsenic).....	≤ 0.1 ppm	K (Potassium).....	≤ 2.0 ppm
Ba (Barium).....	≤ 10.0 ppm	La (Lanthanum).....	≤ 0.010 ppm
Ca (Calcium).....	≤ 0.50 ppm	Li (Lithium).....	≤ 1.0 ppm
Cd (Cadmium).....	≤ 0.010 ppm	Mg (Magnesium).....	≤ 0.10 ppm
Ce (Cerium).....	≤ 0.010 ppm	Mn (Manganese).....	≤ 0.010 ppm
Co (Cobalt).....	≤ 0.010 ppm	Ni (Nickel).....	≤ 0.050 ppm
		Pb (Lead).....	≤ 0.010 ppm

Rb (Rubidium).....	≤ 5.0 ppm
Sm (Samarium).....	≤ 0.010 ppm
Sr (Strontium).....	≤ 0.50 ppm
Tl (Thallium).....	≤ 0.01 ppm
Y (Yttrium).....	≤ 0.010 ppm
Yb (Ytterbium).....	≤ 0.010 ppm
Zn (Zinc).....	≤ 0.050 ppm

Ord.No.	Packaging	Quantity	Price
1.06566.0100	Plastic bottle	100 g	inquire
1.06566.0500	Plastic bottle	500 g	inquire

## di-Sodium hydrogen phosphate dihydrate

HNa<sub>2</sub>O<sub>4</sub>P \* 2 H<sub>2</sub>ONa<sub>2</sub>HPO<sub>4</sub> \* 2 H<sub>2</sub>O

Sodium monohydrogen phosphate, Sodium phosphate dibasic

■ CAS-No. 10028-24-7 ■ EC-No. 231-448-7

■ Spec. density 2.1 g/cm<sup>3</sup> (20 °C) ■ Solub. inH<sub>2</sub>O 93 g/l (20 °C) ■ M = 177.99 g/mol■ pH value 9.0 - 9.4 (50 g/l, H<sub>2</sub>O, 20 °C)■ Melting point 92.5 °C Elimination of water of crystallisation ■ Bulk density 850 - 1000 kg/m<sup>3</sup>

■ WGK 1

■ LD50 oral rat &gt; 2000 mg/kg

■ LGK 10 - 13

■ HS-No. 2835 22 00 ■ Disposal 14

## 106580 di-Sodium hydrogen phosphate dihydrate for analysis EMSURE®

## Specification

Assay (acidimetric).....	≥ 99.5 %	Cu (Copper).....	≤ 0.0003 %
Identity.....	passes test	Fe (Iron).....	≤ 0.001 %
pH-value (5 %; water).....	9.0 - 9.2	K (Potassium).....	≤ 0.005 %
Chloride (Cl).....	≤ 0.001 %	Pb (Lead).....	≤ 0.001 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.005 %		
Total nitrogen (N).....	≤ 0.001 %		
Heavy metals (as Pb).....	≤ 0.001 %		

Ord.No.	Packaging	Quantity	Price
1.06580.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06580.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06580.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.06580.9025	Fibre carton	25 kg	inquire
1.06580.9050	Fibre carton	50 kg	inquire

## 119753 di-Sodium hydrogen phosphate dihydrate buffer substance for chromatography LiChropur®

## Specification

Identity.....	passes test	Self-absorption (220 nm; 0.2 mol/l; 1 cm; water).....	≤ 0.02
pH-value (5 %; water).....	9.0 - 9.2	Self-absorption (254 nm; 0.2 mol/l; 1 cm; water).....	≤ 0.05
Assay (acidimetric).....	≥ 99.0 %		
Self-absorption (215 nm; 0.2 mol/l; 1 cm; water).....			

Ord.No.	Packaging	Quantity	Price
1.19753.0250	Glass bottle	250 g	inquire



# Sodium

## 106579 di-Sodium hydrogen phosphate dodecahydrate for analysis EMSURE® ISO,Reag. Ph Eur

$\text{HNa}_2\text{O}_4\text{P} \cdot 12 \text{H}_2\text{O}$   
 $\text{Na}_2\text{HPO}_4 \cdot 12 \text{H}_2\text{O}$   
*Sodium monohydrogen phosphate, Sodium phosphate dibasic*  
 ■ CAS-No. 10039-32-4 ■ EC-No. 231-448-7  
 ■ Spec. density 1.52 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 218 g/l (20 °C) ■ M = 358.14 g/mol  
 ■ pH value 9.0 - 9.3 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 35 °C  
 ■ Bulk density 800 - 900 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2835 22 00 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
**Specification**  
 Assay (alkalimetric) ..... 99.0 - 102.0 %  
 Identity..... passes test  
 Appearance of solution ..... passes test  
 Sodium Dihydrogen phosphate ..... ≤ 2.5 %  
 pH-value (5 %; water)..... 9.0 - 9.3  
 Chloride (Cl)..... ≤ 0.0005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Total nitrogen (N)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 As (Arsenic)..... ≤ 0.00005 %  
 Cu (Copper)..... ≤ 0.0002 %

Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.005 %  
 Pb (Lead)..... ≤ 0.0005 %  
 Reducing substances..... passes test  
 Water..... 57.0 - 61.0 %  
 Corresponds to ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06579.0500	Plastic bottle	500 g	inquire
1.06579.1000	Plastic bottle	1 kg	inquire
1.06579.5000	Plastic bottle	5 kg	inquire
1.06579.9025	Fibre carton	25 kg	inquire

## 106575 di-Sodium hydrogen phosphate heptahydrate for analysis EMSURE® ACS

$\text{HNa}_2\text{O}_4\text{P} \cdot 7 \text{H}_2\text{O}$   
 $\text{Na}_2\text{HPO}_4 \cdot 7 \text{H}_2\text{O}$   
 ■ CAS-No. 7782-85-6 ■ EC-No. 231-448-7  
 ■ Spec. density 1.68 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 154 g/l (20 °C) ■ M = 268.03 g/mol  
 ■ pH value 8.7 - 9.3 (50 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 48 °C Elimination of water of crystallisation ■ Bulk density 800 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat 12930 mg/kg

■ LGK 10 - 13 ■ Store at +15°C to +25°C.  
 ■ HS-No. 2835 22 00 ■ Disposal 14  
**Specification**  
 Assay (acidimetric)..... 98.0 - 102.0 %  
 Identity..... passes test  
 Insoluble matter..... ≤ 0.005 %  
 pH-value (5 %; water)..... 8.7 - 9.3  
 Chloride (Cl)..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %

Heavy metals (as Pb)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.001 %  
 Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.06575.1000	Plastic bottle	1 kg	inquire
1.06575.9025	Fibre carton	25 kg	inquire

## 106587 di-Sodium hydrogen phosphate solution (buffer stock solution) 1/15 mol/l

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9.2 (H<sub>2</sub>O, 20 °C) (ready-to-use solution)  
 ■ WGK nwg  
 ■ LGK 10 - 13

■ HS-No. 2835 22 00 ■ Disposal 28  
**Specification**  
 concentration..... 0.0664 - 0.0670 mol/l

Ord.No.	Packaging	Quantity	Price
1.06587.1000	Plastic bottle	1 l	inquire

## 106352 Sodium hydrogen sulfate monohydrate for analysis EMSURE®

$\text{HNaO}_4\text{S} \cdot \text{H}_2\text{O}$   
 $\text{NaHSO}_4 \cdot \text{H}_2\text{O}$   
 ■ CAS-No. 10034-88-5 ■ EC-No. 231-665-7  
 ■ Spec. density 2.12 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1080 g/l (20 °C) ■ M = 138.07 g/mol  
 ■ pH value 1 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 183 °C (decomposition)  
 ■ Bulk density 900 - 970 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313

■ LD50 oral rat 2490 mg/kg  
 ■ EC-Index-No. 016-046-00-X ■ LGK 10 - 13  
 ■ HS-No. 2833 19 00 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
**Specification**  
 Assay (alkalimetric) ..... ≥ 99.0 %  
 Chloride (Cl)..... ≤ 0.001 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %

Total nitrogen (N)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Al (Aluminium)..... ≤ 0.001 %  
 Ca (Calcium)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.002 %  
 Mg (Magnesium)..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.06352.0500	Plastic bottle	500 g	inquire

## Sodium hydrogen sulfite

*Sodium bisulfite, Sodium bisulfite solution, Bisulfite*  
 ■ Vapour pressure 40 hPa (20 °C)  
 ■ Spec. density 1.34 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.5 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point -44 °C ■ Boiling point 146 °C  
 ■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; EUH031, P262  
 ■ LGK 8B  
 ■ HS-No. 2832 10 00 ■ Disposal 6  
 ■ ADR-RID UN 2693 Hydrogensulfite, wässrige Lösung, n.a.g.(NATRIUMHYDROGENSULFIT LOESUNG), 8, III ■ IMDG-Code UN 2693

BISULPHITES, AQUEOUS SOLUTION, N.O.S.(SODIUM BISULPHITE), 8, III  
 ■ IATA-DGR UN 2693 BISULPHITES, AQUEOUS SOLUTION, N.O.S.(SODIUM BISULPHITE), 8, III

## 806356 Sodium hydrogen sulfite (39% solution in water) for synthesis

**Specification**  
 Assay (iodometric) ..... 37,0 - 42,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.06356.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.06356.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.06356.9025	Plastic container	25 l	inquire

## 845119 Sodium hydrogen sulfite (39% solution in water) for pharma synthesis, non GMP

**Specification**  
 Colour (visual) ..... yellowish  
 Appearance of substance (visual) ..... clear  
 Assay (iodometric) ..... 38,0 - 40,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.45119.0100	Plastic bottle	100 ml	inquire
8.45119.1000	Plastic bottle	1 l	inquire

Sodium hydrosulfite → page 1434

## Sodium hydroxide



<p>HNaO NaOH Soda caustic</p> <ul style="list-style-type: none"> <li>■ CAS-No. 1310-73-2 ■ EC-No. 215-185-5</li> <li>■ Vapour pressure (20 °C) not applicable</li> <li>■ Spec. density 2.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1090 g/l (20 °C) ■ M = 40.00 g/mol</li> <li>■ pH value 14 (50 g/l, H<sub>2</sub>O, 20 °C)</li> </ul>	<ul style="list-style-type: none"> <li>■ Melting point 323 °C ■ Boiling point 1390 °C (1013 hPa)</li> <li>■ WGK 1</li> <li>■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310</li> <li>■ EC-Index-No. 011-002-00-6 ■ LGK 8B</li> </ul>	<ul style="list-style-type: none"> <li>■ HS-No. 2815 11 00 ■ Disposal 13</li> <li>■ ADR-RID UN 1823 Natriumhydroxid, fest, 8, II</li> <li>■ IMDG-Code UN 1823 SODIUM HYDROXIDE, SOLID, 8, II, Segregation Group: 18 (Alkalis)</li> <li>■ IATA-DGR UN 1823 SODIUM HYDROXIDE, SOLID, 8, II</li> </ul>
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## 106462 Sodium hydroxide pellets pure

<p><b>Specification</b></p> <p>Assay (acidimetric,NaOH) ..... ≥ 99.0 %</p> <p>Carbonate (as Na<sub>2</sub>CO<sub>3</sub>) ..... ≤ 1.0 %</p> <p>Chloride (Cl) ..... ≤ 0.01 %</p> <p>Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %</p> <p>Heavy metals (as Pb) ..... ≤ 0.002 %</p>	<p>Al (Aluminium) ..... ≤ 0.002 %</p> <p>Fe (Iron) ..... ≤ 0.002 %</p>	<table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1.06462.1000</td> <td>Plastic bottle</td> <td>1 kg</td> <td>inquire</td> </tr> <tr> <td></td> <td>Plastic bottle</td> <td>6 x 1 kg</td> <td>inquire</td> </tr> <tr> <td>1.06462.5000</td> <td>Plastic bottle</td> <td>5 kg</td> <td>inquire</td> </tr> <tr> <td></td> <td>Plastic bottle</td> <td>4 x 5 kg</td> <td>inquire</td> </tr> <tr> <td>1.06462.9050</td> <td>Fibre carton</td> <td>50 kg</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	1.06462.1000	Plastic bottle	1 kg	inquire		Plastic bottle	6 x 1 kg	inquire	1.06462.5000	Plastic bottle	5 kg	inquire		Plastic bottle	4 x 5 kg	inquire	1.06462.9050	Fibre carton	50 kg	inquire
Ord.No.	Packaging	Quantity	Price																							
1.06462.1000	Plastic bottle	1 kg	inquire																							
	Plastic bottle	6 x 1 kg	inquire																							
1.06462.5000	Plastic bottle	5 kg	inquire																							
	Plastic bottle	4 x 5 kg	inquire																							
1.06462.9050	Fibre carton	50 kg	inquire																							

## 106495 Sodium hydroxide pellets for analysis (max. 0.0002% K) EMSURE® ACS,Reag. Ph Eur

<p><b>Specification</b></p> <p>Assay (acidimetric,NaOH) ..... 99 - 100 %</p> <p>Assay (total alkalinity calc. as NaOH) ..... 99 - 100 %</p> <p>Identity ..... passes test</p> <p>Appearance of solution ..... passes test</p> <p>Carbonate (as Na<sub>2</sub>CO<sub>3</sub>) ..... ≤ 1.0 %</p> <p>Chloride (Cl) ..... ≤ 0.0005 %</p> <p>Phosphate (PO<sub>4</sub>) ..... ≤ 0.0001 %</p> <p>Silicate (SiO<sub>2</sub>) ..... ≤ 0.0005 %</p> <p>Sulphate (SO<sub>4</sub>) ..... ≤ 0.0005 %</p> <p>Total nitrogen (N) ..... ≤ 0.0003 %</p>	<p>Heavy metals (as Ag) ..... ≤ 0.002 %</p> <p>Heavy metals (as Pb) ..... ≤ 0.002 %</p> <p>Al (Aluminium) ..... ≤ 0.0002 %</p> <p>Ca (Calcium) ..... ≤ 0.0005 %</p> <p>Cd (Cadmium) ..... ≤ 0.000005 %</p> <p>Cu (Copper) ..... ≤ 0.00005 %</p> <p>Fe (Iron) ..... ≤ 0.0005 %</p> <p>Hg (Mercury) ..... ≤ 0.000005 %</p> <p>K (Potassium) ..... ≤ 0.0002 %</p> <p>Mg (Magnesium) ..... ≤ 0.002 %</p>	<p>Mn (Manganese) ..... ≤ 0.00001 %</p> <p>Ni (Nickel) ..... ≤ 0.0001 %</p> <p>Pb (Lead) ..... ≤ 0.00001 %</p> <p>Zn (Zinc) ..... ≤ 0.00002 %</p>																
		<table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1.06495.0250</td> <td>Plastic bottle</td> <td>250 g</td> <td>inquire</td> </tr> <tr> <td>1.06495.1000</td> <td>Plastic bottle</td> <td>1 kg</td> <td>inquire</td> </tr> <tr> <td>1.06495.5000</td> <td>Plastic bottle</td> <td>5 kg</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	1.06495.0250	Plastic bottle	250 g	inquire	1.06495.1000	Plastic bottle	1 kg	inquire	1.06495.5000	Plastic bottle	5 kg	inquire
Ord.No.	Packaging	Quantity	Price															
1.06495.0250	Plastic bottle	250 g	inquire															
1.06495.1000	Plastic bottle	1 kg	inquire															
1.06495.5000	Plastic bottle	5 kg	inquire															

## 106469 Sodium hydroxide pellets for analysis (max. 0.02% K) EMSURE® ACS,Reag. Ph Eur

<p><b>Specification</b></p> <p>Assay (acidimetric,NaOH) ..... 99 - 100 %</p> <p>Assay (total alkalinity calc. as NaOH) ..... 99 - 100 %</p> <p>Identity ..... passes test</p> <p>Appearance of solution ..... passes test</p> <p>Carbonate (as Na<sub>2</sub>CO<sub>3</sub>) ..... ≤ 1.0 %</p> <p>Chloride (Cl) ..... ≤ 0.0005 %</p> <p>Phosphate (PO<sub>4</sub>) ..... ≤ 0.0005 %</p> <p>Silicate (SiO<sub>2</sub>) ..... ≤ 0.001 %</p>	<p>Sulphate (SO<sub>4</sub>) ..... ≤ 0.0005 %</p> <p>Total nitrogen (N) ..... ≤ 0.0003 %</p> <p>Heavy metals (as Ag) ..... ≤ 0.0005 %</p> <p>Heavy metals (as Pb) ..... ≤ 0.0005 %</p> <p>Al (Aluminium) ..... ≤ 0.0005 %</p> <p>Ca (Calcium) ..... ≤ 0.0005 %</p> <p>Fe (Iron) ..... ≤ 0.0005 %</p> <p>Hg (Mercury) ..... ≤ 0.00001 %</p>	<p>K (Potassium) ..... ≤ 0.020 %</p> <p>Mg (Magnesium) ..... ≤ 0.002 %</p> <p>Ni (Nickel) ..... ≤ 0.0005 %</p>																
		<table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1.06469.1000</td> <td>Plastic bottle</td> <td>1 kg</td> <td>inquire</td> </tr> <tr> <td>1.06469.5000</td> <td>Plastic bottle</td> <td>5 kg</td> <td>inquire</td> </tr> <tr> <td>1.06469.9050</td> <td>Fibre carton</td> <td>50 kg</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	1.06469.1000	Plastic bottle	1 kg	inquire	1.06469.5000	Plastic bottle	5 kg	inquire	1.06469.9050	Fibre carton	50 kg	inquire
Ord.No.	Packaging	Quantity	Price															
1.06469.1000	Plastic bottle	1 kg	inquire															
1.06469.5000	Plastic bottle	5 kg	inquire															
1.06469.9050	Fibre carton	50 kg	inquire															

## 106498 Sodium hydroxide pellets for analysis EMSURE® ISO

<p><b>Specification</b></p> <p>Assay (acidimetric,NaOH) ..... ≥ 99.0 %</p> <p>Carbonate (as Na<sub>2</sub>CO<sub>3</sub>) ..... ≤ 1 %</p> <p>Chloride (Cl) ..... ≤ 0.0005 %</p> <p>Phosphate (PO<sub>4</sub>) ..... ≤ 0.0005 %</p> <p>Silicate (SiO<sub>2</sub>) ..... ≤ 0.001 %</p> <p>Sulphate (SO<sub>4</sub>) ..... ≤ 0.0005 %</p> <p>Total nitrogen (N) ..... ≤ 0.0003 %</p> <p>Heavy metals (as Pb) ..... ≤ 0.0005 %</p> <p>Al (Aluminium) ..... ≤ 0.0005 %</p> <p>As (Arsenic) ..... ≤ 0.0001 %</p>	<p>Ca (Calcium) ..... ≤ 0.0005 %</p> <p>Cu (Copper) ..... ≤ 0.0002 %</p> <p>Fe (Iron) ..... ≤ 0.0005 %</p> <p>K (Potassium) ..... ≤ 0.05 %</p> <p>Mg (Magnesium) ..... ≤ 0.0005 %</p> <p>Ni (Nickel) ..... ≤ 0.00025 %</p> <p>Pb (Lead) ..... ≤ 0.0005 %</p> <p>Zn (Zinc) ..... ≤ 0.001 %</p>																																					
		<table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1.06498.0500</td> <td>Plastic bottle</td> <td>500 g</td> <td>inquire</td> </tr> <tr> <td></td> <td>Plastic bottle</td> <td>6 x 500 g</td> <td>inquire</td> </tr> <tr> <td>1.06498.1000</td> <td>Plastic bottle</td> <td>1 kg</td> <td>inquire</td> </tr> <tr> <td></td> <td>Plastic bottle</td> <td>6 x 1 kg</td> <td>inquire</td> </tr> <tr> <td>1.06498.5000</td> <td>Plastic bottle</td> <td>5 kg</td> <td>inquire</td> </tr> <tr> <td></td> <td>Plastic bottle</td> <td>4 x 5 kg</td> <td>inquire</td> </tr> <tr> <td>1.06498.9025</td> <td>Fibre carton</td> <td>25 kg</td> <td>inquire</td> </tr> <tr> <td>1.06498.9050</td> <td>Fibre carton</td> <td>50 kg</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	1.06498.0500	Plastic bottle	500 g	inquire		Plastic bottle	6 x 500 g	inquire	1.06498.1000	Plastic bottle	1 kg	inquire		Plastic bottle	6 x 1 kg	inquire	1.06498.5000	Plastic bottle	5 kg	inquire		Plastic bottle	4 x 5 kg	inquire	1.06498.9025	Fibre carton	25 kg	inquire	1.06498.9050	Fibre carton	50 kg	inquire
Ord.No.	Packaging	Quantity	Price																																			
1.06498.0500	Plastic bottle	500 g	inquire																																			
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1.06498.1000	Plastic bottle	1 kg	inquire																																			
	Plastic bottle	6 x 1 kg	inquire																																			
1.06498.5000	Plastic bottle	5 kg	inquire																																			
	Plastic bottle	4 x 5 kg	inquire																																			
1.06498.9025	Fibre carton	25 kg	inquire																																			
1.06498.9050	Fibre carton	50 kg	inquire																																			

## 106467 Sodium hydroxide granulated

<p><b>Specification</b></p> <p>Assay (acidimetric,NaOH) ..... ≥ 98 %</p> <p>Carbonate (as Na<sub>2</sub>CO<sub>3</sub>) ..... ≤ 1 %</p> <p>Identity ..... passes test</p> <p>Chloride (Cl) ..... ≤ 0.2 %</p>	<p>Sulphate (SO<sub>4</sub>) ..... ≤ 0.05 %</p> <p>Heavy metals (as Pb) ..... ≤ 0.002 %</p> <p>Al (Aluminium) ..... ≤ 0.002 %</p> <p>Fe (Iron) ..... ≤ 0.002 %</p>													
		<table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1.06467.9010</td> <td>Plastic bottle</td> <td>10 kg</td> <td>inquire</td> </tr> <tr> <td>1.06467.9050</td> <td>Fibre carton</td> <td>50 kg</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	1.06467.9010	Plastic bottle	10 kg	inquire	1.06467.9050	Fibre carton	50 kg	inquire
Ord.No.	Packaging	Quantity	Price											
1.06467.9010	Plastic bottle	10 kg	inquire											
1.06467.9050	Fibre carton	50 kg	inquire											

Sodium hydroxide methane sulfinate → Sodium formaldehydesulfoxylate hydrate page 1435

# Sodium

## 106466 Sodium hydroxide monohydrate 99.99 Suprapur®

HNaO \* H<sub>2</sub>O  
 NaOH \* H<sub>2</sub>O  
*Soda caustic*  
 ■ CAS-No. 12200-64-5  
 ■ Solub. in H<sub>2</sub>O 1100 g/l (20 °C) ■ M = 58.01 g/mol  
 ■ pH value 14 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Boiling point 1400 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P309 + P310, P305 + P351 + P338  
 ■ LGK 8 B  
 ■ HS-No. 2815 11 00 ■ Disposal 13  
 ■ ADR-RID UN 1823 Natriumhydroxid, fest, 8, II  
 ■ IMDG-Code UN 1823 SODIUM HYDROXIDE, SOLID, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1823 SODIUM HYDROXIDE, SOLID, 8, II

**Specification**  
 Purity (metallic)..... ≥ 99.99 %  
 NaOH content..... 67.0 - 69.0 %  
 Assay of sodium carbonate..... ≤ 2.0 %  
 Chloride (Cl)..... ≤ 1 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.05 ppm  
 Silicate (as SiO<sub>2</sub>)..... ≤ 5 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 10 ppm  
 Al (Aluminium)..... ≤ 0.05 ppm  
 As (Arsenic)..... ≤ 0.1 ppm  
 Ba (Barium)..... ≤ 10.0 ppm  
 Ca (Calcium)..... ≤ 0.50 ppm  
 Cd (Cadmium)..... ≤ 0.010 ppm  
 Ce (Cerium)..... ≤ 0.010 ppm  
 Co (Cobalt)..... ≤ 0.010 ppm  
 Cr (Chromium)..... ≤ 0.010 ppm  
 Cu (Copper)..... ≤ 0.010 ppm  
 Eu (Europium)..... ≤ 0.010 ppm  
 Fe (Iron)..... ≤ 0.05 ppm  
 Hg (Mercury)..... ≤ 0.01 ppm

K (Potassium)..... ≤ 2.0 ppm  
 La (Lanthanum)..... ≤ 0.010 ppm  
 Li (Lithium)..... ≤ 0.2 ppm  
 Mg (Magnesium)..... ≤ 0.10 ppm  
 Mn (Manganese)..... ≤ 0.010 ppm  
 Ni (Nickel)..... ≤ 0.010 ppm  
 Pb (Lead)..... ≤ 0.010 ppm  
 Sc (Scandium)..... ≤ 0.010 ppm  
 Sm (Samarium)..... ≤ 0.010 ppm  
 Sr (Strontium)..... ≤ 0.50 ppm  
 Tl (Thallium)..... ≤ 0.01 ppm  
 Y (Yttrium)..... ≤ 0.010 ppm  
 Yb (Ytterbium)..... ≤ 0.010 ppm  
 Zn (Zinc)..... ≤ 0.050 ppm

Ord.No.	Packaging	Quantity	Price
1.06466.0050	Plastic bottle	50 g	inquire
1.06466.0500	Plastic bottle	500 g	inquire

## Sodium hydroxide on support

■ Solub. in H<sub>2</sub>O (20 °C) partly soluble  
 ■ pH value 13.8 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Bulk density 800 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301

+ P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 13  
 ■ ADR-RID UN 1823 Natriumhydroxid, fest, 8, II  
 ■ IMDG-Code UN 1823 SODIUM HYDROXIDE,

SOLID, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1823 SODIUM HYDROXIDE, SOLID, 8, II  
 CO<sub>2</sub> absorber

## 101564 Sodium hydroxide on support granulated about 1.6-3 mm, for elementary analysis

### Specification

Absorption capacity for CO<sub>2</sub>..... ≥ 50.0 %  
 Loss on ignition (800 °C)..... ≤ 25.0 %  
 Bulk density..... about 70 g/100ml

Ord.No.	Packaging	Quantity	Price
1.01564.0250	Plastic bottle	250 g	inquire
1.01564.1000	Plastic bottle	1 kg	inquire

## 101567 Sodium hydroxide on support granulated about 0.8-1.6 mm for elementary analysis

### Specification

Absorption capacity for CO<sub>2</sub>..... ≥ 50 %  
 Loss on ignition (800 °C)..... ≤ 25 %  
 Bulk density..... about 70 g/100 ml

Ord.No.	Packaging	Quantity	Price
1.01567.0250	Plastic bottle	250 g	inquire
1.01567.1000	Plastic bottle	1 kg	inquire

Sodium hydroxide solution → page 1441

## 199060 Sodium hydroxide solution 1 mol/l prepared from raw materials acc. Ph Eur Titripur®

■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.7 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2815 12 00 ■ Disposal 13  
 ■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, II  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II  
**Specification**  
 The Sodium hydroxide used for manufacture conforms Ph. Eur., BP, NF.  
 Colony forming units (in raw material water, according Ph. Eur.)..... ≤ 100 CFU/ml  
 This volumetric solution was checked by means of hydrochloric acid 1 mol/l against

Tris(hydroxymethyl)- aminomethane Merck volumetric standard.  
 Amount-of-substance concentration ..... 0.990 - 1.010 mol/l  
 raw material sodium hydroxide  
 The raw material water conforms Ph. Eur

Ord.No.	Packaging	Quantity	Price
1.99060.9025	Plastic container	25 l	inquire

## 105588 Sodium hydroxide solution min. 10% (1.11) for analysis EMSURE®

■ Spec. density 1.11 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.8 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2815 12 00 ■ Disposal 13  
 ■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, II  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II  
**Specification**  
 Assay (acidimetric)..... 10.0 - 10.5 %  
 Carbonate (as Na<sub>2</sub>CO<sub>3</sub>)..... ≤ 1 %  
 Chloride (Cl)..... ≤ 0.0005 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %  
 Silicate (SiO<sub>2</sub>)..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.0005 %

Total nitrogen (N)..... ≤ 0.0001 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Al (Aluminium)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.05588.1000	Plastic bottle	1 l	inquire
1.05588.9010	Plastic container	10 l	inquire

## 105593 Sodium hydroxide solution 21% for analysis

■ Spec. density 1.219 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >11 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2815 12 00 ■ Disposal 13

■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, II  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II  
 Absorption of CO<sub>2</sub>  
**Specification**  
 Assay (acidimetric)..... 19.0 - 21.8 %

Carbonate (as Na<sub>2</sub>CO<sub>3</sub>)..... ≤ 0.2 %  
 Chloride (Cl)..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Heavy metals (as Pb)..... ≤ 0.002 %  
 Fe (Iron)..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.05593.9025	Plastic container	25 l	inquire

**105591 Sodium hydroxide solution min. 27% (1.30) for analysis (for the determination of nitrogen)**

EMSURE®

- Spec. density 1.30 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 13
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
- IMDG-Code UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

**Specification**

Assay (acidimetric).....	≥ 27.0 %
Carbonate (as Na <sub>2</sub> CO <sub>3</sub> ).....	≤ 1.0 %
Chloride (Cl).....	≤ 0.0005 %
Phosphate (PO <sub>4</sub> ).....	≤ 0.0005 %
Silicate (SiO <sub>2</sub> ).....	≤ 0.001 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.0005 %

Total nitrogen (N).....	≤ 0.0001 %
Heavy metals (as Pb).....	≤ 0.0005 %
Al (Aluminium).....	≤ 0.0005 %
Fe (Iron).....	≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.05591.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.05591.9025	Plastic container	25 l	inquire

**105589 Sodium hydroxide solution 30% Suprapur®**

- Spec. density 1.33 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 13
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

Phosphate (PO <sub>4</sub> ).....	≤ 50 ppb
Silicate (as SiO <sub>2</sub> ).....	≤ 2000 ppb
Sulphate (SO <sub>4</sub> ).....	≤ 2000 ppb
Al (Aluminium).....	≤ 20 ppb
As (Arsenic).....	≤ 50 ppb
Ba (Barium).....	≤ 200 ppb
Ca (Calcium).....	≤ 100 ppb
Cd (Cadmium).....	≤ 2 ppb
Ce (Cerium).....	≤ 5 ppb
Co (Cobalt).....	≤ 2 ppb
Cr (Chromium).....	≤ 10 ppb
Cu (Copper).....	≤ 5 ppb
Eu (Europium).....	≤ 5 ppb
Fe (Iron).....	≤ 10 ppb
Hg (Mercury).....	≤ 10 ppb
K (Potassium).....	≤ 2000 ppb
La (Lanthanum).....	≤ 5 ppb

Li (Lithium).....	≤ 200 ppb
Mg (Magnesium).....	≤ 50 ppb
Mn (Manganese).....	≤ 2 ppb
Ni (Nickel).....	≤ 5 ppb
Pb (Lead).....	≤ 10 ppb
Sc (Scandium).....	≤ 5 ppb
Sm (Samarium).....	≤ 5 ppb
Sr (Strontium).....	≤ 100 ppb
Tl (Thallium).....	≤ 5 ppb
Y (Yttrium).....	≤ 5 ppb
Yb (Ytterbium).....	≤ 5 ppb
Zn (Zinc).....	≤ 10 ppb

Ord.No.	Packaging	Quantity	Price
1.05589.0250	Plastic bottle	250 ml	inquire
1.05589.1000	Plastic bottle	1 l	inquire

**Sodium hydroxide solution about 32%**

- Vapour pressure 8 hPa (20 °C)
- Spec. density 1.35 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- Melting point 9 °C ■ Boiling point 119 °C (1013 hPa)
- WGK 1

- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 13

- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

**105587 Sodium hydroxide solution about 32% extra pure****Specification**

Assay (acidimetric,NaOH).....	32.0 - 33.0 %
Carbonate (as Na <sub>2</sub> CO <sub>3</sub> ).....	≤ 0.5 %
Chloride (Cl).....	≤ 0.002 %
Phosphate (PO <sub>4</sub> ).....	≤ 0.0005 %
Silicate (SiO <sub>2</sub> ).....	≤ 0.005 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.003 %

Heavy metals (as Pb).....	≤ 0.0005 %
Al (Aluminium).....	≤ 0.001 %
Fe (Iron).....	≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.05587.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.05587.5000	Plastic bottle	5 l	inquire
1.05587.9025	Plastic container	25 l	inquire
1.05587.9200	Plastic barrel	200 l	inquire

**105590 Sodium hydroxide solution about 32% (for the determination of nitrogen) for analysis**

EMSURE®

**Specification**

Assay (acidimetric,NaOH).....	≥ 32.0 %
Carbonate (as Na <sub>2</sub> CO <sub>3</sub> ).....	≤ 0.2 %
Chloride (Cl).....	≤ 0.0005 %
Phosphate (PO <sub>4</sub> ).....	≤ 0.0005 %
Silicate (SiO <sub>2</sub> ).....	≤ 0.001 %

Sulphate (SO <sub>4</sub> ).....	≤ 0.0005 %
Total nitrogen (N).....	≤ 0.0001 %
Heavy metals (as Pb).....	≤ 0.0005 %
Al (Aluminium).....	≤ 0.0005 %
Fe (Iron).....	≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.05590.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.05590.9025	Plastic container	25 l	inquire

**111360 Sodium hydroxide solution min. 45% for analysis EMSURE®**

- Spec. density 1.48 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (89 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 7 °C ■ Boiling point 135 °C (1013 hPa)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 13

- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

**Specification**

Assay (acidimetric,NaOH).....	45.0 - 50.0 %
Carbonate (as Na <sub>2</sub> CO <sub>3</sub> ).....	≤ 0.2 %
Chloride (Cl).....	≤ 0.0005 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.0005 %

Al (Aluminium).....	≤ 0.0002 %
Ca (Calcium).....	≤ 0.0005 %
Hg (Mercury).....	≤ 0.00001 %
Mg (Magnesium).....	≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.11360.2500	Plastic bottle	2.5 l	inquire
1.11360.9025	Plastic container	25 l	inquire



# Sodium

## 158793 Sodium hydroxide solution 50% for analysis EMSURE®



- Vapour pressure 2 hPa (20 °C)
- Spec. density 1.53 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >14 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 12 °C
- Boiling point 143 °C (1013 hPa)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 13

- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
  - IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
  - IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II
- Specification**
- Assay (acidimetric, as NaOH)..... 49.0 - 51.0 %
  - Carbonate (as Na<sub>2</sub>CO<sub>3</sub>)..... ≤ 0.2%
  - Chloride (Cl)..... ≤ 0.0005 %
  - Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %
  - Silicate (SiO<sub>2</sub>)..... ≤ 0.005 %

Sulphate (SO <sub>4</sub> ).....	≤ 0.0005 %
Total nitrogen (N).....	≤ 0.0003 %
Heavy metals (as Pb).....	≤ 0.0005 %
Al (Aluminium).....	≤ 0.0005 %
Fe (Iron).....	≤ 0.0005 %
K (Potassium).....	≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.58793.1000	Plastic bottle	1 l	inquire
1.58793.9025	Plastic container	25 l	inquire

## Sodium hydroxide volumetric solutions

### 109913 Sodium hydroxide 1.000 l for the preparation of dilute volumetric solutions or for direct use c(NaOH) = 5 mol/l (5 N) Combi-Titrisol®



- Spec. density 1.185 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309

- + P310
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 13
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)

- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

Ord.No.	Packaging	Quantity	Price
1.09913.0001	Plastic bottle	1 l	inquire

### 109142 Sodium hydroxide solution c(NaOH) = 0.02 mol/l (0.02 N) Titripur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 12.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 28
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III

- Specification**
- Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (JP).
- Amount-of-substance concentration 0.02000 mol/l
- The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09060) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement

uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09142.0500	Plastic bottle	500 ml	inquire

### 109141 Sodium hydroxide solution c(NaOH) = 0.1 mol/l (0.1 N) Titripur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 12.7 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 8B
- HS-No. 2815 12 00
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III

**Specification**

Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur).

- Amount-of-substance concentration .0.1000 mol/l
- The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09060) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard

Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09141.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09141.4000	Titripac PE/Alu	4 l	inquire
1.09141.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire
1.09141.9010	Titripac PE/Alu	10 l	inquire
1.09141.9025	Plastic container	25 l	inquire

### 109140 Sodium hydroxide solution c(NaOH) = 0.2 mol/l (0.2 N) Titripur®



- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 28
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III

- SOLUTION, 8, III
- Specification**
- Amount-of-substance concentration .0.2000 mol/l
- The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09060) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for

95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09140.1000	Plastic bottle	1 l	inquire
1.09140.9010	Titripac PE/Alu	10 l	inquire



### 109139 Sodium hydroxide solution $c(\text{NaOH}) = 0.25 \text{ mol/l}$ (0.25 N) Titripur®

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 28
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, III  
**Specification**  
 Amount-of-substance concentration . 0.2500 mol/l  
 The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09060) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is

traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09139.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09139.9010	Titripac PE/Alu	10 l	inquire

### 105595 Sodium hydroxide solution $c(\text{NaOH}) = 0.33 \text{ mol/l}$ (1/3 N) Titripur®

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 28
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III  
**Specification**  
 Amount-of-substance concentration . 0.3333 mol/l  
 The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20 °C was 1.000 with an expanded measurement

uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited

Ord.No.	Packaging	Quantity	Price
1.05595.1000	Plastic bottle	1 l	inquire
1.05595.9010	Titripac PE/Alu	10 l	inquire

### 109138 Sodium hydroxide solution $c(\text{NaOH}) = 0.5 \text{ mol/l}$ (0.5 N) Titripur®

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 28
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, III  
**Specification**  
 Amount-of-substance concentration . 0.5000 mol/l  
 The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is

traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09138.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09138.4000	Titripac PE/Alu	4 l	inquire
1.09138.9010	Titripac PE/Alu	10 l	inquire

### 109137 Sodium hydroxide solution $c(\text{NaOH}) = 1 \text{ mol/l}$ (1 N) Titripur®

- Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.7 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 13
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP). Amount-of-substance concentration .... 1.000 mol/l  
 The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and

Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09137.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09137.2500	Plastic bottle	2.5 l	inquire
1.09137.4000	Titripac PE/Alu	4 l	inquire
1.09137.9010	Titripac PE/Alu	10 l	inquire
1.09137.9025	Plastic container	25 l	inquire

### 109136 Sodium hydroxide solution $c(\text{NaOH}) = 2 \text{ mol/l}$ (2 N) Titripur®

- Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.8 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 13
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Amount-of-substance concentration .... 2.000 mol/l  
 The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is

traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09136.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09136.9025	Plastic container	25 l	inquire

# Sodium

## 111584 Sodium hydroxide solution $c(\text{NaOH}) = 4 \text{ mol/l}$ (4 N) Titripur®

■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2815 12 00 ■ Disposal 13  
 ■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, II  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II  
**Specification**  
 Amount-of-substance concentration .... 4.000 mol/l  
 The concentration of this volumetric solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement

uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.11584.5000	Plastic bottle	5 l	inquire

## 109961 Sodium hydroxide solution for 1000 ml, $c(\text{NaOH}) = 0.01 \text{ mol/l}$ (0.01 N) Titrisol®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8B  
 ■ HS-No. 2815 12 00 ■ Disposal 28

■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, III  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III  
**Specification**  
 Concentration after dilution to 1l:  $c(\text{NaOH}) = 0.01$

mol/l  
 Amount-of-substance concentration .....  $c(\text{NaOH}) = 0.0100 \text{ mol/l}$

Ord.No.	Packaging	Quantity	Price
1.09961.0001	Plastic ampoule	1 amp	inquire

## 109959 Sodium hydroxide solution for 1000 ml, $c(\text{NaOH}) = 0.1 \text{ mol/l}$ (0.1 N) Titrisol®

■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13.8 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2815 12 00 ■ Disposal 13  
 ■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, II  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Concentration after dilution to 1 liter:  $c(\text{NaOH}) = 0.1 \text{ mol/l}$   
 Amount-of-substance concentration . 0.1000 mol/l  
 The concentration of this solution was determined with hydrochloric acid standard solution (Merck article number 1.09060) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of  $\pm 0.004$

(k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09959.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	6 x 1 amp	inquire

## 109958 Sodium hydroxide solution for 1000 ml, $c(\text{NaOH}) = 0.25 \text{ mol/l}$ (0.25 N) Titrisol®

■ Spec. density 1.185 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8B  
 ■ HS-No. 2815 12 00 ■ Disposal 13  
 ■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, II  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

**Specification**  
 Amount-of-substance concentration .....  $c(\text{NaOH}) = 0.25 \text{ mol/l}$

Ord.No.	Packaging	Quantity	Price
1.09958.0001	Plastic ampoule	1 amp	inquire

## 109957 Sodium hydroxide solution for 1000 ml, $c(\text{NaOH}) = 0.5 \text{ mol/l}$ (0.5 N) Titrisol®

■ Spec. density 1.185 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2815 12 00 ■ Disposal 13  
 ■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, II  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Concentration after dilution to 1 liter:  $c(\text{NaOH}) = 0.5 \text{ mol/l}$   
 Amount-of-substance concentration . 0.5000 mol/l  
 The concentration of this solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of  $\pm 0.004$

(k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09957.0001	Plastic ampoule	1 amp	inquire

## 109956 Sodium hydroxide solution for 1000 ml, $c(\text{NaOH}) = 1 \text{ mol/l}$ (1 N) Titrisol®

■ Spec. density 1.030 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2815 12 00 ■ Disposal 13  
 ■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, II  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, II  
**Specification**  
 Concentration after dilution to 1 liter:  $c(\text{NaOH}) = 1 \text{ mol/l}$   
 Amount-of-substance concentration .... 1.000 mol/l  
 The concentration of this solution was determined with hydrochloric acid standard solution (Merck article number 1.09057) standardized against volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of  $\pm 0.004$

(k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09956.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	6 x 1 amp	inquire

## 199062 Sodium hydroxide solution prepared from raw materials acc. Ph Eur c(NaOH) = 6 mol/l (6 N) Titripur®

- Spec. density 1.22 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2815 12 00 ■ Disposal 13
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, II
- IMDG-Code UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II  
**Specification**  
 The Sodium hydroxide used for manufacture conforms Ph. Eur., BP, NF.  
 Colony forming units (in raw material water, according Ph. Eur.)..... ≤ 100 CFU/ml  
 This volumetric solution was checked by means of hydrochloric acid 1 mol/l against

Tris(hydroxymethyl)-aminomethane Merck volumetric standard.  
 Amount-of-substance concentration ..... 5.94 - 6.06 mol/l  
 raw material sodium hydroxide  
 The raw material water conforms Ph. Eur.

Ord.No.	Packaging	Quantity	Price
1.99062.9025	Plastic container	25 l	inquire

## 105614 Sodium hypochlorite solution (6-14% active chlorine)

Soda bleaching lye, Eau de Labarraque

- Vapour pressure 20 hPa (20 °C)
- Spec. density 1.22 - 1.25 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 12 - 13 (H<sub>2</sub>O, 20 °C) ■ Melting point -20 °C
- Boiling point 102 °C (1013 hPa)
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 8B ■ Store at +2°C to +8°C.
- HS-No. 2828 90 00 ■ Disposal 22
- ADR-RID UN 1791 Hypochloritlösung(NATRIUM HYPOCHLORIT), 8, II ■ IMDG-Code UN 1791 HYPOCHLORITE SOLUTION(SODIUM HYPOCHLORITE), 8, II, Segregation Group: 8 (Hypochlorites)
- IATA-DGR UN 1791 HYPOCHLORITE SOLUTION(SODIUM HYPOCHLORITE), 8, II

**Specification**  
 Assay (active chlorine; iodometric, Cl<sub>2</sub>).....6 - 14 %  
 Free alkali (acidimetric, as NaOH)..... ≤ 1.0 %  
 The content stated refers to the filling day.  
 Depending on storage period and temperature a decrease in content is to be expected.

Ord.No.	Packaging	Quantity	Price
1.05614.2500	Plastic bottle	2.5 l	inquire
1.05614.9025	Plastic container	25 l	inquire

Sodium hydrosulfite → page 1434

## 106525 Sodium iodate for analysis EMSURE®

- INaO<sub>3</sub>
- NaIO<sub>3</sub>
- CAS-No. 7681-55-2 ■ EC-No. 231-672-5
- Spec. density 4.28 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 81 g/l (20 °C) ■ M = 197.89 g/mol
- pH value 5.8 (90 g/l, H<sub>2</sub>O, 25 °C)
- Bulk density 1150 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Oxidising solid, Category 2, H272, P210
- LGK 5.1 B
- HS-No. 2829 90 80 ■ Disposal 22
- ADR-RID UN 1479 Entzündend (oxidierend)

wirkender fester Stoff, n.a.g.(NATRIUMIODAT), 5,1, II ■ IMDG-Code UN 1479 OXIDIZING SOLID, N.O.S.(SODIUM IODATE), 5,1, II  
 ■ IATA-DGR UN 1479 OXIDIZING SOLID, N.O.S.(SODIUM IODATE), 5,1, II  
**Specification**  
 Assay (iodometric)..... ≥ 99.5 %  
 pH-value (5 %; water)..... 5 - 8  
 Chloride, Chlorate, Bromide, Bromate (as Cl)..... ≤ 0.02 %  
 Iodide (I)..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %

Total nitrogen (N)..... ≤ 0.002 %  
 Cd (Cadmium)..... ≤ 0.00005 %  
 Cu (Copper)..... ≤ 0.0001 %  
 Fe (Iron)..... ≤ 0.001 %  
 K (Potassium)..... ≤ 0.02 %  
 Mn (Manganese)..... ≤ 0.00005 %  
 Pb (Lead)..... ≤ 0.0002 %  
 Zn (Zinc)..... ≤ 0.0001 %

Ord.No.	Packaging	Quantity	Price
1.06525.0100	Glass bottle	100 g	inquire

## Sodium iodide

- INa
- NaI
- CAS-No. 7681-82-5 ■ EC-No. 231-679-3
- Vapour pressure 1.3 hPa (767 °C)
- Spec. density 3.67 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 1793 g/l (20 °C) ■ M = 149.89 g/mol
- pH value 6 - 9 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 662 °C

- Bulk density 1500 - 2000 kg/m<sup>3</sup>
- Boiling point 1304 °C (1013 hPa)
- WGK 1
- GHS: Warning, Acute aquatic toxicity, Category 1, H400, P273
- LD50 oral rat 4340 mg/kg
- LGK 10 - 13
- HS-No. 2827 60 00 ■ Disposal 14

- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(NATRIUMIODID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SODIUM IODIDE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SODIUM IODIDE), 9, III

## 106523 Sodium iodide for analysis EMSURE® ACS,Reag. Ph Eur

**Specification**  
 Assay (argentometric)..... ≥ 99.5 %  
 Assay (argentometric; calculated on dried substance)..... 99.5 - 100.5 %  
 Identity..... passes test  
 Appearance of solution..... passes test  
 Insoluble matter..... ≤ 0.01 %  
 Alkaline reacting substances..... passes test  
 pH-value (5 %; water)..... 6.0 - 9.0  
 Chloride and Bromide (as Cl)..... ≤ 0.01 %  
 Iodate (IO<sub>3</sub>)..... ≤ 0.0003 %

Phosphate (PO<sub>4</sub>)..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %  
 Thiosulphate (S<sub>2</sub>O<sub>3</sub>)..... passes test  
 Total nitrogen (N)..... ≤ 0.002 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ba (Barium)..... ≤ 0.002 %  
 Ca (Calcium)..... ≤ 0.001 %  
 Cu (Copper)..... ≤ 0.0001 %  
 Fe (Iron)..... ≤ 0.0005 %  
 K (Potassium)..... ≤ 0.01 %

Mg (Magnesium)..... ≤ 0.001 %  
 Ni (Nickel)..... ≤ 0.00001 %  
 Pb (Lead)..... ≤ 0.0001 %  
 Loss on drying (105 °C)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.06523.0100	Plastic bottle	100 g	inquire
1.06523.0250	Plastic bottle	250 g	inquire
1.06523.1000	Plastic bottle	1 kg	inquire

## 106519 Sodium iodide 99.99 Suprapur®

**Specification**  
 Purity (metallic)..... ≥ 99.99 %  
 Assay (argentometric)..... ≥ 99.5 %  
 Chloride and Bromide (as Cl)..... ≤ 100 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 10 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 20 ppm  
 Total nitrogen (N)..... ≤ 20 ppm  
 Al (Aluminium)..... ≤ 0.050 ppm  
 Ba (Barium)..... ≤ 5.0 ppm  
 Ca (Calcium)..... ≤ 0.10 ppm  
 Cd (Cadmium)..... ≤ 0.0050 ppm  
 Ce (Cerium)..... ≤ 0.005 ppm  
 Co (Cobalt)..... ≤ 0.0050 ppm

Cr (Chromium)..... ≤ 0.005 ppm  
 Cs (Cesium)..... ≤ 5 ppm  
 Cu (Copper)..... ≤ 0.010 ppm  
 Eu (Europium)..... ≤ 0.005 ppm  
 Fe (Iron)..... ≤ 0.050 ppm  
 K (Potassium)..... ≤ 2.0 ppm  
 La (Lanthanum)..... ≤ 0.005 ppm  
 Li (Lithium)..... ≤ 2.0 ppm  
 Mg (Magnesium)..... ≤ 0.10 ppm  
 Mn (Manganese)..... ≤ 0.010 ppm  
 Ni (Nickel)..... ≤ 0.005 ppm  
 Pb (Lead)..... ≤ 0.010 ppm

Rb (Rubidium)..... ≤ 2.0 ppm  
 Sc (Scandium)..... ≤ 0.005 ppm  
 Sm (Samarium)..... ≤ 0.005 ppm  
 Sr (Strontium)..... ≤ 1.00 ppm  
 Tl (Thallium)..... ≤ 0.01 ppm  
 Y (Yttrium)..... ≤ 0.005 ppm  
 Yb (Ytterbium)..... ≤ 0.005 ppm  
 Zn (Zinc)..... ≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.06519.0100	Plastic bottle	100 g	inquire
1.06519.0500	Plastic bottle	500 g	inquire

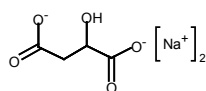
# Sodium

Sodium isethionate → 2-Hydroxyethanesulfonic acid sodium salt page 981

Sodium lauroylsarcosinate → N-Lauryl sarcosine sodium salt page 1073

Sodium laurylsulfonate → page 827

## 820872 di-Sodium DL-malate for synthesis



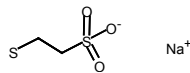
C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>5</sub>  
NaOOCCH(OH)CH<sub>2</sub>COONa

*DL-Malic acid disodium salt*  
 ■ CAS-No. 676-46-0 ■ EC-No. 211-627-6  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 178.05 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 19 98 ■ Disposal 3

**Specification**  
 Assay (perchloric acid titration).....98 - 101 %  
 Identity (NMR-spectrum) .....passes test

Ord.No.	Packaging	Quantity	Price
8.20872.0025	Plastic bottle	25 g	inquire
8.20872.0100	Plastic bottle	100 g	inquire

## 810595 Sodium 2-mercaptoethanesulfonate for synthesis



C<sub>2</sub>H<sub>5</sub>NaO<sub>3</sub>S<sub>2</sub>  
 HSCH<sub>2</sub>CH<sub>2</sub>SO<sub>3</sub>Na  
 2-Mercaptoethanesulfonic acid sodium salt

■ CAS-No. 19767-45-4 ■ EC-No. 243-285-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 164.18 g/mol  
 ■ WGK 3  
 ■ LD50 oral rat 4440 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3

**Specification**  
 Assay (iodometric) .....≥ 96,0 %(m)  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.10595.0010	Glass bottle	10 g	inquire

## 106597 Sodium metaperiodate for analysis EMSURE® ACS,Reag. Ph Eur

INaO<sub>4</sub>  
 NaIO<sub>4</sub>  
 Sodium periodate  
 ■ CAS-No. 7790-28-5 ■ EC-No. 232-197-6  
 ■ Spec. density 3.87 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 91 g/l (20 °C) ■ M = 213.89 g/mol  
 ■ pH value 5.2 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 175 °C decomposes  
 ■ Bulk density 2000 - 2400 kg/m<sup>3</sup>  
 ■ Boiling point 300 °C  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 1, H271, P210, P221

■ LGK 5.1A  
 ■ HS-No. 2829 90 80 ■ Disposal 22  
 ■ ADR-RID UN 1479 Entzündend (oxidierend) wirkender fester Stoff, n.a.g.(NATRIUM-META-PERIODAT), 5.1, I ■ IMDG-Code UN 1479 OXIDIZING SOLID, N.O.S.(SODIUM META-PERIODATE), 5.1, I  
 ■ IATA-DGR UN 1479 OXIDIZING SOLID, N.O.S.(SODIUM META-PERIODATE), 5.1, I  
**Specification**  
 Assay (iodometric) .....≥ 99,0 %  
 - (out of dried substance).....99.8 - 100,3 %

Identity.....passes test  
 Sulphate (SO<sub>4</sub>) .....≤ 0.005 %  
 other halogens (as Cl) .....≤ 0.01 %  
 Mn (Manganese) .....≤ 0.0001 %  
 Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.06597.0050	Plastic bottle	50 g	inquire
1.06597.0250	Plastic bottle	250 g	inquire
1.06597.1000	Plastic bottle	1 kg	inquire

Sodium metaphosphate → Sodium polyphosphate page 1450

Sodium methanolate → Sodium methylate page 1446

Sodium methoxide → Sodium methylate page 1446

## 818194 Sodium methylate (30% solution in methanol) for synthesis



■ Vapour pressure 34 hPa (20 °C)  
 ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 36.5 %(V) Methanol ■ Flash point 33 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) (reaction) ■ pH value 11 (20 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 2 - 6 °C  
 ■ Boiling point 92 °C (1013 hPa)  
 ■ Ignition temp. 455 °C Methanol  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3,

H226; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 1, H370, P210, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 3  
 ■ HS-No. 3824 90 97 ■ Disposal 8  
 ■ ADR-RID UN 1289 Natriummethylat, Lösung, 3 (8), III ■ IMDG-Code UN 1289 SODIUM METHYLATE SOLUTION, 3 (8), III

■ IATA-DGR UN 1289 SODIUM METHYLATE SOLUTION, 3 (8), III  
**Specification**  
 Assay (acidimetric).....28,5 - 31,5 %(m)  
 Density (d 20 °C/ 4 °C) .....0,968 - 0,972

Ord.No.	Packaging	Quantity	Price
8.18194.0100	Glass bottle	100 ml	inquire
8.18194.1000	Glass bottle	1 l	inquire
8.18194.2500	Glass bottle	2.5 l	inquire

## 806538 Sodium methylate for synthesis



CH<sub>3</sub>NaO  
 CH<sub>3</sub>ONa  
 Sodium methoxide, Sodium methanolate  
 ■ CAS-No. 124-41-4 ■ EC-No. 204-699-5  
 ■ Vapour pressure (20 °C) low  
 ■ Spec. density 1.3 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 54.02 g/mol  
 ■ pH value 12.8 (10 g/l, H<sub>2</sub>O, 20 °C) Hydrolysis  
 ■ Melting point 127 °C (decomposition)  
 ■ Bulk density 500 - 600 kg/m<sup>3</sup>

■ Boiling point >300 °C ■ Ignition temp. 240 °C  
 ■ WGK 1  
 ■ GHS: Danger, Self-heating substances, Category 1, H251; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 2037 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ EC-Index-No. 603-040-00-2 ■ LGK 4.2 ■ Store at +2 °C to +8 °C.  
 ■ HS-No. 2905 19 00 ■ Disposal 13  
 ■ ADR-RID UN 1431 Natriummethylat, 4.2 (8), II  
 ■ IMDG-Code UN 1431 SODIUM METHYLATE, 4.2

(8), II  
 ■ IATA-DGR UN 1431 SODIUM METHYLATE, 4.2 (8), II  
**Specification**  
 Assay (acidimetric).....≥ 97,0 %(m)  
 Assay (NaOH).....≤ 1,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.06538.0005	Glass bottle	5 g	inquire
8.06538.0250	Plastic bottle	250 g	inquire
8.06538.0500	Plastic bottle	500 g	inquire



## Sodium molybdate dihydrate

Na<sub>2</sub>MoO<sub>4</sub> \* 2 H<sub>2</sub>O

■ CAS-No. 10102-40-6 ■ EC-No. 231-551-7  
 ■ Spec. density 2.71 g/cm<sup>3</sup> (22 °C) (for the dihydrate) ■ Solub. in H<sub>2</sub>O 840 g/l (20 °C)  
 ■ M = 241.95 g/mol ■ pH value 9 - 10 (840 g/l),

H<sub>2</sub>O, 20 °C) ■ Melting point 687 °C Elimination of water of crystallisation  
 ■ Bulk density 1000 - 1400 kg/m<sup>3</sup>  
 ■ WGK 1

■ LD50 oral rat 4233 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2841 70 00 ■ Disposal 14

## 843899 Sodium molybdate dihydrate for synthesis

Ord.No.	Packaging	Quantity	Price
8.43899.0050	Glass bottle	50 g	inquire
8.43899.0250	Glass bottle	250 g	inquire

## 106524 Sodium molybdate dihydrate extra pure

## Specification

Assay (precipitative titration, calculated on dried substance).....98.0 - 103.0 %  
 Identity.....passes test  
 Appearance of solution.....passes test  
 Chloride (Cl).....≤ 0.005 %

Phosphate (PO<sub>4</sub>).....≤ 0.02 %  
 NH<sub>4</sub> (Ammonium).....≤ 0.001 %  
 Heavy metals (as Pb).....≤ 0.001 %  
 Loss on drying (140 °C).....14.0 - 16.0 %

Ord.No.	Packaging	Quantity	Price
1.06524.1000	Plastic bottle	1 kg	inquire
1.06524.9050	Fibre carton	50 kg	inquire

## 106521 Sodium molybdate dihydrate for analysis EMSURE®

## Specification

Assay (precipitative titration).....≥ 99.5 %  
 pH-value (5 %; water).....7.0 - 10.5  
 Chloride (Cl).....≤ 0.005 %  
 Nitrate (NO<sub>3</sub>).....≤ 0.005 %  
 Sulphate (SO<sub>4</sub>).....≤ 0.005 %

Fe (Iron).....≤ 0.001 %  
 NH<sub>4</sub> (Ammonium).....≤ 0.001 %  
 Pb (Lead).....≤ 0.001 %  
 Phosphate, Arsenate, Silicate (as PO<sub>4</sub>).....≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.06521.0100	Plastic bottle	100 g	inquire
1.06521.0250	Plastic bottle	250 g	inquire
1.06521.1000	Plastic bottle	1 kg	inquire

Sodium monohydrogen phosphate → page 165

Sodium β-naphthoquinone sulfonate → 1,2-Naphthoquinone-4-sulfonic acid sodium salt page 1201

## Sodium nitrate

NNaO<sub>3</sub>NaNO<sub>3</sub>

Nitric acid sodium salt

■ CAS-No. 7631-99-4 ■ EC-No. 231-554-3  
 ■ Spec. density 2.26 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 874 g/l (20 °C) ■ M = 84.99 g/mol

■ pH value 5.5 - 8.0 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 308 °C ■ Bulk density 1200 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Oxidising solid, Category 3, H272; Acute toxicity, Category 4, Oral, H302, P260  
 ■ LD50 oral rat 1267 mg/kg

■ LGK 5.1B  
 ■ HS-No. 3105 10 00 ■ Disposal 22  
 ■ ADR-RID UN 1498 Natriumnitrat, 5.1, III  
 ■ IMDG-Code UN 1498 SODIUM NITRATE, 5.1, III  
 ■ IATA-DGR UN 1498 SODIUM NITRATE, 5.1, III



## 106535 Sodium nitrate cryst. extra pure FCC,E 251

## Specification

Assay (acidimetric, after drying)...99.0 - 100.5 %  
 Identity.....passes test  
 pH-value (5 %; water).....5.5 - 8.3  
 Total chlorine.....≤ 0.2 %  
 Nitrite (NO<sub>2</sub>).....≤ 0.002 %  
 As (Arsenic).....≤ 0.0003 %  
 Fe (Iron).....≤ 0.001 %

K (Potassium).....≤ 0.01 %  
 Hg (Mercury).....≤ 0.0001 %  
 Pb (Lead).....≤ 0.0002 %  
 Zn (Zinc).....≤ 0.001 %  
 Loss on drying (105 °C).....≤ 2.0 %  
 Corresponds to FCC,E 251 Conforms to the purity criteria on food additives according to the current

European Commission Regulation.

Ord.No.	Packaging	Quantity	Price
1.06535.1000	Plastic bottle	1 kg	inquire
1.06535.9050	Fibre carton	50 kg	inquire

## 106537 Sodium nitrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

## Specification

Assay (acidimetric).....≥ 99.5 %  
 Insoluble matter.....≤ 0.005 %  
 pH-value (5 %; water; 25 °C).....5.5 - 8.0  
 Chloride (Cl).....≤ 0.0005 %  
 Iodate.....≤ 0.0005 %  
 Nitrite (NO<sub>2</sub>).....≤ 0.001 %  
 Phosphate (PO<sub>4</sub>).....≤ 0.0005 %

Sulphate (SO<sub>4</sub>).....≤ 0.003 %  
 Heavy metals (as Pb).....≤ 0.0005 %  
 Ca (Calcium).....≤ 0.002 %  
 Fe (Iron).....≤ 0.0003 %  
 K (Potassium).....≤ 0.01 %  
 Mg (Magnesium).....≤ 0.002 %  
 NH<sub>4</sub> (Ammonium).....≤ 0.002 %

Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06537.0500	Plastic bottle	500 g	inquire
1.06537.1000	Plastic bottle	1 kg	inquire
1.06537.9025	Fibre carton	25 kg	inquire

## 106546 Sodium nitrate 99.99 Suprapur®

## Specification

Purity (metallic).....≥ 99.99 %  
 Assay (acidimetric).....≥ 99 %  
 Chloride (Cl).....≤ 5 ppm  
 Iodate (IO<sub>3</sub>).....≤ 5 ppm  
 Nitrite (NO<sub>2</sub>).....≤ 10 ppm  
 Phosphate (PO<sub>4</sub>).....≤ 2 ppm  
 Sulphate (SO<sub>4</sub>).....≤ 30 ppm  
 Al (Aluminium).....≤ 0.05 ppm  
 Ba (Barium).....≤ 5.0 ppm  
 Ca (Calcium).....≤ 0.10 ppm  
 Cd (Cadmium).....≤ 0.010 ppm  
 Ce (Cerium).....≤ 0.010 ppm

Co (Cobalt).....≤ 0.010 ppm  
 Cr (Chromium).....≤ 0.010 ppm  
 Cs (Cesium).....≤ 5 ppm  
 Cu (Copper).....≤ 0.010 ppm  
 Eu (Europium).....≤ 0.010 ppm  
 Fe (Iron).....≤ 0.05 ppm  
 K (Potassium).....≤ 5.0 ppm  
 La (Lanthanum).....≤ 0.010 ppm  
 Mg (Magnesium).....≤ 0.05 ppm  
 Mn (Manganese).....≤ 0.010 ppm  
 Ni (Nickel).....≤ 0.010 ppm  
 Pb (Lead).....≤ 0.010 ppm

Rb (Rubidium).....≤ 5.0 ppm  
 Sc (Scandium).....≤ 0.010 ppm  
 Sm (Samarium).....≤ 0.010 ppm  
 Sr (Strontium).....≤ 0.10 ppm  
 Tl (Thallium).....≤ 0.01 ppm  
 Y (Yttrium).....≤ 0.010 ppm  
 Yb (Ytterbium).....≤ 0.010 ppm  
 Zn (Zinc).....≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.06546.0050	Plastic bottle	50 g	inquire



# Sodium

## Sodium nitrite



$\text{NNaO}_2$   
 $\text{NaNO}_2$   
 ■ CAS-No. 7632-00-0 ■ EC-No. 231-555-9  
 ■ Spec. density 2.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 820 g/l (20 °C) ■ M = 69.00 g/mol  
 ■ pH value 9 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 280 °C (decomposition)  
 ■ Bulk density 1200 kg/m<sup>3</sup>  
 ■ Boiling point 320 °C (decomposition)

■ Ignition temp. 510 °C  
 ■ WGK 2  
 ■ GHS: Danger, Oxidising solid, Category 3, H272; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400, P273, P309 + P310  
 ■ LC50 rat 5.5 mg/l  
 ■ LD50 oral rat 85 mg/kg  
 ■ EC-Index-No. 007-010-00-4 ■ LGK 5.1B

■ HS-No. 2834 10 00  
 ■ ADR-RID UN 1500 Natriumnitrit, 5.1 (6.1), III  
 ■ IMDG-Code UN 1500 SODIUM NITRITE, 5.1 (6.1), III, Marine Pollutant: P, Segregation Group: 12 (Nitrites and their mixtures)  
 ■ IATA-DGR UN 1500 SODIUM NITRITE, 5.1 (6.1), III

### 822285 Sodium nitrite cryst. for synthesis

#### Specification

Assay (iodometric) ..... ≥ 98,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.22285.0100	Plastic bottle	100 g	inquire
8.22285.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.22285.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire

### 106549 Sodium nitrite for analysis EMSURE® ACS, Reag. Ph Eur

#### Specification

Assay (manganometric) ..... ≥ 99,0 %  
 Insoluble matter ..... ≤ 0,01 %  
 Chloride (Cl) ..... ≤ 0,005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0,005 %  
 Heavy metals (as Pb) ..... ≤ 0,001 %

Ca (Calcium) ..... ≤ 0,002 %  
 Fe (Iron) ..... ≤ 0,001 %  
 K (Potassium) ..... ≤ 0,001 %  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06549.0100	Plastic bottle	100 g	inquire
1.06549.0500	Plastic bottle	500 g	inquire

Sodium 3-nitrobenzenesulfonate → 3-Nitrobenzenesulfonic acid sodium salt page 1218

### 106541 Sodium nitroprusside dihydrate [disodium pentacyanonitrosyl ferrate(III) dihydrate] GR for analysis ACS, Reag. Ph Eur



$\text{C}_5\text{FeN}_5\text{Na}_2\text{O} \cdot 2 \text{H}_2\text{O}$   
 $\text{Na}_2[\text{Fe}(\text{CN})_5\text{NO}] \cdot 2 \text{H}_2\text{O}$   
*Nitroprusside sodium, Sodium nitroferricyanide*  
 ■ CAS-No. 13755-38-9 ■ EC-No. 238-373-9  
 ■ Spec. density 1.71 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 400 g/l (20 °C) (slow decomposition)  
 ■ M = 297.95 g/mol ■ pH value 5 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
 ■ LGK 6.1B  
 ■ HS-No. 2837 20 00 ■ Disposal 9

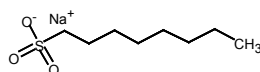
■ ADR-RID UN 1588 Cyanide, anorganisch, fest, n.a.g.(NITROPRUSSID-NATRIUM), 6.1, II ■ IMDG-Code UN 1588 CYANIDES, INORGANIC, SOLID, N.O.S.(SODIUM NITROPRUSSIDE), 6.1, II, Marine Pollutant: P, Segregation Group: 6 (Cyanides)  
 ■ IATA-DGR UN 1588 CYANIDES, INORGANIC, SOLID, N.O.S.(SODIUM NITROPRUSSIDE), 6.1, II  
 Reagent for sulfide ions (turns violet) acetone and other ketones (Legal sample), aldehydes, Zn and SO<sub>2</sub>.

Identity ..... passes test  
 Insoluble matter ..... ≤ 0,01 %  
 Chloride (Cl) ..... ≤ 0,02 %  
 Hexacyanoferrate (II) ..... ≤ 0,02 %  
 Hexacyanoferrate III ..... ≤ 0,01 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0,01 %  
 Corresponds to ACS, Reag. Ph. Eur.

**Specification**  
 Assay (argentometric) ..... 99,0 - 102,0 %

Ord.No.	Packaging	Quantity	Price
1.06541.0025	Plastic bottle	25 g	inquire
1.06541.0100	Plastic bottle	100 g	inquire
1.06541.0500	Plastic bottle	500 g	inquire

### 112292 Sodium 1-octanesulfonate for surfactant tests



$\text{C}_8\text{H}_{17}\text{NaO}_3\text{S}$   
 ■ CAS-No. 5324-84-5 ■ EC-No. 226-195-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 216.27 g/mol ■ pH value 5.5 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point >300 °C ■ Bulk density 345 kg/m<sup>3</sup>

■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2904 10 00 ■ Disposal 3

pH (100 g/l, water) ..... 5.8 - 7.5  
 TLC-Test ..... conforms  
 Loss on drying (120 °C, vacuum) ..... ≤ 2.0 %

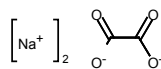
**Specification**  
 Assay (acidimetric; calculated on dried substance) ..... ≥ 99 %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.12292.0002	Glass bottle	2 g	inquire
1.12292.0005	Glass bottle	5 g	inquire
1.12292.0025	Glass bottle	25 g	inquire

Sodium octyl sulfate → Octyl sulfate sodium salt page 1244

Sodium octylsulfonate → Sodium 1-octanesulfonate page 1448

### di-Sodium oxalate



$\text{C}_2\text{Na}_2\text{O}_4$   
*Oxalic acid sodium salt*  
 ■ CAS-No. 62-76-0 ■ EC-No. 200-550-3

■ Spec. density 2.27 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 37 g/l (20 °C) ■ M = 134 g/mol ■ pH value 8 (30 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 250 - 270 °C (decomposition)  
 ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302; Acute toxicity, Category 4, Dermal, H312, P262  
 ■ LD50 oral rat 375 mg/kg  
 ■ EC-Index-No. 607-007-00-3 ■ LGK 10 - 13  
 ■ HS-No. 2917 11 00 ■ Disposal 3

### 106557 di-Sodium oxalate for analysis EMSURE®

#### Specification

Assay (manganometric) ..... ≥ 99,8 %  
 pH-value (3 %, water) ..... 7,5 - 8,5  
 Chloride (Cl) ..... ≤ 0,002 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0,002 %  
 Total nitrogen (N) ..... ≤ 0,001 %

Heavy metals (as Pb) ..... ≤ 0,001 %  
 Fe (Iron) ..... ≤ 0,0005 %  
 K (Potassium) ..... ≤ 0,005 %  
 Loss on drying (105 °C) ..... ≤ 0,05 %

Ord.No.	Packaging	Quantity	Price
1.06557.0250	Plastic bottle	250 g	inquire
1.06557.1000	Plastic bottle	1 kg	inquire

**102407 di-Sodium oxalate** volumetric standard, secondary reference material for redox titration, traceable to NIST Standard Reference Material (SRM) Certipur®

Ord.No.	Packaging	Quantity	Price
1.02407.0060	Glass bottle	60 g	inquire

**106560 Sodium perborate tetrahydrate** pure


$\text{BNaO}_3 \cdot 4 \text{H}_2\text{O}$   
 $\text{NaBO}_3 \cdot 4 \text{H}_2\text{O}$   
 ■ CAS-No. 10486-00-7 ■ EC-No. 234-390-0  
 ■ Spec. density 1.73 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 23 g/l (20 °C) ■ M = 153.88 g/mol ■ pH value 10 (15 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 60 °C (decomposition)  
 ■ Bulk density 800 kg/m<sup>3</sup>  
 ■ toxic for reproduction, toxic, oxidizing, irritant  
 ■ WGK 1  
 ■ GHS: Danger, Reproductive toxicity, Category 1B, H360Df; Acute toxicity, Category 4, Inhalation,

H332; Specific target organ toxicity - single exposure, Category 3, H335; Serious eye damage, Category 1, H318, P201, P280, P305 + P351 + P338, P308 + P313  
 ■ LD50 oral rat 2567 mg/kg  
 ■ EC-Index-No. 005-018-01-X ■ LGK 6.1 D  
 ■ HS-No. 2840 30 00 ■ Disposal 22

Sulphate (SO<sub>4</sub>)..... ≤ 0.1 %  
 Heavy metals (as Pb)..... ≤ 0.003 %  
 Fe (Iron)..... ≤ 0.001 %  
 Assay (manganometric)..... ≥ 96.0 %

**Specification**

Identity..... passes test  
 Chloride (Cl)..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.06560.1000	Plastic bottle	1 kg	inquire
1.06560.9050	Fibre carton	50 kg	inquire

**106564 Sodium perchlorate monohydrate** for analysis EMSURE®


$\text{ClNaO}_4 \cdot \text{H}_2\text{O}$   
 $\text{NaClO}_4 \cdot \text{H}_2\text{O}$   
*Perchloric Acid Sodium Salt*  
 ■ CAS-No. 7791-07-3 ■ EC-No. 231-511-9  
 ■ Spec. density 2.02 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 2090 g/l (15 °C) ■ M = 140.46 g/mol  
 ■ pH value 4.5 - 7.0 (50 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point 130 °C ■ Bulk density 900 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 1, H271; Acute toxicity, Category 4, Oral, H302, P210, P221  
 ■ LD50 oral rat 2100 mg/kg  
 ■ EC-Index-No. 017-010-00-6 ■ LGK 5.1A

■ HS-No. 2829 90 10 ■ Disposal 22  
 ■ ADR-RID UN 1502 Natriumperchlorat, 5.1, II  
 ■ IMDG-Code UN 1502 SODIUM PERCHLORATE, 5.1, II, Segregation Group: 13 (Perchlorates)  
 ■ IATA-DGR UN 1502 SODIUM PERCHLORATE, 5.1, II

Total nitrogen (N)..... ≤ 0.0005 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ca (Calcium)..... ≤ 0.002 %  
 Fe (Iron)..... ≤ 0.0003 %  
 K (Potassium)..... ≤ 0.005 %

**Specification**

Assay (alkalimetric)..... 99.0 - 102.0 %  
 pH-value (5 %; water)..... 4.5 - 7.0  
 Chloride, Chlorate (as Cl)..... ≤ 0.002 %  
 Chloride (Cl)..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.06564.0100	Metal can	100 g	inquire
1.06564.0500	Metal can	500 g	inquire
1.06564.9025	Steel drum	25 kg	inquire

**Sodium peroxide**


$\text{Na}_2\text{O}_2$   
 ■ CAS-No. 1313-60-6 ■ EC-No. 215-209-4  
 ■ Spec. density 2.8 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 100 g/l (20 °C) (decomposition)  
 ■ M = 77.98 g/mol ■ pH value 12.8 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 660 °C  
 ■ Bulk density 1138 kg/m<sup>3</sup>  
 ■ WGK 1

■ GHS: Danger, Oxidising solid, Category 1, H271; Skin corrosion, Category 1A, H314, P210, P221, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ EC-Index-No. 011-003-00-1 ■ LGK 5.1A  
 ■ HS-No. 2815 30 00 ■ Disposal 22  
 ■ ADR-RID UN 1504 Natriumperoxid, 5.1, I

■ IMDG-Code UN 1504 SODIUM PEROXIDE, 5.1, I, Segregation Group: 16 (Peroxides)  
 ■ IATA-DGR UN 1504 SODIUM PEROXIDE, 5.1, I  
 Strongest oxidizing dissolution agent for organic and inorganic materials. Particle size abt. 0.5 - 2.5 mm.

**106563 Sodium peroxide** granular for analysis ACS,ISO

**Specification**

Assay (manganometric)..... ≥ 95.0 %  
 Identity..... passes test  
 Chloride (Cl)..... ≤ 0.002 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.001 %

Total nitrogen (N)..... ≤ 0.003 %  
 Heavy metals (as Pb)..... ≤ 0.002 %  
 Al (Aluminium)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.06563.0100	Plastic bottle	100 g	inquire
1.06563.0500	Plastic bottle	500 g	inquire
1.06563.1000	Plastic bottle	1 kg	inquire

**814606 Sodium peroxide** for synthesis

**Specification**

Assay (manganometric)..... ≥ 95.0 %

Ord.No.	Packaging	Quantity	Price
8.14606.0100	Plastic bottle	100 g	inquire

**106609 Sodium peroxodisulfate** for analysis EMSURE®


$\text{Na}_2\text{O}_5\text{S}_2$   
 $\text{Na}_2\text{S}_2\text{O}_8$   
*Sodium persulfate, Peroxydisulfuric acid disodium salt*  
 ■ CAS-No. 7775-27-1 ■ EC-No. 231-892-1  
 ■ Spec. density 1.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 545 g/l (20 °C) ■ M = 238.11 g/mol  
 ■ pH value 3.5 - 3.8 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Bulk density 1150 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 3, H272; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Respiratory sensitisation, Category 1, H334; Skin sensitisation,

Category 1, H317, P280, P302 + P352, P304 + P341, P305 + P351 + P338, P342 + P311  
 ■ LC50 rat > 5.1 mg/l  
 ■ LD50 oral rat 920 mg/kg ■ LD50 dermal rabbit > 10000 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2833 40 00 ■ Disposal 22  
 ■ ADR-RID UN 1505 Natriumpersulfat, 5.1, III  
 ■ IMDG-Code UN 1505 SODIUM PERSULPHATE, 5.1, III  
 ■ IATA-DGR UN 1505 SODIUM PERSULPHATE, 5.1, III

Chloride (Cl)..... ≤ 0.01 %  
 Heavy metals (as Pb)..... ≤ 0.003 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.05 %  
 Cr (Chromium)..... ≤ 0.001 %  
 Cu (Copper)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Mn (Manganese)..... ≤ 0.0001 %  
 Pb (Lead)..... ≤ 0.001 %  
 Loss on drying (105 °C; 3 hours)..... ≤ 0.05 %

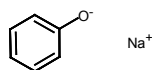
**Specification**

Assay (iodometric)..... ≥ 99.0 %  
 Identity..... passes test

Ord.No.	Packaging	Quantity	Price
1.06609.0500	Plastic bottle	500 g	inquire
1.06609.1000	Plastic bottle	1 kg	inquire
1.06609.9025	Fibre carton	25 kg	inquire

# Sodium

## 820873 Sodium phenolate trihydrate for synthesis



$C_6H_5ONa \cdot 3 H_2O$   
**Phenol sodium salt**  
 ■ CAS-No. 156150-40-2 ■ EC-No. 205-347-3  
 ■ Solub. in  $H_2O$  (20 °C) soluble ■ M = 170.13 g/mol ■ Melting point 56 - 61 °C

- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2907 11 00 ■ Disposal 3
- ADR-RID UN 2905 Phenolate, fest, 8, III
- IMDG-Code UN 2905 PHENOLATES, SOLID, 8, III
- IATA-DGR UN 2905 PHENOLATES, SOLID, 8, III

### Specification

Assay ( $HClO_4$ , calc. on anhydrous substance) .....  
 .....  $\geq 98,0 \%$ (m)  
 Water (K. F.) ..... 30,0 - 33,0 % (m)  
 Melting range (lower value) .....  $\geq 56$  °C  
 Melting range (upper value) .....  $\leq 61$  °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20873.0100	Glass bottle	100 g	inquire
8.20873.0500	Glass bottle	500 g	inquire

sec.-Sodium phosphate → page 1437

sec. Sodium phosphate → page 5

## tri-Sodium phosphate dodecahydrate

$Na_3O_4P \cdot 12 H_2O$   
 $Na_3PO_4 \cdot 12 H_2O$   
**Sodium phosphate tribasic, Trisodium phosphate**  
 ■ CAS-No. 10101-89-0 ■ EC-No. 231-509-8  
 ■ Spec. density 1.62 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  285 g/l (20 °C) ■ M = 380.18 g/mol  
 ■ pH value 12 (10 g/l,  $H_2O$ , 20 °C)

- Melting point 75 °C Elimination of water of crystallisation ■ Bulk density 950 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 7400 mg/kg

- LGK 10 - 13
- HS-No. 2835 29 30 ■ Disposal 14
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## 106572 tri-Sodium phosphate dodecahydrate for analysis EMSURE®

**Specification**  
 Assay (acidimetric) ..... 98.0 - 102.0 %  
 Identity ..... passes test  
 Insoluble matter .....  $\leq 0.01$  %  
 Free alkali (as NaOH) .....  $\leq 2.5$  %  
 Chloride (Cl) .....  $\leq 0.005$  %

Fluoride (F) .....  $\leq 0.0005$  %  
 Sulphate ( $SO_4$ ) .....  $\leq 0.005$  %  
 Total nitrogen (N) .....  $\leq 0.001$  %  
 Heavy metals (as Pb) .....  $\leq 0.001$  %  
 Fe (Iron) .....  $\leq 0.001$  %

Ord.No.	Packaging	Quantity	Price
1.06572.1000	Plastic bottle	1 kg	inquire
1.06572.5000	Plastic bottle	5 kg	inquire
1.06572.9025	Fibre carton	25 kg	inquire

## 106578 tri-Sodium phosphate dodecahydrate for analysis EMSURE® ACS,Reag. Ph Eur

**Specification**  
 Assay (alkalimetric) ..... 98.0 - 102.0 %  
 Insoluble matter .....  $\leq 0.01$  %  
 excess alkali (as NaOH) .....  $\leq 2.5$  %  
 Chloride (Cl) .....  $\leq 0.0005$  %  
 Fluoride (F) .....  $\leq 0.0005$  %

Sulphate ( $SO_4$ ) .....  $\leq 0.005$  %  
 Total nitrogen (N) .....  $\leq 0.001$  %  
 Heavy metals (as Pb) .....  $\leq 0.001$  %  
 Fe (Iron) .....  $\leq 0.001$  %  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06578.1000	Plastic bottle	1 kg	inquire
1.06578.5000	Plastic bottle	5 kg	inquire
1.06578.9050	Fibre carton	50 kg	inquire

## 106529 Sodium polyphosphate extra pure (Graham's salt)

$(NaPO_3)_n$   
 $(NaPO_3)_n$  n=ca.25  
**Graham's salt, Sodium metaphosphate**  
 ■ CAS-No. 10361-03-2 ■ EC-No. 233-782-9  
 ■ Spec. density 2.5 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  1000 g/l (20 °C) ■ pH value 5.7 (10 g/l,  $H_2O$ , 20 °C) ■ Melting point 550 °C  
 ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ WGK 1

- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2835 39 00 ■ Disposal 3

**Specification**  
 Assay (acidimetric,  $P_2O_5$ ) .....  $\geq 68$  %  
 Identity ..... passes test  
 Chloride (Cl) .....  $\leq 0.02$  %  
 Heavy metals (as Pb) .....  $\leq 0.005$  %

Fe (Iron) .....  $\leq 0.01$  %

Ord.No.	Packaging	Quantity	Price
1.06529.1000	Plastic bottle	1 kg	inquire
1.06529.5000	Plastic bottle	5 kg	inquire
1.06529.9050	Fibre carton	50 kg	inquire

Sodium potassium carbonate → Potassium carbonate/sodium carbonate page 1346

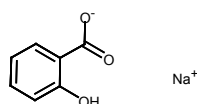
Sodium potassium tartrate → Potassium sodium tartrate tetrahydrate page 1363

Sodium pyrocatechol-3,5-disulfonate → 3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate page 172

tetra-Sodium pyrophosphate → tetra-Sodium diphosphate decahydrate page 1433

Sodium rhodizionate → Rhodizonic acid disodium salt page 1407

## 106601 Sodium salicylate for analysis EMSURE®



$C_7H_5NaO_3$   
 $HOC_6H_4COONa$   
 ■ CAS-No. 54-21-7 ■ EC-No. 200-198-0  
 ■ Spec. density 0.32 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $H_2O$  1000 g/l (20 °C) ■ M = 160.10 g/mol  
 ■ pH value 6.5 (100 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 200 °C ■ Bulk density 320 kg/m<sup>3</sup>  
 ■ Ignition temp. >250 °C  
 ■ WGK 1

- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 930 mg/kg
- LGK 10 - 13
- HS-No. 2918 21 00 ■ Disposal 3

**Specification**  
 Assay (perchloric acid titration, calculated on dried substance) .....  $\geq 99.5$  %  
 Identity ..... passes test  
 Appearance of solution (10 %; water) .. passes test  
 In water insoluble matter .....  $\leq 0.005$  %  
 Chloride (Cl) .....  $\leq 0.002$  %  
 Sulphate ( $SO_4$ ) .....  $\leq 0.01$  %  
 Heavy metals (as Pb) .....  $\leq 0.001$  %  
 Fe (Iron) .....  $\leq 0.001$  %

Water .....  $\leq 0.2$  %

Ord.No.	Packaging	Quantity	Price
1.06601.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.06601.1000	Plastic bottle	1 kg	inquire

**105621 Sodium silicate solution** extra pure

■ Spec. density 1.35 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 11.0 - 11.5 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point >100 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2839 19 00 ■ Disposal 14  
 Binder for paper and corrugated board. For the

formation of silicate protective layers

**Specification**

Identity.....passes test  
 Assay (acidimetric, Na<sub>2</sub>O).....7.5 - 8.5 %  
 Assay (acidimetric, SiO<sub>2</sub>).....25.5 - 28.5 %  
 Density (20 °C).....1.296 - 1.396 g/ml  
 Carbonate (as CO<sub>2</sub>).....passes test

Fe (Iron).....≤ 0.005 %  
 Heavy metals (as Pb).....≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.05621.2500	Plastic bottle	2.5 l	inquire
1.05621.9040	Plastic container	40 kg	inquire
1.05621.9250	Plastic barrel	250 kg	inquire

**109927 Sodium standard 1000 mg Na, (NaCl in H<sub>2</sub>O) Titrisol®**

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.9 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28

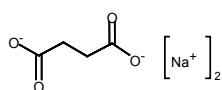
**Specification**

content (Na) .....1000 mg / Ampoule  
 Determination method: Argentometric titration. (traceable to NIST - SRM 999a) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09927.0001	Plastic ampoule	1 amp	inquire

Sodium standard dissolved in oil → page 1492

Sodium standard for aqueous matrices → Sodium standard page 1451

**818601 di-Sodium succinate** anhydrous for synthesis

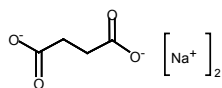
C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>4</sub>  
 NaOOCCH<sub>2</sub>CH<sub>2</sub>COONa  
 Succinic acid disodium salt

■ CAS-No. 150-90-3 ■ EC-No. 205-778-7  
 ■ Solub. in H<sub>2</sub>O 350 g/l (25 °C) ■ M = 162.05 g/mol ■ pH value 7 - 9 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point >300 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>).....≥ 96,0 % (m)  
 Loss on drying .....≤ 3,0 % (m)  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.18601.0100	Plastic bottle	100 g	inquire
8.18601.0500	Plastic bottle	500 g	inquire

**820151 di-Sodium succinate hexahydrate** for synthesis

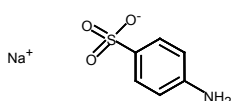
C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>4</sub> \* 6H<sub>2</sub>O  
 NaOOCCH<sub>2</sub>CH<sub>2</sub>COONa \* 6H<sub>2</sub>O  
 Succinic acid disodium salt  
 ■ CAS-No. 6106-21-4 ■ EC-No. 205-778-7

■ Solub. in H<sub>2</sub>O 349 g/l (25 °C) ■ M = 270.15 g/mol ■ pH value 6.0 - 8.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 120 °C Elimination of water of crystallisation  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>, calc. on anhydrous substance).....

.....≥ 99,0 % (m)  
 Loss on drying (130 °C, 2 h).....38,0 - 42,0 % (m)  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.20151.0100	Plastic bottle	100 g	inquire
8.20151.0500	Plastic bottle	500 g	inquire

**822145 Sodium sulfanilate dihydrate** for synthesis

C<sub>6</sub>H<sub>6</sub>NNaO<sub>3</sub>S \* 2 H<sub>2</sub>O  
 4-(NH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>Na \* 2H<sub>2</sub>O

**Sulfanilic acid sodium salt**

■ CAS-No. 6106-22-5 ■ EC-No. 208-208-5  
 ■ Solub. in H<sub>2</sub>O 170 g/l (20 °C) ■ M = 231.2 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2921 42 00 ■ Disposal 3

**Specification**

Assay (ex Na).....≥ 98,0 %

Water (K. F.).....15,0 - 17,0 %  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.22145.0250	Plastic bottle	250 g	inquire
8.22145.1000	Plastic bottle	1 kg	inquire

Sodium sulfantimonate → Sodium thioantimonate(V) nonahydrate page 1454

**Sodium sulfate**

Na<sub>2</sub>O<sub>4</sub>S  
 Na<sub>2</sub>SO<sub>4</sub>  
 ■ CAS-No. 7757-82-6 ■ EC-No. 231-820-9  
 ■ Spec. density 2.70 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 44.55 g/l (20 °C) ■ M = 142.04 g/mol

■ pH value 5.2 - 8.0 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 888 °C  
 ■ Bulk density 1400 - 1600 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat > 2000 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2833 11 00 ■ Disposal 14  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**106639 Sodium sulfate** anhydrous granulated for organic trace analysis EMSURE®**Specification**

Appearance.....small crystals  
 Assay (acidimetric).....≥ 99,0 %  
 Fe (Iron).....≤ 0.001 %

Loss on drying (130 °C).....≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.06639.0500	Glass bottle	500 g	inquire
1.06639.9025	Plastic drum	25 kg	inquire

**822286 Sodium sulfate** anhydrous for synthesis**Specification**

Assay (alkalimetric).....≥ 99,0 %  
 Loss on ignition (800 °C).....≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
8.22286.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.22286.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire

# Sodium

## 106649 Sodium sulfate anhydrous for analysis EMSURE® ACS,ISO,Reag. Ph Eur

<b>Specification</b>			
Assay (alkalimetric).....	≥ 99.0 %	Total nitrogen (N).....	≤ 0.0005 %
Assay (alkalimetric, calculated on dried substance).....	98.5 - 101.0 %	Heavy metals (as Pb).....	≤ 0.0005 %
Identity.....	passes test	As (Arsenic).....	≤ 0.0001 %
Appearance of solution.....	passes test	Ca (Calcium).....	≤ 0.005 %
Insoluble matter.....	≤ 0.01 %	Fe (Iron).....	≤ 0.0005 %
Acidity or alkalinity.....	passes test	K (Potassium).....	≤ 0.002 %
pH-value (5 %; water; 25 °C).....	5.2 - 8.0	Mg (Magnesium).....	≤ 0.001 %
Chloride (Cl).....	≤ 0.001 %	Loss on drying (130 °C).....	≤ 0.5 %
Phosphate (PO <sub>4</sub> ).....	≤ 0.001 %	Loss on ignition (800 °C).....	≤ 0.5 %
		Corresponds to ACS, ISO, Reag. Ph Eur	

Ord.No.	Packaging	Quantity	Price
1.06649.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06649.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06649.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire
1.06649.9025	Fibre carton	25 kg	inquire

## 106647 Sodium sulfate anhydrous 99.99 Suprapur®

<b>Specification</b>			
Purity (metallic).....	≥ 99.99 %	Cs (Cesium).....	≤ 5 ppm
Assay (acidimetric).....	≥ 99.5 %	Cu (Copper).....	≤ 0.005 ppm
Chloride (Cl).....	≤ 5 ppm	Eu (Europium).....	≤ 0.005 ppm
Total nitrogen (N).....	≤ 5 ppm	Fe (Iron).....	≤ 0.050 ppm
Al (Aluminium).....	≤ 0.05 ppm	K (Potassium).....	≤ 5 ppm
Ba (Barium).....	≤ 5.0 ppm	La (Lanthanum).....	≤ 0.005 ppm
Bi (Bismuth).....	≤ 0.005 ppm	Li (Lithium).....	≤ 0.1 ppm
Ca (Calcium).....	≤ 0.10 ppm	Mg (Magnesium).....	≤ 0.05 ppm
Cd (Cadmium).....	≤ 0.005 ppm	Mn (Manganese).....	≤ 0.010 ppm
Ce (Cerium).....	≤ 0.005 ppm	Ni (Nickel).....	≤ 0.005 ppm
Co (Cobalt).....	≤ 0.005 ppm	Pb (Lead).....	≤ 0.005 ppm
Cr (Chromium).....	≤ 0.010 ppm	Rb (Rubidium).....	≤ 1.0 ppm

Sc (Scandium).....	≤ 0.005 ppm
Sm (Samarium).....	≤ 0.005 ppm
Sr (Strontium).....	≤ 0.10 ppm
Tl (Thallium).....	≤ 0.005 ppm
Y (Yttrium).....	≤ 0.005 ppm
Yb (Ytterbium).....	≤ 0.005 ppm
Zn (Zinc).....	≤ 0.020 ppm

Ord.No.	Packaging	Quantity	Price
1.06647.0050	Plastic bottle	50 g	inquire
1.06647.0500	Plastic bottle	500 g	inquire

## 106637 Sodium sulfate anhydrous, coarse granules for analysis 0.63 - 2.0 mm EMSURE® ACS

Na <sub>2</sub> O <sub>4</sub> S		■ IATA-DGR No Dangerous Good	
Na <sub>2</sub> SO <sub>4</sub>		<b>Specification</b>	
■ CAS-No. 7757-82-6 ■ EC-No. 231-820-9		Assay (acidimetric).....	≥ 99.0 %
■ Spec. density 2.70 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O 44.55 g/l (20 °C) ■ M = 142.04 g/mol		Identity.....	passes test
■ pH value 5.2 - 8.0 (50 g/l, H <sub>2</sub> O, 20 °C)		Insoluble matter.....	≤ 0.01 %
■ Melting point 888 °C		pH-value (5 %; water).....	5.2 - 9.2
■ Bulk density 1400 - 1600 kg/m <sup>3</sup>		Chloride (Cl).....	≤ 0.001 %
■ WGK 1		Phosphate (PO <sub>4</sub> ).....	≤ 0.001 %
■ LD50 oral rat > 2000 mg/kg		Total nitrogen (N).....	≤ 0.0005 %
■ LGK 10 - 13		Heavy metals (as Pb).....	≤ 0.0005 %
■ HS-No. 2833 11 00 ■ Disposal 14		As (Arsenic).....	≤ 0.0001 %
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good		Ca (Calcium).....	≤ 0.01 %
		Fe (Iron).....	≤ 0.0005 %

K (Potassium).....	≤ 0.002 %
Mg (Magnesium).....	≤ 0.001 %
Loss on ignition (800 °C).....	≤ 0.5 %
Particle size (250-2000 µm).....	≥ 85 %
Corresponds to ACS	

Ord.No.	Packaging	Quantity	Price
1.06637.0500	Plastic bottle	500 g	inquire
1.06637.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06637.9025	Fibre carton	25 kg	inquire

## 106648 Sodium sulfate decahydrate for analysis EMSURE® ACS,Reag. Ph Eur

Na <sub>2</sub> O <sub>4</sub> S * 10 H <sub>2</sub> O		<b>Specification</b>	
Na <sub>2</sub> SO <sub>4</sub> * 10 H <sub>2</sub> O		Assay (alkalimetric).....	≥ 99.0 %
■ CAS-No. 7727-73-3 ■ EC-No. 231-820-9		Assay (alkalimetric, calculated on dried substance).....	98.5 - 101.0 %
■ Spec. density 1.464 g/cm <sup>3</sup> ■ Solub. in H <sub>2</sub> O 420 g/l (20 °C) ■ M = 322.19 g/mol		Identity.....	passes test
■ pH value 5.2 - 8.0 (50 g/l, H <sub>2</sub> O, 25 °C) (anhydrous substance)		Appearance of solution.....	passes test
■ Melting point 32.4 °C ■ Bulk density 700 kg/m <sup>3</sup>		Insoluble matter.....	≤ 0.01 %
■ WGK 1		pH-value (5 %; water; 25 °C).....	5.2 - 8.0
■ LGK 10 - 13 ■ Store at +15°C to +25°C.		Acidity or alkalinity.....	passes test
■ HS-No. 2833 11 00 ■ Disposal 14		Chloride (Cl).....	≤ 0.0003 %
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good		Phosphate (PO <sub>4</sub> ).....	≤ 0.0005 %
■ IATA-DGR No Dangerous Good		Total nitrogen (N).....	≤ 0.0003 %
		Heavy metals (as Pb).....	≤ 0.0003 %
		As (Arsenic).....	≤ 0.0001 %

Ca (Calcium).....	≤ 0.002 %
Fe (Iron).....	≤ 0.0005 %
K (Potassium).....	≤ 0.002 %
Mg (Magnesium).....	≤ 0.001 %
Loss on drying (130 °C).....	52.0 - 57.0 %
corresponds to ACS,Reag. Ph Eur	

Ord.No.	Packaging	Quantity	Price
1.06648.1000	Plastic bottle	1 kg	inquire
1.06648.9025	Fibre carton	25 kg	inquire

## 106657 Sodium sulfite anhydrous for analysis EMSURE® Reag. Ph Eur

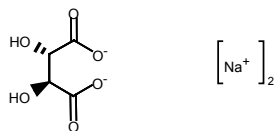
Na <sub>2</sub> O <sub>3</sub> S		Dangerous Good	
Na <sub>2</sub> SO <sub>3</sub>		■ IATA-DGR No Dangerous Good	
■ CAS-No. 7757-83-7 ■ EC-No. 231-821-4		<b>Specification</b>	
■ Spec. density 2.63 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O 220 g/l (20 °C) ■ M = 126.04 g/mol		Assay (iodometric).....	97.0 - 100.5 %
■ pH value 8.8 - 10 (50 g/l, H <sub>2</sub> O, 20 °C)		Identity.....	passes test
■ Melting point >500 °C (decomposition)		Appearance of solution.....	passes test
■ Bulk density 1480 kg/m <sup>3</sup>		Insoluble matter.....	≤ 0.005 %
■ WGK 1		Free acid.....	passes test
■ LC50 rat > 5.5 mg/l		Titrate free base.....	≤ 0.03 meq/g
■ LD50 oral rat 2610 mg/kg		Chloride (Cl).....	≤ 0.02 %
■ LGK 10 - 13		Thiosulfate (S <sub>2</sub> O <sub>3</sub> ).....	≤ 0.1 %
■ HS-No. 2832 10 00 ■ Disposal 6		Heavy metals (as Pb).....	≤ 0.0005 %
■ ADR-RID Kein Gefahrgut ■ IMDG-Code No		As (Arsenic).....	≤ 0.0001 %

Cu (Copper).....	≤ 0.0005 %
Fe (Iron).....	≤ 0.001 %
Pb (Lead).....	≤ 0.0005 %
Se (Selenium).....	≤ 0.0004 %
Zn (Zinc).....	≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.06657.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06657.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06657.5000	Plastic bottle	5 kg	inquire
1.06657.9050	Fibre carton	50 kg	inquire



## 106663 di-Sodium tartrate dihydrate for analysis EMSURE®

C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>6</sub> · 2H<sub>2</sub>O

di-Sodium tartrate dihydrate, Tartaric acid sodium salt dihydrate

■ CAS-No. 6106-24-7 ■ EC-No. 212-773-3

- Spec. density 1.82 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 290 g/l (20 °C) ■ M = 230.08 g/mol ■ pH value 8 (50 g/l, H<sub>2</sub>O, 25 °C) ■ Melting point 57 °C
- Bulk density 460 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2918 13 00 ■ Disposal 3

## Specification

Assay (perchloric acid titration)..... ≥ 99.5 %  
 pH-value (5 %; water)..... 7.0 - 8.0  
 Chloride (Cl)..... ≤ 0.0005 %

Phosphate (PO<sub>4</sub>)..... ≤ 0.0005 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %  
 Total nitrogen (N)..... ≤ 0.002 %  
 Heavy metals (as Pb)..... ≤ 0.0005 %  
 Ca (Calcium)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.06663.0250	Plastic bottle	250 g	inquire
1.06663.1000	Plastic bottle	1 kg	inquire

di-Sodium tartrate dihydrate → page 1453

di-Sodium tartrate dihydrate GR → page 1062

## di-Sodium tetraborate anhydrous

B<sub>4</sub>Na<sub>2</sub>O<sub>7</sub>Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub>

Borax

■ CAS-No. 1330-43-4 ■ EC-No. 215-540-4

■ Vapour pressure 7.3 hPa (1200 °C)

■ Spec. density 2.37 g/cm<sup>3</sup> (20 °C) ■ Solub. inH<sub>2</sub>O 25.6 g/l (20 °C) ■ M = 201.21 g/mol

- pH value 9.2 (25 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 742 °C ■ Bulk density 700 kg/m<sup>3</sup>
- Boiling point 1575 °C (decomposition)
- WGK 1
- GHS: Danger, Reproductive toxicity, Category 1B, H360FD, P201, P308 + P313
- LD50 oral rat 1200 mg/kg ■ LD50 dermal rabbit

&gt; 2000 mg/kg

■ EC-Index-No. 005-011-00-4 ■ LGK 6.1 D

■ HS-No. 2840 11 00 ■ Disposal 3

Borax beads, dissolution agent for RFA determinations.

## 106306 di-Sodium tetraborate anhydrous for analysis

## Specification

Assay (acidimetric)..... ≥ 98.0 %  
 Chloride (Cl)..... ≤ 0.001 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %

Heavy metals (as Pb)..... ≤ 0.002 %  
 Ca (Calcium)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.06306.0250	Plastic bottle	250 g	inquire
1.06306.1000	Plastic bottle	1 kg	inquire

106310 di-Sodium tetraborate for analysis (ca. 85% Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub>)

## Specification

Assay (acidimetric)..... ≥ 85.0 %  
 Chloride (Cl)..... ≤ 0.002 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %

Heavy metals (as Pb)..... ≤ 0.002 %  
 Ca (Calcium)..... ≤ 0.01 %  
 Fe (Iron)..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.06310.0250	Plastic bottle	250 g	inquire

## 106309 di-Sodium tetraborate anhydrous 99.99 Suprapur®

## Specification

Purity (metallic)..... ≥ 99.99 %  
 Assay (acidimetric)..... ≥ 99 %  
 Chloride (Cl)..... ≤ 5 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 5 ppm  
 Silicate (SiO<sub>2</sub>)..... ≤ 5 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 50 ppm  
 Ba (Barium)..... ≤ 10.0 ppm  
 Ca (Calcium)..... ≤ 5.0 ppm  
 Cd (Cadmium)..... ≤ 0.050 ppm  
 Ce (Cerium)..... ≤ 0.05 ppm  
 Co (Cobalt)..... ≤ 0.100 ppm  
 Cr (Chromium)..... ≤ 0.05 ppm

Cu (Copper)..... ≤ 0.10 ppm  
 Eu (Europium)..... ≤ 0.05 ppm  
 Fe (Iron)..... ≤ 0.10 ppm  
 K (Potassium)..... ≤ 50 ppm  
 La (Lanthanum)..... ≤ 0.05 ppm  
 Li (Lithium)..... ≤ 5.0 ppm  
 Mg (Magnesium)..... ≤ 0.10 ppm  
 Mn (Manganese)..... ≤ 0.050 ppm  
 Ni (Nickel)..... ≤ 0.05 ppm  
 Pb (Lead)..... ≤ 0.05 ppm  
 Rb (Rubidium)..... ≤ 5 ppm  
 Sc (Scandium)..... ≤ 0.05 ppm

Sm (Samarium)..... ≤ 0.05 ppm  
 Sr (Strontium)..... ≤ 5.00 ppm  
 Tl (Thallium)..... ≤ 0.05 ppm  
 Y (Yttrium)..... ≤ 0.05 ppm  
 Yb (Ytterbium)..... ≤ 0.050 ppm  
 Zn (Zinc)..... ≤ 0.05 ppm

Ord.No.	Packaging	Quantity	Price
1.06309.0025	Plastic bottle	25 g	inquire
1.06309.0250	Plastic bottle	250 g	inquire

## di-Sodium tetraborate decahydrate

B<sub>4</sub>Na<sub>2</sub>O<sub>7</sub> · 10H<sub>2</sub>ONa<sub>2</sub>B<sub>4</sub>O<sub>7</sub> · 10 H<sub>2</sub>O

Borax, Sodium baborate decahydrate, Sodium borate decahydrate

■ CAS-No. 1303-96-4 ■ EC-No. 215-540-4

■ Vapour pressure 0.213 hPa (20 °C)

- Spec. density 1.72 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 51.4 g/l (20 °C) ■ M = 381.32 g/mol
- pH value 9.2 (47 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 75 °C Elimination of water of crystallisation ■ Bulk density 750 kg/m<sup>3</sup>
- WGK 1

- GHS: Danger, Reproductive toxicity, Category 1B, H360FD, P201, P308 + P313
- LD50 oral rat 2660 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 005-011-00-4 ■ LGK 6.1 D
- HS-No. 2840 19 90 ■ Disposal 3

## 106308 di-Sodium tetraborate decahydrate for analysis ACS,ISO,Reag. Ph Eur

## Specification

Assay (acidimetric)..... 99.5 - 103.0 %  
 Identity..... passes test  
 Appearance of solution..... passes test  
 Insoluble matter..... ≤ 0.005 %  
 pH-value (0.01 M Solution, 25 °C)..... 9.15 - 9.20  
 pH-value (4 %; water)..... 9.0 - 9.6  
 Chloride (Cl)..... ≤ 0.0007 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.001 %

Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 As (Arsenic)..... ≤ 0.0005 %  
 Ca (Calcium)..... ≤ 0.005 %  
 Cu (Copper)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.001 %  
 Pb (Lead)..... ≤ 0.0005 %

Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06308.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
1.06308.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06308.9050	Fibre carton	50 kg	inquire

101964 di-Sodium tetraborate decahydrate certified secondary standard reference material for pH measurement; directly traceable to primary SRM from NIST/PTB pH(S)=9.18<sub>4</sub> (25 °C) (DIN 19266) Certipur®

## Specification

pH-value (25 °C)..... 9.180 - 9.186  
 Identity..... passes test

Ord.No.	Packaging	Quantity	Price
1.01964.0025	Glass bottle	25 g	inquire

# Sodium

di-Sodium tetraborate for X-ray fluorescence analysis → Spectromelt® B 10 page 167

## 843877 Sodium tetrafluoroborate for synthesis

BF<sub>4</sub>Na  
NaBF<sub>4</sub>  
 ■ CAS-No. 13755-29-8 ■ EC-No. 237-340-6  
 ■ Spec. density 2.47 g/cm<sup>3</sup> ■ M = 109.79 g/mol  
 ■ pH value (H<sub>2</sub>O) no data available  
 ■ Melting point 384 °C ■ Bulk density 720 g/l  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2826 90 80 ■ Disposal 3  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(N  
 ATRIUMTETRAFLUOROBORAT), 8, II ■ IMDG-  
 Code UN 1759 CORROSIVE SOLID, N.O.S.(SODIUM  
 TETRAFLUOROBORATE), 8, II  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID,  
 N.O.S.(SODIUM TETRAFLUOROBORATE), 8, II

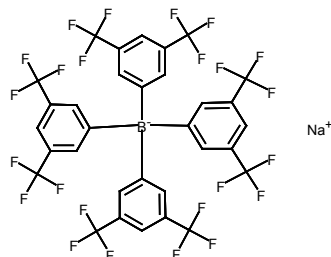
### Specification

Assay (acidimetric)..... ≥ 97.0 %

Ord.No.	Packaging	Quantity	Price
8.43877.0250	Plastic bottle	250 g	inquire
8.43877.1000	Plastic bottle	1 kg	inquire

Sodium tetrahydridoborate → page 166

## 824494 Sodium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate dihydrate for synthesis



C<sub>32</sub>H<sub>12</sub>BF<sub>24</sub>Na  
 C<sub>32</sub>H<sub>12</sub>BF<sub>24</sub>Na \* 2H<sub>2</sub>O  
 ■ CAS-No. 79060-88-1  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ M = 886.20 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13

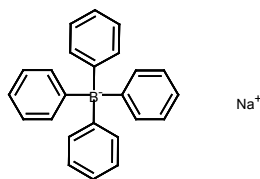
■ HS-No. 2931 90 90 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98.0 Area %  
 Water (K. F.) ..... 3,5 - 5,5 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.24494.0100	Glass bottle	100 mg	inquire
8.24494.0250	Glass bottle	250 mg	inquire

## 106669 Sodium tetraphenyl borate GR for analysis ACS,Reag. Ph Eur



C<sub>24</sub>H<sub>20</sub>BNa  
 Na[B(C<sub>6</sub>H<sub>5</sub>)<sub>4</sub>]  
 Sodium tetraphenylboron  
 ■ CAS-No. 143-66-8 ■ EC-No. 205-605-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble

■ M = 342.22 g/mol ■ pH value 8 (50 g/l, H<sub>2</sub>O,  
 20 °C) ■ Melting point >300 °C  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral,  
 H301, P309 + P310  
 ■ LD50 oral rat 288 mg/kg  
 ■ LGK 6.1C  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester  
 Stoff, n.a.g.(NATRIUMTETRAPHENYLBORAT), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,  
 N.O.S.(SODIUM TETRAPHENYL BORATE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,  
 N.O.S.(SODIUM TETRAPHENYL BORATE), 6.1, III  
 Reagent for K, Rb, Cs, NH<sub>4</sub> and alkaloids.

### Specification

Assay (gravimetrically; calc. on dried substance).....  
 ..... ≥ 99.5 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance of solution (clearness)..... clear  
 Loss on drying (105 °C) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.06669.0010	Plastic bottle	10 g	inquire
1.06669.0025	Plastic bottle	25 g	inquire
1.06669.0100	Plastic bottle	100 g	inquire

Sodium tetraphenylboron → Sodium tetraphenyl borate page 1454

## 112274 Sodium thioantimonate(V) nonahydrate LAB

Na<sub>5</sub>S<sub>4</sub>Sb \* 9 H<sub>2</sub>O  
 Sodium sulfantimonate, Schlippe's salt  
 ■ CAS-No. 10101-91-4 ■ EC-No. 237-414-8  
 ■ Spec. density 1.86 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O 330 g/l (20 °C) ■ M = 481.10 g/mol  
 ■ pH value (10 g/l, H<sub>2</sub>O, 20 °C) strongly alkaline  
 ■ Melting point 87 °C ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ Boiling point 234 °C decomposes  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4,

Inhalation, H332; Acute toxicity, Category 4, Oral,  
 H302; Chronic aquatic toxicity, Category 2, H411,  
 P273  
 ■ EC-Index-No. 051-003-00-9 ■ LGK 10 - 13  
 ■ HS-No. 2842 90 80 ■ Disposal 15  
 ■ ADR-RID UN 1549 Anorganische  
 Antimonverbindung, fest,  
 n.a.g.(NATRIUMTHIOANTIMONAT), 6.1, III ■ IMDG-  
 Code UN 1549 ANTIMONY COMPOUND,  
 INORGANIC, SOLID,

N.O.S.(SODIUMTHIOANTIMONATE), 6.1, III  
 ■ IATA-DGR UN 1549 ANTIMONY COMPOUND,  
 INORGANIC, SOLID,  
 N.O.S.(SODIUMTHIOANTIMONATE), 6.1, III

### Specification

Identity..... conforms

Ord.No.	Packaging	Quantity	Price
1.12274.0250	Glass bottle	250 g	inquire

## 106627 Sodium thiocyanate pure



CNNaS  
 NaSCN  
 Sodium sulfocyanide  
 ■ CAS-No. 540-72-7 ■ EC-No. 208-754-4  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Spec. density 1.74 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O 1200 g/l (20 °C) ■ M = 81.07 g/mol  
 ■ pH value 6 - 8 (100 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 310 °C  
 ■ Bulk density 800 - 1000 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4,  
 Inhalation, H332; Acute toxicity, Category 4,  
 Dermal, H312; Acute toxicity, Category 4, Oral,  
 H302; Chronic aquatic toxicity, Category 3, H412,  
 P273, P302 + P352  
 ■ LD50 oral rat 764 mg/kg  
 ■ EC-Index-No. 615-004-00-3 ■ LGK 10 - 13  
 ■ HS-No. 2842 90 80 ■ Disposal 3

### Specification

Assay (argentometric; calculated on dried  
 substance)..... ≥ 98.5 %  
 Identity..... passes test  
 Chloride (Cl) ..... ≤ 0.1 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.025 %  
 Heavy metals (as Pb) ..... ≤ 0.002 %  
 As (Arsenic) ..... ≤ 0.0005 %  
 Loss on drying (105 °C) ..... ≤ 5.0 %

Ord.No.	Packaging	Quantity	Price
1.06627.2500	Plastic bottle	2.5 kg	inquire
1.06627.9025	Fibre carton	25 kg	inquire

Sodium thioglycollate → page 112

## 106512 Sodium thiosulfate anhydrous

Na<sub>2</sub>O<sub>3</sub>S<sub>2</sub>

Antichlor

- CAS-No. 7772-98-7 ■ EC-No. 231-867-5
- Spec. density 1.67 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 701 g/l (20 °C) ■ M = 158.11 g/mol
- pH value 6.0 – 8.5 (50 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 1350 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat > 5000 mg/kg

- LGK 10 – 13
- HS-No. 2832 30 00 ■ Disposal 3

## Specification

Assay (iodometric) .....	≥ 97.0 %
Identity .....	passes test
pH-value (5 %; water) .....	6.0 – 8.5
Sulphide (S) .....	≤ 0.002 %
Heavy metals (as Pb) .....	≤ 0.005 %

Fe (Iron)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.06512.0250	Plastic bottle	250 g	inquire
1.06512.2500	Plastic bottle	2.5 kg	inquire
1.06512.9025	Fibre carton	25 kg	inquire
1.06512.9050	Fibre carton	50 kg	inquire

## Sodium thiosulfate pentahydrate

Na<sub>2</sub>O<sub>3</sub>S<sub>2</sub> \* 5 H<sub>2</sub>O

Antichlor

- CAS-No. 10102-17-7 ■ EC-No. 231-867-5
- Spec. density 1.74 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 701 g/l (20 °C) ■ M = 248.21 g/mol

- pH value 6.0 – 7.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 48 °C ■ Bulk density 1000 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat > 5000 mg/kg

- LGK 10 – 13
- HS-No. 2832 30 00 ■ Disposal 28

## 106516 Sodium thiosulfate pentahydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

## Specification

Assay (iodometric) .....	99.5 – 101.0 % (m)
Identity .....	passes test
Appearance of solution .....	passes test
Insoluble matter .....	≤ 0.005 % (m)
pH-value (5 %; water, 25 °C) .....	6.0 – 7.5
pH-value (10 %; water) .....	6.0 – 7.5
Chloride (Cl) .....	≤ 0.008 % (m)
Sulfate and sulphite (as SO <sub>4</sub> ) .....	≤ 0.1 % (m)

Sulfide (S) .....	passes test
Heavy metals (as Pb) .....	≤ 0.001 % (m)
Total nitrogen (N) .....	≤ 0.002 % (m)
Ca (Calcium) .....	≤ 0.002 % (m)
Cu (Copper) .....	≤ 0.0005 % (m)
Fe (Iron) .....	≤ 0.0005 % (m)
K (Potassium) .....	≤ 0.001 % (m)
Mg (Magnesium) .....	≤ 0.001 % (m)
Pb (Lead) .....	≤ 0.0005 % (m)

Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.06516.0500	Plastic bottle	500 g	inquire
1.06516.1000	Plastic bottle	1 kg	inquire
1.06516.5000	Plastic bottle	5 kg	inquire
1.06516.9050	Fibre carton	50 kg	inquire

## 106509 Sodium thiosulfate pentahydrate 99.999 Suprapur®

## Specification

Purity (metallic) .....	≥ 99.999 %
Assay (iodometric, calculated as pentahydrate) .....	≥ 99.0 %
Phosphate (PO <sub>4</sub> ) .....	≤ 5 ppm
Al (Aluminium) .....	≤ 0.05 ppm
Ba (Barium) .....	≤ 2.0 ppm
Bi (Bismuth) .....	≤ 0.01 ppm
Ca (Calcium) .....	≤ 0.10 ppm
Cd (Cadmium) .....	≤ 0.010 ppm

Co (Cobalt) .....	≤ 0.010 ppm
Cr (Chromium) .....	≤ 0.010 ppm
Cu (Copper) .....	≤ 0.010 ppm
Fe (Iron) .....	≤ 0.050 ppm
K (Potassium) .....	≤ 2.0 ppm
Li (Lithium) .....	≤ 1.0 ppm
Mg (Magnesium) .....	≤ 0.10 ppm
Mn (Manganese) .....	≤ 0.050 ppm
Ni (Nickel) .....	≤ 0.010 ppm

Pb (Lead) .....	≤ 0.050 ppm
Rb (Rubidium) .....	≤ 1.0 ppm
Sr (Strontium) .....	≤ 0.10 ppm
Tl (Thallium) .....	≤ 0.01 ppm
Zn (Zinc) .....	≤ 0.050 ppm

Ord.No.	Packaging	Quantity	Price
1.06509.0100	Plastic bottle	100 g	inquire
1.06509.0500	Plastic bottle	500 g	inquire

## Sodium thiosulfate solutions

109147 Sodium thiosulfate solution c(Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 5 H<sub>2</sub>O) = 0.1 mol/l (0.1 N) Titripur®

Antichlor

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9 – 10 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 – 13
- HS-No. 2832 30 00 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Volumetric solution in accordance to the chapter

reagents of the Pharmacopoeia (Ph Eur, USP). Amount-of-substance concentration 0.1000 mol/l. The concentration of this volumetric solution was determined with volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by

means of volumetric standard potassium iodate measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09147.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09147.4000	Titripac PE/Alu	4 l	inquire
1.09147.9010	Titripac PE/Alu	10 l	inquire

109909 Sodium thiosulfate solution for 1000 ml, c(Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) = 0.01 mol/l (0.01 N) Titrisol®

Antichlor

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9 – 10 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 – 13
- HS-No. 2832 30 00 ■ Disposal 28

## Specification

Concentration after dilution to 1 l: c(Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>\*3405H<sub>2</sub>O) = 0.01 mol/l. Amount-of-substance concentration ..... c(Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) = 0.01000 mol/l +/- 0.2 % Titer (20 °C) ..... 1.000. This volumetric solution was checked by means of

Potassium iodate Merck volumetric standard. The Merck volumetric standard are traceable to the Standard Reference Material 136e of NIST (National Institute of Standards and Technology, USA).

Ord.No.	Packaging	Quantity	Price
1.09909.0001	Plastic ampoule	1 amp	inquire

109950 Sodium thiosulfate solution for 1000 ml, c(Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) = 0.1 mol/l (0.1 N) Titrisol®

Antichlor

- Spec. density 1.22 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9 – 10 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 – 13
- HS-No. 2832 30 00 ■ Disposal 28

## Specification

Concentration after dilution to 1 liter: c(Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) = 0.1 mol/l

Amount-of-substance concentration 0.1000 mol/l. The concentration of this solution was determined with volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and

Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09950.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	6 x 1 amp	inquire

# Sodium

## 843677 Sodiumtoluene-4-sulfinate for synthesis

C<sub>7</sub>H<sub>7</sub>NaO<sub>2</sub>S

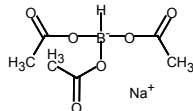
- CAS-No. 824-79-3 ■ EC-No. 212-538-5
- M = 178.19 g/mol
- WGK 2
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 95.0 % (a/a)  
 Water (K. F.) ..... ≤ 5.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43677.0025	Glass bottle	25 g	inquire
8.43677.0100	Glass bottle	100 g	inquire

## 843705 Sodium triacetoxymethylborohydride for synthesis



single exposure, Category 3, H335; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P313

- LGK 4.3
- HS-No. 2942 00 00 ■ Disposal 26
- ADR-RID UN 3396 Mit Wasser reagierender metallorganischer fester Stoff, entzündbar(NATRIUMTRIACETOXYBORHYDRID), 4.3 (4.1), II ■ IMDG-Code UN 3396 ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE(SODIUM TRIACETOXYBOROHYDRIDE), 4.3 (4.1), II
- IATA-DGR UN 3396 ORGANOMETALLIC

SUBSTANCE, SOLID, WATER-REACTIVE, FLAMMABLE(SODIUM TRIACETOXYBOROHYDRIDE), 4.3 (4.1), II

### Specification

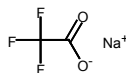
Assay (by gasvolumetry) ..... ≥ 96.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.43705.0025	Glass bottle	25 g	inquire
8.43705.0100	Glass bottle	100 g	inquire

C<sub>6</sub>H<sub>10</sub>BNaO<sub>6</sub>

- CAS-No. 56553-60-7
- M = 211.94 g/mol ■ Melting point 110 - 114 °C
- WGK 3
- GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases, Category 2, H261; Specific target organ toxicity -

## 821164 Sodium trifluoroacetate for synthesis



- mol ■ pH value 7 (H<sub>2</sub>O, 20 °C)
- Melting point 207 - 209 °C
- Bulk density 700 - 900 kg/m<sup>3</sup>
- WGK 1
- GHS: P262
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2915 90 70 ■ Disposal 3

### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98.0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21164.0010	Glass bottle	10 g	inquire
8.21164.0050	Glass bottle	50 g	inquire

C<sub>2</sub>F<sub>3</sub>NaO<sub>2</sub>

CF<sub>3</sub>COONa

Trifluoroacetic acid sodium salt

- CAS-No. 2923-18-4 ■ EC-No. 220-879-6
- Solub. in H<sub>2</sub>O 625 g/l (25 °C) ■ M = 136.01 g/mol

## 106999 penta-Sodium triphosphate for BOD determination acc. to DIN 38409-H-51

Na<sub>5</sub>O<sub>10</sub>P<sub>3</sub>

Na<sub>5</sub>P<sub>3</sub>O<sub>10</sub>

- CAS-No. 7758-29-4 ■ EC-No. 231-838-7
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 2.52 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 150 g/l (20 °C) ■ M = 367.86 g/mol
- pH value 9.9 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 622 °C (decomposition)

- Bulk density 1000 kg/m<sup>3</sup>
- WGK 1
- GHS: P262
- LD50 oral rat 3120 mg/kg ■ LD50 dermal rabbit > 7940 mg/kg
- LGK 10 - 13
- HS-No. 2835 31 00 ■ Disposal 14
- Water softening, auxiliary for BOD determination.

### Specification

Assay (acidimetric, P<sub>2</sub>O<sub>5</sub>) ..... 57 - 59 %  
 pH-value (1 %; water) ..... 9 - 10  
 Fe (Iron) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.06999.1000	Plastic bottle	1 kg	inquire

## Sodium tungstate dihydrate

Na<sub>2</sub>O<sub>4</sub>W \* 2 H<sub>2</sub>O

Na<sub>2</sub>WO<sub>4</sub> \* 2 H<sub>2</sub>O

- CAS-No. 10213-10-2 ■ EC-No. 236-743-4
- Spec. density 3.23 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 730 g/l (20 °C) ■ M = 329.86 g/mol

- pH value 8 - 9 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 100 °C Elimination of water of crystallisation ■ Bulk density 1600 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral,

H302

- LC50 rat > 5.01 mg/l
- LD50 oral rat 1190 mg/kg
- LGK 10 - 13
- HS-No. 2841 80 00 ■ Disposal 14

## 106672 Sodium tungstate dihydrate extra pure

### Specification

Assay (thermogravimetric) ..... ≥ 98 %  
 Identity (x-ray diffraction) ..... passes test  
 Free alkali (as NaOH) ..... ≤ 0.1 %  
 Chloride (Cl) ..... ≤ 0.01 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.02 %  
 Total nitrogen (N) ..... ≤ 0.005 %  
 Fe (Iron) ..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.06672.1000	Plastic bottle	1 kg	inquire
1.06672.9025	Fibre carton	25 kg	inquire

## 106673 Sodium tungstate dihydrate for analysis EMSURE®

### Specification

Assay (thermogravimetric) ..... ≥ 99 %  
 Identity (x-ray diffraction) ..... passes test  
 Free alkali (as NaOH) ..... ≤ 0.05 %  
 Chloride (Cl) ..... ≤ 0.003 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %

Total nitrogen (N) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 Mo (Molybdenum) ..... ≤ 0.005 %  
 Pb (Lead) ..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.06673.0250	Plastic bottle	250 g	inquire
1.06673.1000	Plastic bottle	1 kg	inquire

## 845143 Sodium tungstate dihydrate for pharma synthesis, non-GMP

### Specification

Colour (visual) ..... white  
 Appearance of substance (visual) ..... powder  
 Assay (thermogravimetric) ..... ≥ 98.0 %  
 Loss on drying (pass the night) ..... 9.0 - 11.5 %

Mo (Molybdenum) ..... ≤ 0.005 %  
 Chloride (Cl) ..... ≤ 0.003 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Identity (x-ray diffraction) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45143.0250	Plastic bottle	250 g	inquire
8.45143.1000	Plastic bottle	1 kg	inquire

Soerensen's buffer substances → page 480

Software → page 92

## Soil analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
49	110024	Ammonium Test	71	116995	Nitrate Test	79	116978	Phosphate Test
50	116892	Ammonium Test	71	116971	Nitrate Test	80	117945	Potassium Test
50	116899	Ammonium Test	72	110007	Nitrite Test	91	116970	Reflectometer
167	100163	di-Boron trioxide	77	109175	pH-indicator solution pH 4.0 – 10.0	91	116955	Reflectometer
561	109325	Calcium acetate hydrate				90	114602	Soil Laboratory 3 x N/pH Nitrogen and pH (lime requirement)
563	102103	Calcium lactate	78	109502	pH-indicator strips pH 2.0 – 9.0			
71	110020	Nitrate Test	78	109584	pH-indicator strips pH 2.0 – 9.0			
			79	117942	Phosphate Test			
Soil Laboratory 3 x N/pH Nitrogen and pH (lime requirement) → page 90			Solid Phase Extraction → page 6			Solvent blue 8 → page 190		
Soil testing → Nitrate and pH, pH test kits, compact laboratory → page 111			Solketal → 1,2-O-Isopropylidenglycerol page 1054			Solvents dried → SeccoSolv®		
Solid green → page 111			Solutions for flame spectrometry → Cesium chloride-aluminium nitrate buffer solution page 166					

## Solvents dried, SeccoSolv® &amp; SeccoSept™

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
297	100299	Acetone	297	102931	Dimethyl sulfoxide	298	100994	2-Propanol
297	100004	Acetonitrile	297	103110	1,4-Dioxane	298	107463	Pyridine
297	106051	Dichloromethane	297	100990	Ethanol	298	108107	Tetrahydrofuran
297	100929	Diethyl ether	297	102396	Ethyl acetate	298	108326	Toluene
297	102375	N,N-Dimethylformamide	298	106012	Methanol			

## Solvents for Analysis EMPARTA® ACS

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
314	107021	Acetone	314	103034	N,N-Dimethylformamide	314	107022	2-Propanol
314	107024	Chloroform	314	107017	Ethanol absolute	315	107025	Tetrahydrofuran
314	107020	Dichloromethane	314	107023	n-Hexane	315	107019	Toluene
314	107026	Diethyl ether	314	107018	Methanol			

## Solvents for Analysis EMSURE®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
315	100014	Acetone	317	102952	Dimethyl sulfoxide	319	104727	Isooctane
315	100003	Acetonitrile	317	109671	1,4-Dioxane	319	106009	Methanol
315	109600	Acetylacetone	317	100983	Ethanol	319	107177	n-Pentane
315	100975	n-Amyl alcohol	317	100974	Ethanol	319	109718	Petroleum
315	101261	Aniline	317	159010	Ethanol 96%	319	101775	Petroleum benzine
315	101783	Benzene	317	100845	Ethanolamine	319	101786	Petroleum benzine boiling range 30–50°C
315	109626	Benzyl alcohol	317	109623	Ethyl acetate	320	101774	Petroleum benzine boiling range 60–80°C
315	101990	1-Butanol	318	109621	Ethylene glycol	320	101777	Petroleum benzine boiling range 80–100°C
315	109630	2-Butanol	318	100859	Ethylene glycol monomethyl ether	320	101781	Petroleum benzine boiling range 100–120°C
316	109629	tert-Butanol	318	109708	Ethyl methyl ketone	320	109724	Piperidine
316	109652	n-Butyl acetate	318	109684	Formamide	320	100997	1-Propanol
316	101849	tert-Butyl methyl ether	318	104092	Glycerol	320	109634	2-Propanol
316	102445	Chloroform	318	104094	Glycerol 85%	320	109728	Pyridine
316	109666	Cyclohexane	318	104379	n-Heptane	320	109731	Tetrahydrofuran
316	102930	1,2-Dichlorobenzene	318	104367	n-Hexane	320	108325	Toluene
316	106050	Dichloromethane	318	104374	n-Hexane	321	111872	Trichloroethylene
316	116205	Diethanolamine	319	100979	Isoamyl alcohol	321	109795	n-Undecane
316	100921	Diethyl ether	319	100984	Isobutanol	321	116754	Water
316	100867	Diisopropyl ether	319	106146	Isobutyl methyl ketone	321	108661	Xylene
317	103053	N,N-Dimethylformamide	319	104333	Isohexane	321	108684	p-Xylene



# Solven

## Solvents for Gas Chromatography SupraSolv®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
42	100012	Acetone	291	100399	N,N-Dimethylacetamide	43	115440	Isooctane
291	100658	Acetone	42	110983	N,N-Dimethylformamide	43	106011	Methanol
42	100017	Acetonitrile	291	100202	N,N-Dimethylformamide	43	100837	Methanol
291	100665	Acetonitrile	291	101900	Dimethyl sulfoxide	43	100882	n-Pentane
42	101995	tert-Butyl methyl ether	42	102371	Ethanol	43	101772	Petroleum benzine boiling range 40–60°C
42	102432	Chloroform	42	110972	Ethyl acetate			
42	102817	Cyclohexane	42	100789	Ethyl acetate	43	100998	2-Propanol
42	100667	Cyclohexane	42	104360	n-Heptane	43	108389	Toluene
42	106054	Dichloromethane	42	104371	n-Hexane	291	100849	Toluene
291	100668	Dichloromethane	291	100795	n-Hexane	291	100577	Water
290	100931	Diethyl ether	43	104340	Isohexane			

Solvents for Karl Fischer titration → Karl Fischer solvents

## Solvents for Liquid Chromatography LiChrosolv®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
2	100020	Acetone	2	106044	Dichloromethane	3	106035	Methanol
2	100030	Acetonitrile	2	103132	1,4-Dioxane	287	480508	Methanol:Water 30:70 (v:v)
2	100029	Acetonitrile	3	111727	Ethanol	3	101024	1-Propanol
2	114291	Acetonitrile	3	100868	Ethyl acetate	4	101040	2-Propanol
2	101988	1-Butanol	3	104390	n-Heptane	4	108101	Tetrahydrofuran
2	101845	tert-Butyl methyl ether	3	104391	n-Hexane	4	108327	Toluene
2	101692	1-Chlorobutane	3	104335	Isohexane	4	115333	Water
2	102444	Chloroform	3	104717	Isooctane	4	480170	Water with 0.05% (v:v) trifluoroacetic acid
2	102827	Cyclohexane	3	106018	Methanol			
2	113713	1,2-Dichloroethane	3	106007	Methanol			

## Solvents for Organic Trace Analysis, UniSolv®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
291	106454	Dichloromethane	43	107288	n-Pentane	43	108388	Toluene
42	104369	n-Hexane	43	116740	Petroleum benzine boiling range 40–60°C			

Solvents for organic trace analysis → SupraSolv®

## Solvents for preparative chromatography Prepsolv®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
5	113358	Acetonitrile	5	104394	n-Hexane	5	113350	2-Propanol
5	113353	Ethyl acetate	5	113351	Methanol			

## Solvents for Spectroscopy, Uvasol®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
292	100022	Acetone	293	102937	N,N-Dimethylformamide	293	107179	n-Pentane
292	100016	Acetonitrile	293	102950	Dimethyl sulfoxide	293	104907	POTASSIUM BROMIDE UVASOL
292	101989	1-Butanol	293	100980	Ethanol	293	100993	2-Propanol
292	101984	tert-Butyl methyl ether	293	100863	Ethyl acetate	293	100965	Tetrachloroethylene
292	102210	Carbon disulfide	293	104366	n-Heptane	293	108110	Tetrahydrofuran
292	102447	Chloroform	293	104372	n-Hexane	293	108331	Toluene
293	102822	Cyclohexane	293	104718	Isooctane	293	108239	1,1,2-Trichlorotrifluoroethane
293	106048	Dichloromethane	293	106002	Methanol	293	108262	Trifluoroacetic acid
293	100930	Diethyl ether	293	106056	2-Methylbutane			

## Solvents for synthesis and Lab Applications EMPLURA®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
298	822251	Acetone	302	822275	N,N-Dimethylformamide	306	809722	2-Methylpyridine
298	115500	Acetonitrile	302	818212	1,3-Dimethyl-2-imidazolidinone	306	807048	3-Methylpyridine
298	800028	Acetophenone				306	807049	4-Methylpyridine
298	800023	Acetylacetone	803	802912	Dimethyl sulfoxide	306	806072	1-Methyl-2-pyrrolidone
382	843105	5-Amino-2-chloro benzoic acid	302	803265	Dipropylene glycol	306	108292	2-Methyltetrahydrofuran
298	818700	n-Amyl acetate	302	843825	Dipropylene glycol dimethyl ether	306	821093	2-Methyltetrahydrofuran
298	807500	n-Amyl alcohol				306	806127	Morpholine
299	806193	tert-Amyl alcohol	302	818533	Dipropylene glycol monomethyl ether	306	806770	Nitrobenzene
299	801452	Anisole				306	806843	Nitroethane
299	801800	Benzonitrile	302	818760	Ethanol	306	820894	Nitromethane
299	822259	Benzyl alcohol	302	800849	Ethanolamine	306	806851	1-Nitropropane
299	801678	Bis(2-chloroethyl) ether	303	800857	2-Ethoxyethanol (stabilised)	306	806838	n-Nonane
299	801786	Bromobenzene	303	800187	2-Ethoxyethyl acetate	306	806866	1-Nonanol
299	801627	1-Bromo-3-chloropropane	303	822277	Ethyl acetate	306	806910	n-Octane
299	818702	Bromoform	303	801372	Ethylbenzene	307	820931	1-Octanol
299	822262	1-Butanol	303	801813	Ethyl benzoate	307	820925	2-Octanol
299	822263	2-Butanol	303	800947	Ethylendiamine	307	820957	n-Pentane
299	822264	tert-Butanol	303	800950	Ethylene glycol diacetate	307	807501	2-Pentanol
299	821014	[2-(2-Butoxyethoxy)ethyl] acetate	303	820390	Ethylene glycol diethyl ether	313	814562	Petroleum benzene boiling range 70-90°C
			303	800856	Ethylene glycol dimethyl ether			
299	801395	2-Butoxyethyl acetate	303	801554	Ethylene glycol monobutyl ether	307	843648	Phenetole
299	802189	tert-Butyl acetate				307	807006	2-Phenylethanol
299	820055	Butyl formate	303	807480	Ethylene glycol monoisopropyl ether	307	822299	Piperidine
300	801791	Chlorobenzene				307	807483	Polyethylene glycol 200
300	822265	Chloroform	303	807291	Ethylene glycol monophenyl ether	307	807484	Polyethylene glycol 300
300	802681	Cumene				307	807485	Polyethylene glycol 400
300	822328	Cyclohexanol	311	843947	Ethylene glycol monopropylether	307	807486	Polyethylene glycol 600
300	802670	Cyclopentanone				1341	843866	Polyvinyl alcohol, fully hydrolyzed
300	803101	Decahydronaphthalene	311	843946	Ethyl 3-ethoxypropionate			
300	820383	n-Decane	303	800990	2-Ethyl-1-hexanol	307	843867	Polyvinyl alcohol, fully hydrolyzed
300	803463	1-Decanol	304	801295	4-Ethylmorpholine			
300	801522	Dibenzyl ether	304	800956	1-Ethylpiperidine	308	843865	Polyvinyl alcohol, fully hydrolyzed
300	800952	1,2-Dibromoethane	304	818582	N-Formylmorpholine			
300	810278	Dibromomethane	304	818730	N-Formylpiperidine	1342	843868	Polyvinyl alcohol, partially hydrolyzed
301	802892	Dibutyl ether	304	804015	Furfuryl alcohol			
301	803238	1,2-Dichlorobenzene	311	843961	D-Glucoronic acid	1342	843870	Polyvinyl alcohol, partially hydrolyzed
301	803225	1,3-Dichlorobenzene	936	822332	n-Heptane			
301	803209	1,1-Dichloroethylene	304	820624	1-Heptanol	1342	843871	Polyvinyl alcohol, partially hydrolyzed
301	822271	Dichloromethane	304	820621	3-Heptanone			
301	803116	Diethanolamine	304	804521	Hexafluoroacetone sesquihydrate	1342	843869	Polyvinyl alcohol, partially hydrolyzed
301	803214	N,N-Diethylacetamide						
301	802898	Diethyl carbonate	304	804515	1,1,1,3,3,3-Hexafluoro-2-propanol	308	822324	1,2-Propanediol
311	843957	Diethyl disulfide				308	807481	1,3-Propanediol
301	802933	Diethylene glycol dibutyl ether	304	804393	1-Hexanol	308	818766	2-Propanol
301	802932	Diethylene glycol diethyl ether	304	804512	4-Hydroxy-4-methyl-2-pentanone	308	803183	Propyl acetate
301	802934	Diethylene glycol dimethyl ether	304	843982	Indium(III)-sulfate, anhydrous	308	807051	Propylene carbonate
			304	818969	Isoamyl alcohol	308	807494	Pyrrolidine
743	843827	Diethylene glycol methyl ethyl ether	304	822255	Isoamyl alcohol	308	807041	2-Pyrrolidone
			304	822255	Isoamyl alcohol	308	802407	Quinoline
301	803129	Diethylene glycol monobutyl ether	312	100978	Isoamyl alcohol	308	807993	Sulfolane
			305	820557	Isobutyl acetate	308	808619	Tetraethylene glycol
301	803127	Diethylene glycol monoethyl ether	305	820820	Isobutyl methyl ketone	308	820959	Tetraethylene glycol dimethyl ether
			305	821627	Isocetane			
301	818382	Diethylene glycol mono-n-hexyl ether	305	820560	Isopropyl acetate	1531	842274	2,2,3,3-Tetrafluoro-1-propanol
			305	805966	Isopropyl methyl ketone	308	822307	Tetrahydrofurfuryl alcohol
301	803128	Diethylene glycol monomethyl ether	305	843954	Lithium bis(trimethylsilyl)amide	309	809733	1,2,3,4-Tetrahydronaphthalene
			305	822283	Methanol	309	808205	Tetramethylurea
302	821752	N,N-Diethylformamide	305	806061	2-Methoxyethyl acetate	309	808157	Thiophene
302	803605	Diethyl ketone	305	818532	(1-Methoxy-2-propyl) acetate	309	821152	1,2,4-Trichlorobenzene
302	810261	Diisooamyl ether	305	822319	N-Methylacetamide	309	808245	Triethylene glycol
302	818831	Diisobutyl ketone	305	809711	Methyl acetate	309	808249	Triethylene glycol dimethyl ether
302	800866	Diisopropyl ether	305	800107	Methyl acetoacetate			
302	802936	2,2-Dimethoxypropane	305	822330	Methyl benzoate	309	821141	Triethyl phosphate
302	803235	N,N-Dimethylacetamide	305	806031	2-Methyl-1-butanol	309	808259	2,2,2-Trifluoroethanol
302	800097	Dimethyl adipate	306	806147	Methylcyclohexane	309	821184	Trimethyl phosphate
302	803525	Dimethyl carbonate	306	818663	5-Methyl-3-heptanone	309	822267	2,4,6-Trimethylpyridine
			306	820818	2-Methylpentane	309	822337	m-Xylene
			306	805965	Methyl propyl ketone	309	808697	o-Xylene
			306	814536	Methyl propyl ketone	309	808691	p-Xylene

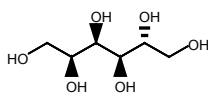
# Solven

Solvents for the analytical chromatography → LiChrosolv®  
 UV spectroscopy solvents, Solvents for the fluorescence spectroscopy → Uvasol®  
 Solvents for the preparative chromatography → Prepsolv®  
 Solvents for the scintillation → Scintillation measurements  
 Solvent yellow 2 → Dimethylyellow (C.I. 11020) page 807

Sorbitan monododecanoate → Span® 20 page 1460  
 Sorbitan monolaurate → Span® 20 page 1460  
 (Z)-Sorbitan mono-9-octadecenoate → Span® 80 page 1460  
 Sorbitan monooleate → Span® 80 page 1460  
 Sorbitan monostearate → Span® 60 page 1460

(Z,Z)-Sorbitan tri-9-octadecenoate → Span® 85 page 1461  
 Sorbitan trioctadecanoate → Span® 65 page 1460  
 Sorbitan trioleate → Span® 85 page 1461  
 Sorbitan tristearate → Span® 65 page 1460

## 107759 D(-)-Sorbitol for biochemistry



C<sub>6</sub>H<sub>14</sub>O<sub>6</sub>  
 D-Glucitol  
 ■ CAS-No. 50-70-4 ■ EC-No. 200-061-5  
 ■ Spec. density 1.49 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O 2350 g/l (25 °C) ■ M = 182.17 g/mol ■ pH value 6 - 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 94 - 96 °C

■ Bulk density 450 kg/m<sup>3</sup> ■ Boiling point 105 °C (1013 hPa) ■ Ignition temp. 420 °C  
 ■ WGK nwg  
 ■ LD50 oral rat 15900 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 44 91 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
**Specification**  
 Assay (HPLC, calc.on anhydrous substance).....  
 ..... ≥ 99.0 %

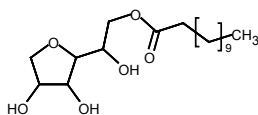
Identity (IR-spectrum) ..... conforms  
 Spec. rotation (α 20/D; 0.4 %; water; molybdatokomplex) ..... + 104 - + 106°  
 Heavy metals (as Pb) ..... ≤ 0.0001 %  
 Mannitol (HPLC) ..... ≤ 0.5 %  
 Water (according to Karl Fischer) ..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.07759.0100	Plastic bottle	100 g	inquire
1.07759.0500	Plastic bottle	500 g	inquire

D(-)Sorbitol extra pure for microbiology → page 112

SPADNS → 1,8-Dihydroxy-2-(4-sulfophenylazo) naphthalene-3,6- disulfonic acid trisodium salt page 763

## 840119 Span® 20 for synthesis



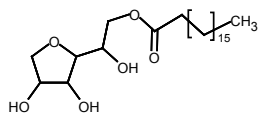
C<sub>18</sub>H<sub>34</sub>O<sub>6</sub>  
 Sorbitan monolaurate, Sorbitan monododecanoate  
 ■ CAS-No. 1338-39-2 ■ EC-No. 215-663-3

■ Vapour pressure < 1.3 hPa (20 °C)  
 ■ Spec. density 1.0 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >149 °C ■ M = 346.47 g/mol  
 ■ Boiling point >100 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat 33600 mg/kg  
 ■ LGK 10  
 ■ HS-No. 3824 90 97 ■ Disposal 3

**Specification**  
 Hydroxyl value ..... 330 - 358  
 Saponification value ..... 158 - 170  
 Acid value ..... ≤ 10  
 Water (K. F.) ..... ≤ 1.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40119.0100	Glass bottle	100 ml	inquire
8.40119.0500	Glass bottle	500 ml	inquire

## 840121 Span® 60 for synthesis



C<sub>24</sub>H<sub>46</sub>O<sub>6</sub>  
 Sorbitan monostearate  
 ■ CAS-No. 1338-41-6 ■ EC-No. 215-664-9  
 ■ Vapour pressure < 1.4 hPa (20 °C)

■ Spec. density 1.0 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >149 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 430.62 g/mol  
 ■ Melting point 53 °C ■ Boiling point >100 °C (1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat 15900 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 3824 90 97 ■ Disposal 3

**Specification**  
 Hydroxyl value ..... 235 - 260  
 Saponification value ..... 147 - 157  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40121.0100	Glass bottle	100 g	inquire
8.40121.0500	Glass bottle	500 g	inquire

## 840122 Span® 65 for synthesis

C<sub>60</sub>H<sub>114</sub>O<sub>8</sub>  
 Sorbitan tristearate, Sorbitan trioctadecanoate  
 ■ CAS-No. 26658-19-5 ■ EC-No. 247-891-4  
 ■ Vapour pressure < 1.4 hPa (20 °C)  
 ■ Spec. density 0.98 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point >149 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 963.55 g/mol  
 ■ Melting point 53 °C ■ Boiling point >100 °C

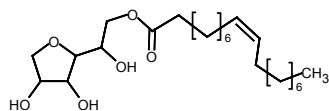
(1013 hPa)  
 ■ WGK 1  
 ■ LD50 oral rat > 15900 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 3824 90 97 ■ Disposal 3

Saponification value ..... 176 - 188  
 Identity (IR) ..... passes test

**Specification**  
 Hydroxyl value ..... 66 - 80

Ord.No.	Packaging	Quantity	Price
8.40122.0100	Glass bottle	100 g	inquire
8.40122.0500	Glass bottle	500 g	inquire

## 840123 Span® 80 for synthesis



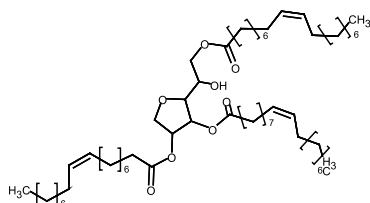
C<sub>24</sub>H<sub>44</sub>O<sub>6</sub>  
 Sorbitan monooleate, (Z)-Sorbitan mono-9-octadecenoate  
 ■ CAS-No. 1338-43-8 ■ EC-No. 215-665-4

■ Vapour pressure < 1.4 hPa (20 °C)  
 ■ Spec. density 1.0 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >149 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 428.60 g/mol  
 ■ Boiling point >100 °C  
 ■ WGK 1  
 ■ LD50 oral rat > 39800 mg/kg  
 ■ LGK 10  
 ■ HS-No. 3824 90 97 ■ Disposal 3

**Specification**  
 Hydroxyl value ..... 193 - 209  
 Saponification value ..... 149 - 160  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.40123.0100	Glass bottle	100 ml	inquire
8.40123.0500	Glass bottle	500 ml	inquire
8.40123.1000	Glass bottle	1 l	inquire

## 840124 Span® 85 for synthesis

C<sub>60</sub>H<sub>108</sub>O<sub>8</sub>

Spare filters for Extrelut® NT 3 prepacked glass columns → page 7

Spare filters for Extrelut® NT1 prepacked glass columns → page 7

Sorbitan trioleate, (Z,Z,Z)-Sorbitan tri-9-octadecenoate

- CAS-No. 26266-58-0 ■ EC-No. 247-569-3
- Vapour pressure < 1.4 hPa (20 °C)
- Spec. density 0.95 g/cm<sup>3</sup> (20 °C)
- Flash point >149 °C ■ Solub. in H<sub>2</sub>O (25 °C) insoluble ■ M = 957.51 g/mol
- Boiling point >100 °C
- WGK 1
- LD50 oral rat 39800 mg/kg
- LGK 10
- HS-No. 2932 19 00 ■ Disposal 3

## Specification

Hydroxyl value .....	55 - 75
Saponification value .....	170 - 190
Identity (IR) .....	conforms

Ord.No.	Packaging	Quantity	Price
8.40124.0100	Glass bottle	100 ml	inquire
8.40124.0500	Glass bottle	500 ml	inquire

SPE → N-(3-Sulfopropyl)-N-methacroyloxyethyl-, N-dimethylammonium betaine page 1508

Special indicator papers, Special indicator strips → page 76

## 110783 Spectromelt® A 10 (di-lithium tetraborate)

B<sub>4</sub>Li<sub>2</sub>O<sub>7</sub>Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub>

- CAS-No. 12007-60-2 ■ EC-No. 234-514-3
- Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 169.12 g/mol
- pH value 9.1 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 930 °C ■ Bulk density 330 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2840 20 90 ■ Disposal 14

Flux for x-ray fluorescence analysis.

## Specification

Assay (acidimetric).....	≥ 99.0 %
Chloride (Cl).....	≤ 50 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 20 ppm
Silicate (SiO <sub>2</sub> ).....	≤ 100 ppm

Sulphate (SO <sub>4</sub> ).....	≤ 50 ppm
Ag (Silver).....	≤ 5 ppm
Al (Aluminium).....	≤ 10 ppm
Ba (Barium).....	≤ 5 ppm
Ca (Calcium).....	≤ 20 ppm
Cd (Cadmium).....	≤ 5 ppm
Co (Cobalt).....	≤ 5 ppm
Cr (Chromium).....	≤ 5 ppm
Cu (Copper).....	≤ 5 ppm
Fe (Iron).....	≤ 10 ppm
Ga (Gallium).....	≤ 5 ppm
K (Potassium).....	≤ 10 ppm
Mg (Magnesium).....	≤ 5 ppm
Mn (Manganese).....	≤ 5 ppm
Na (Sodium).....	≤ 20 ppm

Ni (Nickel).....	≤ 5 ppm
Pb (Lead).....	≤ 5 ppm
Sr (Strontium).....	≤ 5 ppm
Zn (Zinc).....	≤ 5 ppm
Loss on ignition (1000 °C).....	≤ 1.0 %
Bulk density.....	about 50g/100 ml

Ord.No.	Packaging	Quantity	Price
1.10783.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.10783.5000	Plastic bottle	5 kg	inquire
1.10783.9025	Plastic drum	25 kg	inquire

## 111802 Spectromelt® A 12 66% di-lithium tetraborate/34% lithium metaborate

- Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ pH value 10 (25 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 1300 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 14

Flux for X-ray fluorescence analysis.

## Specification

Chloride (Cl).....	≤ 50 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 20 ppm
Silicate (SiO <sub>2</sub> ).....	≤ 100 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 50 ppm
Ag (Silver).....	≤ 5 ppm

Al (Aluminium).....	≤ 10 ppm
Ba (Barium).....	≤ 5 ppm
Ca (Calcium).....	≤ 20 ppm
Cd (Cadmium).....	≤ 5 ppm
Co (Cobalt).....	≤ 5 ppm
Cr (Chromium).....	≤ 5 ppm
Cu (Copper).....	≤ 5 ppm
Fe (Iron).....	≤ 10 ppm
Ga (Gallium).....	≤ 5 ppm
K (Potassium).....	≤ 10 ppm
Mg (Magnesium).....	≤ 5 ppm
Mn (Manganese).....	≤ 5 ppm

Na (Sodium).....	≤ 20 ppm
Ni (Nickel).....	≤ 5 ppm
Pb (Lead).....	≤ 5 ppm
Sr (Strontium).....	≤ 5 ppm
Zn (Zinc).....	≤ 5 ppm
Loss on ignition (800 °C).....	≤ 1.0 %
Bulk density.....	about 130g/100 ml

Ord.No.	Packaging	Quantity	Price
1.11802.1000	Plastic bottle	1 kg	inquire
1.11802.5000	Plastic bottle	5 kg	inquire

## 111724 Spectromelt® A 14 51% di-lithium tetraborate/ 27% lanthane(III) oxide/ 12% lithium metaborate/ 10% lithium fluoride

- pH value (10 g/l, H<sub>2</sub>O, 20 °C) alkaline
- Bulk density 1000 - 1200 kg/m<sup>3</sup>
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 14

Flux for X-ray fluorescence analysis.

## Specification

Chloride (Cl).....	≤ 50 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 20 ppm

Silicate (SiO <sub>2</sub> ).....	≤ 300 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 50 ppm
Ag (Silver).....	≤ 5 ppm
Al (Aluminium).....	≤ 50 ppm
Ba (Barium).....	≤ 5 ppm
Ca (Calcium).....	≤ 50 ppm
Cd (Cadmium).....	≤ 5 ppm
Co (Cobalt).....	≤ 5 ppm
Cr (Chromium).....	≤ 5 ppm
Cu (Copper).....	≤ 5 ppm
Fe (Iron).....	≤ 10 ppm
K (Potassium).....	≤ 100 ppm
Mg (Magnesium).....	≤ 10 ppm

Mn (Manganese).....	≤ 5 ppm
Na (Sodium).....	≤ 50 ppm
Ni (Nickel).....	≤ 5 ppm
Pb (Lead).....	≤ 20 ppm
Sr (Strontium).....	≤ 5 ppm
Zn (Zinc).....	≤ 10 ppm
Loss on ignition (800 °C).....	≤ 1.0 %
Bulk density.....	about 110g/100 ml

Ord.No.	Packaging	Quantity	Price
1.11724.1000	Plastic bottle	1 kg	inquire

## 112996 Spectromelt® A 20 lithium metaborate

BLiO<sub>2</sub>LiBO<sub>2</sub>

- CAS-No. 13453-69-5 ■ EC-No. 236-631-5
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 49.75 g/mol ■ Melting point 840 °C
- Bulk density 1300 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2840 20 90 ■ Disposal 14

Flux for x-ray fluorescence analysis.

## Specification

Chloride (Cl).....	≤ 50 ppm
Phosphate (PO <sub>4</sub> ).....	≤ 20 ppm

Silicate (SiO <sub>2</sub> ).....	≤ 100 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 50 ppm
Ag (Silver).....	≤ 5 ppm
Al (Aluminium).....	≤ 10 ppm
Ba (Barium).....	≤ 5 ppm
Ca (Calcium).....	≤ 20 ppm
Cd (Cadmium).....	≤ 5 ppm
Co (Cobalt).....	≤ 5 ppm
Cr (Chromium).....	≤ 5 ppm
Cu (Copper).....	≤ 5 ppm
Fe (Iron).....	≤ 20 ppm
Ga (Gallium).....	≤ 5 ppm
K (Potassium).....	≤ 10 ppm

Mg (Magnesium).....	≤ 10 ppm
Mn (Manganese).....	≤ 5 ppm
Na (Sodium).....	≤ 20 ppm
Ni (Nickel).....	≤ 5 ppm
Pb (Lead).....	≤ 5 ppm
Sr (Strontium).....	≤ 5 ppm
Zn (Zinc).....	≤ 5 ppm
Loss on ignition (800 °C).....	≤ 1.0 %
Bulk density.....	about 130g/100 ml

Ord.No.	Packaging	Quantity	Price
1.12996.1000	Plastic bottle	1 kg	inquire



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## 124001 Spectromelt® A 22 lithium metaborate/di-lithium tetraborate 22:12

- Bulk density 1100 kg/m<sup>3</sup>
  - WGK 1
  - LGK 10 - 13
  - HS-No. 3822 00 00 ■ Disposal 14
- Flux for X-ray fluorescence analysis.

**Specification**

Chloride (Cl)	≤ 50 ppm
Phosphate (PO <sub>4</sub> )	≤ 20 ppm
Silicate (SiO <sub>2</sub> )	≤ 100 ppm
Sulphate (SO <sub>4</sub> )	≤ 50 ppm
Ag (Silver)	≤ 5 ppm
Al (Aluminium)	≤ 10 ppm

Ba (Barium)	≤ 5 ppm
Ca (Calcium)	≤ 20 ppm
Cd (Cadmium)	≤ 5 ppm
Co (Cobalt)	≤ 5 ppm
Cr (Chromium)	≤ 5 ppm
Cu (Copper)	≤ 5 ppm
Fe (Iron)	≤ 20 ppm
Ga (Gallium)	≤ 5 ppm
K (Potassium)	≤ 10 ppm
Mg (Magnesium)	≤ 5 ppm
Mn (Manganese)	≤ 5 ppm
Na (Sodium)	≤ 20 ppm

Ni (Nickel)	≤ 5 ppm
Pb (Lead)	≤ 5 ppm
Sr (Strontium)	≤ 5 ppm
Zn (Zinc)	≤ 10 ppm
Loss on ignition (900 °C)	≤ 0.5 %
Bulk density	about 130g/100 ml

Ord.No.	Packaging	Quantity	Price
1.24001.1000	Plastic bottle	1 kg	inquire

## 112630 Spectromelt® A 100 di-lithiumtetraborate

- B<sub>4</sub>Li<sub>2</sub>O<sub>7</sub>
  - Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub>
  - CAS-No. 12007-60-2 ■ EC-No. 234-514-3
  - Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 169.12 g/mol
  - pH value 9.1 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)
  - Melting point 930 °C ■ Bulk density 330 kg/m<sup>3</sup>
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2840 20 90 ■ Disposal 14
- Fluxed di-lithium tetraborate of high bulk density and very low loss on ignition for x-ray fluorescence spectroscopy; spherical particles of 0.2 - 0.8 mm diameter.

**Specification**

Assay (acidimetric)	≥ 99.0 %
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Chloride (Cl)	≤ 50 ppm
Phosphate (PO <sub>4</sub> )	≤ 20 ppm
Silicate (SiO <sub>2</sub> )	≤ 100 ppm
Sulphate (SO <sub>4</sub> )	≤ 50 ppm
Ag (Silver)	≤ 5 ppm
Al (Aluminium)	≤ 10 ppm
Ba (Barium)	≤ 5 ppm
Ca (Calcium)	≤ 20 ppm
Cd (Cadmium)	≤ 5 ppm
Co (Cobalt)	≤ 5 ppm
Cr (Chromium)	≤ 5 ppm
Cu (Copper)	≤ 5 ppm
Fe (Iron)	≤ 10 ppm
Ga (Gallium)	≤ 5 ppm
K (Potassium)	≤ 10 ppm

Mg (Magnesium)	≤ 5 ppm
Mn (Manganese)	≤ 5 ppm
Na (Sodium)	≤ 20 ppm
Ni (Nickel)	≤ 5 ppm
Pb (Lead)	≤ 5 ppm
Sr (Strontium)	≤ 5 ppm
Zn (Zinc)	≤ 5 ppm
Loss on ignition (1000 °C)	≤ 0.2 %
Bulk density	about 120g/100 ml

Ord.No.	Packaging	Quantity	Price
1.12630.1000	Plastic bottle	1 kg	inquire
1.12630.5000	Plastic bottle	5 kg	inquire

113175 Spectromelt® A 1000 Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub> + 0.07% LiBr

- Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ pH value 9.1 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)
  - Melting point 900 °C ■ Bulk density 500 kg/m<sup>3</sup>
  - WGK 1
  - LGK 10 - 13
  - HS-No. 3822 00 00 ■ Disposal 14
- Flux for x-ray fluorescence analysis; contains lithium bromide for improved flow properties of the flux.

**Specification**

Assay (acidimetric)	≥ 99.0 %
Phosphate (PO <sub>4</sub> )	≤ 20 ppm
Silicate (SiO <sub>2</sub> )	≤ 150 ppm

Sulphate (SO <sub>4</sub> )	≤ 50 ppm
Ag (Silver)	≤ 5 ppm
Al (Aluminium)	≤ 10 ppm
Ba (Barium)	≤ 5 ppm
Ca (Calcium)	≤ 20 ppm
Cd (Cadmium)	≤ 5 ppm
Co (Cobalt)	≤ 5 ppm
Cr (Chromium)	≤ 5 ppm
Cu (Copper)	≤ 5 ppm
Fe (Iron)	≤ 10 ppm
Ga (Gallium)	≤ 5 ppm
K (Potassium)	≤ 10 ppm
Mg (Magnesium)	≤ 5 ppm

Mn (Manganese)	≤ 5 ppm
Na (Sodium)	≤ 20 ppm
Ni (Nickel)	≤ 5 ppm
Pb (Lead)	≤ 5 ppm
Sr (Strontium)	≤ 5 ppm
Zn (Zinc)	≤ 5 ppm
Loss on ignition (1000 °C)	≤ 1.0 %
Bulk density	about 60g/100 ml

Ord.No.	Packaging	Quantity	Price
1.13175.1000	Plastic bottle	1 kg	inquire
1.13175.5000	Plastic bottle	5 kg	inquire

## 106304 Spectromelt® B 10 di-Sodium tetraborate

- B<sub>4</sub>Na<sub>2</sub>O<sub>7</sub>
- Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub>
- Borax
- CAS-No. 1330-43-4 ■ EC-No. 215-540-4
- Vapour pressure 7.3 hPa (1200 °C)
- Spec. density 2.37 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 25.6 g/l (20 °C) ■ M = 201.21 g/mol
- pH value 9.2 (25 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 742 °C ■ Bulk density 700 kg/m<sup>3</sup>
- Boiling point 1575 °C (decomposition)
- WGK 1
- GHS: Danger, Reproductive toxicity, Category 1B, H360FD, P201, P308 + P313
- LD50 oral rat 1200 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 005-011-00-4 ■ LGK 6.1 D
- HS-No. 2840 11 00 ■ Disposal 3

Flux for X-ray fluorescence analysis.

**Specification**

Assay (acidimetric)	≥ 99.0 %
Chloride (Cl)	≤ 50 ppm
Phosphate (PO <sub>4</sub> )	≤ 20 ppm
Silicate (SiO <sub>2</sub> )	≤ 100 ppm
Sulphate (SO <sub>4</sub> )	≤ 50 ppm
Ag (Silver)	≤ 5 ppm
Al (Aluminium)	≤ 10 ppm
Ba (Barium)	≤ 5 ppm
Ca (Calcium)	≤ 10 ppm
Cd (Cadmium)	≤ 5 ppm
Co (Cobalt)	≤ 5 ppm
Cr (Chromium)	≤ 5 ppm
Cu (Copper)	≤ 5 ppm
Fe (Iron)	≤ 10 ppm

Ga (Gallium)	≤ 5 ppm
K (Potassium)	≤ 10 ppm
Mg (Magnesium)	≤ 5 ppm
Mn (Manganese)	≤ 5 ppm
Ni (Nickel)	≤ 5 ppm
Pb (Lead)	≤ 5 ppm
Sr (Strontium)	≤ 5 ppm
Zn (Zinc)	≤ 5 ppm
Loss on ignition (800 °C)	≤ 1.0 %
Bulk density	about 70g/100 ml

Ord.No.	Packaging	Quantity	Price
1.06304.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.06304.5000	Plastic bottle	5 kg	inquire

## 113990 Spectromelt® C 10 Grinding and tableting aid for X-ray fluorescence spectroscopy

- Solub. in H<sub>2</sub>O (20 °C) partly soluble
  - WGK 1
  - LGK 10 - 13
  - HS-No. 3824 90 97
- Tablet weight: abt. 330 mg. Typical element composition: 59.5% C, 9.4% H, 4.1% N, 27.0% O

**Specification**

IR-spectrum	passes test
Al (Aluminium)	≤ 0,001%
Ba (Barium)	≤ 0,001%

Ca (Calcium)	≤ 0,001%
Co (Cobalt)	≤ 0,001%
Cr (Chromium)	≤ 0,001%
Cu (Copper)	≤ 0,001%
Fe (Iron)	≤ 0,001%
K (Potassium)	≤ 0,001%
Mn (Manganese)	≤ 0,001%
Mo (Molybdenum)	≤ 0,001%
Ni (Nickel)	≤ 0,001%
Pb (Lead)	≤ 0,001%

Si (Silicon)	≤ 0,001%
Sr (Strontium)	≤ 0,001%
Ti (Titanium)	≤ 0,001%
V (Vanadium)	≤ 0,001%

Ord.No.	Packaging	Quantity	Price
1.13990.5000	Plastic bottle	5 kg	inquire



## 113934 Spectromelt® C 20 grinding and tableting aid for X-ray fluorescence spectroscopy

<ul style="list-style-type: none"> <li>■ Spec. density (20 °C) no data available</li> <li>■ pH value (H<sub>2</sub>O, 20 °C) no data available</li> <li>■ WGK nwg</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3822 00 00 ■ Disposal 3</li> </ul>	<ul style="list-style-type: none"> <li>Ba (Barium) ..... ≤ 0.001%</li> <li>Ca (Calcium) ..... ≤ 0.001%</li> <li>Co (Cobalt) ..... ≤ 0.001%</li> <li>Cr (Chromium) ..... ≤ 0.001%</li> <li>Cu (Copper) ..... ≤ 0.001%</li> <li>Fe (Iron) ..... ≤ 0.001%</li> <li>K (Potassium) ..... ≤ 0.001%</li> <li>Mn (Manganese) ..... ≤ 0.001%</li> <li>Mo (Molybdenum) ..... ≤ 0.001%</li> <li>Ni (Nickel) ..... ≤ 0.001%</li> </ul>	<ul style="list-style-type: none"> <li>Pb (Lead) ..... ≤ 0.001%</li> <li>Si (Silicon) ..... ≤ 0.005%</li> <li>Sr (Strontium) ..... ≤ 0.001%</li> <li>Ti (Titanium) ..... ≤ 0.001%</li> <li>V (Vanadium) ..... ≤ 0.001%</li> </ul>								
<p>Tablet weight: abt. 330 mg. Element composition: abt. 43.1% C, 6.5% H, 50.4% O</p> <p><b>Specification</b></p> <p>Identity (IR-spectrum) ..... passes test</p> <p>Al (Aluminium) ..... ≤ 0.001%</p>		<table border="1"> <thead> <tr> <th>Ord.No.</th> <th>Packaging</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>1.13934.5000</td> <td>Plastic bottle</td> <td>5 kg</td> <td>inquire</td> </tr> </tbody> </table>	Ord.No.	Packaging	Quantity	Price	1.13934.5000	Plastic bottle	5 kg	inquire
Ord.No.	Packaging	Quantity	Price							
1.13934.5000	Plastic bottle	5 kg	inquire							

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Spectroquant, analytical test kits → page 49

## Spectroquant® Tests for photometric measurements

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
49	101758	Acid Capacity Cell Test to pH 4.3 (total alkalinity)	62	101797	COD Cell Test	73	173010	Nitrite Powder Packs for photometers of other manufacturers for 25-ml samples
49	100594	Aluminium Cell Test	60	118750	COD Cell Test for photometers of other manufacturers	73	114776	Nitrite Test
49	114825	Aluminium Test	60	118751	COD Cell Test for photometers of other manufacturers	73	114537	Nitrogen (total) Cell Test
50	114739	Ammonium Cell Test	60	118752	COD Cell Test for photometers of other manufacturers	73	100613	Nitrogen (total) Cell Test
50	114558	Ammonium Cell Test	60	118753	COD Cell Test for photometers of other manufacturers	74	114694	Oxygen Cell Test
50	114544	Ammonium Cell Test	62	117058	COD Cell Test for seawater / high chloride contents	74	119251	Oxygen Scavengers Test
50	114559	Ammonium Cell Test	62	117059	COD Cell Test for seawater / high chloride contents	75	100607	Ozone Test
50	114752	Ammonium Test	62	109772	COD Cell Test (Hg-free)	77	101744	pH Cell Test
51	100683	Ammonium Test	62	109773	COD Cell Test (Hg-free)	78	114551	Phenol Cell Test
51	100675	AOX Cell Test	63	114553	Copper Cell Test	78	100856	Phenol Test
51	100678	AOX Enrichment Set	63	114767	Copper Test	79	114543	Phosphate Cell Test
51	100677	AOX Sample Preparation Set	63	114561	Cyanide Cell Test	79	114729	Phosphate Cell Test
51	101747	Arsenic Test	64	109701	Cyanide Test	80	100673	Phosphate Cell Test
52	100687	BOD Cell Test	64	114800	Cyanide Test	80	100474	Phosphate Cell Test
52	100688	BOD Nutrient-Salt Mixture	64	119253	Cyanuric Acid Test	80	100475	Phosphate Cell Test
52	100826	Boron Cell Test	91	114724	Empty cells	80	114848	Phosphate Test
52	114839	Boron Test	64	100809	Fluoride Cell Test	80	100798	Phosphate Test
52	100605	Bromine Test	64	114598	Fluoride Test	80	114842	Phosphate Test
53	114834	Cadmium Cell Test	64	114500	Formaldehyde Cell Test	80	114562	Potassium Cell Test
53	101745	Cadmium Test	64	114678	Formaldehyde Test	80	100615	Potassium Cell Test
53	100858	Calcium Cell Test	65	114821	Gold Test	96	119301	Reference Standard
53	100049	Calcium Test	65	109711	Hydrazine Test	81	114683	Residual Hardness Cell Test
53	114815	Calcium Test	66	114731	Hydrogen Peroxide Cell Test	82	114794	Silicate (Silicic Acid) Test
57	100089	Cells and accessories for the photometric chlorine determination	66	118789	Hydrogen Peroxide Test	82	100857	Silicate (Silicic Acid) Test
55	101804	Chloride Cell Test	66	100606	Iodine Test	82	114831	Silver Test
55	114730	Chloride Cell Test	67	114549	Iron Cell Test	82	100885	Sodium Cell Test in nutrient solutions for fertilization
55	114897	Chloride Test	67	114896	Iron Cell Test	83	114548	Sulfate Cell Test
57	100597	Chlorine Cell Test	67	173007	Iron Powder Packs for photometers of other manufacturers for 10-ml samples	83	100617	Sulfate Cell Test
56	100595	Chlorine Cell Test	67	114761	Iron Test	83	114564	Sulfate Cell Test
58	100608	Chlorine Dioxide Test	67	100796	Iron Test	83	173015	Sulfate Powder Packs for photometers of other manufacturers. BR for 25-ml samples
57	119254	Chlorine Powder Packs for photometers of other manufacturers for 10-ml samples	68	114833	Lead Cell Test	83	173014	Sulfate Powder Packs for photometers of other manufacturers for 10-ml samples
57	119257	Chlorine Powder Packs for photometers of other manufacturers for 10-ml samples	68	109717	Lead Test	83	114791	Sulfate Test
57	119256	Chlorine Powder Packs for photometers of other manufacturers for 25-ml samples	68	100815	Magnesium Cell Test	84	114779	Sulfide Test
57	119258	Chlorine Powder Packs for photometers of other manufacturers for 25-ml samples	69	100816	Manganese Cell Test	84	114394	Sulfite Cell Test
57	100086	Chlorine reagent Cl <sub>2</sub> -1 (liquid)	69	114770	Manganese Test	84	101746	Sulfite Test
57	100087	Chlorine reagent Cl <sub>2</sub> -2 (liquid)	69	100860	Molybdenum Cell Test	1512	117048	Sulfuric acid 95 - 97% for COD determination
57	100088	Chlorine reagent Cl <sub>2</sub> -3 (liquid)	70	119252	Molybdenum Test	84	114697	Surfactants (anion.) Cell Test
57	100599	Chlorine Test	70	101632	Monochloramine Test	85	101764	Surfactants (cation.) Cell Test
56	100598	Chlorine Test	70	114554	Nickel Cell Test	85	101787	Surfactants (nonion.) Cell Test
56	100602	Chlorine Test	70	114785	Nickel Test	85	114622	Tin Cell Test
59	114552	Chromate Cell Test	71	114542	Nitrate Cell Test	85	114622	Tin Cell Test
59	114758	Chromate Test	71	114563	Nitrate Cell Test	86	114878	TOC Cell Test
59	114560	COD Cell Test	71	114764	Nitrate Cell Test	86	114879	TOC Cell Test
62	101796	COD Cell Test	71	100614	Nitrate Cell Test	87	100961	Total Hardness Cell Test
59	114540	COD Cell Test	72	114556	Nitrate Cell Test in seawater	88	101749	Volatile organic Acids Cell Test
59	114895	COD Cell Test	72	114773	Nitrate Test	89	100861	Zinc Cell Test
60	114541	COD Cell Test	71	109713	Nitrate Test	89	114566	Zinc Cell Test
60	114690	COD Cell Test	72	114942	Nitrate test in seawater	89	114832	Zinc Test
60	114691	COD Cell Test	73	114547	Nitrite Cell Test			
60	114555	COD Cell Test	73	100609	Nitrite Cell Test			

Spectroscopy, solvents for ... → Uvasol®



**107916 Spectrosolv® PSS for the ACIDORAPID® mineralizer**

■ Spec. density 1.78 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 12  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(PHOSPHORSAEURE UND ENTH. SCHWEFELSAEURE), 8, II ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC,

N.O.S.(PHOSPHORIC ACID AND CONT. SULPHURIC ACID), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(PHOSPHORIC ACID AND CONT. SULPHURIC ACID), 8, II  
**Specification**  
 Assay (H<sub>3</sub>PO<sub>4</sub>)..... 40.9 - 43.7 %  
 Assay (H<sub>2</sub>SO<sub>4</sub>)..... 47.3 - 50.0 %  
 Al (Aluminium)..... ≤ 0.2 ppm  
 Ba (Barium)..... ≤ 0.2 ppm  
 Cd (Cadmium)..... ≤ 0.1 ppm  
 Co (Cobalt)..... ≤ 0.1 ppm  
 Cr (Chromium)..... ≤ 0.1 ppm  
 Fe (Iron)..... ≤ 0.1 ppm

K (Potassium)..... ≤ 0.1 ppm  
 Li (Lithium)..... ≤ 0.1 ppm  
 Mg (Magnesium)..... ≤ 0.1 ppm  
 Mn (Manganese)..... ≤ 0.1 ppm  
 Na (Sodium)..... ≤ 0.2 ppm  
 Ni (Nickel)..... ≤ 0.1 ppm  
 Pb (Lead)..... ≤ 0.1 ppm  
 Sr (Strontium)..... ≤ 0.1 ppm  
 Tl (Thallium)..... ≤ 0.1 ppm  
 Zn (Zinc)..... ≤ 0.2 ppm

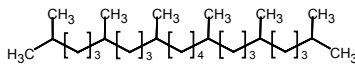
Ord.No.	Packaging	Quantity	Price
1.07916.1000	Glass bottle	1 l	inquire

Spillages, absorbents for → Chemizorb® Granules page 591  
 Spirit → page 317  
 Spirit of wine → page 317

Spiritus → page 3  
 Split collets for manu-CART® cartridge holder → page 35  
 Spray nozzles for TLC sprayer → page 15

SPS agar → page 104  
 Sputofluol® → page 192

**814605 Squalane for synthesis**



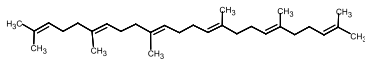
C<sub>30</sub>H<sub>62</sub>  
 Hexamethyltetracosane  
 ■ CAS-No. 111-01-3 ■ EC-No. 203-825-6  
 ■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C)

■ Flash point 218 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 422.81 g/mol ■ Melting point -38 °C ■ Boiling point 350 °C (1013 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2901 10 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,807 - 0,809  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14605.0100	Glass bottle	100 ml	inquire
8.14605.1000	Glass bottle	1 l	inquire

**821068 Squalene for synthesis**



C<sub>30</sub>H<sub>50</sub>  
 2,6,10,15,19,23-Hexamethyl-2,6,10,14,18,22-tetracosahexaene  
 ■ CAS-No. 111-02-4 ■ EC-No. 203-826-1  
 ■ Refractive index 1.4945 (20 °C, 589 nm)  
 ■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)

■ Flash point 200 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 410.72 g/mol  
 ■ Boiling point 275 °C (20 hPa)  
 ■ WGK 2  
 ■ LGK 10  
 ■ HS-No. 2901 29 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,854 - 0,856  
 Peroxide value..... ≤ 5

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21068.0100	Glass bottle	100 ml	inquire
8.21068.0250	Glass bottle	250 ml	inquire
8.21068.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

SS-agar → page 104

**Stabilisers**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
549	820246	2-tert-Butyl-4-methoxyphenol	709	822021	2,6-Di-tert-butyl-4-methylphenol	1149	818447	2,2'-Methylenebis(4-methyl-6-tert-butylphenol)
552	818620	2-tert-Butyl-4-methylphenol				1526	808278	Tetra-n-butyltin
554	820250	4-tert-Butylphenol	709	820422	2,4-Di-tert-butylphenol	1550	818449	4,4'-Thiobis(2-tert-butyl-5-methylphenol)
554	801987	4-tert-Butylpyrocatechol	710	820421	Dibutyltin dilaurate			
708	821762	2,5-Di-tert-butylhydroquinone	975	822333	Hydroquinone			
			1123	821233	4-Methoxyphenol			

Staining foils for microscopy → page 199	Stainless steel clamp for filling nozzle attachment to walls → page 327	Stainless steel drum, 190 l → page 329
Stainless steel barrel, 10 l → page 329	Stainless steel-coated PTFE tube (80 cm) → page 326	Standard count agar → Microbiology
Stainless steel barrel, 30 l → page 329	Stainless steel-coated PTFE-tube (80 cm) → page 327	Standard nutrient agar → page 104
Stainless steel capillaries (flexible) i.d. 0.2 mm, e.d. 0.5 mm, length 1000 mm → page 35	Stainless steel containers → Laboratory equipment, auxiliaries	Standard nutrient broth → page 104
Stainless-steel cartridges → page 21	Stainless steel drum, 10 l → page 329	
Stainless steel clamp for filling nozzle attachment to stainless steel drums → page 327	Stainless steel drum, 25 l → page 329	

# Standa

## 113898 Standard oil for atomic absorption spectroscopy

- CAS-No. 8042-47-5 ■ EC-No. 232-455-8
- Vapour pressure 0.0001 hPa (20 °C)
- Spec. density 0.85 g/cm<sup>3</sup> (20 °C)
- Flash point >180 °C ■ Kin. viscosity 16 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ pH value (H<sub>2</sub>O) not applicable
- Ignition temp. >300 °C
- WGK 1
- GHS: Danger, Aspiration hazard, Category 1, H304, P301 + P310, P331
- LC50 rat > 5 mg/l
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 2000 mg/kg
- LGK 10
- HS-No. 2710 19 99 ■ Disposal 3

### Specification

Identity (IR-spectrum)..... passes test  
 Density (d 20 °C/ 4 °C).....0.84 - 0.86 g/ml  
 Viscosity (20 °C)..... 30 - 40 mPa·s

Ag (Silver).....	≤ 0.5 ppm	Mo (Molybdenum).....	≤ 0.5 ppm
Al (Aluminium).....	≤ 0.5 ppm	Na (Sodium).....	≤ 0.5 ppm
Au (Gold).....	≤ 0.5 ppm	Ni (Nickel).....	≤ 0.5 ppm
B (Boron).....	≤ 0.5 ppm	Pb (Lead).....	≤ 0.5 ppm
Ba (Barium).....	≤ 0.5 ppm	Pt (Platinum).....	≤ 0.5 ppm
Be (Beryllium).....	≤ 0.5 ppm	Sb (Antimony).....	≤ 0.5 ppm
Bi (Bismuth).....	≤ 0.5 ppm	Sn (Tin).....	≤ 0.5 ppm
Ca (Calcium).....	≤ 0.5 ppm	Sr (Strontium).....	≤ 0.5 ppm
Cd (Cadmium).....	≤ 0.5 ppm	Ti (Titanium).....	≤ 0.5 ppm
Co (Cobalt).....	≤ 0.5 ppm	Tl (Thallium).....	≤ 0.5 ppm
Cr (Chromium).....	≤ 0.5 ppm	V (Vanadium).....	≤ 0.5 ppm
Cu (Copper).....	≤ 0.5 ppm	Zn (Zinc).....	≤ 0.5 ppm
Fe (Iron).....	≤ 0.5 ppm	Zr (Zirconium).....	≤ 0.5 ppm
Ga (Gallium).....	≤ 0.5 ppm	Water.....	≤ 0.01 %
In (Indium).....	≤ 0.5 ppm		
K (Potassium).....	≤ 0.5 ppm		
Li (Lithium).....	≤ 0.5 ppm		
Mg (Magnesium).....	≤ 0.5 ppm		
Mn (Manganese).....	≤ 0.5 ppm		

Ord.No.	Packaging	Quantity	Price
1.13898.2500	Glass bottle	2.5 l	inquire

## Standards

### Element standards for atomic absorption spectroscopy (AAS) and photometry, ready for use, 1000 mg/l, traceable to SRM from NIST

#### 119770 Aluminium standard solution traceable to SRM from NIST Al(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 0.5 mol/l 1000 mg/l Al Certipur®

- Spec. density 1.017 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338
- LGK 8 B

- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19770.0100	Plastic bottle	100 ml	inquire
1.19770.0500	Plastic bottle	500 ml	inquire

#### 170204 Antimony standard solution traceable to SRM from NIST Sb<sub>2</sub>O<sub>3</sub> in HCl 2 mol/l 1000 mg/l Sb Certipur®

- Spec. density 1.033 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8 B

- HS-No. 3822 00 00 ■ Disposal 15
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70204.0100	Plastic bottle	100 ml	inquire
1.70204.0500	Plastic bottle	500 ml	inquire

#### 119773 Arsenic standard solution traceable to SRM from NIST H<sub>3</sub>AsO<sub>4</sub> in HNO<sub>3</sub> 0.5 mol/l 1000 mg/l As Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1A, H350; Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P201, P302 + P352, P305 + P351 + P338, P308 + P313

- LGK 6.1B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19773.0100	Plastic bottle	100 ml	inquire
1.19773.0500	Plastic bottle	500 ml	inquire

#### 119774 Barium standard solution traceable to SRM from NIST Ba(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 0.5 mol/l 1000 mg/l Ba Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer

- anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III
- Specification**  
 Concentration β (Ba) ..... 990 - 1010 mg/l

Determination method:Complexometric titration. (traceable to NIST - SRM 682) Accuracy of the method: +/- 2 mg/l

Ord.No.	Packaging	Quantity	Price
1.19774.0100	Plastic bottle	100 ml	inquire
1.19774.0500	Plastic bottle	500 ml	inquire

**170207 Beryllium standard solution**  $\text{Be}_4\text{O}(\text{C}_2\text{H}_3\text{O}_2)_6$  in  $\text{HNO}_3$  0.5 mol/l 1000 mg/l Be Certipur®



- Spec. density 1.017 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 1B, Inhalation, H350i; Specific target organ toxicity -

- repeated exposure, Category 2, H373, P201, P280, P302 + P352, P305 + P351 + P338, P308 + P313
- LGK 6.1B
- HS-No. 3822 00 00 ■ Disposal 18
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70207.0100	Plastic bottle	100 ml	inquire
1.70207.0500	Plastic bottle	500 ml	inquire

**119804 Bismuth standard solution** traceable to SRM from NIST  $\text{Bi}(\text{NO}_3)_3$  in  $\text{HNO}_3$  0.5 mol/l 1000 mg/l Bi Certipur®



- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8 B

- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19804.0100	Plastic bottle	100 ml	inquire
1.19804.0500	Plastic bottle	500 ml	inquire

**119500 Boron standard solution** traceable to SRM from NIST  $\text{H}_3\text{BO}_3$  in  $\text{H}_2\text{O}$  1000 mg/l B Certipur®

- Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ pH value 4 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13

- HS-No. 2810 00 90 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.19500.0100	Plastic bottle	100 ml	inquire
1.19500.0500	Plastic bottle	500 ml	inquire

**119777 Cadmium standard solution** traceable to SRM from NIST  $\text{Cd}(\text{NO}_3)_2$  in  $\text{HNO}_3$  0.5 mol/l 1000 mg/l Cd Certipur®



- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338

- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 15
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19777.0100	Plastic bottle	100 ml	inquire
1.19777.0500	Plastic bottle	500 ml	inquire

**119778 Calcium standard solution** traceable to SRM from NIST  $\text{Ca}(\text{NO}_3)_2$  in  $\text{HNO}_3$  0.5 mol/l 1000 mg/l Ca Certipur®



- Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338
- LGK 8 B

- HS-No. 3822 00 00 ■ Disposal 14
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19778.0100	Plastic bottle	100 ml	inquire
1.19778.0500	Plastic bottle	500 ml	inquire

**170212 Cesium standard solution** traceable to SRM from NIST  $\text{CsNO}_3$  in  $\text{HNO}_3$  0.5 mol/l 1000 mg/l Cs Certipur®



- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70212.0100	Plastic bottle	100 ml	inquire

**119779 Chromium standard solution** traceable to SRM from NIST  $\text{Cr}(\text{NO}_3)_3$  in  $\text{HNO}_3$  0.5 mol/l 1000 mg/l Cr Certipur®



- Spec. density 1.015 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338
- LGK 8 B

- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19779.0100	Plastic bottle	100 ml	inquire
1.19779.0500	Plastic bottle	500 ml	inquire



## 119785 Cobalt standard solution traceable to SRM from NIST $\text{Co}(\text{NO}_3)_2$ in $\text{HNO}_3$ 0.5 mol/l 1000 mg/l Co Certipur®



■ Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
■ WGK 2  
■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Carcinogenicity, Category 1B, Inhalation, H350i; Chronic aquatic toxicity, Category 3, H412, P201, P273, P302 +

P352, P305 + P351 + P338, P308 + P313  
■ LGK 6.1 D  
■ HS-No. 3822 00 00 ■ Disposal 28  
■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19785.0100	Plastic bottle	100 ml	inquire
1.19785.0500	Plastic bottle	500 ml	inquire

## 119786 Copper standard solution traceable to SRM from NIST $\text{Cu}(\text{NO}_3)_2$ in $\text{HNO}_3$ 0.5 mol/l 1000 mg/l Cu Certipur®



■ Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
■ WGK 2  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412; Corrosive to metals, Category 1, H290, P273, P302 + P352, P305 + P351 + P338

■ LGK 8B  
■ HS-No. 3822 00 00 ■ Disposal 28  
■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19786.0100	Plastic bottle	100 ml	inquire
1.19786.0500	Plastic bottle	500 ml	inquire

## 170216 Gold standard solution traceable to SRM from NIST $\text{H}(\text{AuCl}_4)$ in $\text{HCl}$ 2 mol/l 1000 mg/l Au Certipur®



■ Spec. density 1.033 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) not applicable  
■ WGK 1  
■ GHS: Warning, Corrosive to metals, Category 1, H290  
■ LGK 8 B  
■ HS-No. 3822 00 00 ■ Disposal 27  
■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II

■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

**Specification**  
Concentration  $\beta$  (Au).....990 - 1010 mg/l  
Determination method: ICP - OES (traceable to NIST - SRM 3121a) Accuracy of the method: +/- 5

Ord.No.	Packaging	Quantity	Price
1.70216.0100	Plastic bottle	100 ml	inquire
1.70216.0500	Plastic bottle	500 ml	inquire

## 119504 Indium standard solution traceable to SRM from NIST $\text{In}(\text{NO}_3)_3$ in $\text{HNO}_3$ 0.5 mol/l 1000 mg/l In Certipur®



■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338  
■ LGK 8B  
■ HS-No. 3822 00 00 ■ Disposal 28

■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

**Specification**  
Concentration  $\beta$  (In).....990 - 1010 mg/l  
Determination method: ICP-OES. (traceable to NIST - SRM 3124a) Accuracy of the method: +/- 5 mg

Ord.No.	Packaging	Quantity	Price
1.19504.0100	Plastic bottle	100 ml	inquire

## 119781 Iron standard solution traceable to SRM from NIST $\text{Fe}(\text{NO}_3)_3$ in $\text{HNO}_3$ 0.5 mol/l 1000 mg/l Fe Certipur®



■ Spec. density 1.015 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
■ WGK nwg  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338  
■ LGK 8B

■ HS-No. 3822 00 00 ■ Disposal 28  
■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19781.0100	Plastic bottle	100 ml	inquire
1.19781.0500	Plastic bottle	500 ml	inquire

## 119776 Lead standard solution traceable to SRM from NIST $\text{Pb}(\text{NO}_3)_2$ in $\text{HNO}_3$ 0.5 mol/l 1000 mg/l Pb Certipur®



■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
■ WGK nwg  
■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338

■ LGK 8B  
■ HS-No. 3822 00 00 ■ Disposal 15  
■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19776.0100	Plastic bottle	100 ml	inquire
1.19776.0500	Plastic bottle	500 ml	inquire

**170223 Lithium standard solution** traceable to SRM from NIST LiNO<sub>3</sub> in HNO<sub>3</sub> 0.5 mol/l  
1000 mg/l Li Certipur®

- Spec. density 1.017 g/cm<sup>3</sup> (20 °C) ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
  - WGK 1
  - GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338
  - LGK 8 B
  - HS-No. 3822 00 00 ■ Disposal 28
  - ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,
- INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70223.0100	Plastic bottle	100 ml	inquire
1.70223.0500	Plastic bottle	500 ml	inquire

**119788 Magnesium standard solution** traceable to SRM from NIST Mg(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub>  
0.5 mol/l 1000 mg/l Mg Certipur®

- Spec. density 1.016 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
  - WGK 1
  - GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338
  - LGK 8 B
  - HS-No. 3822 00 00 ■ Disposal 28
  - ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,
- INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19788.0100	Plastic bottle	100 ml	inquire
1.19788.0500	Plastic bottle	500 ml	inquire

**119789 Manganese standard solution** traceable to SRM from NIST Mn(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub>  
0.5 mol/l 1000 mg/l Mn Certipur®

- Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
  - WGK nwg
  - GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338
  - LGK 8 B
  - HS-No. 3822 00 00 ■ Disposal 28
  - ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,
- INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19789.0100	Plastic bottle	100 ml	inquire
1.19789.0500	Plastic bottle	500 ml	inquire

**170226 Mercury standard solution** traceable to SRM from NIST Hg(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2 mol/l  
1000 mg/l Hg Certipur®

- Spec. density 1.054 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
  - WGK 1
  - GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
  - LGK 8 B
  - HS-No. 3822 00 00 ■ Disposal 20
  - ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(QUECKSILBERNITRAT UND ENTH. SALPETERSAEURE), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(CONT. NITRIC ACID MORE THAN 5% BUT NOT MORE THAN 50% AND MERCURY NITRATE), 8 (6.1), II, Segregation Group: 1 (Acids)
  - IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(MERCURY NITRATE AND CONT. NITRIC ACID), 8 (6.1), II
- Specification**  
Concentration β (Hg).....990 - 1010 mg/l  
Determination method: ICP - OES (traceable to NIST - SRM 3133) Accuracy of the method: +/- 5 mg/l

Ord.No.	Packaging	Quantity	Price
1.70226.0100	Plastic bottle	100 ml	inquire
1.70226.0500	Plastic bottle	500 ml	inquire

**170227 Molybdenum standard solution** traceable to SRM from NIST (NH<sub>4</sub>)<sub>6</sub>Mo<sub>7</sub>O<sub>24</sub> in H<sub>2</sub>O  
1000 mg/l Mo Certipur®

- Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 2841 70 00 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

Ord.No.	Packaging	Quantity	Price
1.70227.0100	Plastic bottle	100 ml	inquire
1.70227.0500	Plastic bottle	500 ml	inquire

**119792 Nickel standard solution** traceable to SRM from NIST Ni(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 0.5 mol/l  
1000 mg/l Ni Certipur®

- Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 1A, Inhalation, H350i; Reproductive toxicity, Category 1B, H360D; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P201, P273, P280, P302 + P352, P305 + P351 + P338, P308 + P313
- LGK 6.1 D
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19792.0100	Plastic bottle	100 ml	inquire
1.19792.0500	Plastic bottle	500 ml	inquire

**114282 Palladium standard solution** traceable to SRM from NIST Pd(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 0.5 mol/l  
1000 mg/l Pd Certipur®

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.14282.0100	Plastic bottle	100 ml	inquire
1.14282.0500	Plastic bottle	500 ml	inquire

## 107290 Phosphate modifier for graphite furnace AAS $\text{NH}_4\text{H}_2\text{PO}_4$ 100 ± 2 g/l in $\text{H}_2\text{O}$

- Spec. density 1.052 g/cm<sup>3</sup> (20 °C) ■ pH value 5 (H<sub>2</sub>O) ■ Boiling point 100 °C
- WGK 1
- LGK 10 - 13
- HS-No. 3105 40 00 ■ Disposal 28

### Specification

Concentration ((NH<sub>4</sub>)H<sub>2</sub>PO<sub>4</sub>)..... 100 +/- 2 g/l

Ord.No.	Packaging	Quantity	Price
1.07290.0050	Plastic bottle	50 ml	inquire

## 170219 Platinum standard solution traceable to SRM from NIST $\text{H}_2\text{PtCl}_6$ in HCl 2 mol/l 1000mg/l Pt Certipur®

- Spec. density 1.034 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70219.0100	Plastic bottle	100 ml	inquire
1.70219.0500	Plastic bottle	500 ml	inquire

## 170230 Potassium standard solution traceable to SRM from NIST $\text{KNO}_3$ in $\text{HNO}_3$ 0.5 mol/l 1000 mg/l K Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

### Specification

Concentration β (K).....990 - 1010 mg/l

Determination method: ICP - OES. (traceable to NIST - SRM 3141a) Accuracy of the method: +/- 5 mg/l

Ord.No.	Packaging	Quantity	Price
1.70230.0100	Plastic bottle	100 ml	inquire
1.70230.0500	Plastic bottle	500 ml	inquire

## 119513 Scandium standard solution traceable to SRM from NIST $\text{Sc}_2\text{O}_3$ in $\text{HNO}_3$ 1 mol/l 1000 mg/l Sc Certipur®

- Spec. density 1.031 g/cm<sup>3</sup> (20 °C)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 12
- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2031 NITRIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.19513.0100	Plastic bottle	100 ml	inquire
1.19513.0500	Plastic bottle	500 ml	inquire

## 119796 Selenium standard solution traceable to SRM from NIST $\text{SeO}_2$ in $\text{HNO}_3$ 0.5 mol/l 1000 mg/l Se Certipur®

- *Selenium standard for aqueous matrices ready for use*
- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- P351 + P338
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 17
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids) ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19796.0100	Plastic bottle	100 ml	inquire
1.19796.0500	Plastic bottle	500 ml	inquire

## 112310 Silicon standard solution traceable to SRM from NIST acidic, $(\text{NH}_4)_2\text{SiF}_6$ in $\text{H}_2\text{O}$ 1000 mg/l Si Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.4 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 2826 90 80 ■ Disposal 28

Concentration β (Si).....990 - 1010 mg/l  
Determination method: acidimetric titration. (traceable to NIST - SRM 723e) Accuracy of the method: ± 2 mg/l

Ord.No.	Packaging	Quantity	Price
1.12310.0100	Plastic bottle	100 ml	inquire
1.12310.0500	Plastic bottle	500 ml	inquire

## 170236 Silicon standard solution traceable to SRM from NIST $\text{SiO}_2$ in NaOH 0.5 mol/l 1000 mg/l Si Certipur®

- Spec. density 1.022 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 13.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 1824 Natriumhydroxidlösung, 8, III
- IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III

### Specification

Concentration-β (Si).....990 - 1010 mg/l  
Determination method: ICP-OES (traceable to

NIST-SRM 3150) Accuracy of the method: +/- 5 mg/l

Ord.No.	Packaging	Quantity	Price
1.70236.0100	Plastic bottle	100 ml	inquire
1.70236.0500	Plastic bottle	500 ml	inquire

**119797 Silver standard solution** traceable to SRM from NIST AgNO<sub>3</sub> in HNO<sub>3</sub> 0.5 mol/l  
1000 mg/l Ag Certipur®



- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338
- LGK 8B

- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG UND SILBERNITRATLOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5% AND SILVER NITRATE), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID AND SILVER NITRATE), 8, III

Ord.No.	Packaging	Quantity	Price
1.19797.0100	Plastic bottle	100 ml	inquire
1.19797.0500	Plastic bottle	500 ml	inquire

**170238 Sodium standard solution** traceable to SRM from NIST NaNO<sub>3</sub> in HNO<sub>3</sub> 0.5 mol/l  
1000 mg/l Na Certipur®



- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8 B

- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

- INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70238.0100	Plastic bottle	100 ml	inquire
1.70238.0500	Plastic bottle	500 ml	inquire

**119507 Sodium standard solution** traceable to SRM from NIST NaNO<sub>3</sub> in H<sub>2</sub>O 1000 mg/l Na Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ pH value 7 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

- Specification**  
Concentration β (Na).....990 - 1010 mg/l  
Determination method: alcalimetric titration.  
(traceable to NIST - SRM 723b) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.19507.0500	Plastic bottle	500 ml	inquire

**119799 Strontium standard solution** traceable to SRM from NIST Sr(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 0.5 mol/l  
1000 mg/l Sr Certipur®



- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338
- LGK 8B

- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

- INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19799.0100	Plastic bottle	100 ml	inquire
1.19799.0500	Plastic bottle	500 ml	inquire

**119514 Tellurium standard solution** traceable to SRM from NIST H<sub>6</sub>TeO<sub>6</sub> in HNO<sub>3</sub> 0.5 mol/l  
1000 mg/l Te Certipur®



- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 15
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

- THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19514.0100	Plastic bottle	100 ml	inquire

**119801 Thallium standard solution** traceable to SRM from NIST TlNO<sub>3</sub> in HNO<sub>3</sub> 0.5 mol/l  
1000 mg/l Tl Certipur®



- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B

- HS-No. 3822 00 00 ■ Disposal 16
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

- INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19801.0100	Plastic bottle	100 ml	inquire
1.19801.0500	Plastic bottle	500 ml	inquire

**170242 Tin standard solution** traceable to SRM from NIST SnCl<sub>4</sub> in HCl 2 mol/l 1000 mg/l Sn Certipur®



- Spec. density 1.034 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8 B

- HS-No. 3822 00 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70242.0100	Plastic bottle	100 ml	inquire
1.70242.0500	Plastic bottle	500 ml	inquire



## 170243 Titanium standard solution traceable to SRM from NIST $(\text{NH}_4)_2\text{TiF}_6$ in $\text{H}_2\text{O}$ 1000 mg/l Ti Certipur®

- Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) soluble ■ pH value 3.5 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 2826 90 80 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70243.0100	Plastic bottle	100 ml	inquire
1.70243.0500	Plastic bottle	500 ml	inquire

## 170244 Tungsten standard solution traceable to SRM from NIST $(\text{NH}_4)_2\text{WO}_4$ in $\text{H}_2\text{O}$ 1000 mg/l W Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) not applicable ■ pH value 6 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 2841 80 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70244.0100	Plastic bottle	100 ml	inquire
1.70244.0500	Plastic bottle	500 ml	inquire

## 170245 Vanadium standard solution traceable to SRM from NIST $\text{NH}_4\text{VO}_3$ in $\text{HNO}_3$ 0.5 mol/l 1000 mg/l V Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) not applicable ■ pH value 0.5 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70245.0100	Plastic bottle	100 ml	inquire
1.70245.0500	Plastic bottle	500 ml	inquire

## 119809 Yttrium standard solution traceable to SRM from NIST $\text{Y}(\text{NO}_3)_3$ in $\text{HNO}_3$ 0.5 mol/l 1000 mg/l Y Certipur®

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) soluble ■ pH value 0.5 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19809.0100	Plastic bottle	100 ml	inquire
1.19809.0500	Plastic bottle	500 ml	inquire

## 119806 Zinc standard solution traceable to SRM from NIST $\text{Zn}(\text{NO}_3)_2$ in $\text{HNO}_3$ 0.5 mol/l 1000 mg/l Zn Certipur®

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) soluble ■ pH value 0.5 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412; Corrosive to metals, Category 1, H290, P273, P302 + P352, P305 + P351 + P338
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.19806.0100	Plastic bottle	100 ml	inquire
1.19806.0500	Plastic bottle	500 ml	inquire

## 170234 Zirconium standard solution traceable to SRM from NIST $\text{ZrCl}_4$ in $\text{HCl}$ 2 mol/l 1000 mg/l Zr Certipur®

- Spec. density 1.034 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) not applicable ■ pH value 0.5 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70234.0100	Plastic bottle	100 ml	inquire

**Element standards for inductively coupled plasma spectroscopy (ICP), (10 mg/l, 1000 mg/l and 10000 mg/l), traceable to SRM from NIST**

**Element standards for inductively coupled plasma spectroscopy (ICP), (10 mg/l), traceable to SRM from NIST**

## 108623 Mercury ICP/MS standard suppl. to multi-element standard XXI (1.09498) 10 mg/l Hg Certipur®

- Spec. density 1.0 g/cm<sup>3</sup> (20 °C) ■ pH value < 1 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- P310
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 12
- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2031 NITRIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.08623.0100	Plastic bottle	100 ml	inquire



**108525 Rhodium standard 10 mg/l** (Rhodium(III) nitrate in nitric acid 0.5 mol/l) internal standard for ICP-MS

■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.08525.0100	Plastic bottle	100 ml	inquire

**170391 Thorium ICP standard** traceable to SRM from NIST Th(NO<sub>3</sub>)<sub>4</sub> in HNO<sub>3</sub> 2-3% 10 mg/l Th Certipur®

■ Spec. density 1.012 g/cm<sup>3</sup> (20 °C) ■ pH value 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 2844 30 69 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%),

8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70391.0100	Plastic bottle	100 ml	inquire

**170360 Uranium ICP standard** traceable to SRM from NIST UO<sub>2</sub>(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2-3% 10 mg/l U Certipur®

■ Spec. density 1.012 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 2844 30 19 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70360.0100	Plastic bottle	100 ml	inquire

**Element standards for inductively coupled plasma spectroscopy (ICP), (10 mg/l, 1000 mg/l and 10000 mg/l), traceable to SRM from NIST**

**Element standards for inductively coupled plasma spectroscopy (ICP), (1000 mg/l), traceable to SRM from NIST**

**170301 Aluminium ICP standard** traceable to SRM from NIST Al(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Al Certipur®

■ Spec. density 1.017 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70301.0100	Plastic bottle	100 ml	inquire

**170302 Antimony ICP standard** traceable to SRM from NIST Sb<sub>2</sub>O<sub>3</sub> in HCl 7% 1000 mg/l Sb Certipur®

■ Spec. density 1.033 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 15  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70302.0100	Plastic bottle	100 ml	inquire

**170303 Arsenic ICP standard** traceable to SRM from NIST H<sub>3</sub>AsO<sub>4</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l As Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1A, H350; Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P201, P302 + P352, P305 + P351 + P338, P308 + P313

■ LGK 6.1B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70303.0100	Plastic bottle	100 ml	inquire

**170304 Barium ICP standard** traceable to SRM from NIST Ba(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Ba Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70304.0100	Plastic bottle	100 ml	inquire

## 170305 Beryllium ICP standard traceable to SRM from NIST $\text{Be}_4\text{O}(\text{C}_2\text{H}_3\text{O}_2)_6$ in $\text{HNO}_3$ 2-3% 1000 mg/l Be Certipur®



■ Spec. density 1.017 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 1B, Inhalation, H350i; Specific target organ toxicity -

repeated exposure, Category 2, H373, P201, P280, P302 + P352, P305 + P351 + P338, P308 + P313  
 ■ LGK 6.1B  
 ■ HS-No. 3822 00 00 ■ Disposal 18  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70305.0100	Plastic bottle	100 ml	inquire

## 170306 Bismuth ICP standard traceable to SRM from NIST $\text{Bi}(\text{NO}_3)_3$ in $\text{HNO}_3$ 2-3% 1000 mg/l Bi Certipur®



■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70306.0100	Plastic bottle	100 ml	inquire

## 170307 Boron ICP standard traceable to SRM from NIST $\text{H}_3\text{BO}_3$ in $\text{H}_2\text{O}$ 1000 mg/l B Certipur®

■ Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ pH value 4 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13

■ HS-No. 2810 00 90 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70307.0100	Plastic bottle	100 ml	inquire

## 170309 Cadmium ICP standard traceable to SRM from NIST $\text{Cd}(\text{NO}_3)_2$ in $\text{HNO}_3$ 2-3% 1000 mg/l Cd Certipur®



■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 15  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70309.0100	Plastic bottle	100 ml	inquire

## 170308 Calcium ICP Standard traceable to SRM from NIST $\text{Ca}(\text{NO}_3)_2$ in $\text{HNO}_3$ 2-3% 1000 mg/l Ca Certipur®



■ Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 14  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70308.0100	Plastic bottle	100 ml	inquire

## 170311 Cerium ICP standard traceable to SRM from NIST $\text{Ce}(\text{NO}_3)_3$ in $\text{HNO}_3$ 2-3% 1000 mg/l Ce Certipur®



■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70311.0100	Plastic bottle	100 ml	inquire

## 170310 Cesium ICP Standard traceable to SRM from NIST $\text{CsNO}_3$ in $\text{HNO}_3$ 2-3% 1000 mg/l Cs Certipur®



■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70310.0100	Plastic bottle	100 ml	inquire

**170312 Chromium ICP standard** traceable to SRM from NIST Cr(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l

Cr Certipur®

- Spec. density 1.015 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

- THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70312.0100	Plastic bottle	100 ml	inquire

**170313 Cobalt ICP standard** traceable to SRM from NIST Co(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Co

Certipur®

- Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Carcinogenicity, Category 1B, Inhalation, H350i; Chronic aquatic

- toxicity, Category 3, H412, P201, P273, P302 + P352, P305 + P351 + P338, P308 + P313
- LGK 6.1 D
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC,

- INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70313.0100	Plastic bottle	100 ml	inquire

**170314 Copper ICP standard** traceable to SRM from NIST Cu(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Cu

Certipur®

- Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412; Corrosive to metals, Category 1, H290, P273, P302 + P352, P305 + P351 + P338

- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70314.0100	Plastic bottle	100 ml	inquire

**170315 Dysprosium ICP standard** traceable to SRM from NIST Dy<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l

Dy Certipur®

- Spec. density 1.012 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70315.0100	Plastic bottle	100 ml	inquire

**170316 Erbium ICP standard** traceable to SRM from NIST Er<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Er

Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70316.0100	Plastic bottle	100 ml	inquire

**170317 Europium ICP standard** traceable to SRM from NIST Eu<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Eu

Certipur®

- Spec. density 1.012 g/cm<sup>3</sup> (20 °C) ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

- THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70317.0100	Plastic bottle	100 ml	inquire

**170318 Gadolinium ICP standard** traceable to SRM from NIST Gd<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l

Gd Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

- THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70318.0100	Plastic bottle	100 ml	inquire

## 170319 Gallium ICP standard traceable to SRM from NIST Ga(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Ga

Certipur®

■ Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70319.0100	Plastic bottle	100 ml	inquire

## 170320 Germanium ICP standard traceable to SRM from NIST (NH<sub>4</sub>)<sub>2</sub>GeF<sub>6</sub> in H<sub>2</sub>O 1000 mg/l Ge

Certipur®

■ Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1

■ LGK 10 - 13  
 ■ HS-No. 2826 90 80 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70320.0100	Plastic bottle	100 ml	inquire

## 170321 Gold ICP standard traceable to SRM from NIST H(AuCl<sub>4</sub>) in HCl 7% 1000 mg/l Au Certipur®

■ Spec. density 1.033 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) not applicable  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 27  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70321.0100	Plastic bottle	100 ml	inquire

## 170322 Hafnium ICP standard traceable to SRM from NIST HfOCl<sub>2</sub> in HCl 7% 1000 mg/l Hf

Certipur®

■ Spec. density 1.035 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable  
 ■ WGK 2  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70322.0100	Plastic bottle	100 ml	inquire

## 170323 Holmium ICP standard traceable to SRM from NIST Ho<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Ho

Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70323.0100	Plastic bottle	100 ml	inquire

## 170324 Indium ICP standard traceable to SRM from NIST In(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l In

Certipur®

■ Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70324.0100	Plastic bottle	100 ml	inquire

## 170325 Iridium ICP standard IrCl<sub>3</sub> in HCl 7% 1000 mg/l Ir Certipur®

■ Spec. density 1.034 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 12  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70325.0100	Plastic bottle	100 ml	inquire

## 170326 Iron ICP standard traceable to SRM from NIST Fe(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Fe

Certipur®

■ Spec. density 1.015 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70326.0100	Plastic bottle	100 ml	inquire



**170327 Lanthanum ICP standard** traceable to SRM from NIST La(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l La Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C) ■ WGK nwg ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P338

■ LGK 8B ■ HS-No. 3822 00 00 ■ Disposal 28 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids) ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70327.0100	Plastic bottle	100 ml	inquire

**170328 Lead ICP standard** traceable to SRM from NIST Pb(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Pb Certipur®

■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C) ■ WGK nwg ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338

■ LGK 8B ■ HS-No. 3822 00 00 ■ Disposal 15 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70328.0100	Plastic bottle	100 ml	inquire

**170329 Lithium ICP Standard** traceable to SRM from NIST LiNO<sub>3</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Li Certipur®

■ Spec. density 1.017 g/cm<sup>3</sup> (20 °C) ■ pH value 0.5 (H<sub>2</sub>O, 20 °C) ■ WGK 1 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338

■ LGK 8 B ■ HS-No. 3822 00 00 ■ Disposal 28 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids) ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70329.0100	Plastic bottle	100 ml	inquire

**170330 Lutetium ICP standard** traceable to SRM from NIST Lu<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Lu Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C) ■ WGK nwg ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8B ■ HS-No. 3822 00 00 ■ Disposal 28 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids) ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70330.0100	Plastic bottle	100 ml	inquire

**170331 Magnesium ICP standard** traceable to SRM from NIST Mg(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Mg Certipur®

■ Spec. density 1.016 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C) ■ WGK 1 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338

■ LGK 8 B ■ HS-No. 3822 00 00 ■ Disposal 28 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids) ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70331.0100	Plastic bottle	100 ml	inquire

**170332 Manganese ICP standard** traceable to SRM from NIST Mn(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Mn Certipur®

■ Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C) ■ WGK nwg ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338

■ LGK 8 B ■ HS-No. 3822 00 00 ■ Disposal 28 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids) ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70332.0100	Plastic bottle	100 ml	inquire

**170333 Mercury ICP standard** traceable to SRM from NIST Hg(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 10% 1000 mg/l Hg Certipur®

■ Spec. density 1.054 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ WGK 1 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310 ■ LGK 8 B

■ HS-No. 3822 00 00 ■ Disposal 20 ■ ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(QUECKSILBERNITRAT UND ENTH. SALPETERSAEURE), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(CONT. NITRIC ACID MORE THAN 5% BUT NOT MORE THAN 50% AND MERCURY NITRATE), 8 (6.1), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(MERCURY NITRATE AND CONT. NITRIC ACID), 8 (6.1), II

Ord.No.	Packaging	Quantity	Price
1.70333.0100	Plastic bottle	100 ml	inquire



## 170334 Molybdenum ICP standard traceable to SRM from NIST $(\text{NH}_4)_6\text{Mo}_7\text{O}_{24}$ in $\text{H}_2\text{O}$ 1000 mg/l

Mo Certipur®

- Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) soluble ■ pH value 4 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK nwg
- LGK 10 - 13

- HS-No. 2841 70 00 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

Ord.No.	Packaging	Quantity	Price
1.70334.0100	Plastic bottle	100 ml	inquire

## 170335 Neodymium ICP standard traceable to SRM from NIST $\text{Nd}_2\text{O}_3$ in $\text{HNO}_3$ 2-3% 1000 mg/l

Nd Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) soluble ■ pH value 0.5 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70335.0100	Plastic bottle	100 ml	inquire

## 170336 Nickel ICP standard traceable to SRM from NIST $\text{Ni}(\text{NO}_3)_2$ in $\text{HNO}_3$ 2-3% 1000 mg/l Ni

Certipur®

- Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) soluble ■ pH value 0.5 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK 2
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 1A, Inhalation, H350i; Reproductive toxicity, Category 1B, H360D; Specific target organ toxicity -

- repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 3, H412, P201, P273, P280, P302 + P352, P305 + P351 + P338, P308 + P313
- LGK 6.1 D
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-

Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70336.0100	Plastic bottle	100 ml	inquire

## 170337 Niobium ICP standard traceable to SRM from NIST $\text{NH}_4\text{NbF}_6$ in $\text{H}_2\text{O}$ 1000 mg/l Nb

Certipur®

- Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) not applicable ■ pH value 3 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK 1

- LGK 10 - 13
- HS-No. 2826 90 80 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70337.0100	Plastic bottle	100 ml	inquire

## 170338 Osmium ICP standard $(\text{NH}_4)_2\text{OsCl}_6$ in $\text{HCl}$ 7% 1000 mg/l Os Certipur®

- Spec. density 1.034 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) not applicable
- WGK 2
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer

- anorganischer flüssiger Stoff, n.a.g.(SALZSAEURE UND ENTH. DIAMMONIUMHEXACHLOROOSMAT), 8, II ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(HYDROCHLORIC ACID AND CONT. DI-AMMONIUMHEXACHLOROOSMATE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(HYDROCHLORIC ACID AND CONT. DI-AMMONIUMHEXACHLOROOSMATE), 8, II

Ord.No.	Packaging	Quantity	Price
1.70338.0100	Plastic bottle	100 ml	inquire

## 170339 Palladium ICP standard traceable to SRM from NIST $\text{Pd}(\text{NO}_3)_2$ in $\text{HNO}_3$ 2-3% 1000 mg/l

Pd Certipur®

- Spec. density 1.016 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) soluble
- WGK 2
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70339.0100	Plastic bottle	100 ml	inquire

## 170340 Phosphorus ICP standard traceable to SRM from NIST $\text{H}_3\text{PO}_4$ in $\text{H}_2\text{O}$ 1000 mg/l P

Certipur®

- Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) not applicable ■ pH value 1 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK nwg

- LGK 10 - 13
- HS-No. 2809 20 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70340.0100	Plastic bottle	100 ml	inquire

## 170341 Platinum ICP standard traceable to SRM from NIST $\text{H}_2\text{PtCl}_6$ in $\text{HCl}$ 7% 1000 mg/l Pt

Certipur®

- Spec. density 1.034 g/cm<sup>3</sup> (20 °C) ■ Solub. in  $\text{H}_2\text{O}$  (20 °C) not applicable ■ pH value 0.5 ( $\text{H}_2\text{O}$ , 20 °C)
- WGK 2
- GHS: Warning, Corrosive to metals, Category 1, H290

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70341.0100	Plastic bottle	100 ml	inquire

**170342 Potassium ICP standard** traceable to SRM from NIST KNO<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l K Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70342.0100	Plastic bottle	100 ml	inquire

**170343 Praseodymium ICP standard** traceable to SRM from NIST Pr(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Pr Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70343.0100	Plastic bottle	100 ml	inquire

**170344 Rhenium ICP standard** traceable to SRM from NIST NH<sub>4</sub>ReO<sub>4</sub> in H<sub>2</sub>O 1000 mg/l Re Certipur®

■ Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg

■ LGK 10 - 13  
 ■ HS-No. 2841 90 85 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70344.0100	Plastic bottle	100 ml	inquire

**170345 Rhodium ICP standard** traceable to SRM from NIST Rh(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Rh Certipur®

■ Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 27  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70345.0100	Plastic bottle	100 ml	inquire

**170346 Rubidium ICP standard** traceable to SRM from NIST RbNO<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Rb Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70346.0100	Plastic bottle	100 ml	inquire

**170347 Ruthenium ICP standard** RuCl<sub>3</sub> in HCl 7% 1000 mg/l Ru Certipur®

■ Spec. density 1.035 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 12  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70347.0100	Plastic bottle	100 ml	inquire

**170348 Samarium ICP standard** traceable to SRM from NIST Sm<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Sm Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70348.0100	Plastic bottle	100 ml	inquire

**170349 Scandium ICP standard** traceable to SRM from NIST Sc<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 7% 1000 mg/l Sc Certipur®

■ Spec. density 1.031 g/cm<sup>3</sup> (20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2031 NITRIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70349.0100	Plastic bottle	100 ml	inquire

## 170350 Selenium ICP standard traceable to SRM from NIST SeO<sub>2</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Se

Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 17  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70350.0100	Plastic bottle	100 ml	inquire

## 170365 Silicon ICP standard traceable to SRM from NIST SiO<sub>2</sub> in NaOH 2 % 1000 mg/l Si

Certipur®

■ Spec. density 1.022 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 13.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352,

P305 + P351 + P338  
 ■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, III  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III

Ord.No.	Packaging	Quantity	Price
1.70365.0100	Plastic bottle	100 ml	inquire

## 170352 Silver ICP standard traceable to SRM from NIST AgNO<sub>3</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Ag

Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338  
 ■ LGK 8B

■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG UND SILBERNITRATLOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5% AND SILVER NITRATE), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID AND SILVER NITRATE), 8, III

Ord.No.	Packaging	Quantity	Price
1.70352.0100	Plastic bottle	100 ml	inquire

## 170353 Sodium ICP standard traceable to SRM from NIST NaNO<sub>3</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Na

Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70353.0100	Plastic bottle	100 ml	inquire

## 170354 Strontium ICP standard traceable to SRM from NIST Sr(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l

Sr Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70354.0100	Plastic bottle	100 ml	inquire

## 170355 Sulfur ICP standard traceable to SRM from NIST H<sub>2</sub>SO<sub>4</sub> in H<sub>2</sub>O 1000 mg/l S Certipur®

■ Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 1.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg

■ LGK 10 - 13  
 ■ HS-No. 2807 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70355.0100	Plastic bottle	100 ml	inquire

## 170356 Tantalum ICP standard traceable to SRM from NIST (NH<sub>4</sub>)<sub>2</sub>TaF<sub>7</sub> in H<sub>2</sub>O 1000 mg/l Ta

Certipur®

■ Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 3 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg

■ LGK 10 - 13  
 ■ HS-No. 2826 90 80 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70356.0100	Plastic bottle	100 ml	inquire

## 170357 Tellurium ICP standard traceable to SRM from NIST H<sub>6</sub>TeO<sub>6</sub> in HNO<sub>3</sub> 2-3% 1000 mg/l Te

Certipur®

■ Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 15  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70357.0100	Plastic bottle	100 ml	inquire

**170358 Terbium ICP standard** traceable to SRM from NIST Tb(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Tb

Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70358.0100	Plastic bottle	100 ml	inquire

**170359 Thallium ICP standard** traceable to SRM from NIST TlNO<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Tl

Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 16
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

- THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70359.0100	Plastic bottle	100 ml	inquire

**170361 Thulium ICP standard** traceable to SRM from NIST Tm(NO<sub>3</sub>)<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l

Tm Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE

- THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70361.0100	Plastic bottle	100 ml	inquire

**170362 Tin ICP standard** traceable to SRM from NIST SnCl<sub>4</sub> in HCl 7% 1000 mg/l Sn Certipur®

- Spec. density 1.034 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70362.0100	Plastic bottle	100 ml	inquire

**170363 Titanium ICP standard** traceable to SRM from NIST (NH<sub>4</sub>)<sub>2</sub>TiF<sub>6</sub> in H<sub>2</sub>O 1000 mg/l Ti

Certipur®

- Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 3.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13

- HS-No. 2826 90 80 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70363.0100	Plastic bottle	100 ml	inquire

**170364 Tungsten ICP standard** traceable to SRM from NIST (NH<sub>4</sub>)<sub>2</sub>WO<sub>4</sub> in H<sub>2</sub>O 1000 mg/l W

Certipur®

- Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable
- WGK nwg
- LGK 10 - 13

- HS-No. 2841 80 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.70364.0100	Plastic bottle	100 ml	inquire

**170366 Vanadium ICP standard** traceable to SRM from NIST NH<sub>4</sub>VO<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l V

Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Corrosive to metals, Category 1, H290, P302 + P352, P305 + P351 + P338

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70366.0100	Plastic bottle	100 ml	inquire

**170367 Ytterbium ICP standard** traceable to SRM from NIST Yb<sub>2</sub>O<sub>3</sub> in HNO<sub>3</sub> 2–3% 1000 mg/l Yb

Certipur®

- Spec. density 1.013 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70367.0100	Plastic bottle	100 ml	inquire



## 170368 Yttrium ICP standard traceable to SRM from NIST $Y(NO_3)_3$ in $HNO_3$ 2-3% 1000 mg/l Y

Certipur®

■ Spec. density 1.014 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70368.0100	Plastic bottle	100 ml	inquire

## 170369 Zinc ICP standard traceable to SRM from NIST $Zn(NO_3)_2$ in $HNO_3$ 2-3% 1000 mg/l Zn

Certipur®

■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412; Corrosive to metals, Category 1, H290, P273, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70369.0100	Plastic bottle	100 ml	inquire

## 170370 Zirconium ICP standard traceable to SRM from NIST, $ZrCl_4$ in HCl 7% 1000 mg/l Zr

Certipur®

■ Spec. density 1.034 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70370.0100	Plastic bottle	100 ml	inquire

## Element standards for inductively coupled plasma spectroscopy (ICP), (10 mg/l, 1000 mg/l and 10000 mg/l), traceable to SRM from NIST

### Element standards for inductively coupled plasma spectroscopy (ICP), (10000 mg/l), traceable to SRM from NIST

## 170371 Aluminium ICP standard traceable to SRM from NIST $Al(NO_3)_3$ in $HNO_3$ 2-3% 10000 mg/l Al Certipur®

■ Spec. density 1.072 g/cm<sup>3</sup> (20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8 B

■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70371.0100	Plastic bottle	100 ml	inquire

## 170373 Calcium ICP Standard traceable to SRM from NIST $Ca(NO_3)_2$ in $HNO_3$ 2-3% 10000 mg/l Ca Certipur®

■ Spec. density 1.044 g/cm<sup>3</sup> (20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8 B

■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70373.0100	Plastic bottle	100 ml	inquire

## 170374 Chromium ICP standard traceable to SRM from NIST $Cr(NO_3)_3$ in $HNO_3$ 2-3% 10000 mg/l Cr Certipur®


■ Spec. density 1.046 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 15  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70374.0100	Plastic bottle	100 ml	inquire



**170375 Cobalt ICP standard** traceable to SRM from NIST  $\text{Co}(\text{NO}_3)_2$  in  $\text{HNO}_3$  2-3% 10000 mg/l Co 


**Certipur®**

- Spec. density 1.037 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Danger, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Carcinogenicity, Category 1B, Inhalation, H350i; Reproductive toxicity, Category 1B, H360F; Chronic aquatic toxicity, Category 2, H411, P201, P273, P302 + P352, P305 + P351 + P338, P308 + P313
- LGK 6.1B
- HS-No. 3822 00 00 ■ Disposal 15
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC,

N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70375.0100	Plastic bottle	100 ml	inquire

**170378 Copper ICP standard** traceable to SRM from NIST  $\text{Cu}(\text{NO}_3)_2$  in  $\text{HNO}_3$  2-3% 10000 mg/l Cu 


**Certipur®**

- Spec. density 1.035 g/cm<sup>3</sup> (20 °C)
- WGK 2
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%),

8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70378.0100	Plastic bottle	100 ml	inquire


**170376 Iron ICP standard** traceable to SRM from NIST,  $\text{Fe}(\text{NO}_3)_3$  in  $\text{HNO}_3$  10% 10000 mg/l Fe 

**Certipur®**

- Spec. density 1.082 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309
- + P310
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 15
- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2031 NITRIC ACID, 8, II

Certificate of analysis is packed with each bottle

Ord.No.	Packaging	Quantity	Price
1.70376.0100	Plastic bottle	100ml	inquire

**170372 Lead ICP standard** traceable to SRM from NIST  $\text{Pb}(\text{NO}_3)_2$  in  $\text{HNO}_3$  2-3% 10000 mg/l Pb 


**Certipur®**

- Spec. density 1.029 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- WGK 2
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Reproductive toxicity, Category 1A, H360D; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P201, P273, P302 + P352, P305 + P351 + P338, P308 + P313
- LGK 6.1B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC,

N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70372.0100	Plastic bottle	100 ml	inquire


**170379 Magnesium ICP standard** traceable to SRM from NIST  $\text{Mg}(\text{NO}_3)_2$  in  $\text{HNO}_3$  2-3% 10000 mg/l Mg Certipur® 

- Spec. density 1.058 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%),

8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70379.0100	Plastic bottle	100 ml	inquire

**170380 Manganese ICP standard** traceable to SRM from NIST  $\text{Mn}(\text{NO}_3)_2$  in  $\text{HNO}_3$  2-3% 10000 mg/l Mn Certipur® 

- Spec. density 1.036 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 15
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70380.0100	Plastic bottle	100 ml	inquire

**170384 Mercury ICP standard** traceable to SRM from NIST  $\text{Hg}(\text{NO}_3)_2$  in  $\text{HNO}_3$  10% 10000 mg/l Hg Certipur®

- Spec. density 1.068 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- toxic, corrosive, dangerous for the environment
- WGK 2
- GHS: Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412
- LGK 6.1B
- HS-No. 3822 00 00 ■ Disposal 20
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(QUECKSILBERNITRAT UND ENTH. SALPETERSAEURE), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(CONT. NITRIC ACID MORE THAN 5% BUT NOT MORE THAN 50% AND MERCURY NITRATE), 8 (6.1), II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(MERCURY NITRATE AND CONT. NITRIC ACID), 8 (6.1), II

Ord.No.	Packaging	Quantity	Price
1.70384.0100	Plastic bottle	100 ml	inquire

## 170382 Nickel ICP standard traceable to SRM from NIST Ni(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2-3% 10000 mg/l Ni

Certipur®

■ Spec. density 1.036 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ WGK 3  
 ■ GHS: Danger, Carcinogenicity, Category 1A, H350i; Reproductive toxicity, Category 1B, H360D; Germ cell mutagenicity, Category 2, H341; Skin irritation, Category 2, H315; Serious eye damage, Category 2, H319; Specific target organ toxicity - repeated exposure, Category 1, H372; Respiratory sensitisation, Category 1, H334; Skin sensitisation,

Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P201, P273, P280, P301 + P310, P302 + P352, P304 + P341, P342 + P311, P305 + P351 + P338  
 ■ LGK 6.1B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC,

N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70382.0100	Plastic bottle	1	inquire

## 170383 Phosphorus ICP standard traceable to SRM from NIST H<sub>3</sub>PO<sub>4</sub> in H<sub>2</sub>O 10000 mg/l P

Certipur®

■ Spec. density 1.015 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290

■ LGK 8 B  
 ■ HS-No. 2809 20 00 ■ Disposal 12  
 ■ ADR-RID UN 1805 Phosphorsäure, Lösung, 8, III  
 ■ IMDG-Code UN 1805 PHOSPHORIC ACID SOLUTION, 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1805 PHOSPHORIC ACID,

SOLUTION, 8, III

Ord.No.	Packaging	Quantity	Price
1.70383.0100	Plastic bottle	100 ml	inquire

## 170377 Potassium ICP standard traceable to SRM from NIST KNO<sub>3</sub> in HNO<sub>3</sub> 2-3% 10000 mg/l K

Certipur®

■ Spec. density 1.031 g/cm<sup>3</sup> (20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8 B

■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70377.0100	Plastic bottle	100 ml	inquire

## 170386 Silicon ICP standard traceable to SRM from NIST (SiO<sub>2</sub> in NaOH 4 %) 10000 mg/l Si

Certipur®

■ Spec. density 1.055 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 12.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

P351 + P338  
 ■ LGK 8 B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 1824 Natriumhydroxidlösung, 8, III  
 ■ IMDG-Code UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 1824 SODIUM HYDROXIDE

SOLUTION, 8, III

Ord.No.	Packaging	Quantity	Price
1.70386.0100	Plastic bottle	100 ml	inquire

## 170381 Sodium ICP standard traceable to SRM from NIST NaNO<sub>3</sub> in HNO<sub>3</sub> 2-3% 10000 mg/l Na

Certipur®

■ Spec. density 1.038 g/cm<sup>3</sup> (20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8 B

■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70381.0100	Plastic bottle	100 ml	inquire

## 170385 Sulfur ICP standard traceable to SRM from NIST H<sub>2</sub>SO<sub>4</sub> in H<sub>2</sub>O 10000 mg/l S Certipur®

Certipur®

■ Spec. density 1.018 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290  
 ■ LGK 8B

■ HS-No. 2807 00 00 ■ Disposal 12  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SCHWEFELSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. SULPHURIC ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. SULPHURIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70385.0100	Plastic bottle	100 ml	inquire

## 170388 Vanadium ICP standard traceable to SRM from NIST NH<sub>4</sub>VO<sub>3</sub> in HNO<sub>3</sub> 15% 10000 mg/l V

Certipur®

■ Spec. density 1.093 g/cm<sup>3</sup> (20 °C) ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309

+ P310  
 ■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 ■ ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2031 NITRIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70388.0100	Plastic bottle	100 ml	inquire

**170389 Zinc ICP standard** traceable to SRM from NIST Zn(NO<sub>3</sub>)<sub>2</sub> in HNO<sub>3</sub> 2-3% 10000 mg/l Zn  
Certipur®



■ Spec. density 1.034 g/cm<sup>3</sup> (20 °C)  
■ WGK 2  
■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338

■ LGK 8 B  
■ HS-No. 3822 00 00 ■ Disposal 28  
■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSÄURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%),

8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Ord.No.	Packaging	Quantity	Price
1.70389.0100	Plastic bottle	100 ml	inquire

**170390 Zirconium ICP standard** traceable to SRM from NIST, ZrOCl<sub>2</sub> in HCl 7% 10000 mg/l Zr  
Certipur®



■ Spec. density 1.065 g/cm<sup>3</sup> (20 °C) ■ pH value < 1 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 +

P351 + P338  
■ LGK 8 B  
■ HS-No. 3822 00 00 ■ Disposal 28  
■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.70390.0100	Plastic bottle	100 ml	inquire

**Multi-element standards for ICP, traceable to SRM from NIST**

**ICP calibration standards, traceable to SRM from NIST**

**115474 ICP multi-element standard solution I** (19 elements in dilute nitric acid) Certipur®



■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.1 (H<sub>2</sub>O, 20 °C)  
■ WGK 1  
■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P273, P280, P302 + P352, P305 + P351 + P338  
■ LGK 8 B  
■ HS-No. 3822 00 00 ■ Disposal 28  
■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSÄURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III  
**Specification**  
Ag (Silver).....50 mg/l  
Al (Aluminium).....100 mg/l  
B (boron).....15 mg/l  
Ba (barium).....5 mg/l  
Be (beryllium).....1 mg/l  
Bi (bismuth).....200 mg/l  
Cd (cadmium).....20 mg/l  
Co (cobalt).....20 mg/l  
Cr (chromium).....25 mg/l

Cu (Copper).....	20 mg/l
Fe (iron).....	15 mg/l
Ga (Gallium).....	150 mg/l
In (Indium).....	200 mg/l
Mn (Manganese).....	5 mg/l
Ni (Nickel).....	50 mg/l
Pb (lead).....	200 mg/l
Sr (Strontium).....	1 mg/l
Tl (Thallium).....	400 mg/l
Zn (Zinc).....	20 mg/l

Ord.No.	Packaging	Quantity	Price
1.15474.0100	Plastic bottle	100 ml	inquire

**111355 ICP multi-element standard solution IV** (23 elements in diluted nitric acid) 1000 mg/l: Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Sr, Tl, Zn Certipur®



■ Spec. density 1.09 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)  
■ WGK 2  
■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 1A, Inhalation, H350i; Specific target organ toxicity - repeated exposure, Category 2, H373; Chronic aquatic toxicity, Category 2, H411, P201, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LGK 6.1 D  
■ HS-No. 3822 00 00 ■ Disposal 12  
■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(COBALTNITRAT UND ENTH. SALPETERSÄURE), 8, II ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COBALT NITRATE AND CONT.

NITRIC ACID), 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COBALT NITRATE AND CONT. NITRIC ACID), 8, II  
**Specification**  
Ag (Silver).....1000 mg/l  
Al (Aluminium).....1000 mg/l  
B (boron).....1000 mg/l  
Ba (barium).....1000 mg/l  
Bi (bismuth).....1000 mg/l  
Ca (calcium).....1000 mg/l  
Cd (cadmium).....1000 mg/l  
Co (cobalt).....1000 mg/l  
Cr (chromium).....1000 mg/l  
Cu (Copper).....1000 mg/l  
Fe (iron).....1000 mg/l  
Ga (Gallium).....1000 mg/l

In (Indium).....	1000 mg/l
K (potassium).....	1000 mg/l
Li (Lithium).....	1000 mg/l
Mg (Magnesium).....	1000 mg/l
Mn (Manganese).....	1000 mg/l
Na (sodium).....	1000 mg/l
Ni (Nickel).....	1000 mg/l
Pb (lead).....	1000 mg/l
Sr (Strontium).....	1000 mg/l
Tl (Thallium).....	1000 mg/l
Zn (Zinc).....	1000 mg/l

Ord.No.	Packaging	Quantity	Price
1.11355.0100	Plastic bottle	100 ml	inquire

**109492 ICP multi-element standard solution VIII** (24 elements in dilute nitric acid) 100 mg/l: Al, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, Li, Mg, Mn, Na, Ni, Pb, Se, Sr, Te, Tl, Zn Certipur®



■ Spec. density 1.039 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)  
■ Boiling point 100 °C (1013 hPa)  
■ WGK 1  
■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 1B, Inhalation, H350i, P201, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LGK 6.1 D  
■ HS-No. 3822 00 00 ■ Disposal 18  
■ ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2031 NITRIC ACID, 8, II

**Specification**  
Al (Aluminium).....100 mg/l  
B (boron).....100 mg/l  
Ba (barium).....100 mg/l  
Be (beryllium).....100 mg/l  
Bi (bismuth).....100 mg/l  
Ca (calcium).....100 mg/l  
Cd (cadmium).....100 mg/l  
Co (cobalt).....100 mg/l  
Cr (chromium).....100 mg/l  
Cu (Copper).....100 mg/l  
Fe (iron).....100 mg/l  
Ga (Gallium).....100 mg/l  
K (potassium).....100 mg/l  
Li (Lithium).....100 mg/l  
Mg (Magnesium).....100 mg/l

Mn (Manganese).....	100 mg/l
Na (sodium).....	100 mg/l
Ni (Nickel).....	100 mg/l
Pb (lead).....	100 mg/l
Se (Selenium).....	100 mg/l
Sr (Strontium).....	100 mg/l
Te (Tellurium).....	100 mg/l
Tl (Thallium).....	100 mg/l
Zn (Zinc).....	100 mg/l

Ord.No.	Packaging	Quantity	Price
1.09492.0100	Plastic bottle	100 ml	inquire

## 109494 ICP multi-element standard solution IX (9 elements in dilute nitric acid)

100 mg/l: As, Be, Cd, Cr(VI), Hg, Ni, Pb, Se, Tl Certipur®



- Spec. density 1.050 g/cm<sup>3</sup> (20 °C) ■ pH value 0.3 (H<sub>2</sub>O, 20 °C) ■ Boiling point 100 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 1B, Inhalation, H350i; Chronic aquatic toxicity, Category 3, H412, P201, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LGK 6.1 D

- HS-No. 3822 00 00 ■ Disposal 18
- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2031 NITRIC ACID, 8, II

Cr (chromium).....	100 mg/l
Ni (Nickel).....	100 mg/l
Hg (Mercury).....	100 mg/l
Se (Selenium).....	100 mg/l
Tl (Thallium).....	100 mg/l

**Specification**

As (arsenic).....	100 mg/l
Be (beryllium).....	100 mg/l
Pb (lead).....	100 mg/l
Cd (cadmium).....	100 mg/l

Ord.No.	Packaging	Quantity	Price
1.09494.0100	Plastic bottle	100 ml	inquire

## 109493 ICP multi-element standard solution X for surface water testing (23 elements in dilute nitric acid) Certipur®



- Spec. density 1.007 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)
- Boiling point 100 °C
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSÄURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Zn (Zinc).....	50 µg/l
Mn (Manganese).....	30 µg/l
Co (cobalt).....	25 µg/l
Pb (lead).....	25 µg/l
Be (beryllium).....	20 µg/l
Cd (cadmium).....	20 µg/l
Cr (chromium).....	20 µg/l
Cu (Copper).....	20 µg/l
Bi (bismuth).....	10 µg/l
Se (Selenium).....	10 µg/l
Tl (Thallium).....	10 µg/l

**Specification**

Ca (calcium).....	35000 µg/l
Mg (Magnesium).....	15000 µg/l
Na (sodium).....	8000 µg/l
K (potassium).....	3000 µg/l
B (boron).....	100 µg/l
Fe (iron).....	100 µg/l
Mo (Molybdenum).....	100 µg/l
Sr (Strontium).....	100 µg/l
As (arsenic).....	50 µg/l
Ba (barium).....	50 µg/l
Ni (Nickel).....	50 µg/l
V (Vanadium).....	50 µg/l

Ord.No.	Packaging	Quantity	Price
1.09493.0100	Plastic bottle	100 ml	inquire

## 109491 ICP multi-element standard solution XI for sludge testing (7 elements in dilute nitric acid) Certipur®



- Spec. density 1.045 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- WGK 2
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P273, P280, P302 + P352, P305 + P351 + P338
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 28

- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSÄURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5%), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III

Cr (chromium).....	900 mg/l
Cu (Copper).....	800 mg/l
Hg (Mercury).....	8 mg/l
Ni (Nickel).....	200 mg/l
Pb (lead).....	900 mg/l
Zn (Zinc).....	2500 mg/l

**Specification**

Cd (cadmium).....	10 mg/l
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Ord.No.	Packaging	Quantity	Price
1.09491.0100	Plastic bottle	100 ml	inquire

## 109480 ICP multi-element standard solution XIII (15 elements in diluted nitric acid) Certipur®



- Spec. density 1.032 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)
- Boiling point 100 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 1B, Inhalation, H350i; P201, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LGK 6.1 D
- HS-No. 3822 00 00 ■ Disposal 18
- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-

- Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2031 NITRIC ACID, 8, II

Hg (Mercury).....	5.0 mg/l
Mn (Manganese).....	100 mg/l
Ni (Nickel).....	100 mg/l
Pb (lead).....	100 mg/l
Se (Selenium).....	25.0 mg/l
V (Vanadium).....	250 mg/l
Zn (Zinc).....	100 mg/l

**Specification**

Al (Aluminium).....	500 mg/l
As (arsenic).....	100 mg/l
Be (beryllium).....	100 mg/l
Cd (cadmium).....	25.0 mg/l
Co (cobalt).....	100 mg/l
Cr (chromium).....	100 mg/l
Cu (Copper).....	100 mg/l
Fe (iron).....	100 mg/l

Ord.No.	Packaging	Quantity	Price
1.09480.0100	Plastic bottle	100 ml	inquire

## 109487 ICP multi-element standard solution XVI (21 elements in diluted nitric acid) Certipur®



- Spec. density 1.031 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)
- Boiling point 100 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Carcinogenicity, Category 1B, Inhalation, H350i; P201, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LGK 6.1 D
- HS-No. 3822 00 00 ■ Disposal 18
- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 2031 NITRIC ACID, 8, II

Ni (Nickel).....	100 mg/l
Pb (lead).....	100 mg/l
Sb (Antimony).....	100 mg/l
Se (Selenium).....	100 mg/l
Sr (Strontium).....	100 mg/l
Ti (Titanium).....	100 mg/l
Tl (Thallium).....	100 mg/l
V (Vanadium).....	100 mg/l
Zn (Zinc).....	100 mg/l

**Specification**

As (arsenic).....	100 mg/l
Be (beryllium).....	100 mg/l
Ca (calcium).....	100 mg/l
Cd (cadmium).....	100 mg/l
Co (cobalt).....	100 mg/l
Cr (chromium).....	100 mg/l
Cu (Copper).....	100 mg/l
Fe (iron).....	100 mg/l
Li (Lithium).....	100 mg/l
Mg (Magnesium).....	100 mg/l
Mn (Manganese).....	100 mg/l
Mo (Molybdenum).....	100 mg/l

Ord.No.	Packaging	Quantity	Price
1.09487.0100	Plastic bottle	100 ml	inquire



**109495 ICP multi-element standard solution XVII** (7 elements in hydrochloric acid 15%)  
100 mg/l: Hf, Ir, Sb, Sn, Ta, Ti, Zr Certipur®



- Spec. density 1.076 g/cm<sup>3</sup> (20 °C) ■ pH value 1 (H<sub>2</sub>O, 20 °C) ■ Boiling point 100 °C
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 12
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Sb (Antimony) .....	100 mg/l
Sn (Tin) .....	100 mg/l
Ta (Tantalum) .....	100 mg/l
Ti (Titanium) .....	100 mg/l
Zr (Zirconium) .....	100 mg/l

**Specification**

Hf (Hafnium) .....	100 mg/l
Ir (Iridium) .....	100 mg/l

Ord.No.	Packaging	Quantity	Price
1.09495.0100	Plastic bottle	100 ml	inquire

**Multi-element standards for ICP, traceable to SRM from NIST**

**ICP/MS calibration standards, traceable to SRM from NIST**

**110580 ICP multi-element standard solution VI** for ICP-MS (30 elements in dilute nitric acid) Certipur®



- Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Carcinogenicity, Category 1B, Inhalation, H350i, P201, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 6.1B
- HS-No. 3822 00 00 ■ Disposal 18
- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2031 NITRIC ACID, 8, II

**Specification**

As (arsenic).....	100 mg/l
B (boron).....	100 mg/l
Ba (barium).....	10 mg/l
Be (beryllium).....	100 mg/l
Bi (bismuth).....	10 mg/l
Ca (calcium).....	1000 mg/l
Cd (cadmium).....	10 mg/l
Co (cobalt).....	10 mg/l
Cr (chromium).....	10 mg/l
Cu (Copper).....	10 mg/l
Fe (iron).....	100 mg/l
Ga (Gallium).....	10 mg/l
K (potassium).....	10 mg/l
Li (Lithium).....	10 mg/l
Mg (Magnesium).....	10 mg/l
Mn (Manganese).....	10 mg/l
Mo (Molybdenum).....	10 mg/l

Na (sodium) .....	10 mg/l
Ni (Nickel).....	10 mg/l
Pb (lead).....	10 mg/l
Rb (Rubidium).....	10 mg/l
Se (Selenium).....	100 mg/l
Sr (Strontium).....	10 mg/l
Te (Tellurium).....	10 mg/l
Tl (Thallium).....	10 mg/l
U (Uranium).....	10 mg/l
V (Vanadium).....	10 mg/l
Zn (Zinc).....	100 mg/l

Ag (Silver) .....	10 mg/l
Al (Aluminium).....	10 mg/l

Ord.No.	Packaging	Quantity	Price
1.10580.0100	Plastic bottle	100 ml	inquire

**109498 ICP multi-element standard solution XXI for MS** (30 elements in diluted nitric acid, Hg separately) 10 mg/l: Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, Hg, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Ti, V, U, Zn Certipur®



- GHS: Danger, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 3822 00 00
- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2031 NITRIC ACID, 8, II

**Specification**

Ca (calcium).....	10 mg/l
Cd (cadmium).....	10 mg/l
Co (cobalt).....	10 mg/l
Cr (chromium).....	10 mg/l
Cs (Cesium).....	10 mg/l
Cu (Copper).....	10 mg/l
Fe (iron).....	10 mg/l
Ga (Gallium).....	10 mg/l
In (Indium).....	10 mg/l
K (potassium).....	10 mg/l
Li (Lithium).....	10 mg/l
Mg (Magnesium).....	10 mg/l
Mn (Manganese).....	10 mg/l
Na (sodium).....	10 mg/l
Ni (Nickel).....	10 mg/l

Pb (lead).....	10 mg/l
Rb (Rubidium).....	10 mg/l
Se (Selenium).....	10 mg/l
Sr (Strontium).....	10 mg/l
Tl (Thallium).....	10 mg/l
U (Uranium).....	10 mg/l
V (Vanadium).....	10 mg/l
Zn (Zinc).....	10 mg/l
Mercury separately in the package	
Hg (Mercury).....	10 mg/l

**Specification**

Ag (Silver).....	10 mg/l
Al (Aluminium).....	10 mg/l
As (arsenic).....	10 mg/l
Ba (barium).....	10 mg/l
Be (beryllium).....	10 mg/l
Bi (bismuth).....	10 mg/l

Ord.No.	Packaging	Quantity	Price
1.09498.0001	Fibre case	1 set	inquire

**Multi-element standards for ICP, traceable to SRM from NIST**

**ICP wavelength calibration standards**

**110714 ICP multielement standard V** for wavelength calibration Certipur®



- Spec. density 1.024 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.2 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(SALPETERSÄURE UND ENTH. SALZSAEURE), 8, II ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(NITRIC ACID NOT MORE THAN 5% AND CONT. HYDROCHLORIC ACID), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

**Specification**

Al (Aluminium).....	20 mg/l
As (arsenic).....	20 mg/l
B (boron).....	2 mg/l
Ba (barium).....	2 mg/l
Be (beryllium).....	1 mg/l
Ca (calcium).....	10 mg/l
Cd (cadmium).....	2 mg/l
Cr (chromium).....	2 mg/l
Cu (Copper).....	2 mg/l
Fe (iron).....	2 mg/l
Hg (Mercury).....	5 mg/l
K (potassium).....	100 mg/l
Li (Lithium).....	2 mg/l

Mg (Magnesium).....	1 mg/l
Mn (Manganese).....	1 mg/l
Na (sodium).....	20 mg/l
Ni (Nickel).....	5 mg/l
P (Phosphorus).....	10 mg/l
Pb (lead).....	20 mg/l
Sc (Scandium).....	1 mg/l
Se (Selenium).....	20 mg/l
Sr (Strontium).....	1 mg/l
Te (Tellurium).....	20 mg/l
Ti (Titanium).....	2 mg/l
y (Yttrium).....	1 mg/l
Zn (Zinc).....	2 mg/l

Ord.No.	Packaging	Quantity	Price
1.10714.0500	Plastic bottle	500 ml	inquire



## 109481 ICP multi-element standard solution XIV (11 elements in dilute hydrochloric acid) 100 mg/l: P, S, K; 20 mg/l: As, La, Li, Mo, Mn, Ni, Sc, Na Certipur®



- Spec. density 1.009 g/cm<sup>3</sup> ■ pH value 1 (H<sub>2</sub>O, 20 °C) ■ Boiling point 100 °C (1013 hPa)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, III, Segregation Group: 1 (Acids)

- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III
- Specification**
- As (arsenic) 20 mg/l
- K (potassium)..... 100 mg/l
- La (Lanthanum)..... 20 mg/l
- Li (Lithium)..... 20 mg/l
- Mn (Manganese)..... 20 mg/l
- Mo (Molybdenum)..... 20 mg/l
- Na (sodium)..... 20 mg/l

- Ni (Nickel)..... 20 mg/l
- P (Phosphorus)..... 100 mg/l
- S (Sulfur)..... 100 mg/l
- Sc (Scandium)..... 20 mg/l

Ord.No.	Packaging	Quantity	Price
1.09481.0500	Plastic bottle	500 ml	inquire

### Multi-element standards for ICP, traceable to SRM from NIST

#### ICP/MS Optimization solution

## 109410 ICP Multi element standard solution XXIII for mass calibration Certipur®



- Spec. density 1.017 g/m<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 3822 00 00
- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN 20%, 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 2031 NITRIC ACID, 8, II
- Specification**
- Ba (barium)..... 0.5 - 2.0 ng/ml
- B (boron)..... 0.5 - 2.0 ng/ml
- Co (cobalt)..... 0.5 - 2.0 ng/ml
- Fe (iron)..... 0.5 - 2.0 ng/ml
- Ga (Gallium)..... 0.5 - 2.0 ng/ml
- In (Indium)..... 0.5 - 2.0 ng/ml
- K (potassium)..... 0.5 - 2.0 ng/ml
- Li (Lithium)..... 0.5 - 2.0 ng/ml
- Lu (Lutetium)..... 0.5 - 2.0 ng/ml

- Na (sodium)..... 0.5 - 2.0 ng/ml
- Rh (Rhodium)..... 0.5 - 2.0 ng/ml
- Sc (Scandium)..... 0.5 - 2.0 ng/ml
- Tl (Thallium)..... 0.5 - 2.0 ng/ml
- U (Uranium)..... 0.5 - 2.0 ng/ml
- y (Yttrium)..... 0.5 - 2.0 ng/ml

Ord.No.	Packaging	Quantity	Price
1.09410.0500	Plastic bottle	500 ml	inquire

## 109411 ICP Multi element standard solution XXIV tuning solution 700 ES Certipur®



- Spec. density 1.005 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Skin sensitisation, Category 1, H317; Corrosive to metals, Category 1, H290, P280, P302 + P352
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSÄUREAUFLÖSUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III,

- Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID), 8, III
- Specification**
- As (arsenic)..... 50 mg/l
- Cd (cadmium)..... 50 mg/l
- Co (cobalt)..... 50 mg/l
- Mo (Molybdenum)..... 50 mg/l
- Ni (Nickel)..... 50 mg/l
- Sr (Strontium)..... 50 mg/l
- K (potassium)..... 500 mg/l
- Al (Aluminium)..... 50 mg/l

- Ba (barium)..... 50 mg/l
- Cu (Copper)..... 50 mg/l
- Zn (Zinc)..... 50 mg/l
- Cr (chromium)..... 50 mg/l
- Pb (lead)..... 50 mg/l
- Se (Selenium)..... 50 mg/l
- Mn (Manganese)..... 50 mg/l

Ord.No.	Packaging	Quantity	Price
1.09411.0500	Plastic bottle	500 ml	inquire

### Multi-element standards for ICP, traceable to SRM from NIST

#### Graphit furnace AAS standards

## 109500 GF AAS Multi element standard XVIII (16 elements in diluted nitric acid) Certipur®



- Spec. density 1.027 g/cm<sup>3</sup> (20 °C) ■ pH value 1 (H<sub>2</sub>O, 20 °C) ■ Boiling point 100 °C (1013 hPa)
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 12
- ADR-RID UN 2031 Salpetersäure, 8, II ■ IMDG-Code UN 2031 NITRIC ACID NOT MORE THAN

- 20%, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2031 NITRIC ACID, 8, II
- Specification**
- Be (beryllium)..... 5 mg/l
- Cd (cadmium)..... 5 mg/l
- Ag (Silver)..... 10 mg/l
- Cr (chromium) 20 mg/l
- Fe (iron) 20 mg/l
- Mn (Manganese) 20 mg/l
- Ba (barium) 50 mg/l
- Co (cobalt) 50 mg/l

- Cu (Copper) 50 mg/l
- Ni (Nickel) 50 mg/l
- Al (Aluminium)..... 100 mg/l
- As (arsenic)..... 100 mg/l
- Pb (lead)..... 100 mg/l
- Sb (Antimony)..... 100 mg/l
- Se (Selenium)..... 100 mg/l
- Tl (Thallium)..... 100 mg/l

Ord.No.	Packaging	Quantity	Price
1.09500.0100	Plastic bottle	100 ml	inquire

### Multi-element standards for ICP, traceable to SRM from NIST

#### Cationic chromatography standards

## 110322 IC Multi-element standard VII 100 mg/l: NH<sub>4</sub>, Ba, Ca, K, Li, Na, Mg, Mn, Sr in 0.001 mol/l HNO<sub>3</sub> Certipur®

- Spec. density 1.02 g/cm<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28
- Specification**
- Determination method: Ion-chromatography
- Accuracy of the method: NH<sub>4</sub>, Ba, Ca, K, Li, Mg,

- Mn, Na, Sr; 5%
- NH<sub>4</sub> (Ammonium)..... 95.0 - 105.0 mg/l
- Ba (barium)..... 95.0 - 105.0 mg/l
- Ca (calcium)..... 95.0 - 105.0 mg/l
- K (potassium)..... 95.0 - 105.0 mg/l
- Li (Lithium)..... 95.0 - 105.0 mg/l
- Mg (Magnesium)..... 95.0 - 105.0 mg/l

- Mn (Manganese)..... 95.0 - 105.0 mg/l
- Na (sodium)..... 95.0 - 105.0 mg/l
- Sr (Strontium)..... 95.0 - 105.0 mg/l

Ord.No.	Packaging	Quantity	Price
1.10322.0100	Plastic bottle	100 ml	inquire

**Ion standards for ion chromatography, Titrisol® and ready for use (1000 mg; 1000 mg/l), traceable to SRM from NIST**

**119812 Ammonium standard solution traceable to SRM from NIST NH<sub>4</sub>Cl in H<sub>2</sub>O 1000 mg/l**  
NH<sub>4</sub> Certipur®

- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.4 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 2827 10 00 ■ Disposal 28

**Specification**

Concentration..... (NH<sub>4</sub>.....).....990 - 1010 mg/l  
Determination method: Argentometric titration.  
The content of this solution was determined with

silver nitrate standard solution (Merck article number 1.09081) standardized against volumetric standard sodium chloride (Merck article number 1.02406). The expanded measurement uncertainty is +/-0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 999b (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard sodium

chloride, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.19812.0500	Plastic bottle	500 ml	inquire

**119896 Bromide standard solution traceable to SRM from NIST NaBr in H<sub>2</sub>O 1000 mg/l Br**  
Certipur®

*Bromide standard for aqueous matrices ready for use*

- Spec. density 0.999 g/cm<sup>3</sup> (20 °C) ■ pH value 5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 2827 51 00 ■ Disposal 28

**Specification**

Concentration..... (Br.).....990 - 1010 mg/l

Determination method: Argentometric titration. The content of this solution was determined with silver nitrate standard solution (Merck article number 1.09081) standardized against volumetric standard sodium chloride (Merck article number 1.02406). The expanded measurement uncertainty is +/-0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 999b (NIST:

National Institute of Standards and Technology, USA) by means of volumetric standard sodium chloride, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.19896.0500	Plastic bottle	500 ml	inquire

**109871 Chloride standard 1000 mg Cl<sup>-</sup> (HCl in H<sub>2</sub>O) Titrisol®**

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.6 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8B
- HS-No. 2806 10 00 ■ Disposal 12

- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III
  - IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III
- Specification**  
content (Cl<sup>-</sup>).....1000 mg / Ampoule

Determination method: Argentometric titration (traceable to NIST - SRM 999b) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09871.0001	Plastic ampoule	1 amp	inquire

**119897 Chloride standard solution traceable to SRM from NIST NaCl in H<sub>2</sub>O 1000 mg/l Cl**  
Certipur®

*Chloride standard for aqueous matrices ready for use*

- Spec. density 0.998 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**

Concentration..... (Cl.).....990 - 1010 mg/l

Determination method: Argentometric titration. The content of this solution was determined with silver nitrate standard solution (Merck article number 1.09081) standardized against volumetric standard sodium chloride (Merck article number 1.02406). The expanded measurement uncertainty is +/-0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 999b (NIST:

National Institute of Standards and Technology, USA) by means of volumetric standard sodium chloride, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.19897.0500	Plastic bottle	500 ml	inquire

**119780 Chromate standard solution traceable to SRM of NIST K<sub>2</sub>CrO<sub>4</sub> in H<sub>2</sub>O 1000 mg/l CrO<sub>4</sub>**  
Certipur®

*Chromate standard for aqueous matrices ready for use*

- Spec. density 1.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Chronic aquatic toxicity, Category 3, H412, P273
- LGK 10 - 13
- HS-No. 2841 50 00

**Specification**

Concentration..... (CrO<sub>4</sub><sup>2-</sup>).....990 - 1010 mg/l

Determination method: Iodometric titration. The content of this solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.004 (k=2 coverage factor for 95% coverage probability). The certified value is

traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.19780.0500	Plastic bottle	500 ml	inquire

**119533 Cyanide standard solution traceable to SRM from NIST K<sub>2</sub>[Zn(CN)<sub>4</sub>] in H<sub>2</sub>O 1000 mg/l**  
CN Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 9 - 10 (H<sub>2</sub>O, 20 °C)
- harmful ■ WGK 2
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2837 20 00 ■ Disposal 6
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Concentration..... (CN.).....990 - 1010 mg/l

Determination method: Argentometric titration. The content of this solution was determined with silver nitrate standard solution (Merck article number 1.09081) standardized against volumetric standard sodium chloride (Merck article number 1.02406). The expanded measurement uncertainty is +/-0.007 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 999b (NIST: National Institute of Standards and Technology,

USA) by means of volumetric standard sodium chloride, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.19533.0500	Plastic bottle	500 ml	inquire

## 109869 Fluoride standard 1000 mg F (KF in H<sub>2</sub>O) Titrisol®

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 8.4 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ LGK 6.1 D  
 ■ HS-No. 2826 19 90 ■ Disposal 23  
 ■ ADR-RID UN 3287 Giftiger anorganischer flüssiger Stoff, n.a.g.(KALIUMFLUORIDLOESUNG),

6.1, III ■ IMDG-Code UN 3287 TOXIC LIQUID, INORGANIC, N.O.S.(POTASSIUM FLUORIDE), 6.1, III  
 ■ IATA-DGR UN 3287 TOXIC LIQUID, INORGANIC, N.O.S.(POTASSIUM FLUORIDE), 6.1, III  
**Specification**  
 content (F)..... 1000 mg / Ampoule

Determination method: Titration with Lanthannitrat solution (traceable to NIST SRM 682) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09869.0001	Plastic ampoule	1 amp	inquire

## 119814 Fluoride standard solution traceable to SRM from NIST NaF in H<sub>2</sub>O 1000 mg/l F Certipur®

*Fluoride standard for aqueous matrices ready for use*  
 ■ Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13

■ HS-No. 2826 19 10 ■ Disposal 23  
**Specification**  
 Concentration β (F)..... 990 - 1010 mg/l  
 Determination method: Titration with Lanthannitrate solution. (traceable to NIST SRM

682) Accuracy of the method: +/- 2 mg/l

Ord.No.	Packaging	Quantity	Price
1.19814.0500	Plastic bottle	500 ml	inquire

## 119811 Nitrate standard solution traceable to SRM from NIST NaNO<sub>3</sub> in H<sub>2</sub>O 1000 mg/l NO<sub>3</sub> Certipur®

*Nitrate standard for aqueous matrices ready for use*  
 ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 10 - 13

■ HS-No. 3822 00 00  
**Specification**  
 Concentration β (NO<sub>3</sub>-)..... 990 - 1010 mg/l  
 Determination method: Alkalimetric titration. (traceable to NIST - 723d) Accuracy of the

method: +/- 5 mg/l

Ord.No.	Packaging	Quantity	Price
1.19811.0500	Plastic bottle	500 ml	inquire

## 109866 Nitrite standard 1000 mg NO<sub>2</sub>(NaNO<sub>2</sub> in H<sub>2</sub>O) Titrisol®

*Nitrite standard for aqueous matrices*  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Acute aquatic toxicity, Category 1, H400, P273  
 ■ LGK 10 - 13  
 ■ HS-No. 2834 10 00 ■ Disposal 28  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff,

flüssig, n.a.g.(NATRIUMNITRIT), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(SODIUM NITRITE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(SODIUM NITRITE), 9, III  
**Specification**

content (NO<sub>2</sub>-)..... 1000 mg / Ampoule  
 Determination method: Cerimetric titration. (traceable to NIST - SRM 40h) Accuracy of the method: +/- 5 mg

Ord.No.	Packaging	Quantity	Price
1.09866.0001	Plastic ampoule	1 amp	inquire

## 119899 Nitrite standard solution traceable to SRM from NIST NaNO<sub>2</sub> in H<sub>2</sub>O 1000 mg/l NO<sub>2</sub> Certipur®

*Nitrite standard for aqueous matrices ready for use*  
 ■ Spec. density 1.001 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2834 10 00 ■ Disposal 28  
**Specification**  
 Concentration..... (NO<sub>2</sub>-)..... 990 - 1010 mg/l  
 Determination method: Cerimetric titration. The content of this solution was determined by back-

titration with Ammonium(II) ferrous sulfate (Merck article number 1.03792) standardized by Cerium(IV) sulfate (Merck article number 1.09092) against volumetric standard Iron(II) ethylenediammonium sulfate (Merck article number 1.02402). The expanded measurement uncertainty is +/- 0.007 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 8040 (NIST: National Institute of Standards and Technology,

USA) by means of volumetric standard Iron(II) ethylenediammonium sulfate measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.19899.0500	Plastic bottle	500 ml	inquire

## 109870 Phosphate standard 1000 mg PO<sub>4</sub> (H<sub>3</sub>PO<sub>4</sub> in H<sub>2</sub>O) Titrisol®

■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.4 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290  
 ■ LGK 8B  
 ■ HS-No. 2809 20 00 ■ Disposal 28  
 ■ ADR-RID UN 1805 Phosphorsäure, Lösung, 8, III

■ IMDG-Code UN 1805 PHOSPHORIC ACID SOLUTION, 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1805 PHOSPHORIC ACID, SOLUTION, 8, III  
**Specification**  
 content (PO<sub>4</sub><sup>3-</sup>)..... 1000 mg / Ampoule  
 Determination method: Alkalimetric titration.

(traceable to NIST - SRM 84k) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09870.0001	Plastic ampoule	1 amp	inquire

## 119898 Phosphate standard solution traceable to SRM from NIST KH<sub>2</sub>PO<sub>4</sub> in H<sub>2</sub>O 1000 mg/l PO<sub>4</sub> Certipur®

*Phosphate standard for aqueous matrices ready for use*  
 ■ Spec. density 0.998 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2835 24 00 ■ Disposal 28  
**Specification**  
 Concentration..... (PO<sub>4</sub><sup>3-</sup>)..... 990 - 1010 mg/l  
 Determination method: Alkalimetric titration. The

content of this solution was determined with sodium hydroxide standard solution (Merck article number 1.09141) standardized against volumetric standard potassium hydrogen phthalate (Merck article number 1.02400). The expanded measurement uncertainty is +/- 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 84L (NIST: National Institute of Standards and Technology, USA) by means of

volumetric standard potassium hydrogen phthalate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.19898.0500	Plastic bottle	500 ml	inquire

**119507 Sodium standard solution** traceable to SRM from NIST NaNO<sub>3</sub> in H<sub>2</sub>O 1000 mg/l Na Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ pH value 7 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 Concentration β (Na).....990 - 1010 mg/l  
 Determination method: alcalimetric titration.  
 (traceable to NIST - SRM 723b) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.19507.0500	Plastic bottle	500 ml	inquire

**109872 Sulfate standard 1000 mg SO<sub>4</sub> (H<sub>2</sub>SO<sub>4</sub> in H<sub>2</sub>O) Titrisol®**

- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.8 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8B
- HS-No. 2807 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff,

n.a.g.(SCHWEFELSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(SULPHURIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(SULPHURIC ACID), 8, III  
**Specification**  
 content (SO<sub>4</sub><sup>2-</sup>) ..... 1000 mg / Ampoule

Determination method: Alcalimetric titration (traceable to NIST - SRM 723b) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09872.0001	Plastic ampoule	1 amp	inquire

**119813 Sulfate standard solution** traceable to SRM from NIST Na<sub>2</sub>SO<sub>4</sub> in H<sub>2</sub>O 1000 mg/l SO<sub>4</sub> Certipur®

- Sulfate standard for aqueous matrices ready for use*
- Spec. density 0.998 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble
  - WGK nwg
  - LGK 10 - 13

■ HS-No. 2833 11 00 ■ Disposal 28  
**Specification**  
 Concentration β (SO<sub>4</sub><sup>2-</sup>).....990 - 1010 mg/l  
 Determination method: Titration with Lead(II) nitrate solution (traceable to NIST - SRM 682)

Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.19813.0500	Plastic bottle	500 ml	inquire

**Ion multi-element standards for ion chromatography, traceable to SRM from NIST**

**111437 Anion multi-element standard I** 1000 mg/l: F<sup>-</sup>, PO<sub>4</sub><sup>3-</sup>, Br<sup>-</sup> in H<sub>2</sub>O Certipur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.3 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 Concentration β (PO<sub>4</sub><sup>3-</sup>).....998 - 1002 mg/l

Determination method: alcalimetric titration.  
 Accuracy of the method: ± 0.5 % (traceable to NIST SRM 723e)  
 Concentration β (Br<sup>-</sup>).....998 - 1002 mg/l  
 Determination method: argentometric titration.  
 Accuracy of the method: ± 0.5 % (traceable to NIST SRM 999b)

Concentration β (F<sup>-</sup>).....990 - 1010 mg/l  
 Determination method: ion chromatography  
 Accuracy of the method: F ± 2%

Ord.No.	Packaging	Quantity	Price
1.11437.0500	Plastic bottle	500 ml	inquire

**111448 Anion multi-element standard II** 1000 mg/l: Cl<sup>-</sup>, NO<sub>3</sub><sup>-</sup>, SO<sub>4</sub><sup>2-</sup> in H<sub>2</sub>O Certipur®

- Spec. density 1.002 g/cm<sup>3</sup> (20 °C) ■ pH value 6 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 Determination method : titrimetric Accuracy of

the Method : Cl<sup>-</sup>, NO<sub>3</sub><sup>-</sup>, SO<sub>4</sub><sup>2-</sup> +/- 0.5 %  
 Concentration β (Cl<sup>-</sup>) .....995 - 1005 mg/l  
 Determination method: argentometric titration. (traceable to NIST - SRM 999b)  
 Concentration β (NO<sub>3</sub><sup>-</sup>).....995 - 1005 mg/l  
 Determination method: alcalimetric titration. (traceable to NIST - SRM 723e)

Concentration β (SO<sub>4</sub><sup>2-</sup>).....995 - 1005 mg/l  
 Determination method: titration with lead(II) nitrate solution. (traceable to NIST - SRM 682)

Ord.No.	Packaging	Quantity	Price
1.11448.0500	Plastic bottle	500 ml	inquire

**170398 IC Multi-element standard I** F<sup>-</sup> = 100 mg/l, Cl<sup>-</sup> = 250 mg/l, NO<sub>3</sub><sup>-</sup>, SO<sub>4</sub><sup>2-</sup> = 500 mg/l, PO<sub>4</sub><sup>3-</sup> = 1000 mg/l in H<sub>2</sub>O Certipur®

- Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ pH value 1.5 (H<sub>2</sub>O, 20 °C)
- WGK nwg
- LGK 8 B
- HS-No. 3822 00 00 ■ Disposal 28
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(ENTH. SALPETERSAEURE UND SCHWEFELSAEURE), 8, III
- IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID NOT MORE THAN 5% AND SULPHURIC ACID), 8,

III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONT. NITRIC ACID AND SULPHURIC ACID), 8, III  
**Specification**  
 Determination method: Ion-chromatography  
 Accuracy of the method: +/- 2 %  
 Concentration β (F<sup>-</sup>).....95 - 105 mg/l (traceable to NIST)  
 Concentration β (Cl<sup>-</sup>) .....240 - 260 mg/l

(traceable to NIST-SRM 999b)  
 Concentration β (NO<sub>3</sub><sup>-</sup>).....475 - 525 mg/l (traceable to NIST-SRM 723d)  
 Concentration β (SO<sub>4</sub><sup>2-</sup>).....475 - 525 mg/l (traceable to NIST-SRM 682)  
 Concentration β (PO<sub>4</sub><sup>3-</sup>).....960 - 1040 mg/l (traceable to NIST SRM 84L)

Ord.No.	Packaging	Quantity	Price
1.70398.0500	Plastic bottle	500 ml	inquire

**110322 IC Multi-element standard VII** 100 mg/l: NH<sub>4</sub>, Ba, Ca, K, Li, Na, Mg, Mn, Sr in 0.001 mol/l HNO<sub>3</sub> Certipur®

- Spec. density 1.02 g/cm<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

**Specification**  
 Determination method: Ion-chromatography  
 Accuracy of the method: NH<sub>4</sub>, Ba, Ca, K, Li, Mg,

Mn, Na, Sr; 5%  
 NH<sub>4</sub> (Ammonium).....95.0 - 105.0 mg/l  
 Ba (barium) .....95.0 - 105.0 mg/l  
 Ca (calcium).....95.0 - 105.0 mg/l  
 K (potassium).....95.0 - 105.0 mg/l  
 Li (Lithium).....95.0 - 105.0 mg/l  
 Mg (Magnesium).....95.0 - 105.0 mg/l

Mn (Manganese).....95.0 - 105.0 mg/l  
 Na (sodium) .....95.0 - 105.0 mg/l  
 Sr (Strontium) .....95.0 - 105.0 mg/l

Ord.No.	Packaging	Quantity	Price
1.10322.0100	Plastic bottle	100 ml	inquire

## Standards dissolved in oil, traceable to SRM from NIST

### 115053 Calcium standard dissolved in oil 1 g/kg Ca Certipur®

■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ WGK 1  
 ■ GHS: Warning, Reproductive toxicity, Category 2, H361d, P281, P308 + P313

■ LGK 10  
 ■ HS-No. 3822 00 00 ■ Disposal 3  
**Specification**  
 Assay (Ca).....980 - 1020 mg/kg  
 standard deviation (s) (± mg/kg).....

Determination method: Perchloric acid titration. (traceable to NIST - SRM 84j)

Ord.No.	Packaging	Quantity	Price
1.15053.0100	Glass bottle	100 ml	inquire

### 115061 Cobalt standard dissolved in oil 1 g/kg Co Certipur®

■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Reproductive toxicity, Category 2, H361d, P280, P301 + P330 + P331, P305 + P351 + P338, P309

+ P310  
 ■ LGK 10  
 ■ HS-No. 3822 00 00 ■ Disposal 3  
**Specification**  
 Assay (Co).....980 - 1020 mg/kg  
 standard deviation (s) (± mg/kg).....

Determination method: Complexometric titration. (traceable to NIST - SRM 682)

Ord.No.	Packaging	Quantity	Price
1.15061.0100	Glass bottle	100 ml	inquire

### 115072 Phosphorus standard dissolved in oil 1 g/kg P Certipur®

■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ WGK 2  
 ■ LGK 10  
 ■ HS-No. 3822 00 00 ■ Disposal 3

**Specification**  
 Assay (P).....980 - 1020 mg/kg  
 standard deviation (s) (± mg/kg).....  
 Determination method: HPLC vs. external Standard

Ord.No.	Packaging	Quantity	Price
1.15072.0100	Glass bottle	100 ml	inquire

### 115054 Potassium standard dissolved in oil 1 g/kg K Certipur®

■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ WGK 2  
 ■ GHS: Warning, Reproductive toxicity, Category 2, H361d, P281, P308 + P313

■ LGK 10  
 ■ HS-No. 3822 00 00 ■ Disposal 3  
**Specification**  
 Assay (K).....980 - 1020 mg/kg  
 standard deviation (s) (± mg/kg).....

Determination method: Perchloric acid titration. (traceable to NIST - SRM 84j)

Ord.No.	Packaging	Quantity	Price
1.15054.0100	Glass bottle	100 ml	inquire

### 115058 Sodium standard dissolved in oil 1 g/kg Na Certipur®

■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ WGK 1  
 ■ GHS: Warning, Reproductive toxicity, Category 2, H361d, P281, P308 + P313

■ LGK 10  
 ■ HS-No. 3822 00 00 ■ Disposal 3  
**Specification**  
 Assay (Na).....980 - 1020 mg/kg  
 standard deviation (s) (± mg/kg).....

Determination method: Perchloric acid titration. (traceable to NIST - SRM 84j)

Ord.No.	Packaging	Quantity	Price
1.15058.0100	Glass bottle	100 ml	inquire

## Multi-element standards dissolved in oil

### 115075 Multi-element standard I dissolved in oil c(Ba) = 8 g/kg; c(Ca) = 4 g/kg; c(Mg) = 1 g/kg; c(Zn) = 1.6 g/kg Certipur®

*Multi-element standards dissolved in oil*  
 ■ Spec. density 0.85 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 63 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ WGK 2  
 ■ GHS: Warning, Reproductive toxicity, Category 2, H361d, P281, P308 + P313

■ LGK 10  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
**Specification**  
 Ba (Barium).....7900 - 8100 µg/g  
 Ca (Calcium).....3900 - 4100 µg/g  
 Mg (Magnesium).....900 - 1100 µg/g

Zn (Zinc).....1500 - 1700 µg/g  
 Determination method: ICP-OES

Ord.No.	Packaging	Quantity	Price
1.15075.0100	Glass bottle	100 ml	inquire

### 109469 Multi-element standard II dissolved in oil 100 ppm: Ag, Al, B, Ba, Ca, Cd, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Ti, V, Zn Certipur®

■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C)  
 ■ Kin. viscosity 70 mm<sup>2</sup>/s ■ pH value (H<sub>2</sub>O) not applicable ■ Boiling point < 300 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 3  
**Specification**  
 Ag (Silver).....95 - 105  
 Al (Aluminium).....95 - 105  
 B (Boron).....95 - 105  
 Ba (Barium).....95 - 105

Ca (Calcium).....95 - 105  
 Cd (Cadmium).....95 - 105  
 Cr (Chromium).....95 - 105  
 Cu (Copper).....95 - 105  
 Fe (Iron).....95 - 105  
 Mg (Magnesium).....95 - 105  
 Mn (Manganese).....95 - 105  
 Mo (Molybdenum).....95 - 105  
 Na (Sodium).....95 - 105  
 Ni (Nickel).....95 - 105  
 P (phosphorus).....95 - 105

Pb (Lead).....95 - 105  
 Si (Silicon).....95 - 105  
 Sn (Tin).....95 - 105  
 Ti (Titanium).....95 - 105  
 V (Vanadium).....95 - 105  
 Zn (Zinc).....95 - 105  
 Determination methods: ICP OES, ICP MS, GFAA

Ord.No.	Packaging	Quantity	Price
1.09469.0100	Glass bottle	100 ml	inquire



**109479 Multi-element standard III dissolved in oil 900 ppm: Ag, Al, B, Ba, Ca, Cd, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Ti, V, Zn Certipur®**

- Spec. density 1.1 g/cm<sup>3</sup> (20 °C)
- Kin. viscosity 200 mm<sup>2</sup>/s (40 °C)
- pH value (H<sub>2</sub>O) not applicable
- Boiling point < 300 °C
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 3

**Specification**

Ag (Silver).....	885 - 915
Al (Aluminium).....	885 - 915
B (Boron).....	885 - 915
Ba (Barium).....	885 - 915

Ca (Calcium).....	885 - 915
Cd (Cadmium).....	885 - 915
Cr (Chromium).....	885 - 915
Cu (Copper).....	885 - 915
Fe (Iron).....	885 - 915
Mg (Magnesium).....	885 - 915
Mo (Molybdenum).....	885 - 915
Mn (Manganese).....	885 - 915
Na (Sodium).....	885 - 915
Ni (Nickel).....	885 - 915
P (phosphorus).....	885 - 915
Pb (Lead).....	885 - 915

Si (Silicon).....	885 - 915
Sn (Tin).....	885 - 915
Ti (Titanium).....	885 - 915
V (Vanadium).....	885 - 915
Zn (Zinc).....	885 - 915

Determination methods: ICP OES, ICP MS, GFAA

Ord.No.	Packaging	Quantity	Price
1.09479.0100	Glass bottle	100 ml	inquire

**UV/VIS standards; reference material for checking UV/VIS spectrophotometers acc. to DAB and Ph Eur, traceable to SRM from NIST**

**108160 UV-VIS Standard 1: Potassium dichromate solution for absorbance according to Ph Eur Certipur®**

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
1.08160.0001	Fibre case	8x10ml amp	inquire

**108161 UV-VIS Standard 2: Sodium nitrite solution for stray light testing according to Ph Eur Certipur®**



- WGK 1
- GHS: Warning, P273
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2834 10 00
- ADR-RID UN 3287 Giftiger anorganischer

flüssiger Stoff, n.a.g.(NATRIUMNITRITLOESUNG), 6.1, III ■ IMDG-Code UN 3287 TOXIC LIQUID, INORGANIC, N.O.S.(SODIUM NITRITE), 6.1, III ■ IATA-DGR UN 3287 TOXIC LIQUID, INORGANIC, N.O.S.(SODIUM NITRITE), 6.1, III

Ord.No.	Packaging	Quantity	Price
1.08161.0001	Fibre case	3x10ml amp	inquire

**108163 UV-VIS Standard 3: Sodium iodide solution for stray light testing according to Ph Eur Certipur®**

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2827 60 00

Ord.No.	Packaging	Quantity	Price
1.08163.0001	Fibre case	3x10ml amp	inquire

**108164 UV-VIS Standard 4: Potassium chloride solution for stray light testing according to Ph Eur Certipur®**

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
1.08164.0001	Fibre case	3x10ml amp	inquire

**108165 UV-VIS Standard 5: Toluene solution in n-hexane for testing of the resolution power acc. to Ph Eur Certipur®**



- GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361f; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373; Aspiration hazard,

Category 1, H304; Chronic aquatic toxicity, Category 2, H411, P210, P240, P281, P301 + P310, P331 ■ LGK 3 ■ Store at +15°C to +25°C. ■ HS-No. 3822 00 00 ■ ADR-RID UN 1208 Hexane, 3, II ■ IMDG-

Code UN 1208 HEXANES, 3, II ■ IATA-DGR UN 1208 HEXANES, 3, II

Ord.No.	Packaging	Quantity	Price
1.08165.0001	Glass ampoule	8 x 10 ml	inquire

**108166 UV-VIS Standard 6: holmium oxide solution reference material for the wavelength according to Ph Eur Certipur®**



- GHS: Danger, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8BL ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

■ ADR-RID UN 1802 Perchlorsäure, 8 (5.1), II ■ IMDG-Code UN 1802 PERCHLORIC ACID, 8 (5.1), II, Segregation Group: 1 (Acids) ■ IATA-DGR UN 1802 PERCHLORIC ACID, 8 (5.1), II

Ord.No.	Packaging	Quantity	Price
1.08166.0001	Fibre case	3x10ml amp	inquire

**104660 UV-VIS Standard 1a: Potassium dichromate solution (600 mg/l) for the absorbance at 430 nm according to Ph Eur Certipur®**

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
1.04660.0001	Fibre case	1 unit	inquire

## Conductivity standards; certified reference material for the measurement of electrical conductivity, traceable to SRM from NIST and PTB

### Certified reference material for conductivity

#### 101810 Conductivity water (nominal 0 mS/cm) Test solution for Measurement of electrolytic Conductivity, traceable to PTB and NIST Certipur®

H<sub>2</sub>O  
Distilled water  
 ■ CAS-No. 7732-18-5  
 ■ Vapour pressure 23 hPa (20 °C)  
 ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 80.2 (20 °C) ■ El. dipole moment 1.85 (20 °C) ■ M = 18.02 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Boiling point 100 °C (1013 hPa)

■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2853 00 10 ■ Disposal 28  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Certificate of analysis is packed with each

package  
**Specification**  
 Electrical conductivity (25 °C).....0 - 0.002 mS/cm

Ord.No.	Packaging	Quantity	Price
1.01810.0105	Plastic bottle	5 x 100 ml	inquire

#### 101811 Potassium chloride solution (nominal 0.015 mS/cm) certified reference material for the measurement of electrolytic conductivity, traceable to PTB and NIST (c=0.0001 mol/l) Certipur®

■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85

**Specification**  
 Electrical conductivity (25 °C).....  
 ..... 0.013 - 0.017 mS/cm

Ord.No.	Packaging	Quantity	Price
1.01811.0105	Fibre case	5 x 100 ml	inquire

#### 101557 Potassium chloride solution (nominal 0.147 mS/cm) certified reference material for the measurement of electrolytic conductivity (c=0.001 mol/l) Certipur®

■ Spec. density 0.998 g/cm<sup>3</sup> (20 °C) ■ pH value 7 (H<sub>2</sub>O) ■ Boiling point 100 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 28  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**  
 Electrical conductivity (25 °C).....  
 ..... 0.144 - 0.150 mS/cm

Ord.No.	Packaging	Quantity	Price
1.01557.0500	Plastic bottle	500 ml	inquire

#### 101203 Potassium chloride solution (nominal 1.41 mS/cm) certified reference material for the measurement of electrolytic conductivity (c=0.01 mol/l) Certipur®

■ pH value 7 (H<sub>2</sub>O, 20 °C) ■ Boiling point 100 °C (1013 hPa)  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 28  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**  
 Electrical conductivity (25 °C).....  
 ..... 1.399 - 1.419 mS/cm

Ord.No.	Packaging	Quantity	Price
1.01203.0500	Plastic bottle	500 ml	inquire

#### 101254 Potassium chloride solution (nominal 12.8 mS/cm) certified reference material for the measurement of electrolytic conductivity (c=0.1 mol/l) Certipur®

■ Spec. density 1.003 g/cm<sup>3</sup> ■ pH value 7 (H<sub>2</sub>O)  
 ■ Boiling point 100 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 28

**Specification**  
 Electrical conductivity (25 °C).....  
 ..... 12.750 - 12.950 mS/cm

Ord.No.	Packaging	Quantity	Price
1.01254.0500	Plastic bottle	500 ml	inquire

#### 101255 Potassium chloride solution (nominal 111 mS/cm) certified reference material for the measurement of electrolytic conductivity (c=1.0 mol/l) Certipur®

■ Spec. density 1.044 g/cm<sup>3</sup> ■ pH value 7 (H<sub>2</sub>O)  
 ■ Boiling point 100 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 28

**Specification**  
 Electrical conductivity (25 °C).....  
 ..... 110.0 - 112.0 mS/cm

Ord.No.	Packaging	Quantity	Price
1.01255.0500	Plastic bottle	500 ml	inquire

## Conductivity standards; certified reference material for the measurement of electrical conductivity, traceable to SRM from NIST and PTB

### Conductivity standards in sachets

#### 101586 Potassium chloride solution (nominal 0.147 mS/cm) certified reference material for the measurement of electrolytic conductivity, traceable to PTB and NIST (c = 0.001 mol/l) Certipur®

■ Spec. density 0.998 g/cm<sup>3</sup> (20 °C) ■ pH value 7 (H<sub>2</sub>O) ■ Boiling point 100 °C  
 ■ WGK nwg  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2827 39 85 ■ Disposal 28  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good  
 ■ IATA-DGR No Dangerous Good

**Specification**  
 Electrical conductivity (25 °C).....  
 ..... 0.143 - 0.151 mS/cm

Ord.No.	Packaging	Quantity	Price
1.01586.0001	Fibre case	30 x 30 ml	inquire

**101553 Potassium chloride solution (nominal 1.41 mS/cm) certified reference material for the measurement of electrolytic conductivity, traceable to PTB and NIST (c=0.01 mol/l) Certipur®**

- pH value 7 (H<sub>2</sub>O, 20 °C) ■ Boiling point 100 °C (1013 hPa)
- WGK nwg
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2827 39 85 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**  
Electrical conductivity (25 °C)... 1.39 - 1.43 mS/cm

Ord.No.	Packaging	Quantity	Price
1.01553.0001	Fibre case	30 x 30 ml	inquire

**101554 Potassium chloride solution (nominal 12.8 mS/cm) certified reference material for the measurement of electrolytic conductivity, traceable to PTB and NIST (c=0.1 mol/l) Certipur®**

- pH value 7 (H<sub>2</sub>O) ■ Boiling point 100 °C
  - WGK nwg
  - LGK 10 - 13
  - HS-No. 2827 39 85 ■ Disposal 28
- Specification**  
Electrical conductivity (25 °C)..... 12.60 - 13.00 mS/cm

Ord.No.	Packaging	Quantity	Price
1.01554.0001	Fibre case	30 x 30 ml	inquire

**Other standards**

**101748 Barium sulfate for white standard DIN 5033**

- BaO<sub>5</sub>
- BaSO<sub>4</sub>
- Blanc fixe
- CAS-No. 7727-43-7 ■ EC-No. 231-784-4
- Spec. density 4.5 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O < 0.01 g/l (20 °C) ■ M = 233.39 g/mol
- pH value 3.5 - 10.0 (100 g/l, H<sub>2</sub>O, 20 °C) suspension ■ Melting point 1380 °C
- Bulk density 500 kg/m<sup>3</sup>
- WGK nwg
- LD50 oral rat > 20000 mg/kg
- LGK 10 - 13
- HS-No. 2833 27 00 ■ Disposal 14

- Spectral radiance factor β(λ)<sub>45/0</sub> (360 nm).....
- Spectral radiance factor β(λ)<sub>45/0</sub> (370 nm).....
- Spectral radiance factor β(λ)<sub>45/0</sub> (380 nm).....
- Spectral radiance factor β(λ)<sub>45/0</sub> (390 nm).....
- Spectral radiance factor β(λ)<sub>45/0</sub> (400 nm).....
- Spectral radiance factor β(λ)<sub>45/0</sub> (420 nm).....
- Spectral radiance factor β(λ)<sub>45/0</sub> (450 nm).....
- Spectral radiance factor β(λ)<sub>45/0</sub> (500 nm).....
- Spectral radiance factor β(λ)<sub>45/0</sub> (600 nm).....
- Spectral radiance factor β(λ)<sub>45/0</sub> (700 nm).....

Tristimulus values X,Y,Z and reflection factor R<sub>457</sub> are calculated from spectral radiance factor β(λ)<sub>d/0</sub>

- Specification**  
Certificate of Guarantee  
PTB-Test.....  
Official number.....  
Spectral radiance factor β(λ)<sub>d/0</sub> (350 nm).....  
Spectral radiance factor β(λ)<sub>d/0</sub> (360 nm).....  
Spectral radiance factor β(λ)<sub>d/0</sub> (370 nm).....  
Spectral radiance factor β(λ)<sub>d/0</sub> (380 nm).....  
Spectral radiance factor β(λ)<sub>d/0</sub> (390 nm).....  
Spectral radiance factor β(λ)<sub>d/0</sub> (400 nm).....  
Spectral radiance factor β(λ)<sub>d/0</sub> (420 nm).....  
Spectral radiance factor β(λ)<sub>d/0</sub> (450 nm).....  
Spectral radiance factor β(λ)<sub>d/0</sub> (500 nm).....  
Spectral radiance factor β(λ)<sub>d/0</sub> (600 nm).....  
Spectral radiance factor β(λ)<sub>d/0</sub> (700 nm).....

- Reflection factor R<sub>457</sub>
- Standard illuminant A 2° CIE 1931 (X).....
- Standard illuminant A 2° CIE 1931 (Y).....
- Standard illuminant A 2° CIE 1931 (Z).....
- Standard illuminant D65 2° CIE 1931 (X).....
- Standard illuminant D65 2° CIE 1931 (Y).....
- Standard illuminant D65 2° CIE 1931 (Z).....
- Standard illuminant C 2° CIE 1931 (X).....
- Standard illuminant C 2° CIE 1931 (Y).....
- Standard illuminant C 2° CIE 1931 (Z).....
- Standard illuminant A 10° CIE 1964 (X).....
- Standard illuminant A 10° CIE 1964 (Y).....
- Standard illuminant A 10° CIE 1964 (Z).....
- Standard illuminant D65 10° CIE 1964 (X).....
- Standard illuminant D65 10° CIE 1964 (Y).....
- Standard illuminant D65 10° CIE 1964 (Z).....
- spectral radiance factor is calculated from measurement results

Ord.No.	Packaging	Quantity	Price
1.01748.0250	Glass bottle	250 g	inquire

**100272 2-Propanol standard for the analysis of tobacco**

- Isopropyl alcohol, Isopropanol, iso-Propanol, iPrOH*
- Refractive index 1.378 ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 19 ■ Explosive limit 2 - 12 %(V) ■ Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -89 °C
- Boiling point 82 °C ■ Evaporation number 2.93
- Ignition temp. 425 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2,

- H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H336, P210, P233, P240, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 1219 Isopropanol, 3, II ■ IMDG-Code UN 1219 ISOPROPANOL, 3, II
- IATA-DGR UN 1219 ISOPROPANOL, 3, II

**Specification**  
Ethanol (GC/ +/-1%)..... 2g/l  
n-Heptadecane (GC/ +/-1%)..... 0.3g/l  
Water..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.00272.2500	Glass bottle	2.5 l	inquire

**109017 TOC standard solution acc. to EN 1484-H3/DIN 38409-H3 as potassium hydrogen phthalate in water, stabilized 1000 mg/l Certipur®**

- Spec. density 1.003 g/cm<sup>3</sup>
  - WGK 1
  - HS-No. 3824 90 97
- Specification**  
(traceable to NIST SRM 84L) Measurement uncertainty: ± 10 mg/l  
TOC..... 990 - 1010 mg/l

Ord.No.	Packaging	Quantity	Price
1.09017.0100	Glass bottle	100 ml	inquire

## Certipur® color reference solutions acc. to Ph Eur

### 100269 Colour Reference Solutions R for testing the colour intensity acc. to Ph. Eur. R1-R7

Certipur®

- GHS: Danger, P201, P273, P308 + P313
- LGK 6.1 D
- HS-No. 3822 00 00
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(COBALTDICHLORID UND ENTH. SALZSAEURE), 8, III ■ IMDG-Code UN 3264

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COBALT DICHLORIDE AND CONT. HYDROCHLORIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COBALT DICHLORIDE AND CONT. HYDROCHLORIC ACID), 8, III

Certificate of analysis is packed with each box, 7 cells and 1 empty cell



Ord.No.	Packaging	Quantity	Price
1.00269.0001	Fibre case	1 set	inquire

### 100265 Colour Reference Solutions B for testing the colour intensity acc. to Ph. Eur. B1-B9

Certipur®

- GHS: Danger, P201, P273, P308 + P313
- LGK 6.1 D
- HS-No. 3822 00 00
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(KUPFER(II)-SULFAT UND ENTH. SALZSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III  
 Certificate of analysis is packed with each box, 9

cells and 1 empty cell



Ord.No.	Packaging	Quantity	Price
1.00265.0001	Fibre case	1 set	inquire

### 100266 Colour Reference Solutions BY for testing the colour intensity acc. to Ph. Eur.

BY1-BY7 Certipur®

- GHS: Danger, P201, P273, P308 + P313
- LGK 6.1 D
- HS-No. 3822 00 00
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(KUPFER(II)-SULFAT UND ENTH. SALZSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III  
 Certificate of analysis is packed with each box, 7

cells and 1 empty cell



Ord.No.	Packaging	Quantity	Price
1.00266.0001	Fibre case	1 set	inquire

### 100268 Colour Reference Solutions GY for testing the colour intensity acc. to Ph. Eur.

GY1-GY7 Certipur®

- GHS: Warning, P273
- LGK 8B
- HS-No. 3822 00 00
- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(KUPFER(II)-SULFAT UND ENTH. SALZSAEURE), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(COPPER(II)-SULPHATE AND CONT. HYDROCHLORIC ACID), 8, III  
 Certificate of analysis is packed with each box, 7

cells and 1 empty cell



Ord.No.	Packaging	Quantity	Price
1.00268.0001	Fibre case	1 set	inquire

### 100267 Colour Reference Solutions Y for testing the colour intensity acc. to Ph. Eur.

Y1-Y7 Certipur®

- GHS: Danger, P201, P273, P308 + P313
- LGK 6.1B
- HS-No. 3822 00 00
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, III
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8,

III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, III  
 Certificate of analysis is packed with each box, 7 cells and 1 empty cell

Ord.No.	Packaging	Quantity	Price
1.00267.0001	Fibre case	1 set	inquire

## Refractive index standards acc. to Ph Eur, traceable to PTB and NIST

### 500400 Refractive index standard traceable to SRM from NIST and PTB 0° Brix Certipur®

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2853 00 10

Ord.No.	Packaging	Quantity	Price
5.00400.0001	Fibre case	5 am	inquire

### 500405 Refractive index standard traceable to SRM from NIST and PTB 5° Brix Certipur®

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
5.00405.0001	Fibre case	5 am	inquire

### 500410 Refractive index standard traceable to SRM from NIST and PTB 10° Brix Certipur®

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
5.00410.0001	Fibre case	5 am	inquire

### 500420 Refractive index standard traceable to SRM from NIST and PTB 20° Brix Certipur®

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
5.00420.0001	Fibre case	5 am	inquire

**500430 Refractive index standard** traceable to SRM from NIST and PTB 30° Brix Certipur®

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
5.00430.0001	Fibre case	5x 10 ml	inquire

**500440 Refractive index standard** traceable to SRM from NIST and PTB 40° Brix Certipur®

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
5.00440.0001	Fibre case	5 am	inquire

**500450 Refractive index standard** traceable to SRM from NIST and PTB 50° Brix Certipur®

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
5.00450.0001	Fibre case	5 am	inquire

**500460 Refractive index standard** traceable to SRM from NIST and PTB 60° Brix Certipur®

- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00

Ord.No.	Packaging	Quantity	Price
5.00460.0001	Fibre case	5 am	inquire

**108962 Refractive index standard kit 1** 2,2,4-Trimethyl-pentane/water, traceable to SRM from NIST and PTB n (20°C)=1,3915 Certipur®



- GHS: Danger, P210, P233, P301 + P310, P304 + P340, P331
- LGK 3
- HS-No. 3822 00 00
- ADR-RID UN 3316 Chemie-Testsatz, 9, II
- IMDG-Code UN 3316 CHEMICAL KIT, 9, II
- IATA-DGR UN 3316 CHEMICAL KIT, 9, II
- Each pack contains: Certificate of analysis, 5 ampoules methyl-pentane (8 ml), 5 ampoules water (8 ml)

Ord.No.	Packaging	Quantity	Price
1.08962.0001	Fibre case	1 set	inquire

**108961 Refractive index standard kit 2** Toluene/water, traceable to SRM from NIST and PTB n (20°C)=1,4969 Certipur®



- GHS: Danger, P210, P240, P301 + P310, P302 + P352, P331
- LGK 3
- HS-No. 3822 00 00
- ADR-RID UN 3316 Chemie-Testsatz, 9, II
- IMDG-Code UN 3316 CHEMICAL KIT, 9, II
- IATA-DGR UN 3316 CHEMICAL KIT, 9, II
- Each pack contains: Certificate of analysis, 5 ampoules Toluene (8 ml), 5 ampoules water (8 ml)

Ord.No.	Packaging	Quantity	Price
1.08961.0001	Fibre case	1 set	inquire

**108963 Refractive index standard kit 3** 1-Methyl-naphthalene/water, traceable to SRM from NIST and PTB n (20°C)=1,6160 Certipur®

- LGK 10
- HS-No. 3822 00 00
- ADR-RID UN 3316 Chemie-Testsatz, 9, III
- IMDG-Code UN 3316 CHEMICAL KIT, 9, III
- IATA-DGR UN 3316 CHEMICAL KIT, 9, III
- Each pack contains: Certificate of analysis, 5 ampoules 1-Methyl-naphthalene (8 ml), 5 ampoules water (8 ml)

Ord.No.	Packaging	Quantity	Price
1.08963.0001	Fibre case	1 set	inquire

**Standard Solutions (CRM) for Photometric Applications, Diluted and Ready for Use, Traceable to SRM from Nist**

**125022 Ammonium Standard Solution, CRM** traceable to SRM from NIST 0.400 mg/l NH<sub>4</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2827 10 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25022.0100	Plastic bottle	100 ml	inquire

**125023 Ammonium Standard Solution, CRM** traceable to SRM from NIST 1.00 mg/l NH<sub>4</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2827 10 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25023.0100	Plastic bottle	100 ml	inquire

**125024 Ammonium Standard Solution, CRM** traceable to SRM from NIST 2.00 mg/l NH<sub>4</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2827 10 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25024.0100	Plastic bottle	100 ml	inquire

**125025 Ammonium Standard Solution, CRM** traceable to SRM from NIST 6.00 mg/l NH<sub>4</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2827 10 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25025.0100	Plastic bottle	100 ml	inquire



# Standa

## 125026 Ammonium Standard Solution, CRM traceable to SRM from NIST 12.0 mg/l NH<sub>4</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2827 10 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25026.0100	Plastic bottle	100 ml	inquire

## 125027 Ammonium Standard Solution, CRM traceable to SRM from NIST 50.0 mg/l NH<sub>4</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2827 10 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25027.0100	Plastic bottle	100 ml	inquire

## 125028 COD Standard Solution, CRM traceable to SRM from NIST 20.0 mg/l in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2917 39 95 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25028.0100	Plastic bottle	100 ml	inquire

## 125029 COD Standard Solution, CRM traceable to SRM from NIST 100 mg/l in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2917 39 95 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25029.0100	Plastic bottle	100 ml	inquire

## 125030 COD Standard Solution, CRM traceable to SRM from NIST 200 mg/l in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2917 39 95 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25030.0100	Plastic bottle	100 ml	inquire

## 125031 COD Standard Solution, CRM traceable to SRM from NIST 400 mg/l in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2917 39 95 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25031.0100	Plastic bottle	100 ml	inquire

## 125032 COD Standard Solution, CRM traceable to SRM from NIST 1000 mg/l in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2917 39 95 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25032.0100	Plastic bottle	100 ml	inquire

## 125033 COD Standard Solution, CRM traceable to SRM from NIST 2000 mg/l in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2917 39 95 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25033.0100	Plastic bottle	100 ml	inquire

## 125034 COD Standard Solution, CRM traceable to SRM from NIST 8000 mg/l in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2917 39 95 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25034.0100	Plastic bottle	100 ml	inquire

## 125035 COD Standard Solution, CRM traceable to SRM from NIST 50000 mg/l in H<sub>2</sub>O

- WGK 1
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2917 39 95 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25035.0100	Plastic bottle	100 ml	inquire

## 125036 Nitrate Standard Solution, CRM traceable to SRM from NIST 0.50 mg/l NO<sub>3</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25036.0100	Plastic bottle	100 ml	inquire

## 125037 Nitrate Standard Solution, CRM traceable to SRM from NIST 2.50 mg/l NO<sub>3</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25037.0100	Plastic bottle	100 ml	inquire

**125038 Nitrate Standard Solution, CRM** traceable to SRM from NIST 15.0 mg/l NO<sub>3</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25038.0100	Plastic bottle	100 ml	inquire

**125039 Nitrate Standard Solution, CRM** traceable to SRM from NIST 40.0 mg/l NO<sub>3</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25039.0100	Plastic bottle	100 ml	inquire

**125040 Nitrate Standard Solution, CRM** traceable to SRM from NIST 200 mg/l NO<sub>3</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 3822 00 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25040.0100	Plastic bottle	100 ml	inquire

**125041 Nitrite Standard Solution, CRM** traceable to SRM from NIST 0.200 mg/l NO<sub>2</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2834 10 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25041.0100	Plastic bottle	100 ml	inquire

**125042 Nitrite Standard Solution, CRM** traceable to SRM from NIST 40.0 mg/l NO<sub>2</sub>-N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2834 10 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25042.0100	Plastic bottle	100 ml	inquire

**125043 Nitrogen (total) Standard Solution, CRM** traceable to SRM from NIST 2.50 mg/l N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2922 49 85 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25043.0100	Plastic bottle	100 ml	inquire

**125044 Nitrogen (total) Standard Solution, CRM** traceable to SRM from NIST 12.0 mg/l N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2922 49 85 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25044.0100	Plastic bottle	100 ml	inquire

**125045 Nitrogen (total) Standard Solution, CRM** traceable to SRM from NIST 100 mg/l N in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2922 49 85 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25045.0100	Plastic bottle	100 ml	inquire

**125046 Phosphorus (total) Standard Solution, CRM** traceable to SRM from NIST 0.400 mg/l PO<sub>4</sub>-P (total) in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2931 90 90 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25046.0100	Plastic bottle	100 ml	inquire

**125047 Phosphorus (total) Standard Solution, CRM** traceable to SRM from NIST 4.00 mg/l PO<sub>4</sub>-P (total) in H<sub>2</sub>O

- Solub. in H<sub>2</sub>O (20 °C) soluble
- HS-No. 2931 90 90 ■ Disposal 28
- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.

Ord.No.	Packaging	Quantity	Price
1.25047.0100	Plastic bottle	100 ml	inquire

**125048 Phosphorus (total) Standard Solution, CRM** traceable to SRM from NIST 15.0 mg/l PO<sub>4</sub>-P (total) in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2931 90 90 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25048.0100	Plastic bottle	100 ml	inquire

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
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W  
X  
Y  
Z

# Standa

## 125049 Phosphorus (total) Standard Solution, CRM traceable to SRM from NIST 75.0 mg/l PO<sub>4</sub>-P (total) in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2931 90 90 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25049.0100	Plastic bottle	100 ml	inquire

## 125050 Sulfate Standard Solution, CRM traceable to SRM from NIST 40 mg/l SO<sub>4</sub> in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2833 11 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25050.0100	Plastic bottle	100 ml	inquire

## 125051 Sulfate Standard Solution, CRM traceable to SRM from NIST 125 mg/l SO<sub>4</sub> in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2833 11 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25051.0100	Plastic bottle	100 ml	inquire

## 125052 Sulfate Standard Solution, CRM traceable to SRM from NIST 400 mg/l SO<sub>4</sub> in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2833 11 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25052.0100	Plastic bottle	100 ml	inquire

## 125053 Sulfate Standard Solution, CRM traceable to SRM from NIST 800 mg/l SO<sub>4</sub> in H<sub>2</sub>O

- WGK nwg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2833 11 00 ■ Disposal 28

Ord.No.	Packaging	Quantity	Price
1.25053.0100	Plastic bottle	100 ml	inquire

Standard samples for HPLC system qualification → Staphylococcus enrichment broth → page 104  
page 36

## Starch

(C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>)<sub>n</sub>  
*Amylum, Potato starch for determination of diastase*  
■ CAS-No. 9005-84-9 ■ EC-No. 232-686-4  
■ Solub. in H<sub>2</sub>O 50 g/l (90 °C) ■ pH value 6.0 - 7.5

(20 g/l, H<sub>2</sub>O, 25 °C) ■ Bulk density 300 kg/m<sup>3</sup>  
■ WGK 1  
■ LGK 10 - 13  
■ HS-No. 3505 10 90 ■ Disposal 3

This starch quality is degraded by acid hydrolysis to a mean molecular weight. It dissolves in hot water to form a clear 2% solution; turbidity occurs on cooling to room temperature.

## 101252 Starch soluble GR for analysis ISO

**Specification**  
Appearance (colour) ..... white  
Appearance (description) ..... fine powder  
pH-value (2 %; water) ..... 6.0 - 7.5  
Sensitivity ..... passes test  
Reducing matter (as maltose) ..... max 0.7%  
Sulfated ash ..... max 0.4%

Loss on drying (105 °C, 2 h) ..... max 10%  
Suitability as enzyme substrate (for amylases) ..... passes test  
Iso reagent

Ord.No.	Packaging	Quantity	Price
1.01252.0100	Plastic bottle	100 g	inquire
1.01252.0250	Plastic bottle	250 g	inquire
1.01252.1000	Plastic bottle	1 kg	inquire
1.01252.9025	Fibre carton	25 kg	inquire

## 101257 Starch soluble acc. to Zulkowsky GR for analysis

**Specification**  
Appearance (colour) ..... white  
Appearance (description) ..... fine powder  
pH-value (2 %; water) ..... 6.5 - 7.5  
Sensitivity ..... passes test  
Reducing matter (as maltose) ..... ≤ 1.0 %

Sulfated ash ..... ≤ 7.0 %  
Loss on drying (105 °C, 2 h) ..... ≤ 10.0 %  
Suitability as enzyme substrate (for amylases) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.01257.0050	Plastic bottle	50 g	inquire
1.01257.0250	Plastic bottle	250 g	inquire
1.01257.1000	Plastic bottle	1 kg	inquire

## 111685 Starch (from wheat) for biochemistry

(C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>)<sub>n</sub>  
*starch native from wheat*  
■ CAS-No. 9005-25-8 ■ EC-No. 232-679-6  
■ pH value 4 - 7 (100 g/l, H<sub>2</sub>O, 25 °C) (slurry)  
■ Bulk density 550 - 700 kg/m<sup>3</sup>  
■ Ignition temp. 400 °C  
■ WGK 1  
■ LGK 10 - 13

■ HS-No. 1108 11 00 ■ Disposal 3  
Natural starch with 70-80% amylopectin and 20-30% amylose.  
**Specification**  
Reducing sugars (as maltose) ..... ≤ 0.5 %  
Heavy metals (as Pb) ..... ≤ 0.001 %  
Sulfated ash ..... ≤ 1.0 %

Loss on drying ..... ≤ 13 %

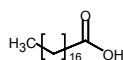
Ord.No.	Packaging	Quantity	Price
1.11685.0250	Plastic bottle	250 g	inquire
1.11685.1000	Plastic bottle	1 kg	inquire

Starch native from weath → Starch (from wheat)  
page 1500

Starch paper → Potassium iodide-starch paper page  
81

Starting zone (Concentration zone) → page 13

## 800673 Stearic acid for synthesis

C<sub>18</sub>H<sub>36</sub>O<sub>2</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>16</sub>COOH

■ CAS-No. 57-11-4 ■ EC-No. 200-313-4

■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C)

■ Flash point 196 °C ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 284.48 g/mol

■ Melting point 68 - 70 °C

- Bulk density 400 - 500 kg/m<sup>3</sup>
- Boiling point 370 °C (1013 hPa)
- Ignition temp. 395 °C
- WGK nwg
- LD50 oral rat > 5000 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2915 70 50

**Specification**

Assay (GC, area%) ..... ≥ 97 %

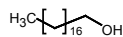
Melting range

- (lower value) ..... ≥ 68 °C  
 - (upper value) ..... ≤ 70 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00673.0500	Plastic bottle	500 g	inquire
8.00673.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

Stearic acid ethyl ester → Ethyl stearate page 884

## 807680 Stearyl alcohol for synthesis

C<sub>18</sub>H<sub>38</sub>O

■ CAS-No. 112-92-5 ■ EC-No. 204-017-6

■ Vapour pressure &lt; 1 hPa (20 °C)

■ Spec. density 0.805 - 0.815 g/cm<sup>3</sup> (60 °C)

■ Flash point 195 °C ■ Solub. in

H<sub>2</sub>O (20 °C) practically insoluble ■ M = 270.49 g/mol

mol ■ Melting point 55 - 60 °C

■ Bulk density 300 kg/m<sup>3</sup>

■ Boiling point 330 - 360 °C (1013 hPa)

■ Ignition temp. 230 °C DIN 51794

■ WGK nwg

■ LD50 oral rat &gt; 2000 mg/kg

■ LGK 10 - 13

■ HS-No. 2905 17 00

**Specification**

Assay (GC, area%) ..... ≥ 96,0 Area %

Melting range (lower value) ..... ≥ 56 °C

Melting range (upper value) ..... ≤ 59 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07680.0100	Plastic bottle	100 g	inquire
8.07680.1000	Plastic bottle	1 kg	inquire

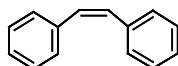
Stearylamine → Octadecylamine page 1239

Stearyl chloride → 1-Chlorooctadecane page 626

Stearyl mercaptane → 1-Octadecanethiol page 1238

Steglich's reagent → 4,6-Diphenylthieno(3,4-d)-1,3-dioxol-2-one-5,5-dioxide page 821

## 821072 cis-Stilbene for synthesis

C<sub>14</sub>H<sub>12</sub>C<sub>6</sub>H<sub>5</sub>CH=CHC<sub>6</sub>H<sub>5</sub>*cis*-1,2-Diphenylethylene

■ CAS-No. 645-49-8 ■ EC-No. 211-445-7

■ Refractive index 1.622 (20 °C, 589 nm) ■ Vapour

pressure < 0.01 hPa (25 °C) ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Flash point > 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 180.24 g/mol

■ Melting point 2 - 3 °C

■ Boiling point 147 - 148 °C (20 hPa)

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2902 90 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 95,0 % (a/a)

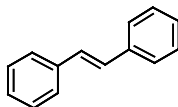
Density (d 20 °C/ 4 °C) ..... 1.020 - 1.022

trans Stilben (GC, area%) ..... ≤ 5,0 % (a/a)

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21072.0005	Glass bottle	5 ml	inquire

## 814152 trans-Stilbene for synthesis

C<sub>14</sub>H<sub>12</sub>C<sub>6</sub>H<sub>5</sub>CH=CHC<sub>6</sub>H<sub>5</sub>*trans*-1,2-Diphenylethylene

■ CAS-No. 103-30-0 ■ EC-No. 203-098-5

■ Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.00029 g/l (25 °C) ■ M = 180.24 g/mol

■ Melting point 121 - 124 °C

■ Boiling point 306 - 307 °C (1013 hPa)

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2902 90 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 97,0 Area %

Melting range (lower value) ..... ≥ 122 °C

Melting range (upper value) ..... ≤ 125 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14152.0100	Plastic bottle	100 g	inquire

## 104318 Stopcock grease melting point 45-53°C

*Desiccator grease*■ Solub. in H<sub>2</sub>O (20 °C) insoluble

■ WGK nwg

■ LGK 10 - 13

■ HS-No. 3403 99 00 ■ Disposal 3

**Specification**

Solidification point ..... 50 - 58 °C

Ord.No.	Packaging	Quantity	Price
1.04318.0250	Plastic can	250 g	inquire
1.04318.1000	Plastic can	1 kg	inquire

Streptomyces griseus neutral proteinase → Pronase

E page 1366

Strip adapter → page 91

# Stront

## Strontium chloride hexahydrate

Cl<sub>2</sub>Sr \* 6 H<sub>2</sub>O  
 SrCl<sub>2</sub> \* 6 H<sub>2</sub>O  
 ■ CAS-No. 10025-70-4 ■ EC-No. 233-971-6  
 ■ Spec. density 1.95 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 2058 g/l (40 °C) ■ M = 266.62 g/mol  
 ■ pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 25 °C)

■ Melting point 61 °C ■ Bulk density 1050 kg/m<sup>3</sup>  
 ■ Boiling point 100 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1796 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2827 39 85 ■ Disposal 14  
 Pyrotechnics (red fire), manufacture of other strontium compounds



### 107865 Strontium chloride hexahydrate for analysis EMSURE® ACS

#### Specification

Assay (complexometric) ..... 99.0 - 103.0 %  
 Insoluble matter ..... ≤ 0.005 %  
 pH-value (5 %; water; 25 °C) ..... 5.0 - 7.0  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.002 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.001 %  
 Heavy metals as Pb ..... ≤ 0.0005 %  
 Ba (Barium) ..... ≤ 0.002 %

Ca (Calcium) ..... ≤ 0.05 %  
 Cu (Copper) ..... ≤ 0.0002 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.005 %  
 Mg (Magnesium) ..... ≤ 0.0002 %  
 Na (Sodium) ..... ≤ 0.01 %  
 Pb (Lead) ..... ≤ 0.0002 %

Corresponds to ACS

Ord.No.	Packaging	Quantity	Price
1.07865.0250	Plastic bottle	250 g	inquire
1.07865.1000	Plastic bottle	1 kg	inquire

### 107857 Strontium chloride hexahydrate for atomic absorption spectroscopy (max. 0.0005% Ca)

#### Specification

Assay (complexometric) ..... ≥ 99.0 %  
 Ba (Barium) ..... ≤ 0.01 %  
 Ca (Calcium) ..... ≤ 0.0005 %  
 Cu (Copper) ..... ≤ 0.0002 %  
 Fe (Iron) ..... ≤ 0.0005 %

K (Potassium) ..... ≤ 0.01 %  
 Mg (Magnesium) ..... ≤ 0.0002 %  
 Na (Sodium) ..... ≤ 0.01 %  
 Pb (Lead) ..... ≤ 0.0002 %  
 Zn (Zinc) ..... ≤ 0.0002 %

Ord.No.	Packaging	Quantity	Price
1.07857.0025	Glass bottle	25 g	inquire

Strontium, determination → Rhodizonic acid disodium salt page 1407

## Strontium nitrate

N<sub>2</sub>O<sub>6</sub>Sr  
 Sr(NO<sub>3</sub>)<sub>2</sub>  
 ■ CAS-No. 10042-76-9 ■ EC-No. 233-131-9  
 ■ Spec. density 2.986 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 660 g/l (20 °C) ■ M = 211.63 g/mol  
 ■ pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 570 °C ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ Boiling point 645 °C  
 ■ WGK 2  
 ■ GHS: Warning, Oxidising solid, Category 3, H272, P210  
 ■ LD50 oral rat 2750 mg/kg

■ LGK 5.1B  
 ■ HS-No. 2834 29 80 ■ Disposal 14  
 ■ ADR-RID UN 1507 Strontiumnitrat, 5.1, III  
 ■ IMDG-Code UN 1507 STRONTIUM NITRATE, 5.1, III  
 ■ IATA-DGR UN 1507 STRONTIUM NITRATE, 5.1, III



### 107872 Strontium nitrate for analysis EMSURE®

#### Specification

Assay (complexometric) ..... ≥ 99.0 %  
 pH-value (5 %; water) ..... 5.0 - 7.0  
 Chloride (Cl) ..... ≤ 0.001 %  
 Ba (Barium) ..... ≤ 0.01 %  
 Ca (Calcium) ..... ≤ 0.005 %

Cu (Copper) ..... ≤ 0.0002 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.005 %  
 Mg (Magnesium) ..... ≤ 0.005 %  
 Na (Sodium) ..... ≤ 0.005 %

Pb (Lead) ..... ≤ 0.0002 %

Ord.No.	Packaging	Quantity	Price
1.07872.0250	Plastic bottle	250 g	inquire

### 107871 Strontium nitrate anhydrous 99.99 Suprapur®

#### Specification

Purity (metallic) ..... ≥ 99.99 %  
 Assay (chelometric) ..... ≥ 99.0 %  
 Chloride (Cl) ..... ≤ 10 ppm  
 Phosphate (PO<sub>4</sub>) ..... ≤ 10 ppm  
 Sulphate ..... ≤ 10 ppm  
 Al (Aluminium) ..... ≤ 0.05 ppm  
 Ba (Barium) ..... ≤ 50 ppm  
 Ca (Calcium) ..... ≤ 5.0 ppm  
 Cd (Cadmium) ..... ≤ 0.010 ppm  
 Ce (Cerium) ..... ≤ 0.05 ppm  
 Co (Cobalt) ..... ≤ 0.010 ppm  
 Cr (Chromium) ..... ≤ 0.010 ppm

Cu (Copper) ..... ≤ 0.010 ppm  
 Eu (Europium) ..... ≤ 0.010 ppm  
 Fe (Iron) ..... ≤ 0.05 ppm  
 Hg (Mercury) ..... ≤ 0.01 ppm  
 K (Potassium) ..... ≤ 5.0 ppm  
 La (Lanthanum) ..... ≤ 0.010 ppm  
 Li (Lithium) ..... ≤ 1.0 ppm  
 Mg (Magnesium) ..... ≤ 0.50 ppm  
 Mn (Manganese) ..... ≤ 0.010 ppm  
 Na (Sodium) ..... ≤ 10 ppm  
 Ni (Nickel) ..... ≤ 0.010 ppm  
 Pb (Lead) ..... ≤ 0.010 ppm

Rb (Rubidium) ..... ≤ 5 ppm  
 Sc (Scandium) ..... ≤ 0.010 ppm  
 Sm (Samarium) ..... ≤ 0.010 ppm  
 Tl (Thallium) ..... ≤ 0.01 ppm  
 Y (Yttrium) ..... ≤ 0.010 ppm  
 Yb (Ytterbium) ..... ≤ 0.010 ppm  
 Zn (Zinc) ..... ≤ 0.010 ppm

Ord.No.	Packaging	Quantity	Price
1.07871.0050	Plastic bottle	50 g	inquire
1.07871.0250	Plastic bottle	250 g	inquire

## 109993 Strontium standard 1000 mg Sr, (SrCl<sub>2</sub> in 7% HCl) Titrisol®

■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290  
 ■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 12

■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

Determination method: Complexometric titration. (traceable of NIST - SRM 682) Accuracy of the method: +/- 2 mg

#### Specification

content (Sr) ..... 1000 mg / Ampoule

Ord.No.	Packaging	Quantity	Price
1.09993.0001	Plastic ampoule	1 amp	inquire

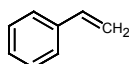
Strontium standard for aqueous matrices →  
 Strontium standard page 1502

Strontium standard for aqueous matrices ready for  
 use → page 1471





## 807679 Styrene (stabilised) for synthesis



$C_8H_8$   
 $C_6H_5CHCH_2$   
*Phenylethylene, Vinylbenzene*  
 ■ CAS-No. 100-42-5 ■ EC-No. 202-851-5  
 ■ Refractive index 1.5458 (20 °C, 589 nm)  
 ■ Vapour pressure 6 hPa (20 °C)  
 ■ Spec. density 0.906 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 8.9 % (V) ■ Flash point 31 °C ■ Solub. in H<sub>2</sub>O 0.24 g/l (20 °C) ■ M = 104.15 g/mol  
 ■ Saturation conc. 25.6 g/m<sup>3</sup> (20 °C)  
 ■ Melting point -31 °C ■ Boiling point 145 °C

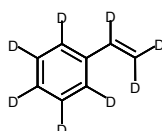
(1013 hPa) ■ Ignition temp. 480 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P210, P273, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LC50 rat 12 mg/l  
 ■ LD50 oral rat 2650 mg/kg  
 ■ EC-Index-No. 601-026-00-0 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2902 50 00 ■ Disposal 3  
 ■ ADR-RID UN 2055 Styren, monomer, stabilisiert, 3, III ■ IMDG-Code UN 2055 STYRENE MONOMER,

STABILIZED, 3, III  
 ■ IATA-DGR UN 2055 STYRENE MONOMER, STABILIZED, 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.905 - 0.907  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.07679.0100	Glass bottle	100 ml	inquire
8.07679.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.07679.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 815061 Styrene-D8 deuteration degree min. 98% for NMR spectroscopy MagniSolv™



$C_8D_8$   
*Phenylethylene, Vinylbenzene*  
 ■ CAS-No. 19361-62-7 ■ EC-No. 242-995-6  
 ■ Spec. density 0.979 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 31 °C ■ Solub. in H<sub>2</sub>O 0.24 g/l

(20 °C) ■ M = 112.2 g/mol  
 ■ Boiling point 50 - 51 °C (33 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat 12 mg/l  
 ■ LD50 oral rat 2650 mg/kg  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2845 90 10 ■ Disposal 3

■ ADR-RID UN 2055 Styren, monomer, stabilisiert, 3, III ■ IMDG-Code UN 2055 STYRENE MONOMER, STABILIZED, 3, III  
 ■ IATA-DGR UN 2055 STYRENE MONOMER, STABILIZED, 3, III

**Specification**  
 Deuteration degree ..... ≥ 98 %

Ord.No.	Packaging	Quantity	Price
8.15061.0001	Glass ampoule	1 ml	inquire
8.15061.0010	Glass ampoule	10 ml	inquire

Styrene-4-carboxylic acid → 4-Vinylbenzoic acid  
 page 1629

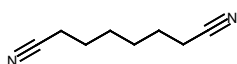
Styrene oxide → Epoxystyrene page 837

Suberone → Cycloheptanone page 668

Styrene epoxide → Epoxystyrene page 837

Suberic acid → Octanedioic acid page 1240

## 805216 Suberonitrile for synthesis



$C_8H_{12}N_2$   
 $NC(CH_2)_6CN$   
*Octanedinitrile, Octanedioic acid dinitrile*  
 ■ CAS-No. 629-40-3 ■ EC-No. 211-089-2  
 ■ Refractive index 1.4436 (20 °C, 589 nm)  
 ■ Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 8.5 - 29 % (V) ■ Flash point 175 °C ■ Solub.

in H<sub>2</sub>O (20 °C) insoluble ■ M = 136.2 g/mol  
 ■ Melting point -3 °C ■ Boiling point 184 - 186 °C (20 hPa) ■ Ignition temp. 455 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310  
 ■ LD50 oral rat 242 mg/kg  
 ■ LGK 6.1 C  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g. (KORKSAEUREDINITRIL), 6.1, III ■ IMDG-

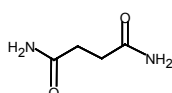
Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S. (SUBERONITRILE), 6.1, III  
 ■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S. (SUBERONITRILE), 6.1, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.931 - 0.933  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.05216.0100	Glass bottle	100 ml	inquire

Substituted alcohols → Alcohols

## 807990 Succinamide for synthesis



$C_4H_8N_2O_2$   
 $H_2NCOCH_2CH_2CONH_2$   
*Succinic acid amide, Succinic acid diamide*

■ CAS-No. 110-14-5 ■ EC-No. 203-739-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 116.12 g/mol ■ Melting point 263 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3

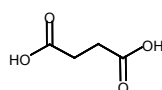
Melting range (lower value) ..... ≥ 260 °C  
 Melting range (upper value) ..... ≤ 265 °C  
 Identity (IR) ..... conforms

**Specification**  
 Assay (ex N) ..... ≥ 98.0 % (m)

Ord.No.	Packaging	Quantity	Price
8.07990.0100	Plastic bottle	100 g	inquire

Succinchlorimide → page 635

## Succinic acid



$C_4H_6O_4$   
 $HOOCCH_2CH_2COOH$

*Butanedioic acid*  
 ■ CAS-No. 110-15-6 ■ EC-No. 203-740-4  
 ■ Spec. density 1.56 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 206 °C ■ Solub. in H<sub>2</sub>O 58 g/l (20 °C)  
 ■ M = 118.09 g/mol ■ pH value 2.7 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 185 - 190 °C  
 ■ Bulk density 940 kg/m<sup>3</sup> ■ Boiling point 235 °C

(1013 hPa) ■ Ignition temp. 470 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 2260 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90 ■ Disposal 3

## 822260 Succinic acid for synthesis

**Specification**  
 Assay (acidimetric) ..... ≥ 99.0 %  
 Melting range (lower value) ..... ≥ 184 °C  
 Melting range (upper value) ..... ≤ 189 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22260.0250	Plastic bottle	250 g	inquire
8.22260.1000	Plastic bottle	1 kg	inquire

# Succin

## 100682 Succinic acid for analysis EMSURE®

### Specification

Assay (acidimetric, calc. on anhydrous substance)..... ≥ 99.5 %  
 Identity (IR)..... passes test  
 Appearance of solution (5 %; water)..... Clear to almost clear, colorless to almost colorless.  
 In water insoluble matter..... ≤ 50 ppm

Melting point..... 185.0 - 190.0 °C  
 Heavy metals (as lead)..... ≤ 5 ppm  
 Chloride (Cl)..... ≤ 5 ppm  
 Sulfate (SO<sub>4</sub>)..... ≤ 50 ppm  
 Fe (Iron)..... ≤ 5 ppm  
 NH<sub>4</sub> (Ammonium)..... ≤ 10 ppm  
 Fumaric acid (HPLC)..... ≤ 5000 ppm

Sulfated ash (800 °C)..... ≤ 200 ppm  
 Water (according to Karl Fischer)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.00682.0250	Plastic bottle	250 g	inquire

Succinic acid amide → Succinamide page 1503

Succinic acid dialdehyde dimethyl acetal → 2,5-Dimethoxytetrahydrofuran page 773

Succinic acid diamide → Succinamide page 1503

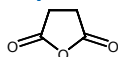
Succinic acid dichloride → Succinyl dichloride page 1504

Succinic acid diethyl ester → page 749

Succinic acid dimethyl ester → Dimethyl succinate page 802

Succinic acid disodium salt → di-Sodium succinate page 1451

## Succinic anhydride



C<sub>4</sub>H<sub>4</sub>O<sub>3</sub>

■ CAS-No. 108-30-5 ■ EC-No. 203-570-0  
 ■ Vapour pressure 1.3 hPa (92 °C)  
 ■ Spec. density 1.48 g/cm<sup>3</sup> (20 °C)

■ Flash point 157 °C ■ Solub. in H<sub>2</sub>O 67 g/l (20 °C) Hydrolysis ■ M = 100.07 g/mol  
 ■ pH value 2.7 (20 g/l, H<sub>2</sub>O)  
 ■ Melting point 116 - 120 °C  
 ■ Bulk density 550 - 600 kg/m<sup>3</sup>  
 ■ Boiling point 261 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P305 + P351 + P338  
 ■ LD50 oral rat 1510 mg/kg  
 ■ EC-Index-No. 607-103-00-5 ■ LGK 10 - 13  
 ■ HS-No. 2917 19 90

## 800683 Succinic anhydride for synthesis

### Specification

Assay (morpholine method)..... ≥ 98,0 % (m)  
 Identity (IR)..... conforms  
 Melting range (lower value)..... ≥ 116 °C  
 Melting range (upper value)..... ≤ 120 °C

Ord.No.	Packaging	Quantity	Price
8.00683.0100	Plastic bottle	100 g	inquire
8.00683.0500	Plastic bottle	500 g	inquire
8.00683.1000	Plastic bottle	1 kg	inquire
8.00683.9050	Fibre carton	50 kg	inquire

## 845010 Succinic anhydride for pharma synthesis, non-GMP

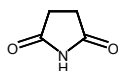
### Specification

Colour (visual)..... white  
 Appearance of substance (visual)..... scales  
 Assay (morpholine method)..... ≥ 98 %  
 Melting range

- (lower value)..... ≥ 116 °C  
 - (upper value)..... ≤ 120 °C  
 Identity (IR)..... passes test  
 Pd (Palladium) (ICP MS)..... ≤ 1 ppm

Ord.No.	Packaging	Quantity	Price
8.45010.0100	Plastic bottle	100 g	inquire
8.45010.1000	Plastic bottle	1 kg	inquire

## 807971 Succinimide for synthesis



C<sub>4</sub>H<sub>5</sub>NO<sub>2</sub>

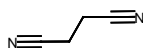
■ CAS-No. 123-56-8 ■ EC-No. 204-635-6  
 ■ Vapour pressure < 1 hPa (50 °C)  
 ■ Spec. density 1.4 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 201 °C ■ Solub. in H<sub>2</sub>O 330 g/l

(20 °C) ■ M = 99.08 g/mol ■ pH value 4 - 6 (200 g/l, H<sub>2</sub>O) ■ Melting point 121 - 124 °C  
 ■ WGK 2  
 ■ LD50 oral rat 14000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2925 19 95 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 120 °C

Melting range (upper value)..... ≤ 126 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07971.0250	Plastic bottle	250 g	inquire
8.07971.1000	Plastic bottle	1 kg	inquire

## 822143 Succinodinitrile for synthesis



C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>

NCCH<sub>2</sub>CH<sub>2</sub>CN  
 Succinodinitrile  
 ■ CAS-No. 110-61-2 ■ EC-No. 203-783-9  
 ■ Vapour pressure 7.98 hPa (125 °C)  
 ■ Spec. density 0.985 g/cm<sup>3</sup> ■ Flash point 132 °C

■ Solub. in H<sub>2</sub>O 128 g/l (20 °C) ■ M = 80.09 g/mol  
 ■ Melting point 52 - 57 °C  
 ■ Boiling point 265 - 267 °C  
 ■ WGK 1  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 450 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3

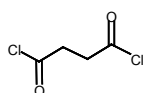
**Specification**  
 Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 52 °C  
 Melting range (upper value)..... ≤ 57 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22143.0250	Glass bottle	250 g	inquire

Succinonitrile → Succinodinitrile page 1504

Succinylbis(dimethylamide) → N,N,N',N'-Tetramethylsuccinylidiamide page 1544

## 800678 Succinyl dichloride for synthesis



C<sub>4</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub>

ClCOCH<sub>2</sub>CH<sub>2</sub>COCl  
 Succinic acid dichloride  
 ■ CAS-No. 543-20-4 ■ EC-No. 208-838-0  
 ■ Refractive index 1.4691 (20 °C, 589 nm)  
 ■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 76 °C ■ Solub. in

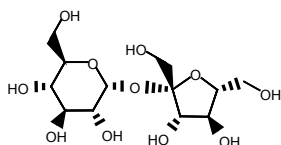
H<sub>2</sub>O (20 °C) (decomposition) ■ M = 154.98 g/mol  
 ■ Melting point 20 °C ■ Boiling point 190 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2917 19 90 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(BERNSTEINSAEUREDICHLORID), 8, II  
 ■ IMDG-Code UN 3265 CORROSIVE LIQUID,

ACIDIC, ORGANIC, N.O.S.(SUCCINYL DICHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(SUCCINYL DICHLORIDE), 8, II

**Specification**  
 Assay (morpholine method)..... ≥ 95,0 % (m)  
 Density (d 20 °C/ 4 °C)..... 1,375 - 1,385  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00678.0050	Glass bottle	50 ml	inquire

## 107687 Sucrose (saccharose) for biochem. Reag. Ph Eur

C<sub>12</sub>H<sub>22</sub>O<sub>11</sub>

Cane sugar, Saccharose

- CAS-No. 57-50-1 ■ EC-No. 200-334-9
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 342.29 g/mol
- pH value 7 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 169 - 170 °C
- Bulk density 800 - 950 kg/m<sup>3</sup>
- WGK nwg

- LD50 oral rat 29700 mg/kg
- LGK 10 - 13
- HS-No. 1701 99 10 ■ Disposal 3

## Specification

Identity..... passes test  
 Spec. rotation (α 20/D; 26 %; water). 66.3 - 67.0 °  
 Appearance of solution (50 %; water) .. passes test  
 Colour number (Ph. Eur.)..... ≤ 45  
 Acidity or alkalinity ..... passes test  
 Electrical conductivity..... ≤ 35 μS/cm  
 Sulfite (as SO<sub>2</sub>)..... ≤ 0.0010 %  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 Pb (Lead)..... ≤ 0.00005 %  
 TLC-Test..... passes test  
 Dextrins..... passes test

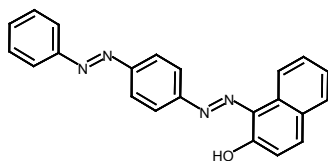
Reducing sugars / invert sugar..... passes test  
 Sulfated ash..... ≤ 0.02 %  
 Loss on drying (105 °C)..... ≤ 0.1 %  
 Endotoxins..... < 250I.U./g  
 Organic volatile impurities (according to NF)..... conforms  
 Residual solvents (Ph Eur/NF) class 3..... ≤ 0.5 %  
 Other residual solvents (Ph Eur/ NF)..... excluded by production process

Ord.No.	Packaging	Quantity	Price
1.07687.0250	Plastic bottle	250 g	inquire
1.07687.1000	Plastic bottle	1 kg	inquire
1.07687.5000	Plastic bottle	5 kg	inquire

Sucrose octaacetate → D-(+)-Saccharose octaacetate page 1409

Sucrose (Saccharose) Test → page 83

## 111747 Sudan III, C.I. 26100

C<sub>22</sub>H<sub>16</sub>N<sub>4</sub>O

- CAS-No. 85-86-9 ■ EC-No. 201-638-4
- M = 352.39 g/mol
- Melting point 199 °C (decomposition)
- WGK 3
- HS-No. 3204 19 00

## Specification

Identity (UV/VIS-Spectrum)..... passes test

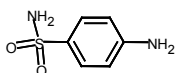
Absorption maximum λ<sub>max</sub> (toluene). 506 - 512 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.005 g/l; Toluol)..... ≥ 750  
 TLC-Test..... passes test  
 Loss on drying (110 °C)..... ≤ 2 %

Ord.No.	Packaging	Quantity	Price
1.11747.0025	Glass bottle	25 g	inquire

## Sugar analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
168	113136	Hydrochloric acid	1075	107414	Lead(II) hydroxide acetate			
169	113134	Hydrochloric acid	1134	104527	3-Methyl-2-benzothiazolinone-hydrazonehydrochloride			
Sulfamic acid → page 372			4-Sulfamylbenzoyl AM resin (100-200 mesh) → page 269			4-Sulfamylbutyryl NovaSyn® TG resin → page 262		
Sulfamic acid ammonium salt → Ammonium amidosulfonate page 408			4-Sulfamylbenzoyl NovaSyn® TG resin → page 269			4-Sulfamylbutyryl Rink Amide AM resin → page 262		
Sulfamidic acid → page 372			4-Sulfamylbutyryl AM NovaGel → page 262					
Sulfaminic acid → page 372			4-Sulfamylbutyryl AM resin → page 262					

## 111799 Sulfanilamide GR for analysis Reag. Ph Eur

C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>S

4-Aminobenzenesulfonamide

- CAS-No. 63-74-1 ■ EC-No. 200-563-4
- Spec. density 1.50 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 7.5 g/l (25 °C) ■ M = 172.2 g/mol ■ pH value 5.8 - 6.1 (5 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 163 - 167 °C
- Bulk density 500 kg/m<sup>3</sup>

- WGK 1
- LD50 oral rat 3900 mg/kg
- LGK 10 - 13
- HS-No. 2935 00 90 ■ Disposal 3

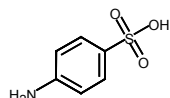
## Specification

Assay (bromometric, calc. on dried substance)..... ≥ 99%  
 Identity (IR-spectrum)..... passes test  
 Melting range (lower value)..... 163 - 166 °C  
 Melting range (upper value)..... 163 - 166 °C  
 Alkali-insoluble impurities..... passes test

Acid-insoluble impurities..... passes test  
 Chloride (Cl)..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.02 %  
 Heavy metals (as Pb)..... ≤ 0.002 %  
 Sulfated ash..... ≤ 0.1 %  
 Loss on drying (105 °C)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.11799.0100	Plastic bottle	100 g	inquire

## Sulfanilic acid

C<sub>6</sub>H<sub>7</sub>NO<sub>3</sub>SNH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H

4-Aminobenzenesulfonic acid, Aniline-4-sulfonic

acid

- CAS-No. 121-57-3 ■ EC-No. 204-482-5
- Spec. density 1.485 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 173.18 g/mol
- pH value 2.5 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 288 °C decomposes
- Bulk density 620 kg/m<sup>3</sup> ■ Ignition temp. >400 °C
- WGK 1

■ GHS: Warning, Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 12300 mg/kg  
 ■ EC-Index-No. 612-014-00-X ■ LGK 10 - 13  
 ■ HS-No. 2921 42 00 ■ Disposal 3

## 822338 Sulfanilic acid for synthesis

## Specification

Assay (acidimetric, calc. on anhydrous substance)..... ≥ 99.0 %  
 Water (K. F.)..... ≤ 2.0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22338.0100	Plastic bottle	100 g	inquire
8.22338.1000	Plastic bottle	1 kg	inquire



# Sulfan

## 100686 Sulfanilic acid GR for analysis ACS, Reag. Ph Eur

<b>Specification</b>	Nitrite (NO <sub>2</sub> )..... ≤ 0.5 ppm	Water (according to Karl Fischer)..... ≤ 0.7 %
Assay (acidimetric)..... 99.0 - 102.0 %	Sulphate (SO <sub>4</sub> )..... ≤ 0.01 %	
Identity (IR-spectrum)..... passes test	Heavy metals (as Pb)..... ≤ 0.001 %	
Matter insoluble in sodium carbonate solution.....	TLC-Test..... passes test	
..... ≤ 0.01 %	Sulfated ash..... ≤ 0.01 %	
Chloride (Cl)..... ≤ 0.002 %		

Ord.No.	Packaging	Quantity	Price
1.00686.0100	Plastic bottle	100 g	inquire
1.00686.0250	Plastic bottle	250 g	inquire

## 100684 Sulfanilic acid standard for elemental analysis for analysis

<b>Specification</b>	N-content (mean value fivefold determination).....	Water (according to Karl Fischer)..... ≤ 0.5 %
Identity (IR-spectrum)..... conforms	..... 7.9 - 8.3 %	Suitable for determination of C,H,N,O,S
C content (mean value fivefold determination).....	O content (mean value fivefold determination).....	
..... 41.4 - 41.8 %	..... 27.5 - 27.9 %	
H content (mean value fivefold determination).....	S content (mean value fivefold determination).....	
..... 4.0 - 4.2 %	..... 18.2 - 18.8 %	

Ord.No.	Packaging	Quantity	Price
1.00684.0005	Glass bottle	5 g	inquire

Sulfanilic acid sodium salt → Sodium sulfanilate dihydrate page 1451

## Sulfate, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1407	106595	Rhodizonic acid disodium salt	1555	108294	Thorin			
Sulfate Cell Test → page 83			Sulfate Powder Packs for photometers of other manufacturers. BR for 25-ml samples → page 83			Sulfate Powder Packs for photometers of other manufacturers for 10-ml samples → page 83		

## Sulfates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
368	101031	Aluminium ammonium sulfate dodecahydrate	656	102780	Copper(II) sulfate pentahydrate	1354	104885	Potassium hydrogen sulfate
			168	102784	Copper sulfate solution	1363	105092	Potassium peroxodisulfate
370	101047	Aluminium potassium sulfate dodecahydrate	830	106022	Dodecyl sulfate sodium salt	1363	105091	Potassium peroxodisulfate
			830	112533	Dodecyl sulfate sodium salt	165	105152	Potassium sulfate
409	102273	Ammonium cerium(IV) sulfate dihydrate	830	113760	Dodecyl sulfate sodium salt	1364	105153	Potassium sulfate
			963	104603	Hydrazinium sulfate	1423	101534	Silver sulfate
412	103776	Ammonium iron(III) sulfate dodecahydrate	985	104617	Hydroxylammonium sulfate	1423	101509	Silver sulfate
			168	102402	Iron(II) ethylenediammonium sulfate	1438	106352	Sodium hydrogen sulfate monohydrate
412	103792	Ammonium iron(II) sulfate hexahydrate	1039	103965	Iron(II) sulfate heptahydrate	166	106647	Sodium sulfate
			165	105697	Lithium sulfate monohydrate	1452	106649	Sodium sulfate
168	109864	Ammonium iron(II) sulfate solution	1084	105694	Lithium sulfate monohydrate	1451	822286	Sodium sulfate
			1089	106067	Magnesium sulfate anhydrous	1451	106639	Sodium sulfate
414	101200	Ammonium peroxodisulfate	1089	105886	Magnesium sulfate heptahydrate	1452	106648	Sodium sulfate decahydrate
414	101201	Ammonium peroxodisulfate				40	109872	Sulfate standard
164	101209	Ammonium sulfate	1096	105941	Manganese(II) sulfate monohydrate	40	119813	Sulfate standard solution
414	101217	Ammonium sulfate	1097	102786	Manganese(II) sulfate tetrahydrate	1558	107823	Tin(II) sulfate
414	101211	Ammonium sulfate				1558	112416	Tin(II) sulfate
416	101208	Ammonium thiosulfate	1106	104481	Mercury(II) sulfate	1642	108883	Zinc sulfate heptahydrate
433	101748	Barium sulfate	1106	104480	Mercury(II) sulfate	171	108879	Zinc sulfate solution
560	102027	Cadmium sulfate hydrate	1207	106726	Nickel(II) sulfate hexahydrate	171	109991	Zinc sulfate solution
560	845500	Cadmium sulfate hydrate	1207	106727	Nickel(II) sulfate hexahydrate			
565	102161	Calcium sulfate dihydrate	1244	112268	Octyl sulfate sodium salt			
168	109092	Cerium(IV) sulfate solution	1350	105107	Potassium disulfate (Potassium pyrosulfate)			
587	102274	Cerium(IV) sulfate tetrahydrate	1352	818401	Potassium hydrogen monopersulfate			
641	101036	Chromium(III) potassium sulfate dodecahydrate						
650	102556	Cobalt(II) sulfate heptahydrate						
656	102791	Copper(II) sulfate anhydrous						
656	102790	Copper(II) sulfate pentahydrate						

Sulfate standard for aqueous matrices → page 40	Sulfate Test → page 83	Sulfathiazol → N1-2-Thiazolylsulfanilamid page 1549
Sulfate standard for aqueous matrices ready for use → page 40	Sulfate Test Refill pack → page 83	

## Sulfide, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
798	103067	N,N-Dimethyl-1,4-phenylenediammonium dichloride						

Sulfide → Lead(II)acetate paper

## Sulfides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
415	105442	Ammonium sulfide solution	1191	112257	Molybdenum(IV) sulfide			
1039	103956	Iron(II) sulfide	1364	105134	Potassium sulfide			

Sulfides → Sulfur compounds

Sulfide Test Refill pack → page 84

Sulfite, determination → page 84

Sulfide Test → page 84

Sulfite Cell Test → page 84

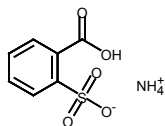
Sulfite iron agar → page 104

## Sulfites

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
415	801221	Ammonium sulfite	1434	106528	Sodium disulfite			
1350	105057	Potassium disulfite	1452	106657	Sodium sulfite			

Sulfite Test → page 84

## 821600 2-Sulfobenzoic acid ammonium salt for synthesis

C<sub>7</sub>H<sub>9</sub>NO<sub>5</sub>S2-(HOOC)C<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>NH<sub>4</sub>

■ CAS-No. 6939-89-5 ■ EC-No. 230-077-8

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 219.22 g/mol

mol ■ Melting point 274 - 277 °C

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2916 39 90

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

## Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value) ..... ≥ 274 °C

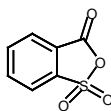
Melting range (upper value) ..... ≤ 277 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21600.0025	Glass bottle	25 g	inquire
8.21600.0100	Glass bottle	100 g	inquire

2-Sulfobenzoic acid imide sodium salt → Saccharin sodium salt dihydrate page 1409

## 841501 2-Sulfobenzoic anhydride for synthesis

C<sub>7</sub>H<sub>4</sub>O<sub>4</sub>S

■ CAS-No. 81-08-3 ■ EC-No. 201-322-6

■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)

■ M = 184.17 g/mol ■ Melting point 116 - 122 °C

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 8A

■ HS-No. 2916 39 90

■ ADR-RID UN 3261 Ätzender saurer organischer

fester Stoff, n.a.g.(2-SULFOBENZOEAEURE

ANHYDRID), 8, II ■ IMDG-Code UN 3261

CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-

SULPHOBENZOIC ANHYDRIDE), 8, II, Segregation

Group: 1 (Acids)

■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2-SULPHOBENZOIC ANHYDRIDE), 8, II

## Specification

Assay (morpholine method) ..... ≥ 96.0 %

Melting range (lower value) ..... ≥ 117 °C

Melting range (upper value) ..... ≤ 127 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41501.0025	Glass bottle	25 g	inquire

## 807993 Sulfolane for synthesis

C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>S

Tetrahydrothiophene 1,1-dioxide, Tetramethylene sulfone

■ CAS-No. 126-33-0 ■ EC-No. 204-783-1

■ Refractive index 1.484 (20 °C, 589 nm) ■ Vapour

pressure 0.035 hPa (30 °C) ■ Spec. density 1.26 g/

cm<sup>3</sup> (30 °C) ■ Dielectricity constant 44 (20 °C)

■ El. dipole moment 4.8 (20 °C)

■ Flash point 177 °C ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 120.17 g/mol

■ Melting point 26 °C ■ Boiling point 285 °C

(1013 hPa)

■ WGK 1

■ GHS: Warning, Acute toxicity, Category 4, Oral,

H302

■ LC50 rat 12 mg/l

■ LD50 oral rat 2006 mg/kg ■ LD50 dermal rat &gt;

2000 mg/kg

■ EC-Index-No. 016-031-00-8 ■ LGK 10 - 13

■ HS-No. 2934 99 90 ■ Disposal 3

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR UN 3334 AVIATION REGULATED LIQUID, N.O.S.(TETRAMETHYLENE SULFONE), 9, III

## Specification

Assay (GC, area%) ..... ≥ 99.0 Area %

Water (K. F.) ..... ≤ 0,20 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07993.0250	Glass bottle	250 ml	inquire
8.07993.1000	Glass bottle	1 l	inquire

## 807994 3-Sulfolene for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>2</sub>S

2,5-Dihydrothiophene 1,1-dioxide, Butadiene sulfone

■ CAS-No. 77-79-2 ■ EC-No. 201-059-7

■ Spec. density 1.31 g/cm<sup>3</sup> (15.6 °C)■ Flash point 112 °C ■ Solub. in H<sub>2</sub>O 130 g/l(20 °C) ■ M = 118.16 g/mol ■ pH value 7 (H<sub>2</sub>O)

■ Melting point 62 - 65 °C

■ Bulk density 840 kg/m<sup>3</sup>

■ WGK 1

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P262, P304 + P340, P305 + P351 + P338

■ LD50 oral rat 2547 mg/kg ■ LD50 dermal rabbit

&gt; 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2934 99 90 ■ Disposal 3

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR UN 3335 AVIATION REGULATED SOLID, N.O.S.(3-SULFOLENE), 9, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %

Melting range (lower value) ..... ≥ 63 °C

Melting range (upper value) ..... ≤ 66 °C

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.07994.0250	Plastic bottle	250 g	inquire

Sulfones → Sulfur compounds

Sulfonic acid amides → Sulfur compounds

Sulfonic acid anhydrides → Sulfonic acids and derivatives

Sulfonic acid chlorides → Sulfur compounds

Sulfonic acid esters → Sulfur compounds

Sulfonic acid resin MP → page 282

Sulfonic acid salts → Sulfonic acids and derivatives

Sulfonyl chloride polystyrene → page 283

3,3'-Sulfonyldianiline → 3,3'-Diaminodiphenyl sulfone page 695

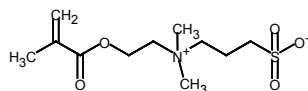
4,4'-Sulfonyldianiline → 4,4'-Diaminodiphenyl sulfone page 695

4,4'-Sulfonyldiphenol → Bis(4-hydroxyphenyl) sulfone page 473



# Sulfop

## 818484 N-(3-Sulfopropyl)-N-methacroyloxyethyl- N,N-dimethylammonium betaine for synthesis



C<sub>11</sub>H<sub>21</sub>NO<sub>5</sub>S  
SPE

■ CAS-No. 3637-26-1 ■ EC-No. 222-860-8

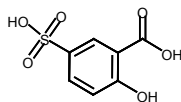
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 279.36 g/mol ■ pH value 6.3 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 147 - 149 °C
- Bulk density 400 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

### Specification

Assay (of S) ..... ≥ 98.0 %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18484.0100	Plastic bottle	100 g	inquire

## 800691 5-Sulfosalicylic acid dihydrate for synthesis



C<sub>7</sub>H<sub>6</sub>O<sub>6</sub>S \* 2 H<sub>2</sub>O

Salicylsulfonic acid

- CAS-No. 5965-83-3 ■ EC-No. 202-555-6
- Spec. density 0.8 g/cm<sup>3</sup> (20 °C)
- Flash point 150 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 254.22 g/mol
- pH value < 0.5 (200 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 120 °C (anhydrous substance)

- Bulk density 310 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 1850 mg/kg
- LGK 8A
- HS-No. 2918 29 00 ■ Disposal 4
- ADR-RID UN 2585 Arylsulfonsäuren, fest, 8, III
- IMDG-Code UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 2585 ARYLSULPHONIC ACIDS,

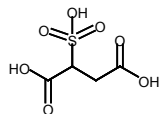
SOLID, 8, III

### Specification

Assay (acidimetric) ..... ≥ 99.0 %(m)  
Heavy metals (as Pb) ..... ≤ 0,001 %(m)  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00691.0100	Plastic bottle	100 g	inquire
8.00691.0250	Plastic bottle	250 g	inquire
8.00691.1000	Plastic bottle	1 kg	inquire

## 814413 Sulfosuccinic acid (70% solution in water) for synthesis



- Spec. density 1.46 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution)
- Boiling point 140 °C

- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2917 19 90 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(SULFOBERNSTEINSAEURE), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(SULFOFUMARYLIC ACID),

8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(SULFOFUMARYLIC ACID), 8, II

### Specification

Assay (acidimetric) ..... 68,0 - 70,0 %(m)  
Density (d 20 °C/ 4 °C) ..... 1,460 - 1,464

Ord.No.	Packaging	Quantity	Price
8.14413.0100	Glass bottle	100 ml	inquire

2-Sulfosuccinic acid di-N-hexyl ester sodium salt  
→ Dihexyl sodium sulfosuccinate page 756

Sulfoxides → Sulfur compounds

## Sulfur compounds

### Mercaptans

#### Aliphatic and araliphatic mercaptans

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
452	802226	Benzyl mercaptan	874	840111	2-(Ethylmercapto)-ethanol	1238	814444	1-Octadecanethiol
474	841684	Bis(methylthio)methane	938	841753	1-Heptanethiol	1241	821861	1-Octanethiol
534	801587	1-Butanethiol	946	822063	1-Hexadecanethiol	1269	841552	1,5-Pentanedithiol
535	801818	2-Butanethiol	982	841506	(2-Hydroxyethyl) phenyl sulfide	1270	841749	1-Pentanethiol
672	802884	Cyclohexanethiol	1118	841304	4-Methoxybenzyl mercaptan	1368	807529	1-Propanethiol
828	820544	1-Dodecanethiol	1173	821837	2-Methyl-2-propanethiol	1368	807532	2-Propanethiol
828	814912	tert-Dodecanethiol (mixture of isomers)	1181	841481	2-(Methylthio)-ethanol			
839	800796	Ethanethiol	1183	841168	3-(Methylthio)-propionaldehyde			

#### Aromatic and heterocyclic mercaptans

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
405	841602	4-Aminothiophenol	906	841428	4-Fluorothiophenol	1182	814976	2-Methylthiophenol
516	841392	2-Bromothiophenol	994	819054	1-Hydroxy-2-pyridinthione sodium salt	1183	821130	4-Methylthiophenol
516	841605	4-Bromothiophenol	1101	841473	2-Mercapto-1-methylimidazole	1198	820858	2-Naphthalenethiol
696	814702	4,5-Diamino-6-hydroxy-2-pyrimidinethiol hemisulfate-1,5-hydrate	1101	818125	2-Mercaptophenol	1315	840153	1-Phenyl-1H-tetrazole-5-thiol
732	814058	2,6-Dichlorothiophenol	1102	841397	6-Mercaptopurine monohydrate	1553	814879	Thiophene-2-sulfonyl chloride
769	840136	2,5-Dimercapto-1,3,4-thiadiazole	1102	841594	2-Mercaptopyrimidine	1553	808159	Thiophenol
794	841337	4,6-Dimethyl-2-mercaptopyrimidine	1127	841054	3-Methoxythiophenol			
850	814873	Ethyl-2-amino-benzo(b) thiophene-3-carboxylate	1181	841190	4-(Methylthio)benzaldehyde			

## Bifunctional mercaptans

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
391	814266	2-Amino-5-mercapto-1,3,4-thiadiazole	1367	821042	1,3-Propanedithiol	1553	841613	Thiosalicylic acid
681	802835	Cysteaminium chloride	1446	810595	Sodium 2-mercaptoethanesulfonate	1600	818818	3-(Trimethoxysilyl)-1-propanethiol
838	800795	1,2-Ethanedithiol	1549	808076	Thioacetic acid			
1101	841705	3-Mercapto-1,2-propanediol	1551	822336	Thioglycolic acid			

## Sulfides and disulfides

## Sulfides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
393	814460	3-Amino-5-(methylmercapto)-1H-1,2,4-triazole	630	841881	2-(4-Chlorophenylthio)benzaldehyde	820	821017	Diphenyl sulfide
454	841566	Benzyl phenyl sulfide	692	820050	Diallyl sulfide	822	841603	Dipropyl sulfide
473	814209	Bis(4-hydroxyphenyl)sulfide	710	820252	Dibutyl sulfide	1171	820825	Methyl phenyl sulfide
629	814889	4-Chlorophenyl-2-hydroxyethyl sulfide	803	820833	Dimethyl sulfide	1550	818449	4,4'-Thiobis(2-tert-butyl-5-methylphenol)

## Disulfides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
475	843264	Bis(2-nitrophenyl) disulfide	787	820791	Dimethyl disulfide	912	814609	Formamidine disulfide dihydrochloride
680	802834	Cystaminium dichloride	816	820989	Diphenyl disulfide	1152	843860	Methyl fufuryl disulfide
708	820242	Dibutyl disulfide	822	841617	Dipropyl disulfide	1531	841550	Tetraethylthiuram disulfide
311	843957	Diethyl disulfide	822	841109	2,2'-Dipyridyl disulfide			

## Sulfoxides and sulfones

## Sulfoxides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
702	803549	Dibenzyl sulfoxide	821	821018	Diphenyl sulfoxide	1171	814234	Methyl phenyl sulfoxide
803	802912	Dimethyl sulfoxide	1161	814899	Methyl-2-methyl-5-methylsulfonyl-4-(1-pyrrolyl)benzoate	1608	810165	Trimethylsulfoxoniumiodide

## Sulfones

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
465	821964	Bis(4-chlorophenyl) sulfone	695	821073	4,4'-Diaminodiphenyl sulfone	1186	841371	Methyl vinyl sulfone
471	841368	Bis(4-fluorophenyl) sulfone	803	803284	Dimethyl sulfone	1315	841195	Phenylsulfonylacetone
473	803258	Bis(4-hydroxyphenyl) sulfone	820	821872	Diphenyl sulfone	1568	818074	4-Toluenesulfonylmethyl isocyanide
695	814680	3,3'-Diaminodiphenyl sulfone	826	821215	Divinyl sulfone			

# Sulfur

## Sulfonic acids and derivatives

### Sulfonic acid esters and salts

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
353	818667	2-Acrylamido-2-methylpropanesulfonic acid	722	841262	3,5-Dichloro-2-hydroxybenzenesulfonic acid sodium salt	1201	106531	1,2-Naphthoquinone-4-sulfonic acid sodium salt
366	814906	3-Allyloxy-2-hydroxypropane sulfonate sodium salt	763	107998	1,8-Dihydroxy-2-(4-sulfophenylazo)naphthalene-3,6-disulfonic acid trisodium salt	1294	840015	Phenolsulfonic acid
390	100099	1-Amino-2-hydroxy-4-naphthalenesulfonic acid	172	103164	Eriochrome cyanine R (C.I. 43820)	1361	818662	Potassium nonafluoro-1-butanesulfonate
391	841035	Aminomethanesulfonic acid	839	820016	Ethanesulfonic acid	1388	841615	Pyridine-3-sulfonic acid
396	841535	4-Aminonaphthalene-1-sulfonic acid	885	808332	Ethyl 4-toluenesulfonate	1424	814325	Silver trifluoromethanesulfonate
396	821949	4-Aminonaphthalene-1-sulfonic acid sodium salt	893	111613	Ferrospectra <sup>®</sup>	1451	822145	Sodium sulfanilate dihydrate
421	841031	Anthraquinone-2-sulfonic acid sodium salt	946	841813	Hexadecane-1-sulfonic acid sodium salt	1505	822338	Sulfanilic acid
171	110107	Arsenazo III	975	814729	Hydroquinone monosulfonic acid potassium salt	173	100684	Sulfanilic acid
429	111962	Azomethine H	990	104593	Hydroxynaphthol blue	1507	841501	2-Sulfobenzoic anhydride
434	124518	Bathocuproinedisulfonic acid disodium salt	995	814436	8-Hydroxyquinoline-5-sulfonic acid monohydrate	1508	818484	N-(3-Sulfopropyl)-N-methacroyloxyethyl- N,N-dimethylammonium betaine
437	802193	1,3-Benzenedisulfonic acid disodium salt	1002	104724	Indigo carmine (C.I. 73015)	1519	808616	Taurine
437	845004	Benzenesulfonic acid	1089	108712	Magnesium reagent	1555	108294	Thorin
437	800468	Benzenesulfonic acid	1110	814637	Methanesulfonic acid	1560	101307	Titan yellow (C.I. 19540)
499	818868	2-Bromoethanesulfonic acid sodium salt	1110	845044	Methanesulfonic acid	1566	814725	Toluene-4-sulfonic acid monohydrate
534	841661	Butane-1-sulfonic acid sodium salt	1110	806022	Methanesulfonic acid	1567	818000	Toluene 4-sulfonic acid silver salt
546	818313	tert-Butyldimethylsilyl trifluoromethanesulfonate	1180	820835	N-Methyltaurine	1567	821125	Toluene-4-sulfonic acid sodium salt
567	840094	(1R)-(-)-Camphor-10-sulfonic acid	1184	808333	Methyl-4-toluenesulfonate	1591	821166	Trifluoromethanesulfonic acid
610	814501	2-Chloroethanesulfonic acid sodium salt monohydrate	1185	818035	Methyl trifluoromethanesulfonate	1608	818129	Trimethylsilyl trifluoromethanesulfonate
172	102498	Chromotropic acid disodium salt dihydrate	1198	840104	1,5-Naphthalenedisulfonic acid	1641	108739	Zincon
686	841036	Decane-1-sulfonic acid sodium salt	1198	820853	1-Naphthalenesulfonic acid			

### Sulfonic acid chlorides and anhydrides

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
332	841026	4-Acetamidobenzenesulfonyl chloride	802	803526	N,N-Dimethylsulfamoyl chloride	1553	814879	Thiophene-2-sulfonyl chloride
437	800470	Benzenesulfonyl chloride	1110	818034	Methanesulfonic anhydride	1567	808326	4-Toluenesulfonyl chloride
490	820184	4-Bromobenzenesulfonyl chloride	1110	806021	Methanesulfonyl chloride	1592	818043	Trifluoromethanesulfonic anhydride
610	841045	2-Chloroethanesulfonyl chloride	1198	806213	2-Naphthalenesulfonyl chloride	1592	818292	Trifluoromethanesulfonyl chloride
617	814837	Chloromethanesulfonyl chloride	1309	821127	Phenylmethanesulfonyl chloride	1597	810591	2,4,6-Triisopropylbenzenesulfonyl chloride
723	841068	3,5-Dichloro-2-hydroxybenzenesulfonyl chloride	1368	841009	2-Propane sulfonyl chloride	1602	814055	2,4,6-Trimethylbenzenesulfonyl chloride

### Sulfonic acid amides and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
372	814483	Amidosulfuric acid	571	843093	4-Carboxybenzenesulfonamide	1256	814388	(1S)-(-)-3-Oxocamphorsulfonylimine
437	821959	Benzenesulfonamide	592	818705	Chloramine T trihydrate	1505	111799	Sulfanilamide
566	814564	(1S)-(+)-Camphorlactone-sulfonyloxaziridine	802	803526	N,N-Dimethylsulfamoyl chloride	1508	800691	5-Sulfosalicylic acid dihydrate
568	814372	D-(-)-Camphorsulfonylimine	885	843970	N-Ethyltoluene-4-sulfonamide	1566	808230	4-Toluenesulfonamide
568	814397	(1S,2R)-(-)-2,10-Camphorsultame	1109	840001	Methanesulfonamide			

## Thiocyanates and isothiocyanates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
366	800260	Allyl isothiocyanate	905	841066	4-Fluorophenyl isothiocyanate	1170	818740	4-Methylphenyl isothiocyanate
452	843250	Benzyl isothiocyanate	932	820613	Guanidinium thiocyanate	1181	821841	Methyl thiocyanate
455	820148	Benzyl thiocyanate	1125	818745	4-Methoxyphenyl isothiocyanate	1228	841342	4-Nitrophenyl isothiocyanate
621	818853	Chloromethyl thiocyanate	1158	841453	Methyl isothiocyanate	1301	841419	1,4-Phenylene diisothiocyanate
806	810167	N,N-Dimethylthioformamide	1170	818738	2-Methylphenyl isothiocyanate	1304	841742	2-Phenylethyl isothiocyanate
873	820035	Ethyl isothiocyanate	1170	818739	3-Methylphenyl isothiocyanate	1308	807028	Phenyl isothiocyanate

## Thiourea and derivatives

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
367	808158	N-Allylthiourea	821	803581	N,N'-Diphenylthiourea	1544	841854	Tetramethylthiourea
388	820064	S-(2-Aminoethyl)thiouonium bromide hydrobromide	172	103092	Dithizone	1549	108180	2-Thiobarbituric acid
390	820082	Aminoiminomethanesulfonic acid	1183	820837	N-Methylthiourea	1554	108156	Thiosemicarbazide
710	820423	N,N'-Dibutylthiourea	1183	805706	S-Methylthiouonium sulfate	1555	845501	Thiourea
750	803520	N,N'-Diethylthiourea	1315	814443	4-Phenylthiosemicarbazide	1554	818591	Thiourea
806	821399	N,N'-Dimethylthiourea	1407	100629	Rubeanic acid	1554	107979	Thiourea

## Other sulfur compounds

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
371	818383	Amantadine sulfate	830	822050	Dodecyl sulfate sodium salt	1394	107495	Pyrrrolidine-1-dithiocarboxylic acid ammonium salt
474	814541	1,1-Bis(methylthio)-2-nitroethylene	871	840112	2-Ethylhexyl thioglycolate	1432	822006	Sodium cyclamate
635	845127	Chlorosulfonic acid	887	821911	S-Ethyl trifluorothioacetate	1432	106689	Sodium diethyldithiocarbamate trihydrate
635	800220	Chlorosulfonic acid	932	822061	Guanidinium sulfate	1438	806356	Sodium hydrogen sulfite
739	818198	Diethylaminosulfur trifluoride	984	820673	Hydroxylamine-O-sulfonic acid	1451	822286	Sodium sulfate
742	818087	O,O-Diethyl dithiophosphate	1049	840110	Isooctylthioglycolate	1516	807997	Sulfuryl chloride
750	803105	Diethyl sulfate	1182	820765	Methyl thioglycolate	1545	840135	Tetramethylthiuram disulfide
802	803071	Dimethyl sulfate	1299	820343	O-Phenyl chlorothioformate	1549	108170	Thioacetamide
803	803639	Dimethyl sulfite	1322	821024	di-Phosphorus pentasulfide	1551	808154	Thionyl chloride
820	818138	S,S-Diphenylsulfimine monohydrate	1350	820744	Potassium-O-ethylthiocarbonate	1608	818119	Trimethylsulfonium iodide
824	814179	Disulfur dichloride	1365	841002	Potassium thioacetate	1612	841711	Triphenylphosphine sulfide

## 100716 Sulfuric acid 25% for analysis EMSURE®

■ Spec. density 1.18 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (development of heat) ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid  
 ■ Boiling point 103 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2796 Schwefelsäure, 8, II ■ IMDG-Code UN 2796 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2796 SULPHURIC ACID, 8, II  
**Specification**  
 Assay (alkalimetric) ..... ≥ 25.0 %  
 Colour ..... ≤ 10 Hazen  
 Chloride (Cl) ..... ≤ 0.5 ppm

Nitrate (NO<sub>3</sub>) ..... ≤ 0.2 ppm  
 Ag (Silver) ..... ≤ 0.020 ppm  
 Al (Aluminium) ..... ≤ 0.050 ppm  
 As (Arsenic) ..... ≤ 0.010 ppm  
 Ba (Barium) ..... ≤ 0.050 ppm  
 Be (Beryllium) ..... ≤ 0.010 ppm  
 Bi (Bismuth) ..... ≤ 0.100 ppm  
 Ca (Calcium) ..... ≤ 0.200 ppm  
 Cd (Cadmium) ..... ≤ 0.020 ppm  
 Co (Cobalt) ..... ≤ 0.010 ppm  
 Cr (Chromium) ..... ≤ 0.050 ppm  
 Cu (Copper) ..... ≤ 0.010 ppm  
 Fe (Iron) ..... ≤ 0.100 ppm  
 Ge (Germanium) ..... ≤ 0.050 ppm  
 K (Potassium) ..... ≤ 0.100 ppm  
 Li (Lithium) ..... ≤ 0.010 ppm  
 Mg (Magnesium) ..... ≤ 0.050 ppm  
 Mn (Manganese) ..... ≤ 0.010 ppm  
 Mo (Molybdenum) ..... ≤ 0.050 ppm

NH<sub>4</sub> (Ammonium) ..... ≤ 2 ppm  
 Na (Sodium) ..... ≤ 0.500 ppm  
 Ni (Nickel) ..... ≤ 0.020 ppm  
 Pb (Lead) ..... ≤ 0.020 ppm  
 Sr (Strontium) ..... ≤ 0.010 ppm  
 Ti (Titanium) ..... ≤ 0.100 ppm  
 Tl (Thallium) ..... ≤ 0.050 ppm  
 V (Vanadium) ..... ≤ 0.010 ppm  
 Zn (Zinc) ..... ≤ 0.100 ppm  
 Zr (Zirconium) ..... ≤ 0.100 ppm  
 Substances reducing potassium permanganate (as SO<sub>2</sub>) ..... ≤ 2 ppm  
 Residue on ignition ..... ≤ 5 ppm

Ord.No.	Packaging	Quantity	Price
1.00716.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

## 109286 Sulfuric acid 40% for determination of gas metabolism acc. to Knipping

■ Spec. density 1.30 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid  
 ■ Melting point -68 °C ■ Boiling point 119 °C  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309

+ P310  
 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2796 Schwefelsäure, 8, II ■ IMDG-Code UN 2796 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2796 SULPHURIC ACID, 8, II

**Specification**  
 Assay (alkalimetric) ..... 39.5 - 40.5 %  
 Substances reducing potassium permanganate (as SO<sub>2</sub>) ..... ≤ 10 ppm

Ord.No.	Packaging	Quantity	Price
1.09286.2500	Glass bottle	2.5 l	inquire

## 480531 Sulfuric acid 62% for analysis, for the determination of fat in cheese (d 1.52)

■ Spec. density 1.52 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309

+ P310  
 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 12  
 ■ ADR-RID UN 1830 Schwefelsäure, 8, II ■ IMDG-Code UN 1830 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1830 SULPHURIC ACID, 8, II

**Specification**  
 Assay (alkalimetric) ..... 61.5 - 62.5 %

Ord.No.	Packaging	Quantity	Price
4.80531.1000	Plastic bottle	1 l	inquire
4.80531.2500	Plastic bottle	2.5 l	inquire

## 100729 Sulfuric acid 90-91% for Gerber fat determination and determination of nitrates in milk

■ Spec. density 1.81 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid  
 ■ Boiling point 300 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B

■ HS-No. 2807 00 00 ■ Disposal 12  
 ■ ADR-RID UN 1830 Schwefelsäure, 8, II ■ IMDG-Code UN 1830 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1830 SULPHURIC ACID, 8, II

**Specification**  
 Assay (acidimetric) ..... 90.0 - 91.0 %  
 Density (20 °C) ..... 1.815 - 1.821 g/ml  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.2 ppm

Test for oily and fatty substances ..... passes test

Ord.No.	Packaging	Quantity	Price
1.00729.0500	Glass bottle	500 ml	inquire
1.00729.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00729.9025	Plastic container	25 l	inquire

# Sulfur

## Sulfuric acid 95-97%

H<sub>2</sub>O<sub>4</sub>S  
H<sub>2</sub>SO<sub>4</sub>  
 ■ CAS-No. 7664-93-9 ■ EC-No. 231-639-5  
 ■ Vapour pressure 0.0001 hPa (20 °C)  
 ■ Spec. density 1.84 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ M = 98.08 g/mol ■ pH value 0.3 (49 g/l),

H<sub>2</sub>O, 25 °C) ■ Melting point -20 °C  
 ■ Boiling point 335 °C  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ EC-Index-No. 016-020-00-8 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 12  
 ■ ADR-RID UN 1830 Schwefelsäure, 8, II ■ IMDG-Code UN 1830 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1830 SULPHURIC ACID, 8, II

### 101833 Sulfuric acid 95-97% for analysis EMPARTA® ACS

#### Specification

Assay (alkalimetric) ..... 95.0 - 97.0 %  
 Identity ..... passes test  
 Appearance ..... passes test  
 Colour ..... ≤ 10 Hazen  
 Chloride (Cl) ..... ≤ 0.2 ppm  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.5 ppm

Heavy metals (as Pb) ..... ≤ 1 ppm  
 As (Arsenic) ..... ≤ 0.01 ppm  
 Fe (Iron) ..... ≤ 0.2 ppm  
 Hg (Mercury) ..... ≤ 0.005 ppm  
 NH<sub>4</sub> (Ammonium) ..... ≤ 2 ppm  
 Substances reducing potassium permanganate (as

SO<sub>2</sub>) ..... ≤ 2 ppm  
 Residue on ignition ..... ≤ 5 ppm

Ord.No.	Packaging	Quantity	Price
1.01833.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

### 100732 Sulfuric acid 95-97% for analysis (max. 0.005 ppm Hg) EMSURE® ACS,ISO,Reag. Ph Eur

#### Specification

Assay (alkalimetric) ..... 95.0 - 97.0 %  
 Colour ..... ≤ 10 Hazen  
 Appearance ..... passes test  
 Density (d 20/20) ..... 1.834 - 1.837  
 Chloride (Cl) ..... ≤ 0.1 ppm  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.2 ppm  
 Phosphate (PO<sub>4</sub>) ..... ≤ 0.5 ppm  
 Heavy metals (as Pb) ..... ≤ 1 ppm  
 Ag (Silver) ..... ≤ 0.02 ppm  
 Al (Aluminium) ..... ≤ 0.05 ppm  
 As (Arsenic) ..... ≤ 0.01 ppm  
 Ba (Barium) ..... ≤ 0.05 ppm  
 Be (Beryllium) ..... ≤ 0.01 ppm  
 Bi (Bismuth) ..... ≤ 0.1 ppm  
 Ca (Calcium) ..... ≤ 0.2 ppm  
 Cd (Cadmium) ..... ≤ 0.02 ppm

Co (Cobalt) ..... ≤ 0.01 ppm  
 Cr (Chromium) ..... ≤ 0.05 ppm  
 Cu (Copper) ..... ≤ 0.01 ppm  
 Fe (Iron) ..... ≤ 0.1 ppm  
 Ge (Germanium) ..... ≤ 0.05 ppm  
 Hg (Mercury) ..... ≤ 0.005 ppm  
 K (Potassium) ..... ≤ 0.1 ppm  
 Li (Lithium) ..... ≤ 0.01 ppm  
 Mg (Magnesium) ..... ≤ 0.05 ppm  
 Mn (Manganese) ..... ≤ 0.01 ppm  
 Mo (Molybdenum) ..... ≤ 0.05 ppm  
 NH<sub>4</sub> (Ammonium) ..... ≤ 2 ppm  
 Na (Sodium) ..... ≤ 0.5 ppm  
 Ni (Nickel) ..... ≤ 0.02 ppm  
 Pb (Lead) ..... ≤ 0.02 ppm  
 Sr (Strontium) ..... ≤ 0.02 ppm

Ti (Titanium) ..... ≤ 0.1 ppm  
 Tl (Thallium) ..... ≤ 0.05 ppm  
 V (Vanadium) ..... ≤ 0.01 ppm  
 Zn (Zinc) ..... ≤ 0.05 ppm  
 Zr (Zirconium) ..... ≤ 0.1 ppm  
 Substances reducing potassium permanganate (as SO<sub>2</sub>) ..... ≤ 2 ppm  
 Residue on ignition ..... ≤ 5 ppm

Ord.No.	Packaging	Quantity	Price
1.00732.1000	Glass bottle	1 l	inquire
1.00732.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00732.2510	Safebreak btl.	2.5 l	inquire

### 100731 Sulfuric acid 95-97% for analysis EMSURE® ISO

#### Specification

Assay (alkalimetric) ..... 95.0 - 97.0 %  
 Colour ..... ≤ 10 Hazen  
 Chloride (Cl) ..... ≤ 0.1 ppm  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.2 ppm  
 Phosphate (PO<sub>4</sub>) ..... ≤ 0.5 ppm  
 Ag (Silver) ..... ≤ 0.010 ppm  
 Al (Aluminium) ..... ≤ 0.050 ppm  
 As (Arsenic) ..... ≤ 0.010 ppm  
 Au (Gold) ..... ≤ 0.050 ppm  
 B (Boron) ..... ≤ 0.050 ppm  
 Ba (Barium) ..... ≤ 0.050 ppm  
 Be (Beryllium) ..... ≤ 0.010 ppm  
 Bi (Bismuth) ..... ≤ 0.050 ppm  
 Ca (Calcium) ..... ≤ 0.100 ppm  
 Cd (Cadmium) ..... ≤ 0.010 ppm  
 Co (Cobalt) ..... ≤ 0.010 ppm  
 Cr (Chromium) ..... ≤ 0.020 ppm  
 Cu (Copper) ..... ≤ 0.010 ppm  
 Fe (Iron) ..... ≤ 0.100 ppm

Ga (Gallium) ..... ≤ 0.050 ppm  
 Ge (Germanium) ..... ≤ 0.020 ppm  
 In (Indium) ..... ≤ 0.050 ppm  
 K (Potassium) ..... ≤ 0.100 ppm  
 Li (Lithium) ..... ≤ 0.010 ppm  
 Mg (Magnesium) ..... ≤ 0.050 ppm  
 Mn (Manganese) ..... ≤ 0.010 ppm  
 Mo (Molybdenum) ..... ≤ 0.020 ppm  
 Na (Sodium) ..... ≤ 0.300 ppm  
 NH<sub>4</sub> (Ammonium) ..... ≤ 1 ppm  
 Ni (Nickel) ..... ≤ 0.020 ppm  
 Pb (Lead) ..... ≤ 0.010 ppm  
 Pt (Platinum) ..... ≤ 0.100 ppm  
 Sn (Tin) ..... ≤ 0.050 ppm  
 Sr (Strontium) ..... ≤ 0.010 ppm  
 Ti (Titanium) ..... ≤ 0.020 ppm  
 Tl (Thallium) ..... ≤ 0.020 ppm  
 V (Vanadium) ..... ≤ 0.010 ppm  
 Zn (Zinc) ..... ≤ 0.050 ppm

Zr (Zirconium) ..... ≤ 0.020 ppm  
 Substances reducing potassium permanganate (as SO<sub>2</sub>) ..... ≤ 2 ppm  
 Residue on ignition ..... ≤ 3 ppm  
 Date of expiry: see product label ISO-Reagent

Ord.No.	Packaging	Quantity	Price
1.00731.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00731.1011	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.00731.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00731.2510	Safebreak btl.	2.5 l	inquire
1.00731.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.00731.9025	Plastic container	25 l	inquire

### 117048 Sulfuric acid 95 - 97% for COD determination

H<sub>2</sub>O<sub>4</sub>S  
H<sub>2</sub>SO<sub>4</sub>  
 ■ CAS-No. 7664-93-9 ■ EC-No. 231-639-5  
 ■ Vapour pressure 0.0001 hPa (20 °C)  
 ■ Spec. density 1.84 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ M = 98.08 g/mol ■ pH value 0.3 (49 g/l),  
 H<sub>2</sub>O, 25 °C) ■ Melting point -20 °C

■ Boiling point 335 °C  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ EC-Index-No. 016-020-00-8 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 12

■ ADR-RID UN 1830 Schwefelsäure, 8, II ■ IMDG-Code UN 1830 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1830 SULPHURIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.17048.1000	Glass bottle	1 l	inquire



## Sulfuric acid 96%

H <sub>2</sub> O <sub>4</sub> S	■ Boiling point 335 °C	■ ADR-RID UN 1830 Schwefelsäure, 8, II ■ IMDG-Code UN 1830 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)
H <sub>2</sub> SO <sub>4</sub>	■ WGK 1	■ IATA-DGR UN 1830 SULPHURIC ACID, 8, II Acid purified by sub-boiling distillation for sample preparation in trace analysis. Each package includes a certificate of analysis.
■ CAS-No. 7664-93-9 ■ EC-No. 231-639-5	■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310	
■ Vapour pressure 0.0001 hPa (20 °C)	■ EC-Index-No. 016-020-00-8 ■ LGK 8B	
■ Spec. density 1.84 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O (20 °C) soluble, (caution ! development of heat) ■ M = 98.08 g/mol ■ pH value 0.3 (49 g/l, H <sub>2</sub> O, 25 °C) ■ Melting point -20 °C	■ HS-No. 2807 00 00 ■ Disposal 12	

## 100714 Sulfuric acid 96% Suprapur®

<b>Specification</b>			
Assay (acidimetric).....	≥ 95.0 %	Fe (Iron).....	≤ 5.0 ppb
Colour.....	≤ 10 Hazen	Ga (Gallium).....	≤ 0.5 ppb
Chloride (Cl).....	≤ 100 ppb	Ge (Germanium).....	≤ 1.0 ppb
Nitrate (NO <sub>3</sub> ).....	≤ 200 ppb	Hg (Mercury).....	≤ 2.0 ppb
Phosphate (PO <sub>4</sub> ).....	≤ 100 ppb	In (Indium).....	≤ 0.5 ppb
Ag (Silver).....	≤ 1.0 ppb	K (Potassium).....	≤ 2.0 ppb
Al (Aluminium).....	≤ 5.0 ppb	Li (Lithium).....	≤ 0.5 ppb
As (Arsenic).....	≤ 0.5 ppb	Mg (Magnesium).....	≤ 5.0 ppb
Au (Gold).....	≤ 0.5 ppb	Mn (Manganese).....	≤ 0.5 ppb
Ba (Barium).....	≤ 1.0 ppb	Mo (Molybdenum).....	≤ 0.5 ppb
Be (Beryllium).....	≤ 0.5 ppb	NH <sub>4</sub> (Ammonium).....	≤ 1.0 ppm
Bi (Bismuth).....	≤ 0.5 ppb	Na (Sodium).....	≤ 10.0 ppb
Ca (Calcium).....	≤ 5.0 ppb	Ni (Nickel).....	≤ 2.0 ppb
Cd (Cadmium).....	≤ 1.0 ppb	Pb (Lead).....	≤ 1.0 ppb
Co (Cobalt).....	≤ 0.5 ppb	Pt (Platinum).....	≤ 0.5 ppb
Cr (Chromium).....	≤ 1.0 ppb	Sb (Antimony).....	≤ 1.0 ppb
Cu (Copper).....	≤ 0.5 ppb	Se (Selenium).....	≤ 1.0 ppb
		Sn (Tin).....	≤ 1.0 ppb
		Sr (Strontium).....	≤ 0.5 ppb
		Ti (Titanium).....	≤ 1.0 ppb
		Tl (Thallium).....	≤ 0.5 ppb
		V (Vanadium).....	≤ 0.5 ppb
		Zn (Zinc).....	≤ 2.0 ppb
		Zr (Zirconium).....	≤ 0.5 ppb
		Substances reducing potassium permanganate (as SO <sub>2</sub> ).....	≤ 2 ppm
		Residue on ignition.....	≤ 2 ppm
		The actual values are subject to unavoidable systematic variations in this concentration range.	
		<b>Ord.No.</b>	<b>Packaging</b>
		1.00714.0250	Glass bottle
			250 ml
			inquire
		1.00714.1000	Glass bottle
			1 l
			inquire
			Glass bottle
			6 x 1 l
			inquire

## 101516 Sulfuric acid 96% Ultrapur

<b>Specification</b>			
Assay (acidimetric).....	≥ 96 %	In (Indium).....	≤ 20.0 ppt
Ag (Silver).....	≤ 50 ppt	K (Potassium).....	≤ 500 ppt
Al (Aluminium).....	≤ 200 ppt	La (Lanthanum).....	≤ 20.0 ppt
As (Arsenic).....	≤ 20 ppt	Li (Lithium).....	≤ 20.0 ppt
Au (Gold).....	≤ 20 ppt	Lu (Lutetium).....	≤ 20.0 ppt
Ba (Barium).....	≤ 200 ppt	Mg (Magnesium).....	≤ 500 ppt
Be (Beryllium).....	≤ 20 ppt	Mn (Manganese).....	≤ 20 ppt
Bi (Bismuth).....	≤ 20 ppt	Mo (Molybdenum).....	≤ 50 ppt
Ca (Calcium).....	≤ 1000 ppt	Na (Sodium).....	≤ 500 ppt
Cd (Cadmium).....	≤ 20 ppt	Nb (Niobium).....	≤ 20.0 ppt
Ce (Cerium).....	≤ 20.0 ppt	Nd (Neodymium).....	≤ 20.0 ppt
Co (Cobalt).....	≤ 20 ppt	Ni (Nickel).....	≤ 100 ppt
Cr (Chromium).....	≤ 200 ppt	Pb (Lead).....	≤ 100 ppt
Cu (Copper).....	≤ 50 ppt	Pd (Palladium).....	≤ 50 ppt
Dy (Dysprosium).....	≤ 20.0 ppt	Pr (Praseodym).....	≤ 20.0 ppt
Er (Erbium).....	≤ 20.0 ppt	Pt (Platinum).....	≤ 20 ppt
Eu (Europium).....	≤ 20.0 ppt	Rb (Rubidium).....	≤ 20.0 ppt
Fe (Iron).....	≤ 500 ppt	Sb (Antimony).....	≤ 20 ppt
Ga (Gallium).....	≤ 20.0 ppt	Sc (Scandium).....	≤ 20 ppt
Gd (Gadolinium).....	≤ 20 ppt	Se (Selenium).....	≤ 500 ppt
Ge (Germanium).....	≤ 20 ppt	Sm (Samarium).....	≤ 20.0 ppt
Hf (Hafnium).....	≤ 10.0 ppt	Sn (Tin).....	≤ 20 ppt
Hg (Mercury).....	≤ 500 ppt	Sr (Strontium).....	≤ 20.0 ppt
Ho (Holmium).....	≤ 20.0 ppt	Ta (Tantalum).....	≤ 50.0 ppt
		Tb (Terbium).....	≤ 20.0 ppt
		Te (Tellur).....	≤ 50 ppt
		Th (Thorium).....	≤ 10.00 ppt
		Ti (Titanium).....	≤ 50 ppt
		Tl (Thallium).....	≤ 20.0 ppt
		Tm (Thulium).....	≤ 20.0 ppt
		U (Uranium).....	≤ 10.00 ppt
		V (Vanadium).....	≤ 20 ppt
		W (Wolfram).....	≤ 100 ppt
		Y (Yttrium).....	≤ 10.0 ppt
		Yb (Ytterbium).....	≤ 20.0 ppt
		Zn (Zinc).....	≤ 200 ppt
		Zr (Zirconium).....	≤ 20.0 ppt
		ICP-MS: Determination after evaporation to dryness with ICP-MS CSDPP: Determination with cathodic stripping differential pulse polarography CV-AAS: Determination with cold vapour AAS	
		Actual analysis values are subject to unavoidable systematic variations in this concentration range	
		<b>Ord.No.</b>	<b>Packaging</b>
		1.01516.0250	Plastic bottle
			250 ml
			inquire

## 108131 Sulfuric acid 96% for the determination of viscosity acc. to DIN EN ISO 307

<b>Specification</b>		<b>Ord.No.</b>	<b>Packaging</b>	<b>Quantity</b>	<b>Price</b>
Assay (alkalimetric).....	95.85 - 96.15 %	1.08131.1000	Plastic bottle	1 l	inquire
		1.08131.2500	Plastic bottle	2.5 l	inquire

815060 Sulfuric acid-D<sub>2</sub> 96% solution in D<sub>2</sub>O deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™

D <sub>2</sub> O <sub>4</sub> S	■ GHS: Danger, Skin corrosion, Category 1A, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310	■ IATA-DGR UN 1830 SULPHURIC ACID, 8, II	
D <sub>2</sub> SO <sub>4</sub>	■ LC50 rat 510 mg/m <sup>3</sup>	<b>Specification</b>	
■ CAS-No. 13813-19-9 ■ EC-No. 237-464-0	■ LGK 8B	Deuteration degree.....	≥ 99.5 %
■ Vapour pressure 0.001 hPa (20 °C)	■ HS-No. 2845 90 10 ■ Disposal 12	Assay (weight%).....	≥ 96 %
■ Spec. density 1.84 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O (20 °C) soluble, (caution ! development of heat) ■ M = 100.09 g/mol ■ pH value (H <sub>2</sub> O, 20 °C) strongly acid ■ Boiling point 360 °C (1013 hPa)	■ ADR-RID UN 1830 Schwefelsäure, 8, II ■ IMDG-Code UN 1830 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)	<b>Ord.No.</b>	<b>Packaging</b>
■ WGK 1		8.15060.0025	Glass bottle
			25 ml
			inquire
		8.15060.0050	Glass bottle
			50 ml
			inquire

# Sulfur

## Sulfuric acid 98%

H<sub>2</sub>O<sub>4</sub>S  
H<sub>2</sub>SO<sub>4</sub>  
 ■ CAS-No. 7664-93-9 ■ EC-No. 231-639-5  
 ■ Vapour pressure 0.0001 hPa (20 °C)  
 ■ Spec. density 1.84 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ M = 98.08 g/mol ■ pH value 0.3 (49 g/l),

H<sub>2</sub>O, 25 °C) ■ Melting point -20 °C  
 ■ Boiling point 335 °C  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ EC-Index-No. 016-020-00-8 ■ LGK 8B  
 ■ HS-No. 2807 00 00  
 ■ ADR-RID UN 1830 Schwefelsäure, 8, II ■ IMDG-Code UN 1830 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1830 SULPHURIC ACID, 8, II



## 112080 Sulfuric acid 98% for analysis EMSURE®

**Specification**  
 Assay (alkalimetric) ..... ≥ 98.0 %  
 Colour ..... ≤ 10 Hazen  
 Chloride (Cl) ..... ≤ 0.00001 %  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.00002 %  
 Phosphate (PO<sub>4</sub>) ..... ≤ 0.00005 %  
 Ag (Silver) ..... ≤ 0.000002 %  
 Al (Aluminium) ..... ≤ 0.000005 %  
 As (Arsenic) ..... ≤ 0.000001 %  
 Ba (Barium) ..... ≤ 0.000005 %  
 Be (Beryllium) ..... ≤ 0.000001 %  
 Bi (Bismuth) ..... ≤ 0.000001 %  
 Ca (Calcium) ..... ≤ 0.00002 %  
 Cd (Cadmium) ..... ≤ 0.000002 %  
 Co (Cobalt) ..... ≤ 0.000001 %  
 Cr (Chromium) ..... ≤ 0.000005 %

Cu (Copper) ..... ≤ 0.000001 %  
 Fe (Iron) ..... ≤ 0.00001 %  
 Ge (Germanium) ..... ≤ 0.000005 %  
 K (Potassium) ..... ≤ 0.00001 %  
 Li (Lithium) ..... ≤ 0.000001 %  
 Mg (Magnesium) ..... ≤ 0.000005 %  
 Mn (Manganese) ..... ≤ 0.000001 %  
 Mo (Molybdenum) ..... ≤ 0.000005 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.0002 %  
 Na (Sodium) ..... ≤ 0.00005 %  
 Ni (Nickel) ..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.000002 %  
 Se (Selenium) ..... ≤ 0.0001 %  
 Sr (Strontium) ..... ≤ 0.000002 %  
 Ti (Titanium) ..... ≤ 0.00001 %

Tl (Thallium) ..... ≤ 0.000005 %  
 V (Vanadium) ..... ≤ 0.000001 %  
 Zn (Zinc) ..... ≤ 0.000005 %  
 Zr (Zirconium) ..... ≤ 0.00001 %  
 Substances reducing potassium permanganate (as SO<sub>2</sub>) ..... ≤ 0.0002 %  
 Residue on ignition ..... ≤ 0.0005 %

Ord.No.	Packaging	Quantity	Price
1.12080.1000	Glass bottle	1 l	inquire
1.12080.2500	Glass bottle	2.5 l	inquire
1.12080.2510	Safebreak btl.	2.5 l	inquire
1.12080.9025	Plastic container	25 l	inquire

## 100748 Sulfuric acid 98% for the determination of nitrogen

**Specification**  
 Assay (alkalimetric) ..... ≥ 97.5 %  
 Total nitrogen (N) ..... ≤ 1 ppm  
 Residue on ignition ..... ≤ 2 ppm  
 Date of expiry: see product label

Ord.No.	Packaging	Quantity	Price
1.00748.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.00748.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 112223 Sulfuric acid 100% for conductivity measurements

H<sub>2</sub>O<sub>4</sub>S  
H<sub>2</sub>SO<sub>4</sub>  
 ■ CAS-No. 7664-93-9 ■ EC-No. 231-639-5  
 ■ Spec. density 1.84 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ M = 98.07 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid ■ Boiling point 330 °C (1013 hPa)  
 ■ WGK 1

■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.25 mg/l  
 ■ EC-Index-No. 016-020-00-8 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 12  
 ■ ADR-RID UN 1830 Schwefelsäure, 8, II ■ IMDG-Code UN 1830 SULPHURIC ACID, 8, II, Segregation

Group: 1 (Acids)  
 ■ IATA-DGR UN 1830 SULPHURIC ACID, 8, II

**Specification**  
 Application test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.12223.1000	Glass bottle	1 l	inquire

Sulfuric acid diethyl ester → Diethyl sulfate page 750

Sulfuric acid drying agent, granulated → SICACIDE with indicator page 1417

## 100720 Sulfuric acid fuming 65% SO<sub>3</sub> extra pure

H<sub>2</sub>O<sub>4</sub>S\*SO<sub>3</sub> (1:2)  
 H<sub>2</sub>SO<sub>4</sub>\*SO<sub>3</sub> (1:2)  
*Oleum*  
 ■ CAS-No. 8014-95-7 ■ EC-No. 231-976-8  
 ■ Vapour pressure 105 hPa (20 °C)  
 ■ Spec. density 1.99 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ M = 258.20 g/mol ■ pH value < 1 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 1 °C  
 ■ Boiling point 64 °C (1013 hPa)  
 ■ WGK 1

■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ EC-Index-No. 016-019-00-2 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 12  
 ■ ADR-RID UN 1831 Schwefelsäure, rauchend, 8 (6.1), I ■ IMDG-Code UN 1831 SULPHURIC ACID, FUMING, 8 (6.1), I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1831 SULPHURIC ACID, FUMING,

8 (6.1),  
**Specification**  
 Colour (visual) ..... colourless to brownish  
 Appearance of substance (visual) ..... clear to slightly turbid  
 Content of free SO<sub>3</sub> (acidimetric) ..... ≥ 65.0 %  
 Residue on ignition ..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.00720.1000	Glass btl. pl.coat.	1 l	inquire

## Sulfuric acid volumetric solutions

### 109074 Sulfuric acid c(H<sub>2</sub>SO<sub>4</sub>) = 0.05 mol/l (0.1 N) Titripur®

■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.3 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g. (SCHWEFELSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID), 8, III

**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur). Amount-of-substance concentration 0.05000 mol/l The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and

Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09074.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09074.4000	Titripac PE/Alu	4 l	inquire
1.09074.5000	Plastic bottle	5 l	inquire
1.09074.9010	Titripac PE/Alu	10 l	inquire

**109073 Sulfuric acid**  $c(\text{H}_2\text{SO}_4) = 0.25 \text{ mol/l}$  (0.5 N) Titripur®

■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.0 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290  
 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(SCHWEFELSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(SULPHURIC ACID), 8, III, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(SULPHURIC ACID), 8, III  
**Specification**  
 Amount-of-substance concentration . 0.2500 mol/l  
 The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e

(NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09073.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09073.4000	Titripac PE/Alu	4 l	inquire
1.09073.9010	Titripac PE/Alu	10 l	inquire

**109072 Sulfuric acid**  $c(\text{H}_2\text{SO}_4) = 0.5 \text{ mol/l}$  (1 N) Titripur®

■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.6 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290  
 ■ LGK 10 - 13  
 ■ HS-No. 2807 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(SCHWEFELSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(SULPHURIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

INORGANIC, N.O.S.(SULPHURIC ACID), 8, III  
**Specification**  
 Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP). Amount-of-substance concentration . 0.5000 mol/l  
 The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e

(NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09072.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.09072.4000	Titripac PE/Alu	4 l	inquire
1.09072.5000	Plastic bottle	5 l	inquire
1.09072.9010	Titripac PE/Alu	10 l	inquire

**480364 Sulfuric acid**  $c(\text{H}_2\text{SO}_4) = 2.5 \text{ mol/l}$  (5 N) Titripur®

■ Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble,(development of heat)  
 ■ pH value 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2796 Schwefelsäure, 8, II ■ IMDG-Code UN 2796 SULPHURIC ACID, 8, II, Segregation

Group: 1 (Acids)  
 ■ IATA-DGR UN 2796 SULPHURIC ACID, 8, II  
**Specification**  
 Amount-of-substance concentration . 2.5000 mol/l  
 The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is

traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
4.80364.1000	Plastic bottle	1 l	inquire
4.80364.9025	Plastic container	25 l	inquire

**109982 Sulfuric acid** for 1000 ml,  $c(\text{H}_2\text{SO}_4) = 0.005 \text{ mol/l}$  (0.01 N) Titrisol®

■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1.1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK nwg  
 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 28  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(SCHWEFELSAEURELOESUNG), 8, III ■ IMDG-

Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(SULPHURIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(SULPHURIC ACID), 8, III  
**Specification**  
 Concentration after dilution to 1l:  $c(\text{H}_2\text{SO}_4) =$

0.005 mol/l  
 Amount-of-substance concentration .....  
 .....  $c(\text{H}_2\text{SO}_4) = 0.005000 \text{ mol/l}$

Ord.No.	Packaging	Quantity	Price
1.09982.0001	Plastic ampoule	1 amp	inquire

**109984 Sulfuric acid** for 1000 ml,  $c(\text{H}_2\text{SO}_4) = 0.05 \text{ mol/l}$  (0.1 N) Titrisol®

■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 1 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 28  
 ■ ADR-RID UN 2796 Schwefelsäure, 8, II ■ IMDG-Code UN 2796 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 2796 SULPHURIC ACID, 8, II  
**Specification**  
 Concentration after dilution to 1 liter:  $c(\text{H}_2\text{SO}_4) = 0.05 \text{ mol/l}$   
 Amount-of-substance concentration 0.05000 mol/l  
 The concentration of this solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability).

The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09984.0001	Plastic ampoule	1 amp	inquire

# Sulfur

## 109981 Sulfuric acid for 1000 ml, c(H<sub>2</sub>SO<sub>4</sub>) = 0.5 mol/l (1 N) Titrisol®

- Spec. density 1.29 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid
- Boiling point 135 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2807 00 00 ■ Disposal 28
- ADR-RID UN 2796 Schwefelsäure, 8, II ■ IMDG-Code UN 2796 SULPHURIC ACID, 8, II, Segregation

Group: 1 (Acids)  
 ■ IATA-DGR UN 2796 SULPHURIC ACID, 8, II  
**Specification**  
 Concentration after dilution to 1 liter: c(H<sub>2</sub>SO<sub>4</sub>) = 0.5 mol/l  
 Amount-of-substance concentration . 0.5000 mol/l  
 The concentration of this solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408).  
 The determined titer at 20°C with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability).

The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09981.0001	Plastic ampoule	1 amp	inquire

## 109912 Sulfuric acid 1.000 I for the preparation of dilute volumetric solutions or for direct use c(H<sub>2</sub>SO<sub>4</sub>) = 2.5 mol/l (5 N) Combi-Titrisol®

- Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of heat) ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid
- Boiling point 103 °C
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280,

P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B  
 ■ HS-No. 2807 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2796 Schwefelsäure, 8, II ■ IMDG-Code UN 2796 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 2796 SULPHURIC ACID, 8, II

Ord.No.	Packaging	Quantity	Price
1.09912.0001	Plastic bottle	1 l	inquire

Sulfuric chlorohydrin → page 635

Sulfurof → 5-(2-Hydroxyethyl)-4-methylthiazole page 982

## 100761 Sulfurous acid 5-6% SO<sub>2</sub> for analysis EMSURE®

- Spec. density 1.03 g/cm<sup>3</sup> (20 °C)
  - pH value (H<sub>2</sub>O, 20 °C) acidic
  - WGK 1
  - GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
  - LGK 8 B
  - HS-No. 2811 19 80 ■ Disposal 12
  - ADR-RID UN 1833 Schwefelige Säure, 8, II
  - IMDG-Code UN 1833 SULPHUROUS ACID, 8, II, Segregation Group: 1 (Acids)
  - IATA-DGR UN 1833 SULPHUROUS ACID, 8, II
- Specification**  
 Assay (iodometric, SO<sub>2</sub>) ..... 5 - 6 %  
 Chloride (Cl) ..... ≤ 5 ppm  
 Ag (Silver) ..... ≤ 0.02 ppm  
 Al (Aluminium) ..... ≤ 0.05 ppm

As (Arsenic) ..... ≤ 0.5 ppm  
 Ba (Barium) ..... ≤ 0.05 ppm  
 Be (Beryllium) ..... ≤ 0.02 ppm  
 Bi (Bismuth) ..... ≤ 0.1 ppm  
 Ca (Calcium) ..... ≤ 1 ppm  
 Cd (Cadmium) ..... ≤ 0.05 ppm  
 Co (Cobalt) ..... ≤ 0.02 ppm  
 Cr (Chromium) ..... ≤ 0.02 ppm  
 Cu (Copper) ..... ≤ 0.02 ppm  
 Fe (Iron) ..... ≤ 0.5 ppm  
 Ge (Germanium) ..... ≤ 0.05 ppm  
 K (Potassium) ..... ≤ 0.1 ppm  
 Li (Lithium) ..... ≤ 0.02 ppm  
 Mg (Magnesium) ..... ≤ 0.1 ppm  
 Mn (Manganese) ..... ≤ 0.02 ppm  
 Mo (Molybdenum) ..... ≤ 0.02 ppm  
 Na (Sodium) ..... ≤ 0.5 ppm

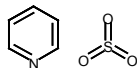
Ni (Nickel) ..... ≤ 0.02 ppm  
 Pb (Lead) ..... ≤ 0.02 ppm  
 Sr (Strontium) ..... ≤ 0.02 ppm  
 Ti (Titanium) ..... ≤ 0.1 ppm  
 Tl (Thallium) ..... ≤ 0.05 ppm  
 V (Vanadium) ..... ≤ 0.05 ppm  
 Zn (Zinc) ..... ≤ 0.05 ppm  
 Zr (Zirconium) ..... ≤ 0.1 ppm  
 Residue on ignition (as sulphate) ..... ≤ 0.002 %

Ord.No.	Packaging	Quantity	Price
1.00761.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00761.2500	Glass bottle	2.5 l	inquire

Sulfurous acid dichloride → Thionyl chloride page 1551

Sulfurous acid dimethyl ester → Dimethyl sulfite page 803

## 818112 Sulfur trioxide pyridine complex for synthesis



- C<sub>5</sub>H<sub>5</sub>NO<sub>3</sub>S  
 C<sub>5</sub>H<sub>5</sub>N \* O<sub>3</sub>S  
 ■ CAS-No. 26412-87-3 ■ EC-No. 247-683-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 159.16 g/mol ■ pH value (H<sub>2</sub>O) acidic  
 ■ Melting point 155 - 165 °C  
 ■ Bulk density 600 kg/m<sup>3</sup> ■ Ignition temp. >350 °C  
 ■ WGK 2

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 500 - 2000 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2942 00 00 ■ Disposal 12  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(SCHWEFELTRIOXID-PYRIDIN KOMPLEX), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(SULFURTRIOXIDE-PYRIDINE COMPLEX), 8, II,

Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(SULFURTRIOXIDE-PYRIDINE COMPLEX), 8, II  
**Specification**  
 Assay (acidimetric) ..... ≥ 97,0 %(m)  
 Melting range (lower value) ..... ≥ 160 °C  
 Melting range (upper value) ..... ≤ 170 °C

Ord.No.	Packaging	Quantity	Price
8.18112.0100	Glass bottle	100 g	inquire

## 807997 Sulfuryl chloride for synthesis

- Cl<sub>2</sub>O<sub>2</sub>S  
 SO<sub>2</sub>Cl<sub>2</sub>  
 ■ CAS-No. 7791-25-5 ■ EC-No. 232-245-6  
 ■ Vapour pressure 148 hPa (20 °C)  
 ■ Spec. density 1.67 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition) ■ M = 134.96 g/mol ■ pH value (H<sub>2</sub>O) strongly acid  
 ■ Melting point -54 °C ■ Boiling point 69 °C (1013 hPa)  
 ■ WGK 1

■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ EC-Index-No. 016-016-00-6 ■ LGK 6.1B  
 ■ HS-No. 2812 10 99 ■ Disposal 24  
 ■ ADR-RID UN 1834 Sulfurylchlorid, 6.1 (8), I  
 ■ IMDG-Code UN 1834 SULPHURYL CHLORIDE, 6.1 (8), I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1834 SULPHURYL CHLORIDE,

6.1 (8),  
**Specification**  
 Assay (argentometric) ..... ≥ 98,0 %(m)  
 Density (d 20 °C / 4 °C) ..... 1,616 - 1,621  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.07997.0250	Glass bottle	250 ml	inquire
8.07997.1000	Glass bottle	1 l	inquire



Sulphamic acid → page 372	Superspher® 60 RP-select B LiChroCART® 250-2 → page 17	Superspher® 100 RP-18 LiChroCART® 125-4 → page 17
Superspher® 60 RP-8 → page 17	Superspher® 60 RP-select B LiChroCART® 250-3 → page 17	Superspher® 100 RP-18 LiChroCART® 250-3 → page 17
Superspher® 60 RP-8 endcapped LiChroCART® 125-4 → page 17	Superspher® 60 RP-select B LiChroCART® 250-4 → page 17	Superspher® 100 RP-18 LiChroCART® 250-4 → page 17
Superspher® 60 RP-8 endcapped LiChroCART® 250-4 → page 17	Superspher® 100 RP-18 → page 17	Superspher® RP-18 endcapped LiChroCART® 125-2 → page 17
Superspher® 60 RP-8 LiChroCART® 125-4 → page 17	Superspher® 100 RP-18 endcapped → page 17	Superspher® RP-18 endcapped LiChroCART® 250-2 → page 17
Superspher® 60 RP-8 LiChroCART® 250-4 → page 17	Superspher® 100 RP-18 endcapped LiChroCART® 125-3 → page 17	Superspher® RP-18 LiChroCART® 10-2 → page 17
Superspher® 60 RP-select B → page 17	Superspher® 100 RP-18 endcapped LiChroCART® 25-4 → page 17	Superspher® RP-18 LiChroCART® 125-2 → page 17
Superspher® 60 RP-select B LiChroCART® 10-2 → page 17	Superspher® 100 RP-18 endcapped LiChroCART® 125-4 → page 17	Superspher® Si 60 LiChroCART® 125-4 → page 17
Superspher® 60 RP-select B LiChroCART® 75-4 → page 17	Superspher® 100 RP-18 endcapped LiChroCART® 250-4 → page 17	Superspher® Si 60 LiChroCART® 250-4 → page 17
Superspher® 60 RP-select B LiChroCART® 125-2 → page 17	Superspher® 100 RP-18 LiChroCART® 25-4 → page 17	Supplementary Software Analysis Methods for the Brewery Industry → page 92
Superspher® 60 RP-select B LiChroCART® 125-3 → page 17	Superspher® 100 RP-18 LiChroCART® 75-4 → page 17	
Superspher® 60 RP-select B LiChroCART® 125-4 → page 17	Superspher® 100 RP-18 LiChroCART® 125-3 → page 17	

## Suprapur® reagents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
164	105428	Ammonia solution 25 %	165	105676	Lithium carbonate	165	105152	Potassium sulfate
164	101143	Ammonium chloride	165	105677	Lithium chloride monohydrate	165	106264	Sodium acetate
164	101440	Ammonium dihydrogen phosphate	165	105686	Lithium fluoride	165	106363	Sodium bromide
164	101209	Ammonium sulfate	165	105653	Lithium nitrate	165	106395	Sodium carbonate
164	101716	Barium chloride	165	105697	Lithium sulfate monohydrate	165	106406	Sodium chloride
164	101722	Barium fluoride	165	105855	Magnesium nitrate hexahydrate	165	106370	Sodium dihydrogen phosphate
164	100765	Boric acid	165	104404	Mercury	165	106450	Sodium fluoride
165	100169	di-Boron trioxide	164	100441	Nitric acid 65%	165	106566	di-Sodium hydrogen phosphate
165	101947	Bromine	164	100489	Oxalic acid dihydrate	166	106466	Sodium hydroxide monohydrate
165	102059	Calcium carbonate	164	100517	Perchloric acid 70%	164	105589	Sodium hydroxide solution 30%
165	102123	Calcium nitrate tetrahydrate	164	100552	ortho-Phosphoric acid 85%	166	106519	Sodium iodide
165	102039	Cesium chloride	165	104904	Potassium bromide	166	106546	Sodium nitrate
164	111670	Formic acid 98-100%	165	104926	Potassium carbonate-1.5-hydrate	166	106647	Sodium sulfate
164	100306	Hydrobromic acid 47%	165	104938	Potassium chloride	166	106309	di-Sodium tetraborate
164	100318	Hydrochloric acid 30%	165	105108	Potassium dihydrogen phosphate	166	106509	Sodium thiosulfate pentahydrate
164	100335	Hydrofluoric acid 40%	165	105109	di-Potassium hydrogen phosphate	166	107871	Strontium nitrate
165	107298	Hydrogen peroxide 30%	165	105002	Potassium hydroxide hydrate	164	100714	Sulfuric acid 96%
165	104763	Iodine	165	105044	Potassium iodide			
165	105668	Lithium bromide hydrate	165	105065	Potassium nitrate			

Surface cleaning → Microbiology / Hygiene  
 Surfactants (anion.) Cell Test → page 84  
 Surfactants (cation.) Cell Test → page 85

Surfactants (nonion.) Cell Test → page 85  
 Swimming pool disinfection → page 592  
 Syringaldehyde → 3,5-Dimethoxy-4-hydroxybenzaldehyde page 772

Syringic acid → 4-Hydroxy-3,5-dimethoxybenzoic acid page 980



TAA → 2,2,6,6-Tetramethyl-4-piperidone page 1543    TAD → 4-Amino-2,2,6,6-tetramethylpiperidine page 404

### 106023 TAE buffer 10 x pH 8.3 tris-acetate-EDTA buffer

- Spec. density 1.016 g/cm<sup>3</sup> (20 °C)
- pH value 8.2 - 8.4 (H<sub>2</sub>O)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 3822 00 00
- Disposal 28
- Premixed buffer for nucleic acid gelelectrophoresis

#### Specification

Appearance.....clear and colourless  
pH-value.....8.2 - 8.4  
DNases (Exo- and endonucleases)....not detectable  
RNases.....not detectable

Proteases.....not detectable  
Composition: Tris(hydroxymethyl)-aminomethane 0.40 mol/l EDTA 0.01 mol/l Acetic acid 0.20 mol/l

Ord.No.	Packaging	Quantity	Price
1.06023.1000	Plastic bottle	1 l	inquire

### 106174 TAE buffer 50 x pH 8,3 tris-acetate EDTA buffer

- Spec. density 1.1 g/cm<sup>3</sup> (20 °C)
- pH value 8.2 - 8.4 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity,
- Category 3, H412, P273, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 3822 00 00
- Disposal 28

#### Specification

Appearance.....clear and colourless  
pH-value.....8.2 - 8.4

Ord.No.	Packaging	Quantity	Price
1.06174.1000	Plastic bottle	1 l	inquire

### 112352 Tantalum(V) chloride 99+

- Cl<sub>5</sub>Ta
- TaCl<sub>5</sub>
- Tantalum pentachloride
- CAS-No. 7721-01-9
- EC-No. 231-755-6
- Spec. density 3.68 g/cm<sup>3</sup>
- Solub. in H<sub>2</sub>O (25 °C) (decomposition)
- M = 358.21 g/mol
- pH value (H<sub>2</sub>O) strongly acid,(decomposition)
- Melting point 216 - 217 °C
- Bulk density 2400 kg/m<sup>3</sup>
- Boiling point 232 - 235 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral,
- H302; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1900 mg/kg
- LGK 8 B
- HS-No. 2827 39 85
- Disposal 24
- ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(TANTAL(V)-CHLORID), 8, II
- IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(TANTALCHLORIDE), 8, II, Segregation Group:

#### 1 (Acids)

IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(TANTALCHLORIDE), 8, II

#### Specification

Identity (elemental analysis).....conforms  
Assay (gravimetrically).....≥ 99.8 %

Ord.No.	Packaging	Quantity	Price
1.12352.0100	Glass bottle	100 g	inquire

Tantalum, determination → page 1392

### 112349 Tantalum powder 98+

- Ta
- CAS-No. 7440-25-7
- EC-No. 231-135-5
- Spec. density 16.6 g/cm<sup>3</sup> (20 °C)
- Solub. in H<sub>2</sub>O < 0.010 g/l (20 °C)
- M = 180.94 g/mol
- pH value 7 (H<sub>2</sub>O, 20 °C) (aqueous suspension)
- Melting point 2996 °C
- Bulk density 500 kg/m<sup>3</sup>
- Boiling point 5425 °C
- Ignition temp. >250 °C
- WGK nwg
- GHS: Danger, Flammable solid, Category 1, H228, P210, P370 + P378
- LC50 rat > 5.18 mg/l
- LD50 oral rat > 2000 mg/kg
- LGK 4.1B
- HS-No. 8103 20 00
- Disposal 27
- ADR-RID UN 3089 Entzündbares Metallpulver, n.a.g., 4.1, II
- IMDG-Code UN 3089 METAL POWDER, FLAMMABLE, N.O.S., 4.1, II, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 15 (Powdered

#### metals)

IATA-DGR UN 3089 METAL POWDER, FLAMMABLE, N.O.S., 4.1, II

#### Specification

Identity (elemental analysis).....conforms  
Assay.....≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
1.12349.0025	Glass bottle	25 g	inquire

TAPLIN agar → page 100

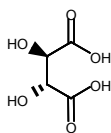
Tap (PE) → page 326

Taps → Laboratory equipment, auxiliaries

Tap (stainless steel) → page 326

Tartar emetic → Potassium antimony(III) oxide tartrate trihydrate page 1343

### 818531 (2R,3R)-(+)-Tartaric acid for resolution of racemates for synthesis



- C<sub>4</sub>H<sub>6</sub>O<sub>6</sub>
- HOOCCH(OH)CH(OH)COOH
- 2,3-Dihydroxybutanedioic acid
- CAS-No. 87-69-4
- EC-No. 201-766-0

- Spec. density 1.76 g/cm<sup>3</sup> (20 °C)
- Flash point 210 °C
- Solub. in H<sub>2</sub>O 1390 g/l (20 °C)
- M = 150.08 g/mol
- pH value 1.6 (100 g/l, H<sub>2</sub>O, 25 °C)
- Melting point 168 - 170 °C
- Bulk density 1000 kg/m<sup>3</sup>
- Ignition temp. 425 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 12 00
- Disposal 3
- ADR-RID Kein Gefahrgut
- IMDG-Code No

#### Dangerous Good

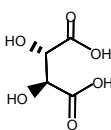
IATA-DGR No Dangerous Good

#### Specification

Assay (acidimetric).....≥ 99.0 %  
Spec. rotation [α<sup>20</sup>/D (c=20 in water).12.0 - 13.0 °  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18531.0100	Plastic bottle	100 g	inquire
8.18531.0500	Plastic bottle	500 g	inquire
8.18531.2500	Plastic bottle	2.5 kg	inquire

### 800799 (2S,3S)-(-)-Tartaric acid for the resolution of racemates for synthesis



- C<sub>4</sub>H<sub>6</sub>O<sub>6</sub>
- HOOCCH(OH)CH(OH)COOH
- D-(-)-Tartaric acid
- CAS-No. 147-71-7
- EC-No. 205-695-6
- Spec. density 1.8 g/cm<sup>3</sup> (20 °C)

- Flash point 210 °C
- Solub. in H<sub>2</sub>O 1394 g/l (20 °C)
- M = 150.09 g/mol
- Melting point 166 - 169 °C
- Ignition temp. 425 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 12 00
- Disposal 3

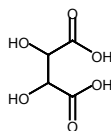
#### Specification

Assay (acidimetric).....≥ 99.0 %(m)

Melting range (lower value).....≥ 166 °C  
Melting range (upper value).....≤ 169 °C  
Spec. rotation [α<sup>20</sup>/D (c=10 in water).....  
.....-14.0 - -12.0 °  
Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.00799.0025	Plastic bottle	25 g	inquire
8.00799.0100	Plastic bottle	100 g	inquire

## 843377 DL-Tartaric acid for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>6</sub>

- CAS-No. 133-37-9 ■ EC-No. 205-105-7
- Vapour pressure < 0.1 hPa (20 °C)

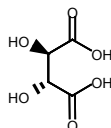
- Spec. density 1.78 g/cm<sup>3</sup> (7 °C)
- Flash point 210 °C ■ Solub. in H<sub>2</sub>O 215 g/l (25 °C) ■ M = 150.09 g/mol ■ pH value 1.6 (100 g/l, H<sub>2</sub>O, 25 °C) ■ Melting point 198 - 204 °C
- Ignition temp. 425 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P262, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 12 00 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 198 °C  
 Melting range (upper value)..... ≤ 204 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43377.0100	Plastic bottle	100 g	inquire
8.43377.0500	Plastic bottle	500 g	inquire

## 100804 L(+)-Tartaric acid for analysis EMSURE® ACS,ISO,Reag. Ph Eur

C<sub>4</sub>H<sub>6</sub>O<sub>6</sub>

HOOCCH(OH)CH(OH)COOH

2,3-Dihydroxybutanedioic acid

- CAS-No. 87-69-4 ■ EC-No. 201-766-0
- Spec. density 1.76 g/cm<sup>3</sup> (20 °C)
- Flash point 210 °C ■ Solub. in H<sub>2</sub>O 1390 g/l (20 °C) ■ M = 150.08 g/mol ■ pH value 1.6 (100 g/l, H<sub>2</sub>O, 25 °C) ■ Melting point 168 - 170 °C
- Bulk density 1000 kg/m<sup>3</sup> ■ Ignition temp. 425 °C
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338

- LGK 10 - 13
- HS-No. 2918 12 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (alkalimetric)..... ≥ 99,5 %  
 Assay (alkalimetric, calculated on dried substance)..... 99,5 - 101,0 %  
 Identity..... passes test  
 Appearance of solution..... passes test  
 Insoluble matter..... ≤ 50 ppm  
 Spec. rotation [α]<sub>D</sub><sup>20</sup> (20 %; water calculated on dried substance)..... 12,0 - 12,8 °  
 Chloride (Cl)..... ≤ 5 ppm  
 Phosphate (PO<sub>4</sub>)..... ≤ 10 ppm  
 Sulphate (SO<sub>4</sub>)..... ≤ 50 ppm  
 Heavy metals (as Pb)..... ≤ 5 ppm  
 Total sulfur (as SO<sub>4</sub>)..... ≤ 20 ppm

Ca (Calcium)..... ≤ 20 ppm  
 Cu (Copper)..... ≤ 5 ppm  
 Fe (Iron)..... ≤ 5 ppm  
 Pb (Lead)..... ≤ 5 ppm  
 Oxalate (C<sub>2</sub>O<sub>4</sub>)..... passes test  
 Oxalic acid..... ≤ 350 ppm  
 Sulfated ash..... ≤ 100 ppm  
 Loss on drying (105 °C)..... ≤ 0,2 %  
 Corresponds to ACS,ISO,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.00804.0250	Plastic bottle	250 g	inquire
1.00804.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
1.00804.5000	Plastic bottle	5 kg	inquire
1.00804.9050	Fibre carton	50 kg	inquire

(2R,3R)-(+)-Tartaric acid → page 1518

(2S,3S)-(-)-Tartaric acid → page 1518

D-(-)-Tartaric acid → (2S,3S)-(-)-Tartaric acid page 1518

L-(+)-Tartaric acid → (2R,3R)-(+)-Tartaric acid page 1518

m-Tartaric acid → Metatartaric acid page 1108

D-(-)-Tartaric acid diethyl ester → (2S,3S)-(-)-Diethyl tartrate page 750

L-(+)-Tartaric acid diethyl ester → (2S,3S)-(-)-Diethyl tartrate page 750

D-(-)-Tartaric acid diisopropyl ester → (2S,3S)-(-)-Diisopropyl tartrate page 768

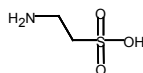
Tartaric acid potassium sodium salt → Potassium sodium tartrate tetrahydrate page 1363

Tartaric acid sodium salt dihydrate → di-Sodium tartrate dihydrate page 1453

## Tartrates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1343	108092	Potassium antimony(III) oxide tartrate trihydrate	1453	106663	di-Sodium tartrate dihydrate			
1363	108087	Potassium sodium tartrate tetrahydrate	1062	106664	Sodium tartrate dihydrate			

## 808616 Taurine for synthesis

C<sub>2</sub>H<sub>7</sub>NO<sub>3</sub>SH<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>SO<sub>3</sub>H

- CAS-No. 107-35-7 ■ EC-No. 203-483-8
- Solub. in H<sub>2</sub>O 65 g/l (12 °C) ■ M = 125.15 g/mol

- Melting point 300 °C (decomposition)
- WGK 2
- LD50 oral rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2921 19 99

## Specification

Assay (acidimetric)..... ≥ 99,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08616.0005	Glass bottle	5 g	inquire
8.08616.0250	Plastic bottle	250 g	inquire
8.08616.1000	Plastic bottle	1 kg	inquire

TB → Thymol blue page 1556

TBAB → Tetra-n-butylammonium bromide page 1523

TBAF → Tetra-n-butylammonium fluoride trihydrate page 1523

Tb-color carbol fuchsin solution → page 193

Tb-color malachite green (oxalate) solution → page 193

Tb-color modified → page 193

Tb-color staining kit → page 193

TbD-methyl polystyrene → page 282

TbDMSCI → tert-Butyldimethylchlorosilane page 545

TBE → page 1522

## 106177 TBE buffer 10 x pH 8.3 tris-borate-EDTA buffer

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)
- pH value 8.2 - 8.4 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Warning, Skin sensitisation, Category 1, H317, P302 + P352
- LGK 10 - 13

- HS-No. 3822 00 00 ■ Disposal 3

## Specification

Appearance (colour)..... almost colourless  
 Appearance (description)..... almost clear  
 pH-value..... 8.2 - 8.4

Ord.No.	Packaging	Quantity	Price
1.06177.2500	Plastic bottle	2.5 l	inquire

# Tbfluo

TB-fluor → page 193

TB-Fluor phenol-free → page 193

TB medium → page 104

TBTU → page 279

TCBS agar → page 105

TCCA → Trichloroisocyanuric acid page 1579

TCNE → Tetracyanoethylene page 1528

TCNQ → 7,7,8,8-Tetracyanoquinonedimethane page 1528

TCP → 2,4,6-Trichlorophenol page 1580

TCTU → O-(1H-6-Chlorobenzotriazol-1-yl)-1,1,3,3-tetramethylurionium tetrafluoroborate page 601

TDI → Toluylene diisocyanate page 1570

TDA → Tris[2-(2-methoxyethoxy)ethyl]amine page 1617

TDBA → page 261

TEBA → page 456

## Tellurium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1432	106689	Sodium diethyldithiocarbamate trihydrate	1554	107979	Thiourea			

## 112356 Tellurium dioxide 99.5+

O<sub>2</sub>Te

TeO<sub>2</sub>

Tellurium(IV) oxide

■ CAS-No. 7446-07-3 ■ EC-No. 231-193-1

■ Spec. density 6.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 159.60 g/mol

■ Melting point 733 °C ■ Boiling point 1245 °C

- WGK nwg
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2811 29 90 ■ Disposal 15

### Specification

Assay (gravimetrically) ..... ≥ 99,5 % (m)

Identity (elemental analysis)..... conforms

Ord.No.	Packaging	Quantity	Price
1.12356.0010	Glass bottle	10 g	inquire
1.12356.0025	Glass bottle	25 g	inquire

Tellurium(IV) oxide → Tellurium dioxide page 1520

TEMED → page 1541

Temperature indicators → Tables and data

Tempo → 2,2,6,6-Tetramethylpiperidine-1-oxyl (free radical) page 1543

TEMPO polystyrene → page 283

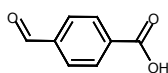
## Tensides and tenside analysis

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
484	801962	Brij® 35	827	112146	Dodecane-1-sulfonic acid sodium salt	1448	112292	Sodium 1-octanesulfonate
484	101894	Brij® 35 solution				1534	821092	Tetrahydrofurfuryl alcohol polyethylene glycol ether
589	102342	N-Cetyl-N,N,N-trimethylammonium bromide	829	820546	N-Dodecylpyridinium chloride	1621	822184	Tween® 20
590	111662	CHAPS (3-[(3-Cholamidopropyl)-dimethylammonio]-propane-sulfonate)	830	822050	Dodecyl sulfate sodium salt	1621	822185	Tween® 40
			830	113760	Dodecyl sulfate sodium salt	1621	822186	Tween® 60
756	113861	Dihexyl sodium sulfosuccinate	168	115480	Hyamine® 1622-solution	1621	822187	Tween® 80
808	112130	Dimidium bromide	1148	112148	Methyl dodecylbenzene sulfonate	1621	822188	Tween® 85
824	112144	Disulfine blue VN 150 (C.I.42045)	1244	112268	Octyl sulfate sodium salt			

TEP → Triethyl phosphate page 309

Terephthalaldehyde → Terephthalaldehyde page 1520

## 821075 Terephthalaldehydic acid for synthesis



C<sub>8</sub>H<sub>6</sub>O<sub>3</sub>

4-(OHC)C<sub>6</sub>H<sub>4</sub>COOH

4-Formylbenzoic acid, 4-Carboxybenzaldehyde

- CAS-No. 619-66-9 ■ EC-No. 210-607-4
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 150.14 g/mol ■ pH value 3.5 (1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 248 - 250 °C
- Bulk density 396 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13

■ HS-No. 2918 30 00 ■ Disposal 3

### Specification

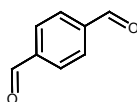
Assay (acidimetric)..... ≥ 98.0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21075.0010	Plastic bottle	10 g	inquire

Terephthalaldehydic acid methyl ester → Methyl 4-formylbenzoate page 1152

## 808617 Terephthalaldehyde for synthesis



C<sub>8</sub>H<sub>6</sub>O<sub>2</sub>

C<sub>6</sub>H<sub>4</sub>-1,4-(CHO)<sub>2</sub>

1,4-Benzenedicarbaldehyde, Terephthalaldehyde

- CAS-No. 623-27-8 ■ EC-No. 210-784-8
- Solub. in H<sub>2</sub>O 3 g/l (50 °C) ■ M = 134.13 g/mol
- Melting point 112 - 115 °C
- Boiling point 245 - 248 °C (1013 hPa)
- WGK 1
- LGK 10 - 13
- HS-No. 2912 29 00 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)

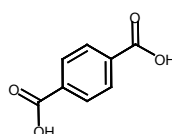
Melting range (lower value)..... ≥ 112 °C

Melting range (upper value)..... ≤ 116 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.08617.0100	Plastic bottle	100 g	inquire

## 800762 Terephthalic acid for synthesis



C<sub>8</sub>H<sub>6</sub>O<sub>4</sub>

C<sub>6</sub>H<sub>4</sub>-1,4-(COOH)<sub>2</sub>

1,4-Benzenedicarboxylic acid, p-Phthalic acid

■ CAS-No. 100-21-0 ■ EC-No. 202-830-0

■ Spec. density 1.51 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 15 mg/l (20 °C) (experimental)

■ M = 166.13 g/mol

■ Melting point 402 °C (sublimed)

■ Ignition temp. 496 °C

■ WGK 1

■ LD50 oral rat > 6400 mg/kg

■ LGK 10 - 13

■ HS-No. 2917 36 00 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 98.0 % (m)

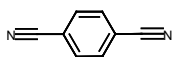
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00762.0100	Plastic bottle	100 g	inquire
8.00762.1000	Plastic bottle	1 kg	inquire

Terephthalic acid dichloride → Terephthaloyl dichloride page 1521

Terephthalic acid dimethyl ester → Dimethyl terephthalate page 805

Terephthalic acid monomethyl ester → Monomethyl terephthalate page 1192

**821076 Terephthalodinitrile** for synthesisC<sub>8</sub>H<sub>4</sub>N<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,4-(CN)<sub>2</sub>

1,4-Benzenedicarbonitrile

■ CAS-No. 623-26-7 ■ EC-No. 210-783-2

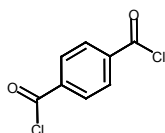
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 128.13 g/mol
- Melting point 223 - 226 °C
- WGK 1
- LD50 oral rat 6400 mg/kg
- LGK 10 - 13
- HS-No. 2926 90 95 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 223 °C  
 Melting range (upper value)..... ≤ 226 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21076.0050	Glass bottle	50 g	inquire
8.21076.0250	Glass bottle	250 g	inquire

**800740 Terephthaloyl dichloride** for synthesisC<sub>8</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub>C<sub>6</sub>H<sub>4</sub>-1,4-(COCl)<sub>2</sub>

Terephthalic acid dichloride

■ CAS-No. 100-20-9 ■ EC-No. 202-829-5

■ Vapour pressure 3.93 Pa (25 °C)

■ Spec. density 1.34 g/cm<sup>3</sup> (100 °C) ■ Explosive limit 1.5 - 8.9 % (V) ■ Flash point 180 °C

■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 203.02 g/mol

■ pH value < 0.5 (H<sub>2</sub>O)

- Melting point 81.5 - 83.0 °C
- Boiling point 265 °C (1013 hPa)
- Ignition temp. >450 °C
- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin sensitisation, Category 1, H317, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.7 mg/l
- LD50 oral rat 2500 mg/kg ■ LD50 dermal rabbit 3160 mg/kg
- LGK 6.1A
- HS-No. 2917 39 95 ■ Disposal 11

- ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(TEREPHTHALSAEUREDICHLORID), 8 (6.1), II
- IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(TEREPHTHALOYL DICHLORIDE), 8 (6.1), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(TEREPHTHALOYL DICHLORIDE), 8 (6.1), II

**Specification**

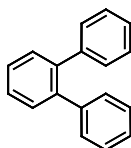
Assay (morpholine method) ..... ≥ 98.0 % (m)

Melting range (lower value)..... ≥ 79 °C

Melting range (upper value)..... ≤ 82 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00740.0005	Glass bottle	5 g	inquire
8.00740.0250	Glass bottle	250 g	inquire

**821077 o-Terphenyl** for synthesisC<sub>18</sub>H<sub>14</sub>2-(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>5</sub>

1,2-Diphenylbenzene

- CAS-No. 84-15-1 ■ EC-No. 201-517-6
- Flash point 163 °C ■ Solub. in H<sub>2</sub>O < 0.01 g/l (25 °C) ■ M = 230.3 g/mol
- Melting point 55 - 57 °C ■ Boiling point 332 °C (1013 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1900 mg/kg
- LGK 10 - 13

- HS-No. 2902 90 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)

Melting range (lower value)..... ≥ 54 °C

Melting range (upper value)..... ≤ 57 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21077.0025	Plastic bottle	25 g	inquire
8.21077.0100	Plastic bottle	100 g	inquire

**814759 Terpineol (mixture of isomers)** for synthesisC<sub>10</sub>H<sub>18</sub>O

■ CAS-No. 8000-41-7 ■ EC-No. 232-268-1

■ Vapour pressure 0.24 hPa (20 °C)

■ Spec. density 0.930 - 0.935 g/cm<sup>3</sup> (20 °C)

■ Flash point 91 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 154.25 g/mol

■ Boiling point 214 - 217 °C

■ WGK 2

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 4300 mg/kg
- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 3

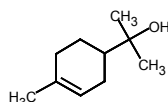
**Specification**

Assay isomers (GC, area%) ..... ≥ 94.0 Area %

Density (d 20 °C/ 4 °C) ..... 0.930 - 0.935

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14759.1000	Glass bottle	1 l	inquire
8.14759.2500	Glass bottle	2.5 l	inquire

**821078 (S)-(-)-α-Terpineol** for synthesisC<sub>10</sub>H<sub>18</sub>O*p*-Menth-1-en-8-ol

■ CAS-No. 10482-56-1 ■ EC-No. 233-986-8

■ Refractive index 1.4813 (20 °C, 589 nm)

■ Spec. density 0.935 g/cm<sup>3</sup> (20 °C)

■ Flash point 90 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 154.25 g/mol
- Melting point 32 - 34 °C
- Boiling point 215 - 217 °C (1013 hPa)
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 4300 mg/kg ■ LD50 dermal rat > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 1

**Specification**

Assay (GC, area%) ..... ≥ 98.0 Area %

Optical rotation α 20/D (c=20 in Ethanol). -102,5 - -97,5 °

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21078.0005	Glass bottle	5 ml	inquire
8.21078.0250	Glass bottle	250 ml	inquire
8.21078.1000	Glass bottle	1 l	inquire

**848025 α-Terpineol, technical** for synthesisC<sub>10</sub>H<sub>18</sub>O

■ CAS-No. 98-55-5 ■ EC-No. 202-680-6

■ Vapour pressure 0.056 hPa (24 °C)

■ Spec. density 0.935 g/cm<sup>3</sup> (20 °C)

■ Flash point 89 °C ■ Solub. in H<sub>2</sub>O 0.71 g/l (25 °C) ■ M = 154.25 g/mol

■ Melting point 32 - 34 °C

■ Boiling point 217 - 218 °C (1013 hPa)

■ WGK 1

- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LD50 oral rat 3200 mg/kg
- LGK 10 - 13
- HS-No. 2906 19 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 95 %

Optical rotation α 20/D (c=20 in Ethanol) ..... -120.0 - -80.0 °

Identity (IR)..... passes test

cosmetic colouring agent

Ord.No.	Packaging	Quantity	Price
8.48025.1000	Glass bottle	1 l	inquire

# Tertia

Tertiary amines → Amines and ammonium compounds

Test agar pH 6.0 for inhibitor test → page 105

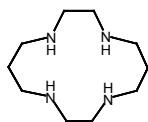
Test Kits for Water Analysis → page

TES → N-[Tris(hydroxymethyl)-methyl]-2-aminoethanesulfonic acid page 1616

Test agar pH 8.0 for inhibitor test → page 105

Test vessels → page 90

## 841316 1,4,8,11-Tetraazacyclotetradecane for synthesis



C<sub>10</sub>H<sub>24</sub>N<sub>4</sub>  
Cyclam

- CAS-No. 295-37-4 ■ EC-No. 206-039-1
- M = 200.33 g/mol ■ Melting point 183 - 187 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

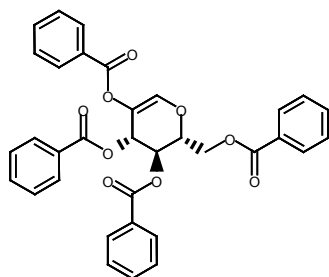
### Specification

Assay (HClO<sub>4</sub>)..... ≥ 92.0 %  
Melting range (lower value)..... ≥ 184 °C  
Melting range (upper value)..... ≤ 191 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41316.0001	Plastic bottle	1 g	inquire

3,6,9,12-Tetraazatetradecane-1,14-diamine → Pentaethylenhexamine page 1265

## 818260 (-)-Tetra-O-benzoyl-2-hydroxy-D-glucal for synthesis



C<sub>34</sub>H<sub>26</sub>O<sub>9</sub>

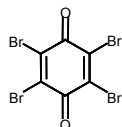
- 1,5-Anhydro-3,4,6-tri-O-benzoyl-2-benzoyloxy-D-arabino-hex-1-enitol
- CAS-No. 14125-75-8
  - Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 578.57 g/mol ■ Melting point 119 - 122 °C
  - Bulk density 180 kg/m<sup>3</sup>
  - WGK 3
  - HS-No. 2932 99 00 ■ Disposal 3

### Specification

Assay (DSC)..... ≥ 98.0 %  
Melting range (lower value)..... ≥ 119 °C  
Melting range (upper value)..... ≤ 122 °C  
Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=1 in chloroform) ... -91.0 - -89.0 °  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18260.0010	Plastic bottle	10 g	inquire

## 820180 Tetrabromo-p-benzoquinone for synthesis



C<sub>6</sub>Br<sub>4</sub>O<sub>2</sub>

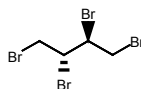
- 1-O=C<sub>6</sub>Br<sub>4</sub>-4(=O)  
*p*-Bromanile
- CAS-No. 488-48-2 ■ EC-No. 207-679-4
  - Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 423.68 g/mol ■ Melting point 296 - 298 °C
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2914 70 00 ■ Disposal 3

### Specification

Assay (ex Br)..... ≥ 96.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20180.0005	Glass bottle	5 g	inquire

## 814881 meso-1,2,3,4-Tetrabromobutane for synthesis



C<sub>4</sub>H<sub>6</sub>Br<sub>4</sub>

- CAS-No. 2657-67-2
- Vapour pressure 0.009 hPa (25 °C) ■ Solub. in

- H<sub>2</sub>O 0.004 g/l (25 °C) ■ M = 373.71 g/mol
- Melting point 116 - 119 °C
  - Boiling point 181 °C (80 hPa)
  - WGK 3
  - LGK 10 - 13
  - HS-No. 2903 39 19 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 116 °C  
Melting range (upper value)..... ≤ 119 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14881.0025	Glass bottle	25 g	inquire
8.14881.0100	Glass bottle	100 g	inquire

## 1,1,2,2-Tetrabromoethane



C<sub>2</sub>H<sub>2</sub>Br<sub>4</sub>

- Br<sub>2</sub>CHCHBr<sub>2</sub>  
*TBE*, *Muthmanns liquid*, *Acetylene tetrabromide*
- CAS-No. 79-27-6 ■ EC-No. 201-191-5
  - Vapour pressure 0.03 - 0.13 hPa (20 °C)
  - Spec. density 2.96 g/cm<sup>3</sup> (25 °C) ■ Solub. in

- H<sub>2</sub>O 0.68 g/l (25 °C) ■ M = 345.65 g/mol
- Melting point -1 °C ■ Boiling point 119 °C (20 hPa) ■ Ignition temp. 335 °C
  - WGK 1
  - GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P304 + P340, P305 + P351 + P338, P309 + P310
  - LC50 rat 549 mg/m<sup>3</sup>
  - LD50 oral rat 1200 mg/kg ■ LD50 dermal rat

5250 mg/kg  
■ EC-Index-No. 602-016-00-9 ■ LGK 6.1B  
■ HS-No. 2903 39 19 ■ Disposal 9  
■ ADR-RID UN 2504 Tetrabromethan, 6.1, III  
■ IMDG-Code UN 2504 TETRABROMOETHANE, 6.1, III, Marine Pollutant: P, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
■ IATA-DGR UN 2504 TETRABROMOETHANE, 6.1, III

## 100033 1,1,2,2-Tetrabromoethane red-coloured

### Specification

Purity (GC)..... ≥ 98.0 %  
Identity (IR-spectrum)..... conforms

Water..... ≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.00033.1000	Glass btl. pl.coat.	1 l	inquire

## 100034 1,1,2,2-Tetrabromoethane

### Specification

Assay (GC, area%)..... ≥ 98 %  
Density (d 20 °C/ 4 °C)..... 2.950 - 2.970  
Water (K. F.)..... ≤ 0.05 %

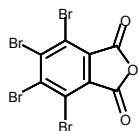
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
1.00034.1000	Glass bottle	1 l	inquire

Tetrabromomethane → Carbon tetrabromide page 571



## 808096 Tetrabromophthalic anhydride for synthesis

C<sub>8</sub>Br<sub>4</sub>O<sub>3</sub>

- CAS-No. 632-79-1 ■ EC-No. 211-185-4
- Vapour pressure 14.67 Pa (20 °C)

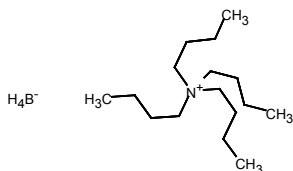
- Spec. density 2.87 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 463.7 g/mol
- Melting point 271 - 274 °C
- WGK 2
- GHS: P262
- LC50 rat > 10.92 mg/l
- LD50 oral rat > 10000 mg/kg
- LD50 dermal rabbit > 10000 mg/kg
- LGK 10 - 13
- HS-No. 2917 39 20 ■ Disposal 3

## Specification

Assay (ex Br) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 270 °C  
 Melting range (upper value) ..... ≤ 280 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08096.0250	Plastic bottle	250 g	inquire

## 841188 Tetra-n-butylammonium borohydride for synthesis

C<sub>16</sub>H<sub>40</sub>BN

- Tetra-n-butylammonium-tetrahydridoborate
- CAS-No. 33725-74-5 ■ EC-No. 251-658-2
  - Flash point 140 °C ■ M = 257.31 g/mol
  - Melting point 124 - 129 °C

- WGK 3
- GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases, Category 2, H261; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 4.3
- HS-No. 2942 00 00 ■ Disposal 26
- ADR-RID UN 3131 Mit Wasser reagierender fester Stoff, ätzend, n.a.g.(TETRA-N-BUTYLAMMONIUMBORHYDRID), 4.3 (8), II
- IMDG-Code UN 3131 WATER-REACTIVE SOLID, CORROSIVE, N.O.S.(TETRA-N-

BUTYLAMMONIUMBOROHYDRIDE), 4.3 (8), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 3131 WATER-REACTIVE SOLID, CORROSIVE, N.O.S.(TETRA-N-BUTYLAMMONIUMBOROHYDRIDE), 4.3 (8), II

## Specification

Assay (hypochlorite) ..... ≥ 97,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41188.0010	Glass bottle	10 g	inquire

## 843804 Tetrabutylammonium bromide (50% solution in water) for synthesis

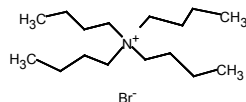
- Spec. density 1.043 g/cm<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

## Specification

Assay (argentometric) ..... 47,0 - 53,0 %

Ord.No.	Packaging	Quantity	Price
8.43804.0100	Glass bottle	100 ml	inquire
8.43804.1000	Glass bottle	1 l	inquire

## 818839 Tetra-n-butylammonium bromide for synthesis

C<sub>16</sub>H<sub>36</sub>BrN(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>4</sub>NBr

- TBAB
- CAS-No. 1643-19-2 ■ EC-No. 216-699-2

- Spec. density 1.15 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 600 g/l (20 °C) ■ M = 322.37 g/mol
- Melting point 100 - 103 °C
- Bulk density 700 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

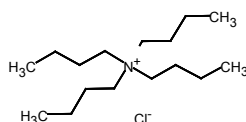
## Specification

Assay (argentometric) ..... ≥ 99,0 % (m)

Melting range (lower value) ..... ≥ 100 °C  
 Melting range (upper value) ..... ≤ 105 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18839.0010	Glass bottle	10 g	inquire
8.18839.0050	Plastic bottle	50 g	inquire
8.18839.0250	Plastic bottle	250 g	inquire

## 814645 Tetra-n-butylammonium chloride for synthesis

C<sub>16</sub>H<sub>36</sub>ClN

- CAS-No. 1112-67-0 ■ EC-No. 214-195-7
- Spec. density 1 g/cm<sup>3</sup> ■ Flash point 110 °C
- M = 277.92 g/mol ■ pH value 5 - 8 (100 g/l),

- H<sub>2</sub>O, 20 °C ■ Melting point 41 - 44 °C
- Bulk density 700 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P305 + P351 + P338, P302 + P352
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

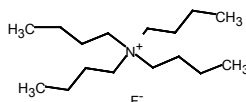
## Specification

Assay (argentometric, calc. on anhydrous

substance) ..... ≥ 95,0 % (m)  
 Water (K. F.) ..... ≤ 5,0 % (m)  
 Identity (IR) ..... conforms  
 Might contain up to 5% bromide.

Ord.No.	Packaging	Quantity	Price
8.14645.0010	Glass bottle	10 g	inquire
8.14645.0025	Glass bottle	25 g	inquire
8.14645.0100	Glass bottle	100 g	inquire

## 818164 Tetra-n-butylammonium fluoride trihydrate for synthesis

C<sub>16</sub>H<sub>36</sub>FN \* 3H<sub>2</sub>O(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>4</sub>NF \* 3H<sub>2</sub>O

- TBAF
- CAS-No. 87749-50-6 ■ EC-No. 207-057-2
  - Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 315.49 g/mol
  - Melting point 62 - 63 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P260, P262, P309 + P310
- LGK 6.1A
- HS-No. 2923 90 00 ■ Disposal 23
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TETRA-N-BUTYLAMMONIUMFLUORID-TRIHYDRAT), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRA-N-BUTYLAMMONIUM FLUORIDE TRIHYDRATE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

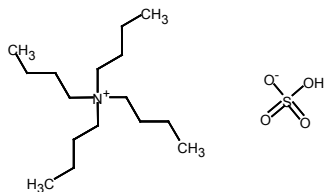
N.O.S.(TETRA-N-BUTYLAMMONIUM FLUORIDE TRIHYDRATE), 6.1, II

## Specification

Assay (ex N) ..... ≥ 97,0 % (m)  
 Water (K. F.) ..... 15,0 - 18,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18164.0005	Glass bottle	5 g	inquire
8.18164.0010	Glass bottle	10 g	inquire
8.18164.0050	Glass bottle	50 g	inquire

## Tetra-n-butylammonium hydrogen sulfate

C<sub>16</sub>H<sub>37</sub>NO<sub>5</sub>S

- CAS-No. 32503-27-8 ■ EC-No. 251-068-5
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 339.54 g/mol
- pH value 1 - 2 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 168 - 174 °C

- Bulk density 650 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

## 818858 Tetra-n-butylammonium hydrogen sulfate for synthesis

## Specification

Assay (acidimetric)..... ≥ 98,0 %(m)  
 Melting range (lower value)..... ≥ 168 °C  
 Melting range (upper value)..... ≤ 174 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18858.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
8.18858.0500	Plastic bottle	500 g	inquire

## 118312 Tetra-n-butylammonium hydrogen sulfate for ion pair chromatography LiChropur®

## Specification

Assay (acidimetric; calculated on dried substance)..... ≥ 99%  
 Identity (IR-spectrum)..... passes test  
 pH-value (10 %; water)..... ≤ 2  
 UV-transmission (200 nm; 0.005 mol/l; 1 cm; water)..... ≥ 98 %

UV-transmission (220 nm; 0.005 mol/l; 1 cm; water)..... ≥ 70 %  
 UV-transmission (250 nm; 0.005 mol/l; 1 cm; water)..... ≥ 90 %  
 UV-transmission (200 nm; 0.005 mol/l; 1 cm; water)..... ≥ 98 %

Loss on drying (120 °C, vacuum)..... ≤ 2%

Ord.No.	Packaging	Quantity	Price
1.18312.0025	Glass bottle	25 g	inquire

## 845083 Tetra-n-butylammonium hydrogensulfate for pharma synthesis, non-GMP

## Specification

Colour (visual)..... white to yellow  
 Appearance of substance (visual)..... powder  
 Assay (acidimetric)..... ≥ 98,0 %(m)  
 Melting range (lower value)..... ≥ 169 °C

Melting range (upper value)..... ≤ 172 °C  
 Identity (IR)..... passes test  
 Ethyl acetate (GC)..... lot specific result

Ord.No.	Packaging	Quantity	Price
8.45083.0100	Plastic bottle	100 g	inquire
8.45083.0500	Plastic bottle	500 g	inquire

## 818215 Tetra-n-butylammonium hydroxide (12.5% solution in methanol) for synthesis



- Spec. density 0.81 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 36.5 % (V) Methanol ■ Flash point 11 °C
- Solub. in H<sub>2</sub>O (20 °C) soluble
- Boiling point 65 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - single exposure, Category 1, H370; Skin corrosion, Category 1B, H314, P210, P233, P240, P280, P301 + P330 + P331, P302 +

- P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 3824 90 97 ■ Disposal 1
- ADR-RID UN 3286 Entzündbarer flüssiger Stoff, giftig, ätzend, n.a.g.(TETRA-N-BUTYLAMMONIUMHYDROXIDLOESUNG IN METHANOL), 3 (6.1, 8), II ■ IMDG-Code UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.(TETRA-N-BUTYLAMMONIUMHYDROXIDE), 3 (6.1, 8), II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 3286 FLAMMABLE LIQUID, TOXIC,

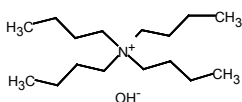
CORROSIVE, N.O.S.(TETRA-N-BUTYLAMMONIUMHYDROXIDE), 3 (6.1, 8), II

## Specification

Assay (acidimetric)..... 11,5 - 13,5 %(m)  
 Density (d 20 °C/ 4 °C)..... 0,815 - 0,830

Ord.No.	Packaging	Quantity	Price
8.18215.0250	Plastic bottle	250 ml	inquire
8.18215.1000	Plastic bottle	1 l	inquire

## 818759 Tetra-n-butylammonium hydroxide (20% solution in water) for synthesis



- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 14 (H<sub>2</sub>O, 20 °C)
- Boiling point 102 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

- P309 + P310
- LGK 8 B
- HS-No. 2923 90 00 ■ Disposal 13
- ADR-RID UN 3267 Ätzender basischer organischer flüssiger Stoff, n.a.g.(TETRABUTYLAMMONIUMHYDROXID LOESUNG), 8, II ■ IMDG-Code UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(TETRABUTYLAMMONIUMHYDROXIDE), 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 3267 CORROSIVE LIQUID, BASIC,

ORGANIC, N.O.S.(TETRABUTYLAMMONIUMHYDROXIDE), 8, II

## Specification

Assay (acidimetric)..... 18,0 - 22,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.18759.0050	Plastic bottle	50 ml	inquire
8.18759.0100	Plastic bottle	100 ml	inquire
	Plastic bottle	6 x 100 ml	inquire
8.18759.0500	Plastic bottle	500 ml	inquire

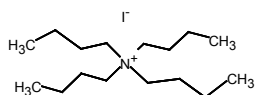
109162 Tetra-n-butylammonium hydroxide solution in 2-propanol/methanol for titrations in non-aqueous media c[(C<sub>4</sub>H<sub>9</sub>)<sub>4</sub>NOH] = 0.1 mol/l (0.1 N) Titripur®

- Spec. density 0.792 g/cm<sup>3</sup> (20 °C)
- Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 14 (H<sub>2</sub>O, 20 °C)
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Specific target organ toxicity - single exposure, Category 1, H370; Specific target organ toxicity - single exposure, Category 3, H336, P210, P233, P240, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1

- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(ISOPROPANOL UND ENTH. METHANOL), 3 (6.1), II ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(ISOPROPANOL AND CONT. METHANOL), 3 (6.1), II
- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(ISOPROPANOL AND CONT. METHANOL), 3 (6.1), II
- Specification
- Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur, USP). Amount-of-substance concentration . 0.1000 mol/l
- The concentration of this volumetric solution was determined with volumetric standard benzoic acid (Merck article number 1.02401). The determined

titer at 20°C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 350b (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard benzoic acid, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09162.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.09162.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

822152 Tetra-*n*-butylammonium iodide for synthesisC<sub>16</sub>H<sub>36</sub>I<sub>N</sub>

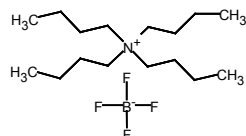
- CAS-No. 311-28-4 ■ EC-No. 206-220-5
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 369.38 g/mol ■ Melting point 143 - 146 °C

- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1990 mg/kg
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (argentometric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 143 °C  
 Melting range (upper value)..... ≤ 147 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22152.0100	Plastic bottle	100 g	inquire
8.22152.0250	Plastic bottle	250 g	inquire

818244 Tetra-*n*-butylammonium tetrafluoroborate for synthesisC<sub>16</sub>H<sub>36</sub>BF<sub>4</sub>N

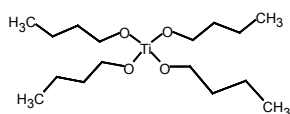
- (CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>4</sub>NBF<sub>4</sub>
- CAS-No. 429-42-5 ■ EC-No. 207-058-8
  - Solub. in H<sub>2</sub>O (20 °C) practically insoluble
  - M = 329.28 g/mol ■ Melting point 159 - 162 °C
  - WGK 3
  - GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18244.0025	Glass bottle	25 g	inquire

Tetra-*n*-butylammonium-tetrahydridoborate → Tetra-*n*-butylammonium borohydride page 1523821084 Tetra-*n*-butyl orthotitanate for synthesisC<sub>16</sub>H<sub>36</sub>O<sub>4</sub>Ti

- (CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>O)<sub>4</sub>Ti
- CAS-No. 5593-70-4 ■ EC-No. 227-006-8
  - Vapour pressure 5.6 hPa (20 °C)
  - Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.0 - 12.0 % (V) ■ Flash point 47 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition)

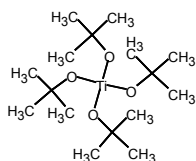
- M = 340.32 g/mol ■ Melting point -40 °C
- Boiling point 310 - 314 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P210, P302 + P352, P305 + P351 + P338, P313
- LC50 rat 11 mg/l
- LD50 oral rat 3122 mg/kg
- LGK 3 ■ Store at +2 °C to +8 °C.
- HS-No. 2905 19 00 ■ Disposal 8
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TETRABUTYLORHOTITANAT), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TETRABUTYLORHOTITANATE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TETRABUTYLORHOTITANATE), 3, III

## Specification

Assay (ex Ti)..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C)..... 0,990 - 1,000  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21084.0100	Glass bottle	100 ml	inquire
8.21084.0500	Glass bottle	500 ml	inquire

818320 Tetra-*tert*-butyl orthotitanate for synthesisC<sub>16</sub>H<sub>36</sub>O<sub>4</sub>TiTi(OC(CH<sub>3</sub>)<sub>3</sub>)<sub>4</sub>

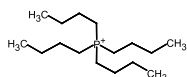
- tert*-Butyl titanate(IV), Orthotitanic acid tetra-*tert*-butyl ester, Titanium tetra-*tert*-butylate, Titanic acid tetra-*tert*-butyl ester
- CAS-No. 3087-39-6 ■ EC-No. 221-412-9
  - Refractive index 1.4368 (20 °C, 589 nm)
  - Vapour pressure 43 hPa (136 °C)
  - Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 340.32 g/mol
  - Boiling point 160 - 165 °C (20 hPa)
  - WGK 3

- LGK 10 - 13
- HS-No. 2905 19 00 ■ Disposal 3

## Specification

Assay (ex Ti)..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C)..... 0.888 - 0.894  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18320.0025	Glass bottle	25 ml	inquire

814995 Tetra-*n*-butylphosphonium bis(oxalato-(2)-borate) for synthesisC<sub>20</sub>H<sub>36</sub>BO<sub>8</sub>P

- CAS-No. 433941-16-3
- M = 446.29 g/mol ■ pH value 5 (H<sub>2</sub>O)
- Melting point 44 - 47 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310

- LD50 oral rat > 200 - 2000 mg/kg
- LGK 6.1C
- HS-No. 2931 90 90 ■ Disposal 14
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TETRABUTYLPHOSPHONIUM-BIS(OXALATO(2-))-BORAT), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRABUTYLPHOSPHONIUM-BIS(OXALATO(2-))-BORATE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRABUTYLPHOSPHONIUM-

BIS(OXALATO(2-))-BORATE), 6.1, III

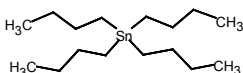
## Specification

Assay (HPLC, area%)..... ≥ 96,0 Area %  
 Melting range (lower value)..... ≥ 44 °C  
 Melting range (upper value)..... ≤ 47 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14995.0025	Glass bottle	25 g	inquire

Tetrabutylstannane → Tetra-*n*-butyltin page 1526

## 808278 Tetra-n-butyltin for synthesis



C<sub>16</sub>H<sub>36</sub>Sn  
(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>4</sub>Sn  
*Tetrabutylstannane, Tin tetrabutyl*  
 ■ CAS-No. 1461-25-2 ■ EC-No. 215-960-8  
 ■ Refractive index 1.4742 (20 °C, 589 nm)  
 ■ Vapour pressure 0.0014 hPa (25 °C)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 100 °C ■ Solub. in H<sub>2</sub>O 0.008 g/l (20 °C) ■ M = 347.15 g/mol ■ Melting point -

97 °C ■ Boiling point 140 °C (10 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P260, P273  
 ■ LD50 oral rat 1268 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 9  
 ■ ADR-RID UN 2788 Organische Zinnverbindung, flüssig, n.a.g.(TETRA-N-BUTYLZINN), 6.1, III  
 ■ IMDG-Code UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(TETRA-N-BUTYL TIN), 6.1, III, Marine

Pollutant: P  
 ■ IATA-DGR UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(TETRA-N-BUTYL TIN), 6.1, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,052 - 1,057  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08278.0025	Glass bottle	25 ml	inquire
8.08278.0100	Glass bottle	100 ml	inquire

## 101582 Tetrachlorauric(III) acid trihydrate 99.5% for analysis EMSURE®

AuCl<sub>4</sub>H \* 3 H<sub>2</sub>O  
*Gold(III)chloride hydrochloric acid, Gold trichloride hydrochloride*

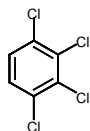
■ CAS-No. 16961-25-4 ■ EC-No. 240-948-4  
 ■ Spec. density 3.9 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 150 g/l (20 °C) ■ M = 393.83 g/mol  
 ■ pH value (H<sub>2</sub>O) strongly acid  
 ■ Melting point 30 °C  
 ■ WGK 2  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338,

P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 2843 30 00 ■ Disposal 27  
 ■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(TETRACHLOROGOLD (III)-SAEURE), 8, III  
 ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(TETRA CHLORAUERIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(TETRA CHLORAUERIC ACID), 8, III

For staining connective tissue, applications in electroplating.  
**Specification**  
 Identity (Raman-spectrum) ..... conforms  
 Assay (calculated of Au) ..... 99.5 - 100.4 %

Ord.No.	Packaging	Quantity	Price
1.01582.0001	EPS box	1 g	inquire
1.01582.0005	Fibre case	5 g	inquire

## 821605 1,2,3,4-Tetrachlorobenzene for synthesis



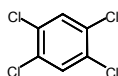
C<sub>6</sub>H<sub>2</sub>Cl<sub>4</sub>  
 C<sub>6</sub>H<sub>2</sub>-1,2,3,4-(Cl)<sub>4</sub>  
 ■ CAS-No. 634-66-2 ■ EC-No. 211-214-0  
 ■ Vapour pressure 0.03 hPa (25 °C)  
 ■ Spec. density 1.73 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 155 °C ■ Solub. in H<sub>2</sub>O 0.0028 g/l (25 °C) ■ M = 215.89 g/mol

■ Melting point 42 - 45 °C ■ Boiling point 254 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273  
 ■ LD50 oral rat 1167 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1,2,3,4-TETRACHLOROBENZOL), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,2,3,4-TETRACHLOROBENZENE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,2,3,4-TETRACHLOROBENZENE), 9, III  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 96.0 % (a/a)  
 Melting range (lower value) ..... ≥ 42 °C  
 Melting range (upper value) ..... ≤ 45 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21605.0010	Glass bottle	10 g	inquire
8.21605.0100	Glass bottle	100 g	inquire

## 841787 1,2,4,5-Tetrachlorobenzene for synthesis



C<sub>6</sub>H<sub>2</sub>Cl<sub>4</sub>  
 ■ CAS-No. 95-94-3 ■ EC-No. 202-466-2  
 ■ Vapour pressure 0.1 hPa (25 °C)  
 ■ Spec. density 1.86 g/cm<sup>3</sup> (22 °C)  
 ■ Flash point 155 °C ■ Solub. in H<sub>2</sub>O 0.0003 g/l (22 °C) ■ M = 215.89 g/mol  
 ■ Melting point 139 - 142 °C  
 ■ Boiling point 240 - 246 °C (1013 hPa)  
 ■ WGK 3

■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273  
 ■ LD50 oral rat 1500 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(1,2,4,5-TETRACHLOROBENZOL), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,2,4,5-TETRACHLOROBENZENE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(1,2,4,5-

TETRACHLOROBENZENE), 9, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 139 °C  
 Melting range (upper value) ..... ≤ 142 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41787.0010	Plastic bottle	10 g	inquire

Tetrachloro-p-benzoquinone → p-Chloranil page 593

1,1,2,2-Tetrachlorodibromoethane → 1,2-Dibromotetrachloroethane page 706

## 843948 1,1,2,2-Tetrachloroethane for synthesis



C<sub>2</sub>H<sub>2</sub>Cl<sub>4</sub>  
 ■ CAS-No. 79-34-5 ■ EC-No. 201-197-8  
 ■ Vapour pressure 6.4 hPa (20 °C)  
 ■ Spec. density 1.59 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 2830 g/l (25 °C) ■ M = 167.85 g/mol  
 ■ Melting point -42.5 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1,

Dermal, H310; Chronic aquatic toxicity, Category 2, H411, P260, P280, P273, P302 + P352, P304 + P340, P309 + P310  
 ■ LD50 oral rat 200 mg/kg ■ LD50 dermal rabbit 3990 mg/kg  
 ■ EC-Index-No. 602-015-00-3 ■ LGK 6.1B  
 ■ HS-No. 2903 19 80 ■ Disposal 2  
 ■ ADR-RID UN 1702 1,1,2,2-Tetrachlorethan, 6.1, II  
 ■ IMDG-Code UN 1702 1,1,2,2-TETRACHLOROETHANE, 6.1, II, Marine Pollutant: P, Segregation Group: 10 (Liquid halogenated hydrocarbons)

■ IATA-DGR UN 1702 1,1,2,2-TETRACHLOROETHANE, 6.1, II  
**Specification**  
 Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.593 - 1.598  
 Water (K. F.) ..... ≤ 0.50 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43948.0250	Glass bottle	250 ml	inquire
8.43948.1000	Glass bottle	1 l	inquire



## 103495 1,1,2,2-Tetrachloroethane-D2 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™

C<sub>2</sub>Cl<sub>4</sub>D<sub>2</sub>C<sub>2</sub>D<sub>2</sub>Cl<sub>4</sub>

Acetylene tetrachloride, 1,2-Dideutero-1,1,2,2-tetrachloroethane

- CAS-No. 33685-54-0 ■ EC-No. 251-634-1
- Vapour pressure 6.6 hPa (20 °C)
- Spec. density 1.595 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 3 g/l (20 °C) ■ M = 169.86 g/mol
- Melting point -36 °C ■ Boiling point 146 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1B
- HS-No. 2845 90 10 ■ Disposal 9
- ADR-RID UN 1702 1,1,2,2-Tetrachlorethan, 6.1, II ■ IMDG-Code UN 1702 1,1,2,2-TETRACHLOROETHANE, 6.1, II, Marine Pollutant: P, Segregation Group: 10 (Liquid halogenated hydrocarbons)

- IATA-DGR UN 1702 1,1,2,2-TETRACHLOROETHANE, 6.1, II

**Specification**

- Deuteration degree..... ≥ 99.5 %
- Water (NMR, H<sub>2</sub>O)..... ≤ 0.02 %
- Performance test (NMR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.03495.0009	Glass ampoule	10x0.75 ml	inquire
1.03495.0025	Glass bottle	25 ml	inquire

## Tetrachloroethylene

C<sub>2</sub>Cl<sub>4</sub>Cl<sub>2</sub>CCl<sub>2</sub>

Ethylene tetrachloride, Perchloroethylene, PCE

- CAS-No. 127-18-4 ■ EC-No. 204-825-9
- Vapour pressure 19 hPa (20 °C)
- Spec. density 1.62 g/cm<sup>3</sup> (20 °C) ■ Dielectricity

- constant 2.4 (20 °C) ■ Solub. in H<sub>2</sub>O 0.16 g/l (20 °C) ■ M = 165.83 g/mol ■ pH value (H<sub>2</sub>O) not applicable ■ Saturation conc. 126 g/m<sup>3</sup> (20 °C) Air
- Melting point -22 °C ■ Boiling point 121 °C (1013 hPa) ■ Evaporation number 11
- WGK 3
- GHS: Warning, Carcinogenicity, Category 2, H351; Chronic aquatic toxicity, Category 2, H411, P281, P273, P308 + P313
- LC50 rat 27.58 mg/l

- LD50 oral rat 2629 mg/kg
- EC-Index-No. 602-028-00-4 ■ LGK 6.1 D
- HS-No. 2903 23 00 ■ Disposal 3
- ADR-RID UN 1897 Tetrachlorethylene, 6.1, III
- IMDG-Code UN 1897 TETRACHLOROETHYLENE, 6.1, III, Marine Pollutant: P, Segregation Group: 10 (Liquid halogenated hydrocarbons)
- IATA-DGR UN 1897 TETRACHLOROETHYLENE, 6.1, III

## 100964 Tetrachloroethylene EMLURA®

**Specification**

- Purity (GC)..... ≥ 99.0 %
- Identity (IR)..... conforms
- Free acid (as HCl)..... ≤ 0.001 %
- Density (d 20 °C/ 4 °C)..... 1.621 - 1.623
- Evaporation residue..... ≤ 0.001 %

Water..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.00964.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.00964.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00964.6025	Drum stainl. st.	25 l	inquire
1.00964.9190	Steel barrel	190 l	inquire

## 100965 Tetrachloroethylene for spectroscopy Uvasol®

**Specification**

- Purity (GC)..... ≥ 99.9 %
- Evaporation residue..... ≤ 0.0005 %
- Water..... ≤ 0.01 %
- Colour..... ≤ 10 Hazen
- Acidity..... ≤ 0.0005 meq/g
- Alkalinity..... ≤ 0.0005 meq/g
- Hydrocarbons (related to squalane/squalene (3050-2900 cm<sup>-1</sup>))..... ≤ 10 ppm

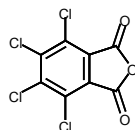
- Fluorescence (as quinine at 365 nm)..... ≤ 1.0 ppb
- Transmission (at 290 nm)..... ≥ 20 %
- Transmission (at 295 nm)..... ≥ 65 %
- Transmission (at 300 nm)..... ≥ 80 %
- Transmission (from 305 nm)..... ≥ 85 %
- Absorbance (at 290 nm)..... ≤ 0.70
- Absorbance (at 295 nm)..... ≤ 0.19
- Absorbance (at 300 nm)..... ≤ 0.10

Absorbance (from 305 nm)..... ≤ 0.07

Ord.No.	Packaging	Quantity	Price
1.00965.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.00965.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

Tetrachlorogold(III) acid → Tetrachloroauric(III) acid trihydrate 99.5% page 1526

## 800741 Tetrachlorophthalic anhydride for synthesis

C<sub>8</sub>Cl<sub>4</sub>O<sub>3</sub>

Tetrachloro-1,2-benzenedicarboxylic anhydride

- CAS-No. 117-08-8 ■ EC-No. 204-171-4
- Vapour pressure 0.0021 kPa (145 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 285.89 g/mol
- Melting point 253 - 256 °C
- Boiling point 350 °C (1.013 hPa)
- WGK 2

- GHS: Danger, Serious eye damage, Category 1, H318; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338

- LD50 oral rat > 15800 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- EC-Index-No. 607-242-00-1 ■ LGK 10 - 13
- HS-No. 2917 39 20 ■ Disposal 9
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(TETRACHLORPHTHALSAEUREANHYDRID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.(TETRACHLOROPHTHALIC ANHYDRIDE), 9, III, Marine Pollutant: P

- IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TETRACHLOROPHTHALIC ANHYDRIDE), 9, III

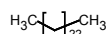
**Specification**

- Assay (GC, area%)..... ≥ 99.0 Area %
- Melting range (lower value)..... ≥ 253 °C
- Melting range (upper value)..... ≤ 256 °C
- Hexachlorobenzene..... ≤ 0,10 Area %
- Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00741.0100	Glass bottle	100 g	inquire

Tetrachlorosilane → Silicon tetrachloride page 1420

## 821089 n-Tetracosane for synthesis

C<sub>24</sub>H<sub>50</sub>CH<sub>3</sub>(CH<sub>2</sub>)<sub>22</sub>CH<sub>3</sub>

- CAS-No. 646-31-1 ■ EC-No. 211-474-5
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 338.65 g/mol

mol ■ Melting point 49 - 51 °C

- Boiling point 391 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2901 10 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %

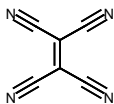
- Melting range (lower value)..... ≥ 48 °C
- Melting range (upper value)..... ≤ 52 °C
- Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21089.0025	Plastic bottle	25 g	inquire



# Tetrac

## 808240 Tetracyanoethylene for synthesis



$C_6N_4$   
 $(CN)_2C=C(CN)_2$   
*Ethylene tetracarbonitrile, TCNE, Percyanoethylene*  
 ■ CAS-No. 670-54-2 ■ EC-No. 211-578-0  
 ■ Spec. density 1.35 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 128.09 g/mol

■ Melting point 196 - 199 °C  
 ■ Boiling point 223 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 1, Oral, H300, P309 + P310  
 ■ LD50 oral rat 5 mg/kg  
 ■ LGK 6.1A ■ Store below +15°C.  
 ■ HS-No. 2926 90 95 ■ Disposal 6  
 ■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(TETRACYANOETHYLENE), 6.1, I ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID,

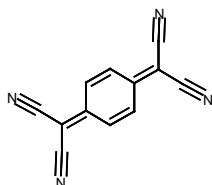
N.O.S.(TETRACYANOETHYLENE), 6.1, I  
 ■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(TETRACYANOETHYLENE), 6.1, I

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.08240.0005	Glass bottle	5 g	inquire

## 818973 7,7,8,8-Tetracyanoquinonedimethane for synthesis



$C_{12}H_4N_4$

*TCNQ, 1,4-Bis(dicyanomethylene)-2,5-cyclohexadiene*  
 ■ CAS-No. 1518-16-7 ■ EC-No. 216-174-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 204.19 g/mol  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Dermal, H311, P280, P302 + P352, P304 + P340, P309 + P310

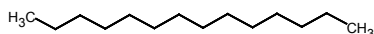
■ LGK 6.1A  
 ■ HS-No. 2926 90 95 ■ Disposal 9

### Specification

Assay (ex N) ..... ≥ 97.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18973.0005	Plastic bottle	5 g	inquire

## n-Tetradecane



$C_{14}H_{30}$   
 ■ CAS-No. 629-59-4 ■ EC-No. 211-096-0  
 ■ Vapour pressure 1.55 Pa (25 °C)  
 ■ Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 0.5 - 6.5 % (V) ■ Flash point 102 °C  
 ■ Kin. viscosity 3 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O < 0.0001 g/l (20 °C) ■ M = 198.39 g/mol  
 ■ Melting point 6 °C ■ Boiling point 254 °C  
 ■ Ignition temp. 202 °C  
 ■ WGK 3  
 ■ GHS: Danger, Aspiration hazard, Category 1,

H304, P262, P301 + P310, P331  
 ■ LC50 rat > 0.34 mg/l  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2901 10 00 ■ Disposal 3

## 814767 n-Tetradecane for synthesis

### Specification

Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,761 - 0,765  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14767.0050	Glass bottle	50 ml	inquire
8.14767.0250	Glass bottle	250 ml	inquire

## 109608 n-Tetradecane reference substance for gas chromatography

### Specification

Assay (GC) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... conforms

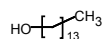
Ord.No.	Packaging	Quantity	Price
1.09608.0005	Glass bottle	5 ml	inquire

Tetradecanoic acid → Myristic acid page 1195

Tetradecanoic acid isopropyl ester → Isopropyl myristate page 1055

Tetradecanoic acid methyl ester → page 1162

## 808146 1-Tetradecanol for synthesis



$C_{14}H_{30}O$   
*Myristyl alcohol, Tetradecyl alcohol*  
 ■ CAS-No. 112-72-1 ■ EC-No. 204-000-3  
 ■ Refractive index 1.4346 (50 °C, 589 nm)  
 ■ Vapour pressure < 1 hPa (20 °C)  
 ■ Spec. density 0.8 g/cm<sup>3</sup> (60 °C)  
 ■ Flash point 145 °C ■ Solub. in

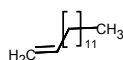
H<sub>2</sub>O (20 °C) practically insoluble ■ M = 214.39 g/mol  
 ■ Melting point 36 - 39 °C  
 ■ Boiling point 277 - 288 °C (1013 hPa)  
 ■ Ignition temp. 240 °C  
 ■ WGK nwg  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2905 19 00 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 36 °C  
 Melting range (upper value) ..... ≤ 40 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08146.0100	Plastic bottle	100 g	inquire
8.08146.1000	Plastic bottle	1 kg	inquire

## 808601 1-Tetradecene for synthesis



$C_{14}H_{28}$   
 ■ CAS-No. 1120-36-1 ■ EC-No. 214-306-9  
 ■ Refractive index 1.4351 (20 °C, 589 nm)  
 ■ Vapour pressure 0.013 hPa (25 °C)  
 ■ Spec. density 0.77 g/cm<sup>3</sup> (20 °C) ■ Explosive  
 limit 0.5 - 5.4 % (V) ■ Flash point 107 °C  
 ■ Kin. viscosity 2.61 mm<sup>2</sup>/s (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) insoluble ■ M = 196.37 g/mol  
 ■ Melting point -13 °C ■ Boiling point 251 °C (1013 hPa) ■ Ignition temp. 235 °C  
 ■ WGK 1  
 ■ GHS: Danger, Aspiration hazard, Category 1, H304, P301 + P310, P331  
 ■ LC50 rat 8.7 mg/l  
 ■ LD50 oral rat > 10000 mg/kg  
 ■ LD50 dermal rabbit > 10000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2901 29 00 ■ Disposal 3

### Specification

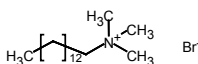
Assay (GC, area%) ..... ≥ 93,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,771 - 0,773  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08601.0100	Glass bottle	100 ml	inquire
8.08601.0500	Glass bottle	500 ml	inquire

Tetradecyl alcohol → 1-Tetradecanol page 1258

Tetradecyl bromide → 1-Bromotetradecane page 515

## 840006 Tetradecyltrimethylammonium bromide for synthesis

C<sub>17</sub>H<sub>38</sub>BrN

- N,N,N*-Trimethyl-1-tetradecan ammonium bromide, Myristyltrimethylammonium bromide
- CAS-No. 1119-97-7 ■ EC-No. 214-291-9
  - Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ M = 336.4 g/mol
  - Melting point 245 - 250 °C
  - Bulk density 600 kg/m<sup>3</sup>
  - WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 3900 mg/kg
- LGK 8A
- HS-No. 2923 90 00 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(TETRADECYLTRIMETHYLAMMONIUMBROMID), 8, III
- IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(TETRADECYLTRIMETHYLAMMONIUMBROMIDE), 8, III
- IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(TE

TRADECYLTRIMETHYLAMMONIUMBROMIDE), 8, III

**Specification**

Assay (336,4 g/mole) ..... ≥ 99,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40006.0025	Glass bottle	25 g	inquire
8.40006.0100	Glass bottle	100 g	inquire

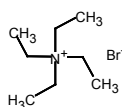
Tetraeuteromethanol → page 295

2,2,3,3-Tetraeuterio-3(trimethylsilyl)propionic acid sodium salt → 3-(Trimethylsilyl)propionic acid-D4 sodium salt page 296

1,1,3,3-Tetraethoxypropane → Malondialdehyde bis (diethyl acetal) page 1092

Tetraethoxysilane → Tetraethyl orthosilicate page 1530

## 822147 Tetraethylammonium bromide for synthesis

C<sub>8</sub>H<sub>20</sub>BrN

- (C<sub>2</sub>H<sub>5</sub>)<sub>4</sub>NBr
- CAS-No. 71-91-0 ■ EC-No. 200-769-4
  - Spec. density 1.397 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 2795 g/l (25 °C) ■ M = 210.16 g/mol

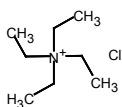
- pH value 6.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point >285 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (argentometric) ..... ≥ 99,0 %  
 Water (K. F.) ..... ≤ 1,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22147.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
8.22147.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

## 822148 Tetraethylammonium chloride monohydrate for synthesis

C<sub>8</sub>H<sub>20</sub>ClN · H<sub>2</sub>O

- (C<sub>2</sub>H<sub>5</sub>)<sub>4</sub>NCl · H<sub>2</sub>O
- CAS-No. 68696-18-4 ■ EC-No. 200-267-5

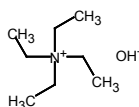
- Solub. in H<sub>2</sub>O 1410 g/l (20 °C) ■ M = 183.73 g/mol
- pH value 6.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 110 °C decomposes
- WGK 3
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (argentometric) ..... ≥ 98,0 %  
 Water (K. F.) ..... 9,0 - 11,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22148.0025	Glass bottle	25 g	inquire
8.22148.0100	Glass bottle	100 g	inquire

## 822149 Tetraethylammonium hydroxide (20% aqueous solution) for synthesis



- Spec. density 1.01 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >13 (H<sub>2</sub>O, 20 °C)
- Melting point < -25 °C ■ Boiling point 102 °C (1013 hPa)
- WGK 2

- GHS: Danger, Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
- HS-No. 2923 90 00 ■ Disposal 13
- ADR-RID UN 3267 Ätzender basischer organischer flüssiger Stoff, n.a.g.(TETRAETHYLAMMONIUMHYDROXID), 8, II
- IMDG-Code UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(TETRAETHYLAMMONIUMHYDROXIDE), 8, II, Segregation Group: 18 (Alkalis)

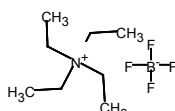
■ IATA-DGR UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(TETRAETHYLAMMONIUMHYDROXIDE), 8, II

**Specification**

Assay (acidimetric) ..... 19,0 - 21,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,006 - 1,011

Ord.No.	Packaging	Quantity	Price
8.22149.0250	Plastic bottle	250 ml	inquire
8.22149.1000	Plastic bottle	1 l	inquire

## 818246 Tetraethylammonium tetrafluoroborate for synthesis

C<sub>8</sub>H<sub>20</sub>BF<sub>4</sub>N

- (C<sub>2</sub>H<sub>5</sub>)<sub>4</sub>NBF<sub>4</sub>
- CAS-No. 429-06-1 ■ EC-No. 207-055-1
  - Spec. density (20 °C) not applicable ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 217.06 g/mol
  - pH value (H<sub>2</sub>O, 20 °C) no data available

- Saturation conc. (20 °C) Air, no data available
- Melting point 365 - 368 °C
- Bulk density 400 kg/m<sup>3</sup>
- WGK 2
- GHS: Danger, Serious eye damage, Category 1, H318; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H335, P280, P305 + P351 + P338, P302 + P352, P313
- LGK 10 - 13
- HS-No. 2923 90 00
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

**Specification**

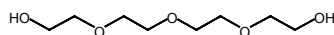
Assay (acidimetric) ..... ≥ 97,0 %  
 Assay (ex H<sub>3</sub>BO<sub>3</sub>) ..... ≥ 97,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18246.0025	Plastic bottle	25 g	inquire
8.18246.0100	Plastic bottle	100 g	inquire

N,N,N',N'-Tetraethyl-4,4'-diaminobenzophenone → 4,4'-Bis(diethylamino)-benzophenone page 467

# Tetrae

## 808619 Tetraethylene glycol for synthesis



C<sub>8</sub>H<sub>18</sub>O<sub>5</sub>  
HO(CH<sub>2</sub>CH<sub>2</sub>O)<sub>4</sub>H

*Tetraglycol*

- CAS-No. 112-60-7 ■ EC-No. 203-989-9
- Refractive index 1.4609 (20 °C, 589 nm)
- Vapour pressure 0.01 hPa (20 °C)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Explosive

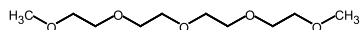
- limit 0.5 - 3.4 % (V) ■ Flash point 204 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 194.22 g/mol
- pH value 8.5 - 9.0 (500 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -5 °C ■ Boiling point 327 - 328 °C (1013 hPa) ■ Ignition temp. 340 °C DIN 51794
- WGK 1
- LD50 oral rat > 18056 mg/kg
- LD50 dermal rabbit > 18056 mg/kg
- LGK 10
- HS-No. 2909 49 80 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98 %  
Density (d 20 °C/ 4 °C) ..... 1.121 - 1.124  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.08619.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

## 820959 Tetraethylene glycol dimethyl ether for synthesis



C<sub>10</sub>H<sub>22</sub>O<sub>5</sub>

CH<sub>3</sub>O(CH<sub>2</sub>CH<sub>2</sub>O)<sub>4</sub>CH<sub>3</sub>

*Dimethyl tetraglycol, Bis[2-(2-methoxyethoxy)ethyl]ether*

- CAS-No. 143-24-8 ■ EC-No. 205-594-7
- Refractive index 1.4322 (20 °C, 589 nm)
- Vapour pressure 0.01 hPa (20 °C)
- Spec. density 1.01 g/cm<sup>3</sup> (20 °C) ■ Explosive

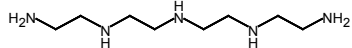
- limit 0.8 % (V) ■ Flash point 141 °C
- Kin. viscosity 4.1 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 222.28 g/mol
- Melting point -30 °C
- Boiling point 272 - 277 °C (1013 hPa)
- Ignition temp. 195 °C DIN 51794
- WGK 1
- GHS: Reproductive toxicity, Category 2, H361
- LD50 oral rat 3850 mg/kg
- LGK 10 - 13
- HS-No. 2909 19 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1,010 - 1,012  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20959.0250	Glass bottle	250 ml	inquire
8.20959.1000	Glass bottle	1 l	inquire

## 814713 Tetraethylene pentamine (mixture of aliphatic amines) for synthesis



C<sub>8</sub>H<sub>23</sub>N<sub>5</sub>

*1,4,7,10,13-Pentaazatridecane*

- CAS-No. 112-57-2 ■ EC-No. 203-986-2
- Vapour pressure < 0.1 hPa (20 °C)
- Spec. density 0.998 g/cm<sup>3</sup> (20 °C) ■ Explosive
- limit 0.1 - 15 % (V) ■ Flash point 193 °C ■ Solub. in H<sub>2</sub>O 6540 g/l ■ M = 189.31 g/mol
- pH value 11.8 (20 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -30 °C ■ Boiling point 330 °C (1013 hPa) ■ Ignition temp. 330 °C
- WGK 2

- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 3990 mg/kg ■ LD50 dermal rabbit 660 mg/kg
- EC-Index-No. 612-060-00-0 ■ LGK 8A
- HS-No. 2921 29 00 ■ Disposal 3
- ADR-RID UN 2320 Tetraethylenpentamin, 8, III
- IMDG-Code UN 2320 TETRAETHYLENENPENTAMINE, 8, III, Segregation

Group: 18 (Alkalis)

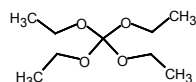
■ IATA-DGR UN 2320 TETRAETHYLENENPENTAMINE, 8, III

### Specification

Assay (GC, area%)..... ≥ 95,0 % (a/a)  
Water (K. F.)..... ≤ 0,50 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14713.0250	Glass bottle	250 ml	inquire
8.14713.1000	Glass bottle	1 l	inquire

## 818835 Tetraethyl orthocarbonate for synthesis



C<sub>9</sub>H<sub>20</sub>O<sub>4</sub>

C(OC<sub>2</sub>H<sub>5</sub>)<sub>4</sub>

*Orthocarbonic acid tetraethyl ester*

- CAS-No. 78-09-1 ■ EC-No. 201-082-2
- Refractive index 1.3932 (20 °C, 589 nm)
- Spec. density 0.91 g/cm<sup>3</sup> (20 °C)
- Flash point 52 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 192.25 g/mol
- Boiling point 158 - 159 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2920 90 10 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(TETRAETHYLORHOCARBONATETHYLESTER), 3, III ■ IMDG-Code UN 3272 ESTERS, N.O.S.(TETRAETHYLORHOCARBONATETHYLESTER), 3, III

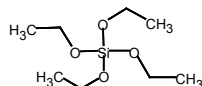
■ IATA-DGR UN 3272 ESTERS, N.O.S.(TETRAETHYLORHOCARBONATETHYLESTER), 3, III

### Specification

Assay (GC, area%)..... ≥ 96,0 Area %  
Water (K. F.)..... ≤ 1,0 % (m)  
Density (d 20 °C/ 4 °C) ..... 0,910 - 0,920  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18835.0010	Glass bottle	10 ml	inquire

## 800658 Tetraethyl orthosilicate for synthesis



C<sub>8</sub>H<sub>20</sub>O<sub>4</sub>Si

(C<sub>2</sub>H<sub>5</sub>O)<sub>4</sub>Si

*Tetraethoxysilane*

- CAS-No. 78-10-4 ■ EC-No. 201-083-8
- Vapour pressure 2 hPa (20 °C)
- Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive
- limit 1.3 - 23 % (V) ■ Flash point 45 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble, (slow decomposition)
- M = 208.33 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) not

- applicable ■ Melting point -85.5 °C
- Boiling point 168.0 °C (1013 hPa)
- Ignition temp. 230 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P210, P305 + P351 + P338
- LC50 rat 10 mg/l
- LD50 oral rat 6270 mg/kg ■ LD50 dermal rabbit 5860 mg/kg
- EC-Index-No. 014-005-00-0 ■ LGK 3
- HS-No. 2920 90 85 ■ Disposal 9

■ ADR-RID UN 1292 Tetraethylsilicat, 3, III

■ IMDG-Code UN 1292 TETRAETHYL SILICATE, 3, III

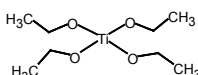
■ IATA-DGR UN 1292 TETRAETHYL SILICATE, 3, III

### Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,932 - 0,934  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00658.0250	Glass bottle	250 ml	inquire
8.00658.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 821083 Tetraethyl orthotitanate for synthesis



C<sub>8</sub>H<sub>20</sub>O<sub>4</sub>Ti  
(C<sub>2</sub>H<sub>5</sub>O)<sub>4</sub>Ti

- CAS-No. 3087-36-3 ■ EC-No. 221-410-8
- Refractive index 1.5043 (20 °C, 589 nm)
- Spec. density 1.08 g/cm<sup>3</sup> (20 °C)
- Flash point 33 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 228.15 g/mol
- Melting point -40 °C

- Boiling point 150 - 155 °C (16 hPa)
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319, P210, P262, P305 + P351 + P338
- LGK 3
- HS-No. 2905 19 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TETRAETHYLORHOTITANAT), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TETRAETHYLORHOTITANAT), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(TETRAETHYLORHOTITANAT), 3, III

## Specification

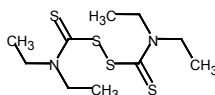
Assay (ex Ti) ..... ≥ 95,0 % (m)  
Density (d 20 °C/ 4 °C) ..... 1,084 - 1,096  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21083.0250	Glass bottle	250 ml	inquire
8.21083.1000	Glass bottle	1 l	inquire

Tetraethylrhodamine → page 191

Tetraethyl silicate → Tetraethyl orthosilicate page 1530

## 841550 Tetraethylthiuram disulfide for synthesis



C<sub>10</sub>H<sub>20</sub>N<sub>2</sub>S<sub>4</sub>  
Disulfiram

- CAS-No. 97-77-8 ■ EC-No. 202-607-8
- Spec. density 1.3 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 0.004 g/l (25 °C) ■ M = 296.55 g/mol
- Melting point 71 - 72 °C ■ Boiling point 117 °C (22.7 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral,

- H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352
- LD50 oral rat 500 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 006-079-00-8 ■ LGK 10 - 13
- HS-No. 2930 30 00 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(TETRAETHYLTHIURAMDISULFID), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TETRAETHYLTHIURAM DISULFIDE), 9, III,

Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TETRAETHYLTHIURAM DISULFIDE), 9, III

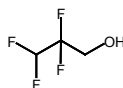
## Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
Melting range (lower value) ..... ≥ 69 °C  
Melting range (upper value) ..... ≤ 72 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41550.0100	Plastic bottle	100 g	inquire
8.41550.0500	Plastic bottle	500 g	inquire

Tetrafluoroboric acid silver salt → Silver tetrafluoroborate page 1423

## 842274 2,2,3,3-Tetrafluoro-1-propanol for synthesis

C<sub>3</sub>H<sub>4</sub>F<sub>4</sub>O

- CAS-No. 76-37-9 ■ EC-No. 200-955-5
- Spec. density 1.485 - 1.490 g/cm<sup>3</sup> (20 °C)
- Flash point 46 °C ■ M = 132.06 g/mol
- Melting point -15 °C
- Boiling point 107 - 109 °C (1013 hPa)

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332, P210
- LGK 3
- HS-No. 2905 59 98 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,2,3,3-TETRAFLUORO-1-PROPANOL), 3, III
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,2,3,3-TETRAFLUORO-1-PROPANOL), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(2,2,3,3-TETRAFLUORO-1-PROPANOL), 3, III

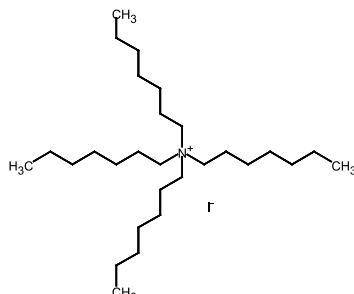
## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.485 - 1.490  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.42274.0025	Glass bottle	25 ml	inquire
8.42274.0100	Glass bottle	100 ml	inquire

Tetra glycol → Tetraethylene glycol page 308

## 841874 Tetraheptylammonium iodide for synthesis

C<sub>28</sub>H<sub>60</sub>IN

- CAS-No. 3535-83-9 ■ EC-No. 222-570-1
- M = 537.69 g/mol ■ Melting point 121 - 124 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

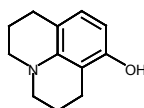
■ HS-No. 2923 90 00 ■ Disposal 3

## Specification

Assay (argentometric) ..... ≥ 99,0 %  
Melting range (lower value) ..... ≥ 121 °C  
Melting range (upper value) ..... ≤ 124 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41874.0005	Glass bottle	5 g	inquire

1,2,3,4-Tetrahydrobenzene → Cyclohexene page 673

814634 2,3,6,7-Tetrahydro-1H,5H-benzo[*ij*]-quinolizin-8-ol for synthesisC<sub>12</sub>H<sub>15</sub>NO

- CAS-No. 41175-50-2 ■ EC-No. 255-247-9
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 189.25 g/mol
- Melting point 131 - 134 °C

- WGK 3
- GHS: Danger, Flammable solid, Category 1, H228, P210
- LGK 4.1B
- HS-No. 2933 99 80 ■ Disposal 3
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(8-HYDROXYJULOLIDIN), 4.1, II
- IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(8-HYDROXYJULOLIDINE), 4.1, II
- IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(8-HYDROXYJULOLIDINE), 4.1, II

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value) ..... ≥ 131 °C  
Melting range (upper value) ..... ≥ 134 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14634.0001	Glass bottle	1 g	inquire
8.14634.0005	Glass bottle	5 g	inquire

# Tetra

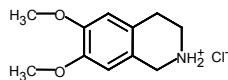
**Tetrahydro-p-cresol** → 4-Methylcyclohexanone  
page 1145

**Tetrahydro-o-cresol** → 2-Methylcyclohexanone  
page 1145

**Tetrahydro-m-cresol** → 3-Methylcyclohexanone  
page 1145

**Tetrahydro-p-cresol** → 4-Methylcyclohexanone  
page 1145

## 841076 1,2,3,4-Tetrahydro-6,7-dimethoxyisoquinoline hydrochloride for synthesis



C<sub>11</sub>H<sub>16</sub>ClNO<sub>2</sub>

■ CAS-No. 2328-12-3

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 229.7 g/mol

■ Melting point 252 - 256 °C

■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13

■ HS-No. 2933 49 90 ■ Disposal 3

**Specification**

Assay (argentometric)..... ≥ 97.0 %

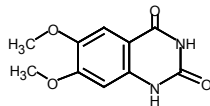
Melting range (lower value)..... ≥ 252 °C

Melting range (upper value)..... ≤ 256 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41076.0005	Plastic bottle	5 g	inquire
8.41076.0025	Plastic bottle	25 g	inquire

## 814638 1,2,3,4-Tetrahydro-6,7-dimethoxyquinazoline-2,4-dione for synthesis



C<sub>10</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub>

6,7-Dimethoxyquinazoline-2,4-dione

■ CAS-No. 28888-44-0 ■ EC-No. 249-288-1

■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 222.2 g/mol

■ Melting point >300 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2933 59 95 ■ Disposal 3

**Specification**

Assay (HPLC, area%)..... ≥ 99.0 % (a/a)

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14638.0005	Glass bottle	5 g	inquire
8.14638.0025	Glass bottle	25 g	inquire

## Tetrahydrofuran



C<sub>4</sub>H<sub>8</sub>O

THF, Tetramethylene oxide, Oxolane, Butylene oxide

■ CAS-No. 109-99-9 ■ EC-No. 203-726-8

■ Refractive index 1.407 (20 °C) ■ Vapour pressure 173 hPa (20 °C) ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 7.4

■ El. dipole moment 1.63 ■ Explosive

limit 1.5 - 12.4 % (V) ■ Flash point -21.5 °C

■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 72.11 g/mol

■ pH value 7 - 8 (200 g/l, H<sub>2</sub>O, 20 °C)

■ Saturation conc. 557 g/m<sup>3</sup> (20 °C) Air

■ Melting point -108.5 °C

■ Boiling point 65 - 66 °C

■ Evaporation number 2.3 ■ Ignition temp. 215 °C

■ WGK 1

■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific

target organ toxicity - single exposure, Category

3, H335, P210, P305 + P351 + P338

■ LC50 rat 53.9 mg/l

■ LD50 oral rat 1650 mg/kg

■ EC-Index-No. 603-025-00-0 ■ LGK 3 ■ Store below +30°C.

■ HS-No. 2932 11 00 ■ Disposal 1

■ ADR-RID UN 2056 Tetrahydrofuran, 3, II

■ IMDG-Code UN 2056 TETRAHYDROFURAN, 3, II

■ IATA-DGR UN 2056 TETRAHYDROFURAN, 3, II

## 108114 Tetrahydrofuran EMPLURA®

**Specification**

Purity (GC)..... ≥ 99.0 %

Identity (IR)..... conforms

Free acid (as CH<sub>3</sub>COOH)..... ≤ 0.002 %

Density (d 20 °C/ 4 °C)..... 0.887 - 0.889

Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.01 %

Water..... ≤ 0.1 %

Stabilized with 2,6-Di-tert-butyl-4-methylphenol (BHT)

Ord.No.	Packaging	Quantity	Price
1.08114.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.08114.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.08114.6025	Drum stainl. st.	25 l	inquire
1.08114.6190	Drum stainl. st.	190 l	inquire
1.08114.9190	Steel barrel	190 l	inquire

## 107025 Tetrahydrofuran for analysis EMPARTA® ACS

**Specification**

Purity (GC)..... ≥ 99.5 %

Identity (IR)..... conforms

Appearance..... clear

Colour..... ≤ 10 Hazen

Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.01 %

Evaporation residue..... ≤ 0.03 %

Water..... ≤ 0.05 %

Stabilized with 2,6-Di-tert-butyl-4-methylphenol (BHT).

Ord.No.	Packaging	Quantity	Price
1.07025.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.07025.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire

## 109731 Tetrahydrofuran for analysis EMSURE® ACS, Reag. Ph Eur

**Specification**

Purity (GC)..... ≥ 99.8 %

Identity (IR)..... conforms

Appearance..... clear

Colour..... ≤ 10 Hazen

Density (d 20 °C/20 °C)..... 0.885 - 0.895

Acidity..... ≤ 0.0003 meq/g

Alkalinity..... ≤ 0.0002 meq/g

Peroxides..... conforms

Peroxide (as H<sub>2</sub>O<sub>2</sub>)..... ≤ 0.005 %

Al (Aluminium)..... ≤ 0.00005 %

B (Boron)..... ≤ 0.000002 %

Ba (Barium)..... ≤ 0.00001 %

Ca (Calcium)..... ≤ 0.00005 %

Cd (Cadmium)..... ≤ 0.000005 %

Co (Cobalt)..... ≤ 0.000002 %

Cr (Chromium)..... ≤ 0.000002 %

Cu (Copper)..... ≤ 0.000002 %

Fe (Iron)..... ≤ 0.00001 %

Mg (Magnesium)..... ≤ 0.000002 %

Mn (Manganese)..... ≤ 0.000002 %

Ni (Nickel)..... ≤ 0.000002 %

Pb (Lead)..... ≤ 0.00001 %

Sn (Tin)..... ≤ 0.00001 %

Zn (Zinc)..... ≤ 0.00001 %

Evaporation residue..... ≤ 0.0005 %

Water..... ≤ 0.03 %

Stabilized with 2,6-Di-tert-butyl-4-methylphenol (BHT).

Ord.No.	Packaging	Quantity	Price
1.09731.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.09731.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.09731.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire
1.09731.6010	Drum stainl. st.	10 l	inquire
1.09731.6025	Drum stainl. st.	25 l	inquire
1.09731.9190	Steel barrel	190 l	inquire



108107 Tetrahydrofuran dried (max. 0.005 % H<sub>2</sub>O) SeccoSolv®

## Specification

Purity (GC).....	≥ 99.9 %
Identity (IR).....	conforms
Colour.....	≤ 10 Hazen
Acidity.....	≤ 0.0005 meq/g
Alkalinity.....	≤ 0.0002 meq/g
Peroxide (as H <sub>2</sub> O <sub>2</sub> ).....	≤ 0.005 %
Evaporation residue.....	≤ 10 mg/l

Water..... ≤ 0.005 %  
The product is stabilized with 2,6-Di-tert-butyl-4-methylphenol (BHT).

Ord.No.	Packaging	Quantity	Price
1.08107.0161	Septum bottle	150 ml	inquire
	Septum bottle	12 x 150 ml	inquire
1.08107.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.08107.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.08107.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire
1.08107.9013	Barrel stainl. st.	10 l	inquire

## 108110 Tetrahydrofuran for spectroscopy Uvasol®

## Specification

Purity (GC).....	≥ 99.9 %
Evaporation residue.....	≤ 0.0002 %
Water.....	≤ 0.01 %
Colour.....	≤ 10 Hazen
Acidity.....	≤ 0.0002 meq/g
Alkalinity.....	≤ 0.0002 meq/g
Fluorescence (as quinine at 254 nm).....	≤ 1.0 ppb
Fluorescence (as quinine at 365 nm).....	≤ 1.0 ppb

Transmission (at 215 nm).....	≥ 30 %
Transmission (at 245 nm).....	≥ 50 %
Transmission (at 265 nm).....	≥ 80 %
Transmission (at 275 nm).....	≥ 90 %
Transmission (from 310 nm).....	≥ 98 %
Absorbance (at 215 nm).....	≤ 0.52
Absorbance (at 245 nm).....	≤ 0.30
Absorbance (at 265 nm).....	≤ 0.10

Absorbance (at 275 nm)..... ≤ 0.05  
Absorbance (from 310 nm)..... ≤ 0.01

Ord.No.	Packaging	Quantity	Price
1.08110.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.08110.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 108101 Tetrahydrofuran for liquid chromatography LiChrosolv®

## Specification

Purity (GC).....	≥ 99.9 %
Identity (IR).....	conforms
Evaporation residue.....	≤ 1.0 mg/l
Water.....	≤ 0.02 %
Acidity.....	≤ 0.0002 meq/g
Alkalinity.....	≤ 0.0002 meq/g
Peroxide.....	≤ 0.02 %

Transmission (at 218 nm).....	≥ 30 %
Transmission (at 230 nm).....	≥ 35 %
Transmission (at 250 nm).....	≥ 65 %
Transmission (at 280 nm).....	≥ 95 %
Filtered by 0.2µm filter	

Ord.No.	Packaging	Quantity	Price
1.08101.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.08101.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.08101.4000	Glass bottle	4 l	inquire
1.08101.9010	Barrel stainl. st.	10 l	inquire
1.08101.9030	Barrel stainl. st.	30 l	inquire

113364 Tetrahydrofuran-D<sub>8</sub> deuteration degree min 99.5% for NMR spectroscopy MagniSolv™C<sub>4</sub>D<sub>8</sub>O

Octadeuterotetrahydrofurane, THF deuterated

- CAS-No. 1693-74-9 ■ EC-No. 216-898-4
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Flash point - 17.5 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 80.16 g/mol ■ Melting point -108 °C

- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P210, P223, P304 + P340, P305 + P351 + P338
- LC50 rat 53.9 mg/l
- LD50 oral rat 1650 mg/kg
- LGK 3
- HS-No. 2845 90 10 ■ Disposal 1
- ADR-RID UN 2056 Tetrahydrofuran, 3, II
- IMDG-Code UN 2056 TETRAHYDROFURAN, 3, II

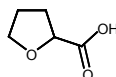
- IATA-DGR UN 2056 TETRAHYDROFURAN, 3, II

## Specification

Deuteration degree.....	≥ 99.50 %
Water (NMR, H <sub>2</sub> O).....	≤ 0.030 %
Performance test (NMR-spectrum).....	passes test
Water (K. Fischer, H <sub>2</sub> O + D <sub>2</sub> O).....	≤ 0.050 %

Ord.No.	Packaging	Quantity	Price
1.13364.0001	Glass ampoule	1 ml	inquire
1.13364.0009	Glass ampoule	10x0.75 ml	inquire
1.13364.0010	Septum ampoule	10 ml	inquire

## 814503 2-Tetrahydrofuran carboxylic acid for synthesis

C<sub>5</sub>H<sub>8</sub>O<sub>3</sub>

2-Tetrahydrofuroic acid

- CAS-No. 16874-33-2
- Refractive index 1.4521 (20 °C, 589 nm)
- Spec. density 1.21 g/cm<sup>3</sup> (20 °C)
- Flash point 139 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 116.11 g/mol
- pH value 1.8 (H<sub>2</sub>O, 20 °C) ■ Melting point 21 °C

- Boiling point 128 - 129 °C (17 hPa)
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2932 19 00 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(TETRAHYDROFURAN-2-CARBOXSAEURE), 8, III ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-TETRAHYDROFURANE CARBOXYLIC ACID), 8, III,

Segregation Group: 1 (Acids)

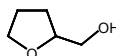
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-TETRAHYDROFURANE CARBOXYLIC ACID), 8, III

## Specification

Assay (GC, area%).....	≥ 99,0 Area %
Density (d 20 °C/ 4 °C).....	1,212 - 1,213
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
8.14503.0100	Glass bottle	100 ml	inquire

## 822307 Tetrahydrofurfuryl alcohol for synthesis

C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>

Tetrahydrofuranecarbinol, 2-Hydroxymethyltetrahydrofuran

- CAS-No. 97-99-4 ■ EC-No. 202-625-6
- Vapour pressure 1 hPa (25 °C)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 1.5 - 9.7 % (V) ■ Flash point 75 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 102.13 g/mol
- Melting point < -80 °C ■ Boiling point 178 °C (1013 hPa) ■ Ignition temp. 282 °C
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 1600 mg/kg
- EC-Index-No. 603-061-00-7 ■ LGK 10
- HS-No. 2932 13 00

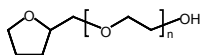
## Specification

Assay (GC, area%).....	≥ 98,0 % (a/a)
Density (d 20 °C/ 4 °C).....	1.052 - 1.054
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.22307.0100	Glass bottle	100 ml	inquire
8.22307.1000	Glass bottle	1 l	inquire
8.22307.2500	Glass bottle	2.5 l	inquire

# Tetrah

## 821092 Tetrahydrofurfuryl alcohol polyethylene glycol ether for synthesis



$C_5H_8O_2(CH_2CH_2O)_nH$  ( $n=1-5$ )  
**Glycofurol**  
 ■ CAS-No. 31692-85-0  
 ■ Refractive index 1.458 (27 °C, 589 nm)

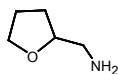
■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ Boiling point 176 °C (40 hPa)  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 3907 20 20 ■ Disposal 3

### Specification

Density (d 20 °C/ 4 °C).....1,080 - 1,090  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.21092.0100	Glass bottle	100 ml	inquire
8.21092.0250	Glass bottle	250 ml	inquire

## 814736 2-Tetrahydrofurfurylamine for synthesis



$C_5H_{11}NO$   
**2-Aminomethyltetrahydrofuran**  
 ■ CAS-No. 4795-29-3 ■ EC-No. 225-351-9  
 ■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 14.1 % (V) ■ Flash point 43 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 101.15 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) alkaline  
 ■ Boiling point 153 - 154 °C (1000 hPa)

■ Ignition temp. 270 °C  
 ■ WGK 3  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P210, P302 + P352, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 2932 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2943 Tetrahydrofurfurylamin, 3, III  
 ■ IMDG-Code UN 2943  
 TETRAHYDROFURFURYLAMINE, 3, III  
 ■ IATA-DGR UN 2943

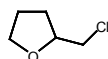
TETRAHYDROFURFURYLAMINE, 3, III

### Specification

Assay (GC, area%).....≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C).....0,975 - 0,979  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.14736.0100	Glass bottle	100 ml	inquire
8.14736.0500	Glass bottle	500 ml	inquire

## 841236 Tetrahydrofurfuryl chloride for synthesis



$C_5H_8ClO$   
**2-(Chloromethyl)tetrahydrofuran, 2-(Chloromethyl)oxolane**  
 ■ CAS-No. 3003-84-7 ■ EC-No. 221-102-3  
 ■ Spec. density 1.108 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 47 °C ■ M = 120.57 g/mol  
 ■ Boiling point 150 - 151 °C  
 ■ WGK 3

■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 3 ■ Store below +15°C.  
 ■ HS-No. 2932 19 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TETRAHYDROFURFURYLCHLORID), 3, III  
 ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TETRAHYDROFURFURYL CHLORIDE), 3, III

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TETRAHYDROFURFURYL CHLORIDE), 3, III

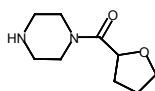
### Specification

Assay (GC, area%).....≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C).....1.110 - 1.114  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41236.0025	Glass bottle	25 ml	inquire

2-Tetrahydrofuroic acid → 2-Tetrahydrofuran carboxylic acid page 1533

## 843920 1-(Tetrahydro-2-furoyl) piperazine for synthesis



$C_9H_{16}N_2O_2$   
 ■ CAS-No. 63074-07-7  
 ■ M = 184.24 g/mol  
 ■ WGK 3

■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat 3735 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

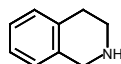
### Specification

Colour (visual).....pale yellow to brown

Appearance of substance (visual).....liquid  
 Assay (HClO<sub>4</sub>).....≥ 97,0 % (m)  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.43920.0005	Glass bottle	5 g	inquire
8.43920.0025	Glass bottle	25 g	inquire

## 841560 1,2,3,4-Tetrahydroisoquinoline for synthesis



$C_9H_{11}N$   
 ■ CAS-No. 91-21-4 ■ EC-No. 202-050-0  
 ■ Spec. density 1.049 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 98 °C ■ Solub. in H<sub>2</sub>O 20 g/l  
 ■ M = 133.19 g/mol ■ Melting point -30 °C

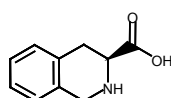
■ Boiling point 232 - 233 °C  
 ■ Ignition temp. 380 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 90 ■ Disposal 3

### Specification

Assay (GC, area%).....≥ 96,0 % (a/a)  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41560.0025	Glass bottle	25 ml	inquire

## 816148 (3S)-1,2,3,4-Tetrahydro-3-isoquinolinecarboxylic acid for synthesis



$C_{10}H_{11}NO_2$   
 ■ CAS-No. 74163-81-8  
 ■ M = 177.2 g/mol ■ Melting point 263 - 268 °C

■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 49 90 ■ Disposal 3

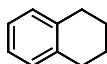
### Specification

Assay (HClO<sub>4</sub>).....≥ 97,0 % (m)  
 Spec. rotation [ $\alpha$ ]<sub>D</sub> (c=2 in 1N NaOH).....-170,0 - -160,0 °  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.16148.0001	Glass bottle	1 g	inquire

Tetrahydro-2-methylfuran → page 306

## 809733 1,2,3,4-Tetrahydronaphthalene for synthesis

C<sub>10</sub>H<sub>12</sub>

Tetralin

- CAS-No. 119-64-2 ■ EC-No. 204-340-2
- Refractive index 1.5414 (20 °C, 589 nm)
- Vapour pressure 0.24 hPa (20 °C)
- Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.6 (20 °C) ■ Explosive limit 0.8 - 5 % (V)
- Flash point 71 - 77 °C ■ Solub. in H<sub>2</sub>O 0.045 g/l (20 °C) ■ M = 132.21 g/mol
- Saturation conc. 1.3 g/m<sup>3</sup> (20 °C) Air
- Melting point -30 °C ■ Boiling point 207 °C (1013 hPa) ■ Evaporation number 190

- Ignition temp. 425 °C DIN 51794
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 2860 mg/kg ■ LD50 dermal rabbit 16710 mg/kg
- EC-Index-No. 601-045-00-4 ■ LGK 10 - 13
- HS-No. 2902 90 00 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1,2,3,4-TETRAHYDRONAPHTHALIN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,2,3,4-TETRAHYDRONAPHTHALENE), 9, III, Marine Pollutant: P

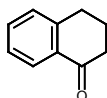
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,2,3,4-TETRAHYDRONAPHTHALENE), 9, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,967 - 0,970  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.09733.0100	Glass bottle	100 ml	inquire
8.09733.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.09733.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.09733.9025	Steel barrel	25 kg	inquire

## 808203 1,2,3,4-Tetrahydro-1-naphthalenone for synthesis

C<sub>10</sub>H<sub>10</sub>O

α-Tetralone

- CAS-No. 529-34-0 ■ EC-No. 208-460-6
- Refractive index 1.5685 (20 °C, 589 nm)
- Spec. density 1.10 g/cm<sup>3</sup> (20 °C)

- Flash point >110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 146.19 g/mol
- Melting point 5 - 6 °C
- Boiling point 113 - 116 °C (8 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 810 mg/kg ■ LD50 dermal rabbit > 2200 mg/kg
- LGK 10 - 13

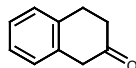
- HS-No. 2914 39 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 96,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,092 - 1,095  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08203.0100	Glass bottle	100 ml	inquire
8.08203.0250	Glass bottle	250 ml	inquire

## 820469 1,2,3,4-Tetrahydro-2-naphthalenone for synthesis

C<sub>10</sub>H<sub>10</sub>O

β-Tetralone

- CAS-No. 530-93-8 ■ EC-No. 208-498-3
- Refractive index 1.5598 (20 °C, 589 nm)

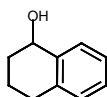
- Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 146.19 g/mol
- Melting point 17 - 19 °C
- Boiling point 130 - 132 °C (15 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2914 39 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.098 - 1.100  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20469.0005	Glass bottle	5 ml	inquire

## 814836 1,2,3,4-Tetrahydro-1-naphthol for synthesis

C<sub>10</sub>H<sub>12</sub>O

- CAS-No. 529-33-9 ■ EC-No. 208-459-0
- Solub. in H<sub>2</sub>O 5.09 g/l (25 °C) ■ M = 148.2 g/mol

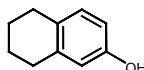
- Melting point 28 - 32 °C ■ Boiling point 89 °C (0.33 hPa)
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1620 mg/kg
- LGK 10 - 13 ■ Store below +15 °C.
- HS-No. 2906 29 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 28 °C  
 Melting range (upper value) ..... ≤ 32 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14836.0005	Glass bottle	5 g	inquire

## 814883 5,6,7,8-Tetrahydro-2-naphthol for synthesis

C<sub>10</sub>H<sub>12</sub>O

- CAS-No. 1125-78-6 ■ EC-No. 214-410-4
- Solub. in H<sub>2</sub>O 1.5 g/l (20 °C) ■ M = 148.2 g/mol
- Melting point 57 °C ■ Boiling point 275.5 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2907 19 90 ■ Disposal 3

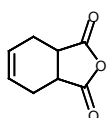
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 60 °C  
 Melting range (upper value) ..... ≤ 63 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14883.0010	Glass bottle	10 g	inquire

Tetrahydro-1,4-oxazine → Morpholine page 306

## 800742 1,2,3,6-Tetrahydrophthalic anhydride for synthesis

C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>

4-Cyclohexene-1,2-dicarboxylic anhydride

- CAS-No. 85-43-8 ■ EC-No. 201-605-4
- Vapour pressure 0.013 hPa (20 °C)
- Spec. density 1.375 g/cm<sup>3</sup> (20 °C)
- Flash point 156 °C ■ Solub. in H<sub>2</sub>O 10 g/l (20 °C)
- M = 152.14 g/mol ■ pH value 2.1 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 103 °C

- Boiling point 195 °C (67 hPa)
- Ignition temp. 400 °C
- WGK 1
- GHS: Danger, Serious eye damage, Category 1, H318; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P273, P280, P305 + P351 + P338, P304 + P341, P342 + P311, P302 + P352
- LD50 oral rat 5410 mg/kg
- EC-Index-No. 607-099-00-5 ■ LGK 8A
- HS-No. 2917 20 00 ■ Disposal 3
- ADR-RID UN 2698 Tetrahydrophthalsäureanhydride, 8, III ■ IMDG-

Code UN 2698 TETRAHYDROPHTHALIC ANHYDRIDES, 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2698 TETRAHYDROPHTHALIC ANHYDRIDES, 8, III

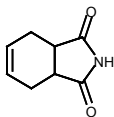
## Specification

Assay (morpholine method) ..... ≥ 97,0 % (m)  
 Melting range (lower value) ..... ≥ 99 °C  
 Melting range (upper value) ..... ≤ 102 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00742.0100	Plastic bottle	100 g	inquire
8.00742.1000	Plastic bottle	1 kg	inquire

# Tetra

## 820370 1,2,3,6-Tetrahydrophthalimide for synthesis



Cyclohexene-1,2-dicarboximide

- CAS-No. 85-40-5 ■ EC-No. 201-602-8
- Flash point 178 °C ■ Solub. in H<sub>2</sub>O 15 g/l (20 °C)
- M = 151.16 g/mol ■ Melting point 130 - 135 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2925 19 95 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 130 °C  
 Melting range (upper value)..... ≤ 135 °C  
 Identity (IR)..... passes test

C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>

4-Cyclohexene-1,2-dicarboxylic acid imide, 4-

Ord.No.	Packaging	Quantity	Price
8.20370.0250	Plastic bottle	250 g	inquire

## 843950 Tetrahydropyran for synthesis



- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P240, P262
- LGK 3
- HS-No. 2932 99 00 ■ Disposal 3
- ADR-RID UN 3271 Ether, n.a.g.(TETRAHYDROPYRAN), 3, II ■ IMDG-Code UN 3271 ETHERS, N.O.S.(TETRAHYDROPYRAN), 3, II
- IATA-DGR UN 3271 ETHERS, N.O.S.(TETRAHYDROPYRAN), 3, II

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.882 - 0.885  
 Water (K. F.)..... ≤ 0.50 %  
 Identity (IR)..... passes test

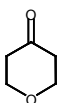
C<sub>5</sub>H<sub>10</sub>O

- CAS-No. 142-68-7 ■ EC-No. 205-552-8
- Spec. density 0.88 g/cm<sup>3</sup> (25 °C) ■ Flash point - 16 °C ■ Solub. in H<sub>2</sub>O >80.2 g/l (25 °C)
- M = 86.13 g/mol ■ Melting point -49.2 °C
- Boiling point 88 °C (1013 hPa)

Ord.No.	Packaging	Quantity	Price
8.43950.0250	Glass bottle	250 ml	inquire
8.43950.1000	Glass bottle	1 l	inquire

Tetrahydropyran-2,6-dione → Glutaric anhydride page 926

## 818226 Tetrahydro-4H-pyran-4-one for synthesis



- M = 100.11 g/mol ■ Boiling point 166 - 167 °C
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2932 99 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TETRAHYDRO-4H-PYRAN-4-ON), 3, III
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TETRAHYDRO-4H-PYRAN-4-ONE), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(TETRAHYDRO-4H-PYRAN-4-ONE), 3, III

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.083 - 1.085  
 Identity (IR)..... passes test

C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>

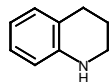
Tetrahydro-gamma-pyrone

- CAS-No. 29943-42-8 ■ EC-No. 249-967-2
- Refractive index 1.451 (20 °C, 589 nm)
- Spec. density 1.08 g/cm<sup>3</sup> (20 °C)
- Flash point 56 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble

Ord.No.	Packaging	Quantity	Price
8.18226.0001	Glass bottle	1 ml	inquire
8.18226.0005	Glass bottle	5 ml	inquire

Tetrahydro-γ-pyrone → Tetrahydro-4H-pyran-4-one page 1536

## 808224 1,2,3,4-Tetrahydroquinoline for synthesis



- pH value 10 - 11 (111 g/l, H<sub>2</sub>O, 20 °C) (as an emulsion) ■ Melting point 9 - 14 °C
- Boiling point 248 - 250 °C (1013 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 3, H412, P273, P309 + P310
- LD50 oral rat > 200 - < 2000 mg/kg
- LGK 6.1C
- HS-No. 2933 49 90 ■ Disposal 3
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1,2,3,4-TETRAHYDROQUINOLIN), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID,

ORGANIC, N.O.S.(1,2,3,4-TETRAHYDROQUINOLINE), 6.1, III

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,2,3,4-TETRAHYDROQUINOLINE), 6.1, III

### Specification

Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,056 - 1,058  
 Identity (IR)..... conforms

C<sub>9</sub>H<sub>11</sub>N

1-Azatetralin

- CAS-No. 635-46-1 ■ EC-No. 211-237-6
- Refractive index 1.5924 (20 °C, 589 nm)
- Vapour pressure 0.1 hPa (20 °C)
- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)
- Flash point 113 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 133.19 g/mol

Ord.No.	Packaging	Quantity	Price
8.08224.0100	Glass bottle	100 ml	inquire

## 821095 Tetrahydrothiophene for synthesis



- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 3, H412, P210, P273, P302 + P352, P305 + P351 + P338
- LC50 rat 23 mg/l
- LD50 oral rat 1850 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 613-087-00-0 ■ LGK 3
- HS-No. 2934 99 90 ■ Disposal 6
- ADR-RID UN 2412 Tetrahydrothiophen, 3, II

■ IMDG-Code UN 2412 TETRAHYDROTHIOPHENE, 3, II  
 ■ IATA-DGR UN 2412 TETRAHYDROTHIOPHENE, 3, II

### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.997 - 0.998  
 Identity (IR)..... passes test

C<sub>4</sub>H<sub>8</sub>S

Tetramethylene sulfide, THT

- CAS-No. 110-01-0 ■ EC-No. 203-728-9
- Refractive index 1.504 (20 °C, 589 nm) ■ Vapour pressure 19 hPa (20 °C) ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 12.1 % (V)
- Flash point 19 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 88.16 g/mol
- pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point -96 °C
- Boiling point 121 °C (1013 hPa)
- Ignition temp. 202 °C

Ord.No.	Packaging	Quantity	Price
8.21095.0005	Glass bottle	5 ml	inquire
8.21095.0250	Glass bottle	250 ml	inquire

Tetrahydroxyadipic acid → Mucic acid page 1194

1,3,4,5-Tetrahydroxycyclohexanecarboxylic acid → (-)-Quinic acid page 1397



## 821096 Tetraiodoethylene for synthesis

C<sub>2</sub>I<sub>4</sub>I<sub>2</sub>C=Cl<sub>2</sub>

Periodethylene

- CAS-No. 513-92-8 ■ EC-No. 208-176-2
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■

- M = 531.64 g/mol ■ Melting point 188 - 191 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2903 39 90 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TETRAIODOETHYLEN), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAIODO ETHYLENE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAIODO ETHYLENE), 6.1, II

## Specification

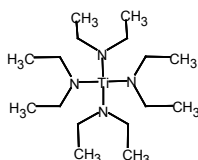
Assay (ex I) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 188 °C  
 Melting range (upper value) ..... ≤ 191 °C

Ord.No.	Packaging	Quantity	Price
8.21096.0005	Glass bottle	5 g	inquire
8.21096.0025	Glass bottle	25 g	inquire

Tetraiodofluorescein disodium salt → page 189

Tetrakis(acetylacetonato)zirconium(IV) →  
Zirconium(IV) acetylacetonate page 1643

## 814018 Tetrakis(diethylamino)titanium for synthesis

C<sub>16</sub>H<sub>40</sub>N<sub>4</sub>Ti

- CAS-No. 4419-47-0
- Spec. density 0.93 g/cm<sup>3</sup> (20 °C)
- Flash point 10 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 336.39 g/mol

- Boiling point 85 - 90 °C (0.1 hPa)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2929 90 00 ■ Disposal 24
- ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(TETRAKIS(DIETHYLAMINO)-TITAN), 8, III
- IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(TETRAKIS(DIETHYLAMINO)-

TITAN), 8, III, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(TETRAKIS(DIETHYLAMINO)-TITAN), 8, III

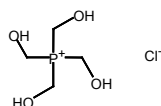
## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 95.0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,929 - 0,931  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14018.0005	Glass bottle	5 ml	inquire

Tetrakis(ethylene)dirhodium(I) dichloride → Bis(ethylene)rhodium(I) chloride dimer (53% Rh) page 470

## 840069 Tetrakis(hydroxymethyl)phosphonium chloride (aqueous solution) for synthesis



Tetramethylolphosphonium chloride

- Spec. density 1.341 g/cm<sup>3</sup> ■ Flash point 96 °C
- pH value 3.5 - 4.5 (H<sub>2</sub>O) ■ Boiling point 119 °C
- Ignition temp. 301 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Dermal,

- H312; Acute toxicity, Category 3, Oral, H301; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338
- LD50 oral rat 50 - 200 mg/kg
- LD50 dermal rabbit 1000 - 2000 mg/kg
- LGK 6.1A
- HS-No. 2931 90 90 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(TETRAKIS(HYDROXYMETHYL)PHOSPHONIUMCHLORID), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC,

N.O.S.(TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM CHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM CHLORIDE), 6.1, III

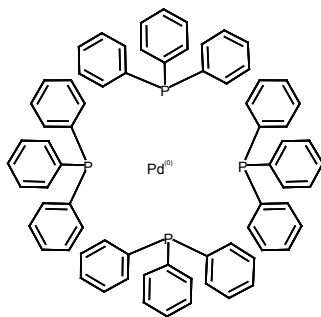
## Specification

Assay (argentometric) ..... 76,0 - 78,0 %

Ord.No.	Packaging	Quantity	Price
8.40069.0050	Glass bottle	50 ml	inquire
8.40069.0500	Glass bottle	500 ml	inquire

Tetrakis(2,4-pentanedionato)zirconium(IV) → Zirconium(IV) acetylacetonate page 1643

## 814761 Tetrakis(triphenylphosphine)-palladium(0) for synthesis



- C<sub>72</sub>H<sub>60</sub>P<sub>4</sub>Pd
- Pd(P(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>)<sub>4</sub>
- CAS-No. 14221-01-3 ■ EC-No. 238-086-9
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 1155.58 g/mol ■ pH value (H<sub>2</sub>O) no data available
- Melting point 103 - 107 °C
- Bulk density 360 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2843 90 90
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TETRAKIS(TRIPHENYLPHOSPHINE)-PALLADIUM), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAKIS(TRIPHENYLPHOSPHINE)-

PALLADIUM), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAKIS(TRIPHENYLPHOSPHINE)-PALLADIUM), 6.1, II

## Specification

Assay Pd ..... 9,0 - 9,6 % (m)

Ord.No.	Packaging	Quantity	Price
8.14761.0001	Glass bottle	1 g	inquire
8.14761.0005	Glass bottle	5 g	inquire
8.14761.0025	Glass bottle	25 g	inquire
8.14761.8500	Glass bottle	500 mg	inquire

N,N,N',N'-Tetrakis(2-hydroxypropyl)

ethylenediamine → Ethylenediamine-N,N,N',N'-tetra-2-propanol page 861

Tetraalin → 1,2,3,4-Tetrahydronaphthalene page 309

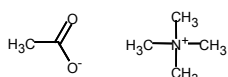
α-Tetralone → 1,2,3,4-Tetrahydro-1-naphthalenone page 1535

β-Tetralone → 1,2,3,4-Tetrahydro-2-naphthalenone page 1535

1,1,3,3-Tetramethoxypropane → Malondialdehyde bis(dimethyl acetal) page 1093

Tetramethoxysilane → Tetramethyl orthosilicate page 1542

## 841249 Tetramethylammonium acetate (50% solution in water) for synthesis



- Spec. density 1.000 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble

- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

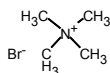
## Specification

Assay (HClO<sub>4</sub>) ..... 45.0 - 55.0 %

Ord.No.	Packaging	Quantity	Price
8.41249.0010	Glass bottle	10 ml	inquire



## 843722 Tetramethylammonium bromide for synthesis



$C_4H_{12}BrN$   
 ■ CAS-No. 64-20-0 ■ EC-No. 200-581-2  
 ■ Spec. density 1.50 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 154.04 g/mol  
 ■ pH value 5.5 - 6.5 (100 g/l, H<sub>2</sub>O)  
 ■ Melting point 230 °C (decomposition)  
 ■ Bulk density 450 kg/m<sup>3</sup>  
 ■ Boiling point >360 °C (sublimed)

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300, P262, P309 + P310  
 ■ LD50 oral rat 50 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2923 90 00 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TETRAMETHYLAMMONIUMBROMID), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAMETHYLAMMONIUM BROMIDE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

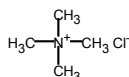
N.O.S.(TETRAMETHYLAMMONIUM BROMIDE), 6.1, II

**Specification**

Assay (argentometric)..... ≥ 99.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43722.0025	Glass bottle	25 g	inquire
8.43722.0100	Glass bottle	100 g	inquire

## 822156 Tetramethylammonium chloride for synthesis



$C_4H_{12}ClN$   
 (CH<sub>3</sub>)<sub>4</sub>NCI  
 ■ CAS-No. 75-57-0 ■ EC-No. 200-880-8  
 ■ Vapour pressure (20 °C) low  
 ■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 109.60 g/mol  
 ■ pH value 6 - 8 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point >300 °C

■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 3, Dermal, H311, P280, P302 + P352, P309 + P310  
 ■ LD50 oral rat 50 mg/kg ■ LD50 dermal rat 537 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2923 90 00 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TETRAMETHYLAMMONIUMCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAMETHYLAMMONIUMCHLORIDE),

6.1, III

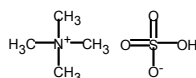
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAMETHYLAMMONIUMCHLORIDE), 6.1, III

**Specification**

Assay (argentometric)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22156.0250	Glass bottle	250 g	inquire
	Glass bottle	6 x 250 g	inquire
8.22156.1000	Glass bottle	1 kg	inquire

## 118310 Tetramethylammonium hydrogen sulfate for ion pair chromatography LiChropur®



$C_4H_{13}NO_4S$   
 $C_4H_{12}HSO_4$   
 ■ CAS-No. 80526-82-5 ■ EC-No. 279-490-5  
 ■ M = 171.21 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13

■ HS-No. 2923 90 00 ■ Disposal 28  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
**Specification**  
 Assay (acidimetric; calculated on dried substance)..... ≥ 99%  
 Identity (IR-spectrum)..... passes test  
 pH-value (10 %; water)..... ≤ 2  
 UV-transmission (200 nm; 0.005 mol/l; 1 cm;

water)..... ≥ 70 %  
 UV-transmission (220 nm; 0.005 mol/l; 1 cm; water)..... ≥ 90 %  
 UV-transmission (250 nm; 0.005 mol/l; 1 cm; water)..... ≥ 98 %  
 Loss on drying (120 °C, vacuum)..... ≤ 2%

Ord.No.	Packaging	Quantity	Price
1.18310.0025	Glass bottle	25 g	inquire

## 845151 Tetramethylammonium hydroxide (25% solution in water) for pharma synthesis, non-GMP

■ Vapour pressure 23.33 hPa (20 °C)  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >13 (H<sub>2</sub>O, 20 °C)  
 ■ Boiling point 110 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351

+ P338, P362, P309 + P310  
 ■ LGK 6.1 D  
 ■ HS-No. 2921 19 99 ■ Disposal 9  
 ■ ADR-RID UN 1835  
 Tetramethylammoniumhydroxid, Lösung, 8, II  
 ■ IMDG-Code UN 1835  
 TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 2 (Ammonium compounds), 18 (Alkalis)  
 ■ IATA-DGR UN 1835 TETRAMETHYLAMMONIUM

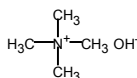
HYDROXIDE SOLUTION, 8, II

**Specification**

Assay (acidimetric)..... 24,0 - 27,0 % (m)  
 Colour number (Hazen)..... ≤ 50

Ord.No.	Packaging	Quantity	Price
8.45151.0250	Plastic bottle	250 ml	inquire
8.45151.1000	Plastic bottle	1 l	inquire

## 814748 Tetramethylammonium hydroxide (25% solution in water) for synthesis



■ Vapour pressure 23.33 hPa (20 °C)  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >13 (H<sub>2</sub>O, 20 °C)  
 ■ Boiling point 110 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Dermal, H311;

Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P362, P309 + P310  
 ■ LGK 6.1 D  
 ■ HS-No. 2923 90 00 ■ Disposal 9  
 ■ ADR-RID UN 1835  
 Tetramethylammoniumhydroxid, Lösung, 8, II  
 ■ IMDG-Code UN 1835  
 TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 2 (Ammonium

compounds), 18 (Alkalis)

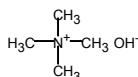
■ IATA-DGR UN 1835 TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION, 8, II

**Specification**

Assay (acidimetric)..... 24,0 - 27,0 % (m)  
 Density (d 20 °C/ 4 °C)..... 1,010 - 1,030

Ord.No.	Packaging	Quantity	Price
8.14748.0250	Glass bottle	250 ml	inquire
8.14748.1000	Glass bottle	1 l	inquire

## 108124 Tetramethylammonium hydroxide solution in 2-propanol/methanol for titrations

in non-aqueous media  $c(\text{C}_4\text{H}_{13}\text{NO})=0.1 \text{ mol/l}$  (0.1 N) Titripur®

- Spec. density 0.79 g/cm<sup>3</sup> (20 °C)
- Flash point 15 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- pH value 14 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 1, H370; Specific target organ toxicity - single exposure, Category 3, H336, P210, P233, P240, P302 + P352, P305 + P351 +

- P338, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 1
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(METHANOL UND ENTH. PROPANOL), 3 (6.1), II ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(METHANOL AND CONT. PROPANOL), 3 (6.1), II
- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(METHANOL AND CONT. PROPANOL), 3 (6.1), II

**Specification**

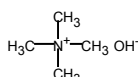
Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (USP).  
Amount-of-substance concentration .0.1000 mol/l  
The concentration of this volumetric solution was determined with volumetric standard benzoic acid

(Merck article number 1.02401). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of  $\pm 0.004$  ( $k=2$  coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 350b (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard benzoic acid, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.08124.0250	Glass bottle	250 ml	inquire
1.08124.1000	Glass bottle	1 l	inquire

## 108123 Tetramethylammonium hydroxide solution 10% for polarography and for examination of

steroids Reag. Ph Eur



- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13 (H<sub>2</sub>O, 20 °C)
- Boiling point 100 °C (1013 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Dermal, H311; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P362, P309 + P310

- LGK 6.1 D
- HS-No. 2923 90 00 ■ Disposal 13
- ADR-RID UN 1835
- Tetramethylammoniumhydroxid, Lösung, 8, II
- IMDG-Code UN 1835
- TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION, 8, II, Segregation Group: 2 (Ammonium compounds), 18 (Alkalis)
- IATA-DGR UN 1835 TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION, 8, II

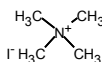
**Specification**

Assay (acidimetric)..... ≥ 10.0 %  
Chloride (Cl)..... ≤ 0.004 %

Ammonia and other amines..... ≤ 0.2 %  
Ag (Silver)..... ≤ 0.001 %  
Fe (Iron)..... ≤ 0.001 %  
Pb (Lead)..... ≤ 0.001 %  
Evaporation residue..... passes test%  
Ash..... ≤ 0.05 %  
Suitability for polarography..... passes test

Ord.No.	Packaging	Quantity	Price
1.08123.0050	Plastic bottle	50 ml	inquire
1.08123.0250	Plastic bottle	250 ml	inquire

## 843724 Tetramethylammonium iodide for synthesis



- C<sub>4</sub>H<sub>12</sub>IN
- CAS-No. 75-58-1 ■ EC-No. 200-881-3
- Spec. density 1.84 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 201.05 g/mol
- Melting point >300 °C

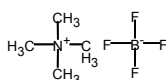
- WGK 3
- LGK 6.1A
- HS-No. 2923 90 00
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TETRAMETHYLAMMONIUMIODID), 6.1, II
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAMETHYLAMMONIUM IODIDE), 6.1, II
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAMETHYLAMMONIUM IODIDE), 6.1, II

**Specification**

Assay (argentometric)..... ≥ 99.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43724.0025	Glass bottle	25 g	inquire
8.43724.0100	Glass bottle	100 g	inquire

## 821097 Tetramethylammonium tetrafluoroborate for synthesis



- C<sub>4</sub>H<sub>12</sub>BF<sub>4</sub>N
- (CH<sub>3</sub>)<sub>4</sub>NBF<sub>4</sub>
- CAS-No. 661-36-9 ■ EC-No. 211-547-1

- M = 160.95 g/mol ■ Melting point 418 °C
- WGK 2
- GHS: Danger, Serious eye damage, Category 1, H318; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H335, P280, P305 + P351 + P338, P302 + P352, P313
- LGK 10 - 13

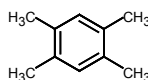
- HS-No. 2923 90 00 ■ Disposal 14

**Specification**

Assay (acidimetric)..... ≥ 97.0 %  
Assay (ex H<sub>3</sub>BO<sub>3</sub>)..... ≥ 97.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21097.0025	Plastic bottle	25 g	inquire

## 808624 1,2,4,5-Tetramethylbenzene for synthesis



- C<sub>10</sub>H<sub>14</sub>
- C<sub>6</sub>H<sub>2</sub>-1,2,4,5-(CH<sub>3</sub>)<sub>4</sub>
- Durol, Durene
- CAS-No. 95-93-2 ■ EC-No. 202-465-7
- Vapour pressure 26 hPa (90 °C)
- Flash point 74 °C ■ Solub. in H<sub>2</sub>O 0.00348 g/l (25 °C) ■ M = 134.22 g/mol
- Melting point 78 - 81 °C
- Boiling point 191 - 193 °C

- WGK 1
- GHS: Danger, Flammable solid, Category 1, H228; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P210, P273
- LD50 oral rat 6700 mg/kg
- LGK 4.1B
- HS-No. 2902 90 00 ■ Disposal 3
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(1,2,4,5-TETRAMETHYLBENZOL), 4.1, II ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(1,2,4,5-TETRAMETHYLBENZENE), 4.1, II

- IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(1,2,4,5-TETRAMETHYLBENZENE), 4.1, II

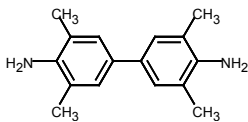
**Specification**

Assay (GC, area%)..... ≥ 99.0 Area %  
Melting range (lower value)..... ≥ 76 °C  
Melting range (upper value)..... ≤ 80 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08624.0100	Plastic bottle	100 g	inquire

# Tetram

## 108622 3,3',5,5'-Tetramethylbenzidine GR for analysis



C<sub>16</sub>H<sub>20</sub>N<sub>2</sub>  
TMBA

- CAS-No. 54827-17-7 ■ EC-No. 259-364-6
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 240.34 g/mol
- Melting point 166 - 170 °C
- Bulk density 430 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2921 59 90 ■ Disposal 3

### Specification

Assay (perchloric acid titration)..... ≥ 99 %  
Identity (IR-spectrum) ..... conforms  
Melting range..... 166 - 170 °C  
Loss on drying (105 °C)..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.08622.0001	Glass bottle	1 g	inquire

## 108475 Tetramethylbenzidine solution for the detection of chlorine

- Spec. density 1.023 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- WGK 1
- GHS: Warning, Corrosive to metals, Category 1, H290
- LGK 8B
- HS-No. 3822 00 00 ■ Disposal 3

- ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(SCHWEFELSAEURELOESUNG), 8, III ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(SULPHURIC ACID), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC,

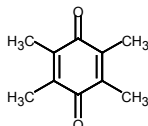
INORGANIC, N.O.S.(SULPHURIC ACID), 8, III

### Specification

Application test ..... conforms

Ord.No.	Packaging	Quantity	Price
1.08475.1000	Glass bottle	1 l	inquire

## 821098 Tetramethyl-p-benzoquinone for synthesis



C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>

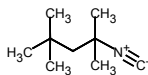
- 1-O=C<sub>6</sub>(CH<sub>3</sub>)<sub>4</sub>-4-(=O)
- Duroquinone*
- CAS-No. 527-17-3 ■ EC-No. 208-409-8
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 164.21 g/mol
- Melting point 111 - 113 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 69 90 ■ Disposal 3

### Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Melting range (lower value)..... ≥ 111 °C  
Melting range (upper value) ..... ≤ 113 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21098.0005	Glass bottle	5 g	inquire

## 818105 1,1,3,3-Tetramethylbutyl isocyanide for synthesis



- C<sub>9</sub>H<sub>17</sub>N  
(CH<sub>3</sub>)<sub>3</sub>CCH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>NC  
*Thiocarbamide, 1,1,3,3,-*  
*Tetramethylbutylisocyanide, Walborsky*  
*reagent, tert-Octylisocyanide*
- CAS-No. 14542-93-9 ■ EC-No. 238-577-8
  - Refractive index 1.4178 (30 °C, 589 nm)
  - Spec. density 0.80 g/cm<sup>3</sup> (20 °C)

- Flash point 51 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 139.24 g/mol
- Boiling point 55 - 56 °C (15 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226
- LGK 3
- HS-No. 2929 90 00 ■ Disposal 6
- ADR-RID UN 3275 Nitrile, giftig, entzündbar, n.a.g.(1,1,3,3-TETRAMETHYLBUTYLISOCYANID), 6.1 (3), II ■ IMDG-Code UN 3275 NITRILES, TOXIC, FLAMMABLE, N.O.S.(1,1,3,3-TETRAMETHYL

BUTYLISOCYANIDE), 6.1 (3), II  
■ IATA-DGR UN 3275 NITRILES, TOXIC, FLAMMABLE, N.O.S.(1,1,3,3-TETRAMETHYL BUTYLISOCYANIDE), 6.1 (3), II

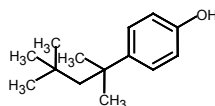
### Specification

Assay (GC, area%)..... ≥ 96,0 Area %  
Density (d 20 °C / 4 °C) ..... 0,799 - 0,801  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18105.0005	Glass bottle	5 ml	inquire

1,1,3,3,-Tetramethylbutylisocyanide → 1,1,3,3-Tetramethylbutyl isocyanide page 1540

## 806904 4-(1,1,3,3-Tetramethylbutyl)phenol for synthesis



- C<sub>14</sub>H<sub>22</sub>O  
4-[(CH<sub>3</sub>)<sub>3</sub>CCH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>]C<sub>6</sub>H<sub>4</sub>OH  
*4-tert-Octylphenol*
- CAS-No. 140-66-9 ■ EC-No. 205-426-2
  - Vapour pressure 0.0021 hPa (20 °C)
  - Spec. density 0.95 g/cm<sup>3</sup> (20 °C)
  - Flash point 147 °C ■ Solub. in H<sub>2</sub>O < 0.01 g/l (20 °C) ■ M = 206.33 g/mol
  - Melting point 80 - 83 °C ■ Bulk density 480 kg/

- m<sup>3</sup> ■ Boiling point 279 - 281 °C (1013 hPa)
- Ignition temp. 410 °C
- WGK 2
- GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg
- LD50 dermal rabbit 1880 mg/kg
- EC-Index-No. 604-075-00-6 ■ LGK 8A
- HS-No. 2907 13 00 ■ Disposal 3
- ADR-RID UN 2430 Alkylphenole, fest, n.a.g.(4-(1,1,3,3-TETRAMETHYLBUTYL)-PHENOL), 8, III
- IMDG-Code UN 2430 ALKYLPHENOLS, SOLID,

N.O.S.(4-(1,1,3,3-TETRAMETHYLBUTYL)-PHENOL), 8, III  
■ IATA-DGR UN 2430 ALKYLPHENOLS, SOLID, N.O.S., 8, III

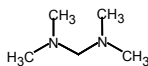
### Specification

Assay (GC, area%)..... ≥ 90,0 Area %  
Melting range (lower value)..... ≥ 80 °C  
Melting range (upper value) ..... ≤ 83 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.06904.0100	Plastic bottle	100 g	inquire
8.06904.1000	Plastic bottle	1 kg	inquire

N,N,N,N'-Tetramethyl-4,4'-diaminobenzophenone → 4,4'-Bis(dimethylamino)-benzophenone page 467

## 841694 N,N,N',N'-Tetramethyldiaminomethane for synthesis



- C<sub>5</sub>H<sub>14</sub>N<sub>2</sub>  
(CH<sub>3</sub>)<sub>2</sub>NCH<sub>2</sub>N(CH<sub>3</sub>)<sub>2</sub>
- CAS-No. 51-80-9 ■ EC-No. 200-124-7
  - Spec. density 0.750 g/cm<sup>3</sup> (20 °C)
  - Flash point -11 °C ■ M = 102.17 g/mol
  - Boiling point 82 - 84 °C (1013 hPa)
  - WGK 3
  - GHS: Danger, Flammable liquid, Category 2,

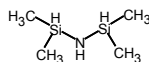
- H225; Skin corrosion, Category 1B, H314, P210, P223, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3 ■ Store below +15°C.
- HS-No. 2921 29 00 ■ Disposal 3
- ADR-RID UN 2733 Polyamine, entzündbar, ätzend, n.a.g.(N,N,N',N'-TETRAMETHYLDIAMINOMETHAN), 3 (8), II
- IMDG-Code UN 2733 POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N,N',N'-TETRAMETHYLDIAMINO METHANE), 3 (8), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 2733 POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.(N,N,N',N'-TETRAMETHYLDIAMINO METHANE), 3 (8), II

### Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C / 4 °C) ..... 0,748 - 0,752  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41694.0050	Glass bottle	50 ml	inquire

**814060 1,1,3,3-Tetramethyldisilazane for synthesis**C<sub>4</sub>H<sub>15</sub>NSi<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>HSiNHSi(CH<sub>3</sub>)<sub>2</sub>

TMDS

- CAS-No. 15933-59-2 ■ EC-No. 240-072-2
- Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Flash point -8 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis
- M = 133.34 g/mol ■ Boiling point 99 - 100 °C

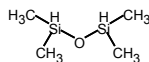
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 24
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,1,3,3-TETRAMETHYLDISILAZAN), 3, II

- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,1,3,3-TETRAMETHYLDISILAZANE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,1,3,3-TETRAMETHYLDISILAZANE), 3, II

**Specification**

Assay (GC, area%)..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,766 - 0,768  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14060.0010	Glass bottle	10 ml	inquire

**818414 1,1,3,3-Tetramethyldisiloxane for synthesis**C<sub>4</sub>H<sub>14</sub>OSi<sub>2</sub>((CH<sub>3</sub>)<sub>2</sub>SiH)<sub>2</sub>O

- CAS-No. 3277-26-7 ■ EC-No. 221-906-4
- Refractive index 1.3915 (20 °C, 589 nm)
- Vapour pressure 250 hPa (20 °C)
- Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 62.9 % (V) ■ Flash point -26 °C ■ Solub.

- in H<sub>2</sub>O (20 °C) (rigorous decomposition)
- M = 134.33 g/mol ■ Melting point -78 °C
- Boiling point 70 - 71 °C (1013 hPa)
- Ignition temp. 240 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225, P210
- LGK 3 ■ Store below +15 °C.
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,1,3,3-TETRAMETHYLDISILOXAN), 3, II

- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,1,3,3-TETRAMETHYLDISILOXANE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,1,3,3-TETRAMETHYLDISILOXANE), 3, II

**Specification**

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.757 - 0.759  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18414.0025	Glass bottle	25 ml	inquire

Tetramethylene bromide → 1,4-Dibromobutane page 703

Tetramethylene chloride → 1,4-Dichlorobutane page 719

Tetramethylene chlorobromide → 1-Bromo-4-chlorobutane page 495

Tetramethylene diacrylate → 1,4-Butanediol diacrylate page 533

Tetramethylenediamine → 1,4-Diaminobutane page 693

Tetramethylenediammonium dichloride → 1,4-Diaminobutane dihydrochloride page 693

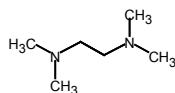
N,N-Tetramethylenedithiocarbamic acid ammonium salt → page 1393

N,N-Tetramethylenedithiocarbaminic acid ammonium salt → page 1394

Tetramethylenimine → Pyrrolidine page 308

Tetramethylene oxide → page 4

Tetramethylene sulfide → Tetrahydrothiophene page 1536

**N,N,N',N'-Tetramethyl ethylenediamine**C<sub>6</sub>H<sub>16</sub>N<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>N(CH<sub>3</sub>)<sub>2</sub>

TEMED, TMEDA, 1,2-Bis(dimethylamino)ethane

- CAS-No. 110-18-9 ■ EC-No. 203-744-6
- Vapour pressure 21 hPa (20 °C)
- Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1 - 9 % (V) ■ Flash point 17 °C

- M = 116.21 g/mol ■ pH value 8.0 - 8.5 (0.1 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -55 °C
- Boiling point 121 °C (1013 hPa)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P233, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LC50 rat 6.4 mg/l
- LD50 oral rat 268 mg/kg ■ LD50 dermal rabbit

5390 mg/kg

- EC-Index-No. 612-103-00-3 ■ LGK 3
- HS-No. 2921 29 00 ■ Disposal 3
- ADR-RID UN 2372 1,2-Di-(dimethylamino)-ethane, 3, II ■ IMDG-Code UN 2372 1,2-DI-(DIMETHYLAMINO)ETHANE, 3, II
- IATA-DGR UN 2372 1,2-DI-(DIMETHYLAMINO)ETHANE, 3, II
- Polymerisation catalyst for the preparation of polyacrylamide gels.

**808742 N,N,N',N'-Tetramethyl ethylenediamine for synthesis****Specification**

Assay (GC, area%)..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,774 - 0,777  
 Water (K. F.)..... ≤ 0,50 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08742.0005	Glass bottle	5 ml	inquire
8.08742.0250	Glass bottle	250 ml	inquire
8.08742.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

**110732 N,N,N',N'-Tetramethyl ethylenediamine (Temed) GR for analysis****Specification**

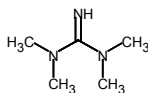
Assay (GC)..... ≥ 99 %  
 Identity (IR-spectrum)..... passes test  
 Fe (Iron)..... ≤ 0.00001 %

Sulfated ash..... ≤ 0.005 %  
 Water..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.10732.0100	Glass bottle	100 ml	inquire



## 821897 N,N,N',N'-Tetramethylguanidine for synthesis



C<sub>5</sub>H<sub>13</sub>N<sub>3</sub>  
 [(CH<sub>3</sub>)<sub>2</sub>N]<sub>2</sub>C=NH  
 ■ CAS-No. 80-70-6 ■ EC-No. 201-302-7  
 ■ Refractive index 1.4659 (20 °C, 589 nm)  
 ■ Vapour pressure 0.26 hPa (25 °C)  
 ■ Spec. density 0.92 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 7.5 % (V) ■ Flash point 50 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 115.17 g/mol  
 ■ pH value 12.7 (10 g/l, H<sub>2</sub>O, 25 °C)  
 ■ Melting point < -30 °C ■ Boiling point 162 °C

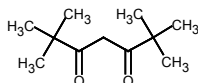
(1013 hPa) ■ Ignition temp. 350 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat > 9 mg/l  
 ■ LD50 oral rat 835 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2925 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(N,N,N,N-TETRAMETHYLGUANIDIN), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE,

N.O.S.(N,N,N,N-TETRAMETHYLGUANIDINE), 8 (3), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(N,N,N,N-TETRAMETHYLGUANIDINE), 8 (3), II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,915 - 0,917  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21897.0100	Glass bottle	100 ml	inquire
8.21897.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire

## 818341 2,2,6,6-Tetramethyl-3,5-heptanedione for synthesis



C<sub>11</sub>H<sub>20</sub>O<sub>2</sub>  
 (CH<sub>3</sub>)<sub>3</sub>CCOCH<sub>2</sub>COC(CH<sub>3</sub>)<sub>3</sub>  
 Dipivaloylmethane  
 ■ CAS-No. 1118-71-4 ■ EC-No. 214-268-3

■ Refractive index 1.4572 (25 °C, 589 nm)  
 ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 67 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 184.27 g/mol  
 ■ Melting point 28 - 30 °C  
 ■ Boiling point 93 - 95 °C (27 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2914 19 90 ■ Disposal 3

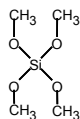
**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.896 - 0.898  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18341.0005	Glass bottle	5 ml	inquire
8.18341.0025	Glass bottle	25 ml	inquire

3,7,11,15-Tetramethyl-2-hexadecen-1-ol →  
 Phytol page 1327

Tetramethylolphosphonium chloride →  
 Tetrakis(hydroxymethyl)phosphonium chloride  
 page 1537

## 814651 Tetramethyl orthosilicate for synthesis



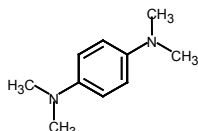
C<sub>4</sub>H<sub>12</sub>O<sub>4</sub>Si  
 ■ CAS-No. 681-84-5 ■ EC-No. 211-656-4  
 ■ Vapour pressure 18 hPa (20 °C)  
 ■ Spec. density 1.03 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.88 - 23.8 % (V) ■ Flash point 26 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 152.22 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) not applicable  
 ■ Melting point -2 °C ■ Boiling point 122 °C

(1013 hPa) ■ Ignition temp. 245 °C  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 1, Inhalation, H330; Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P210, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.39 mg/l  
 ■ LD50 dermal rabbit 17510 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2920 90 85 ■ Disposal 9  
 ■ ADR-RID UN 2606 Methylorthosilicat, 6.1 (3), I  
 ■ IMDG-Code UN 2606 METHYL ORTHOSILICATE,

6.1 (3), I  
 ■ IATA-DGR UN 2606 METHYL ORTHOSILICATE, 6.1 (3),  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.030 - 1.035  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14651.0025	Glass bottle	25 ml	inquire
8.14651.0100	Glass bottle	100 ml	inquire

## 821101 N,N,N',N'-Tetramethyl-1,4-phenylenediamine for synthesis



C<sub>10</sub>H<sub>16</sub>N<sub>2</sub>  
 C<sub>6</sub>H<sub>4</sub>-1,4-[N(CH<sub>3</sub>)<sub>2</sub>]<sub>2</sub>  
 1,4-Bis(dimethylamino)benzene  
 ■ CAS-No. 100-22-1 ■ EC-No. 202-831-6  
 ■ Flash point > 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 164.24 g/mol

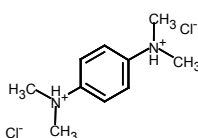
■ Melting point 48 - 50 °C ■ Boiling point 260 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352  
 ■ EC-Index-No. 612-032-00-8 ■ LGK 10 - 13  
 ■ HS-No. 2921 51 90 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(N,N,N,N-TETRAMETHYL-1,4-PHENYLENDIAMIN), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N,N,N,N-TETRAMETHYL-1,4-PHENYLENE DIAMINE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(N,N,N,N-TETRAMETHYL-1,4-PHENYLENE DIAMINE), 6.1, III  
**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 45 °C  
 Melting range (upper value) ..... ≤ 50 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21101.0005	Glass bottle	5 g	inquire
8.21101.0025	Glass bottle	25 g	inquire
	Glass bottle	6 x 25 g	inquire

N,N,N',N'-Tetramethyl-1,4-phenylene-diamine dihydrochloride → N,N,N',N'-Tetramethyl-1,4-phenylenediammonium dichloride page 1542

## 821102 N,N,N',N'-Tetramethyl-1,4-phenylenediammonium dichloride for synthesis



C<sub>10</sub>H<sub>18</sub>Cl<sub>2</sub>N<sub>2</sub>  
 C<sub>6</sub>H<sub>4</sub>-1,4-[N(CH<sub>3</sub>)<sub>2</sub>]<sub>2</sub> \* 2 HCl  
 Wurster-reagent, N,N,N',N'-Tetramethyl-1,4-

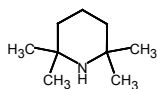
phenylene-diamine dihydrochloride  
 ■ CAS-No. 637-01-4 ■ EC-No. 211-274-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 237.17 g/mol  
 ■ Melting point 227 - 230 °C (decomposition)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312, P302 + P352  
 ■ LGK 10 - 13

■ HS-No. 2921 51 90 ■ Disposal 3  
**Specification**  
 Assay (argentometric) ..... ≥ 98 %  
 Identity (IR-spectrum) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21102.0002	Glass bottle	2 g	inquire
8.21102.0010	Glass bottle	10 g	inquire
8.21102.0025	Glass bottle	25 g	inquire



## 818132 2,2,6,6-Tetramethylpiperidine for synthesis

C<sub>9</sub>H<sub>19</sub>N

- CAS-No. 768-66-1 ■ EC-No. 212-199-3
- Vapour pressure 14 hPa (39 °C)
- Spec. density 0.83 g/cm<sup>3</sup> (20 °C)
- Flash point 37 °C ■ Solub. in H<sub>2</sub>O 25.9 g/l (20 °C) ■ M = 141.25 g/mol ■ Melting point - 59 °C ■ Boiling point 152 - 156 °C
- Ignition temp. 290 °C
- WGK 2

- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 500 mg/kg
- LGK 3
- HS-No. 2933 39 99
- ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(2,2,6,6-TETRAMETHYLPYPERIDIN), 8 (3), II ■ IMDG-Code UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(2,2,6,6-TETRAMETHYLPYPERIDINE), 8 (3), II, Segregation Group: 18

(Alkalis)

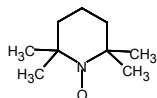
- IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(2,2,6,6-TETRAMETHYL-PIPERIDINE), 8 (3), II

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.830 - 0.833  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18132.0025	Glass bottle	25 ml	inquire
8.18132.0100	Glass bottle	100 ml	inquire

## 814681 2,2,6,6-Tetramethylpiperidine-1-oxyl (free radical) for synthesis

C<sub>9</sub>H<sub>18</sub>NO

Tempo

- CAS-No. 2564-83-2 ■ EC-No. 219-888-8
- Vapour pressure 0.4 hPa (20 °C)
- Spec. density 0.912 g/cm<sup>3</sup> (40 °C)
- Flash point 67 °C ■ Solub. in H<sub>2</sub>O 9.7 g/l (20 °C)
- M = 156.25 g/mol ■ pH value 8.3 (9 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 33 - 38 °C
- Ignition temp. 275 °C

- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 3263 Ätzender basischer organischer fester Stoff, n.a.g.(2,2,6,6-TETRAMETHYLPYPERIDIN-1-OXYL), 8, II ■ IMDG-Code UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(2,2,6,6-TETRAMETHYLPYPERIDINE-1-OXYL), 8, II, Segregation Group: 18 (Alkalis)

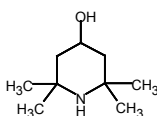
- IATA-DGR UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(2,2,6,6-TETRAMETHYLPYPERIDINE-1-OXYL), 8, II

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 33 °C  
 Melting range (upper value)..... ≤ 38 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14681.0005	Glass bottle	5 g	inquire
8.14681.0025	Glass bottle	25 g	inquire

## 814301 2,2,6,6-Tetramethyl-4-piperidinol for synthesis

C<sub>9</sub>H<sub>19</sub>NO

4-Hydroxy-2,2,6,6-tetramethylpiperidine

- CAS-No. 2403-88-5 ■ EC-No. 219-291-2
- Vapour pressure 3 hPa (100 °C)
- Spec. density 1.085 g/cm<sup>3</sup> (23 °C)
- Flash point 124 °C ■ Solub. in H<sub>2</sub>O 130 g/l (23 °C) ■ M = 157.25 g/mol ■ pH value 11.2 (4 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 128 - 130 °C

- Boiling point 212 - 215 °C
- Ignition temp. 320 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat > 2000 mg/kg
- LGK 8A
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 3259 Amine, fest, ätzend, n.a.g.(2,2,6,6-TETRAMETHYL-4-PIPERIDINOL), 8, III
- IMDG-Code UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.(2,2,6,6-TETRAMETHYL-4-PIPERIDINOLE), 8, III, Segregation Group: 18

(Alkalis)

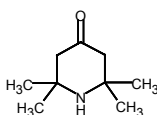
- IATA-DGR UN 3259 AMINES, SOLID, CORROSIVE, N.O.S.(2,2,6,6-TETRAMETHYL-4-PIPERIDINOLE), 8, III

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)  
 Melting range (lower value)..... ≥ 128 °C  
 Melting range (upper value)..... ≤ 130 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14301.0025	Plastic bottle	25 g	inquire
8.14301.0100	Plastic bottle	100 g	inquire

## 814294 2,2,6,6-Tetramethyl-4-piperidone for synthesis

C<sub>9</sub>H<sub>17</sub>NO

Triacetone amine, TAA

- CAS-No. 826-36-8 ■ EC-No. 212-554-2
- Refractive index 1.452 (50 °C, 589 nm) ■ Vapour pressure 0.3 hPa (20 °C) ■ Spec. density 0.92 g/cm<sup>3</sup> (50 °C) ■ Flash point 83 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 155.23 g/mol
- Melting point 32 - 35 °C ■ Boiling point 205 °C (1013 hPa) ■ Ignition temp. 360 °C

- WGK 1
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 1000 - 2000 mg/kg
- LD50 dermal rat > 2000 mg/kg
- LGK 8A
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 3263 Ätzender basischer organischer fester Stoff, n.a.g.(2,2,6,6-TETRAMETHYL-4-PIPERIDON), 8, III ■ IMDG-Code UN 3263 CORROSIVE SOLID, BASIC,

- ORGANIC, N.O.S.(2,2,6,6-TETRAMETHYL-4-PIPERIDON), 8, III, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.(2,2,6,6-TETRAMETHYL-4-PIPERIDON), 8, III

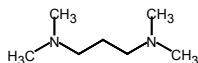
**Specification**

Assay (GC, area%)..... ≥ 96,0 Area %  
 Melting range (lower value)..... ≥ 32 °C  
 Melting range (upper value)..... ≤ 35 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14294.0100	Glass bottle	100 g	inquire

# Tetram

## 843567 N,N,N',N'-Tetramethyl-1,3-propanediamine for synthesis



C<sub>7</sub>H<sub>18</sub>N<sub>2</sub>  
 ■ CAS-No. 110-95-2 ■ EC-No. 203-818-8  
 ■ Vapour pressure 6.5 hPa (20 °C)  
 ■ Spec. density 0.78 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.9 - 22.5 % (V) ■ Flash point 28 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 130.23 g/mol ■ pH value 12.5 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -70 °C  
 ■ Boiling point 144 - 148 °C  
 ■ Ignition temp. 180 °C DIN 51794  
 ■ WGK 2

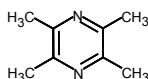
■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 5.4 mg/l  
 ■ LD50 oral rat 620 mg/kg ■ LD50 dermal rat 1180 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2921 29 00  
 ■ ADR-RID UN 2734 Amine, flüssig, ätzend, entzündbar, n.a.g.(N,N,N',N'-TETRAMETHYL-1,3-PROPANDIAMIN), 8 (3), II ■ IMDG-Code UN 2734

AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(N,N,N,N+-TETRAMETHYL-1,3-PROPANEDIAMINE), 8 (3), II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(N,N,N,N+-TETRAMETHYL-1,3-PROPANEDIAMINE), 8 (3), II

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) .....0.780 - 0.784  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.43567.0025	Glass bottle	25 ml	inquire

## 841794 2,3,5,6-Tetramethylpyrazine for synthesis



C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>  
 ■ CAS-No. 1124-11-4 ■ EC-No. 214-391-2  
 ■ Vapour pressure 70 hPa (50 °C)  
 ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 4 g/l (20 °C) ■ M = 136.19 g/mol  
 ■ Melting point 83 - 85 °C ■ Boiling point 190 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 1910 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2933 99 80 ■ Disposal 3

**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 98.0 %  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41794.0025	Plastic bottle	25 g	inquire

## 108183 Tetramethylsilane for the calibration of NMR spectra for NMR spectroscopy MagniSolv™



C<sub>4</sub>H<sub>12</sub>Si  
 (CH<sub>3</sub>)<sub>4</sub>Si  
 TMS  
 ■ CAS-No. 75-76-3 ■ EC-No. 200-899-1  
 ■ Vapour pressure 750 hPa (20 °C)  
 ■ Spec. density 0.65 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.0 - 37.9 % (V) ■ Flash point -20 °C DIN

51755 Part 1 ■ Solub. in H<sub>2</sub>O 0.02 g/l (25 °C)  
 ■ M = 88.23 g/mol ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -95 °C  
 ■ Boiling point 26 °C (1013 hPa)  
 ■ Ignition temp. 345 °C DIN 51794  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P223  
 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 2749 Tetramethylsilan, 3, I

■ IMDG-Code UN 2749 TETRAMETHYLSILANE, 3, I  
 ■ IATA-DGR UN 2749 TETRAMETHYLSILANE, 3, I

**Specification**  
 Purity (GC)..... ≥ 99.7% (a/a)  
 Identity (IR-spectrum).....conforms  
 Density (d 20 °C/ 4 °C) .....0.6385 - 0.6400  
 Performance test (NMR-spectrum).....conforms

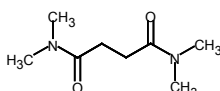
Ord.No.	Packaging	Quantity	Price
1.08183.0100	Glass bottle	100 ml	inquire

Tetramethylsilane 1% v/v in deuteriochloroform → page 294

Tetramethyl silicate → Tetramethyl orthosilicate page 1542

Tetramethylstannane → Tetramethyltin page 1545

## 818081 N,N,N',N'-Tetramethylsuccinylamide for synthesis



C<sub>8</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>  
 (CH<sub>3</sub>)<sub>2</sub>NCOCH<sub>2</sub>CH<sub>2</sub>CON(CH<sub>3</sub>)<sub>2</sub>  
 Succinylbis(dimethylamide)

■ CAS-No. 7334-51-2 ■ EC-No. 230-838-4  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 172.23 g/mol ■ Melting point 81 - 84 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3

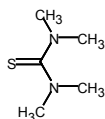
Melting range (lower value)..... ≥ 81 °C  
 Melting range (upper value) ..... ≤ 84 °C  
 Identity (IR).....passes test

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 Area %

Ord.No.	Packaging	Quantity	Price
8.18081.0010	Plastic bottle	10 g	inquire

Tetramethylthionine chloride → page 1149

## 841854 Tetramethylthiourea for synthesis



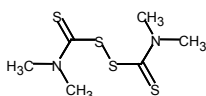
C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>S  
 ■ CAS-No. 2782-91-4 ■ EC-No. 220-488-0  
 ■ Vapour pressure 1.9 hPa (25 °C)

■ Flash point 100 °C ■ Solub. in H<sub>2</sub>O 32 g/l (20 °C)  
 ■ M = 132.22 g/mol ■ Melting point 75 - 78 °C  
 ■ Boiling point 245 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 920 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 75 °C  
 Melting range (upper value) ..... ≤ 78 °C  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.41854.0025	Plastic bottle	25 g	inquire

## 840135 Tetramethylthiuram disulfide for synthesis

C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>S<sub>4</sub>*Bis(dimethylthiocarbamyl) disulphide*

- CAS-No. 137-26-8 ■ EC-No. 205-286-2
- Vapour pressure 0.000023 hPa (25 °C)
- Spec. density 1.3 g/cm<sup>3</sup> ■ Flash point 89 °C
- Solub. in H<sub>2</sub>O 16.5 mg/l (20 °C) ■ M = 240.44 g/mol
- Melting point 148 - 152 °C
- Bulk density 480 kg/m<sup>3</sup> ■ Boiling point 129 °C (26.6 hPa) ■ Ignition temp. 270 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4,

Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P305 + P351 + P338

- LC50 rat 500 mg/m<sup>3</sup>
- LD50 oral rat 560 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- EC-Index-No. 006-005-00-4 ■ LGK 10 - 13
- Store below +15°C.
- HS-No. 2930 30 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TETRAMETHYLTHIURAMDISULFID), 6,1,

II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAMETHYLTHIURAM DISULFIDE), 6.1, II

- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TETRAMETHYLTHIURAM DISULFIDE), 6.1, II

**Specification**

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)

Melting range (lower value)..... ≥ 148 °C

Melting range (upper value)..... ≤ 152 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40135.0025	Glass bottle	25 g	inquire
8.40135.0100	Glass bottle	100 g	inquire

## 808706 Tetramethyltin for synthesis

C<sub>4</sub>H<sub>12</sub>SnSn(CH<sub>3</sub>)<sub>4</sub>*Tetramethylstannane, Tin tetramethyl*

- CAS-No. 594-27-4 ■ EC-No. 209-833-6
- Refractive index 1.441 (20 °C, 589 nm)
- Spec. density 1.29 g/cm<sup>3</sup> (20 °C) ■ Flash point - 12 °C
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 178.82 g/mol ■ Melting point -54 °C

- Boiling point 74 - 75 °C (1013 hPa)
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P280, P273, P302 + P352, P304 + P340, P309 + P310
- EC-Index-No. 050-005-00-7 ■ LGK 3
- HS-No. 2931 90 90 ■ Disposal 9
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff,

giftig, n.a.g.(TETRAMETHYLZINN), 3 (6.1), II

- IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(TETRAMETHYLZINN), 3 (6.1), II
- IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(TETRAMETHYLZINN), 3 (6.1), II

**Specification**

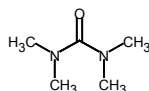
Assay (GC, area%)..... ≥ 97,0 Area %

Density (d 20 °C/ 4 °C)..... 1,285 - 1,300

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08706.0010	Glass bottle	10 ml	inquire

## 808205 Tetramethyleurea for synthesis

C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>O(CH<sub>3</sub>)<sub>2</sub>NCON(CH<sub>3</sub>)<sub>2</sub>

TMU

- CAS-No. 632-22-4 ■ EC-No. 211-173-9
- Refractive index 1.4493 (20 °C, 589 nm)
- Vapour pressure 13.3 hPa (61 °C)

- Spec. density 0.97 g/cm<sup>3</sup> (20 °C)
- Flash point 75 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 116.16 g/mol
- Melting point -1 °C ■ Boiling point 176 °C (1013 hPa)
- WGK 2
- GHS: Danger, Reproductive toxicity, Category 1B, H360D; Acute toxicity, Category 4, Oral, H302, P201, P262, P307 + P310
- LD50 oral rat 794 mg/kg ■ LD50 dermal rabbit 3160 mg/kg

- LGK 6.1A
- HS-No. 2924 19 00 ■ Disposal 9

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %

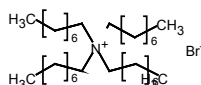
Density (d 20 °C/ 4 °C)..... 0,967 - 0,968

Water (K. F.)..... ≤ 0,30 %(m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08205.0100	Glass bottle	100 ml	inquire
8.08205.0250	Glass bottle	250 ml	inquire

## 814002 Tetra-n-octylammonium bromide for synthesis

C<sub>32</sub>H<sub>68</sub>BrN(C<sub>8</sub>H<sub>17</sub>)<sub>4</sub>N<sup>+</sup>Br<sup>-</sup>

- CAS-No. 14866-33-2 ■ EC-No. 238-936-9

- Flash point 100 °C ■ Solub. in H<sub>2</sub>O 600 g/l (20 °C) ■ M = 546.8 g/mol ■ pH value 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 95 - 98 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

**Specification**

Assay (argentometric)..... ≥ 98,0 %(m)

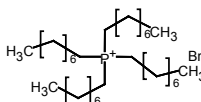
Melting range (lower value)..... ≥ 95 °C

Melting range (upper value)..... ≤ 98 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14002.0010	Glass bottle	10 g	inquire
8.14002.0050	Glass bottle	50 g	inquire

## 840068 Tetraoctylphosphonium bromide for synthesis

C<sub>32</sub>H<sub>68</sub>BrP

- CAS-No. 23906-97-0 ■ EC-No. 245-935-7

- Flash point 121 °C ■ M = 563.76 g/mol
- pH value < 3 (50 g/l, H<sub>2</sub>O)
- Melting point 40 - 45 °C
- WGK 2

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 2800 mg/kg
- LGK 8A
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(TETRAOCTYLPHOSPHONIUMBROMID), 8, II
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(TETRAOCTYLPHOSPHONIUM

BROMIDE), 8, II, Segregation Group: 1 (Acids)

- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(TETRAOCTYLPHOSPHONIUM BROMIDE), 8, II

**Specification**

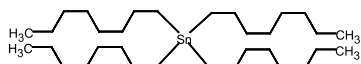
Assay (argentometric)..... ≥ 95,0 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.40068.0010	Plastic bottle	10 g	inquire

Tetraoctylstannane → Tetraoctyltin page 1546

## 821898 Tetraoctyltin for synthesis



$C_{32}H_{68}Sn$   
 $[CH_2(CH_2)_7]_4Sn$   
*Tetraoctylstannane, Tin tetraoctyl*  
 ■ CAS-No. 3590-84-9 ■ EC-No. 222-733-7  
 ■ Refractive index 1.4681 (20 °C, 589 nm)  
 ■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 180 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 571.57 g/mol ■ Boiling point 268 °C (13 hPa)

- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Chronic aquatic toxicity, Category 4, H413, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat > 4000 mg/kg
- EC-Index-No. 050-013-00-0 ■ LGK 10
- HS-No. 2931 90 90 ■ Disposal 9
- ADR-RID UN 2788 Organische Zinnverbindung, flüssig, n.a.g.(TETRAOCTYLZINN), 6.1, III ■ IMDG-Code UN 2788 ORGANOTIN COMPOUND, LIQUID,

N.O.S.(TETRAOCTYLIN), 6.1, III, Marine Pollutant: P  
 ■ IATA-DGR UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(TETRAOCTYLIN), 6.1, III

### Specification

Assay (on Sn) ..... ≥ 20,0 %  
 Assay (on Cl) ..... ≤ 2,5 %  
 Identity (IR) ..... passes test  
 Other Sn compounds: about 15%

Ord.No.	Packaging	Quantity	Price
8.21898.0100	Glass bottle	100 ml	inquire

1,4,7,10-Tetraoxacyclododecane → Crown ether/  
 12-Crown-4 page 660

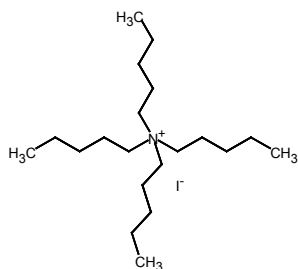
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane →  
 Kryptofix® 22 polymer (Merrifield) page 1069

1,4,9,12-Tetraoxadispiro[4.2.4.2]tetradecane →  
 1,4-Cyclohexanedione bisethylene ketal page 672

4,7,13,18-Tetraoxa-1,10-diazabicyclo[8.5.5]  
 eicosane → Kryptofix® 211 page 1069

1,7,10,16-Tetraoxa-4,13-diazacyclooctadecane →  
 Kryptofix® 22 page 1068

## 841762 Tetrptylammonium iodide for synthesis



- $C_{20}H_{44}IN$   
 $(C_3H_7)_4NI$   
 ■ CAS-No. 2498-20-6 ■ EC-No. 219-688-0  
 ■ Solub. in H<sub>2</sub>O 7.40 g/l (25 °C) ■ M = 425.47 g/mol ■ Melting point 135 - 137 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338

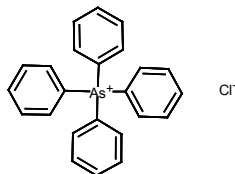
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3

### Specification

Assay (argentometric) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 135 °C  
 Melting range (upper value) ..... ≤ 137 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41762.0025	Plastic bottle	25 g	inquire

## 108150 Tetraphenylarsonium chloride monohydrate for analysis EMSURE®



$C_{24}H_{20}AsCl \cdot H_2O$   
 ■ CAS-No. 104170-16-3 ■ EC-No. 208-070-6  
 ■ Solub. in H<sub>2</sub>O 50 g/l (20 °C) ■ M = 436.82 g/mol  
 ■ pH value 2.9 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 254 - 258 °C  
 ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 3

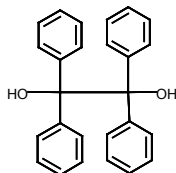
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P309 + P310
- EC-Index-No. 033-002-00-5 ■ LGK 6.1A
- HS-No. 2931 90 90 ■ Disposal 9
- ADR-RID UN 3465 Organische Arsenverbindung, fest, n.a.g.(TETRAPHENYLARSONIUMCHLORID), 6.1, II ■ IMDG-Code UN 3465 ORGANOARSENIC COMPOUND, SOLID, N.O.S.(TETRAPHENYLARSONIUMCHLORIDE), 6.1, II
- IATA-DGR UN 3465 ORGANOARSENIC COMPOUND, SOLID, N.O.S.(TETRAPHENYLARSONIUMCHLORIDE), 6.1, II

### Specification

Assay (Perchloric acid titration, calc. on anhydrous substance) ..... ≥ 99,0 %  
 Identity (IR-spectrum) ..... passes test  
 Cu (Copper) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Pb (Lead) ..... ≤ 0.001 %  
 TLC-Test ..... passes test  
 Sulfated ash ..... ≤ 0.2 %  
 Water (according to Karl Fischer) ..... 3.9 - 4.4 %

Ord.No.	Packaging	Quantity	Price
1.08150.0005	Glass bottle	5 g	inquire

## 821104 Tetraphenyl-1,2-ethanediol for synthesis



- $C_{26}H_{22}O_2$   
 $HOC(C_6H_5)_2C(C_6H_5)_2OH$   
*Benzopinacol, Benzopinacon, Tetraphenylethylene glycol*  
 ■ CAS-No. 464-72-2 ■ EC-No. 207-356-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 366.45 g/mol ■ Melting point 170 - 175 °C  
 ■ WGK 3

- LGK 10 - 13
- HS-No. 2906 29 00 ■ Disposal 3

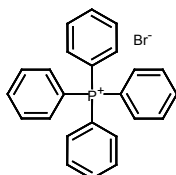
### Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21104.0025	Glass bottle	25 g	inquire

Tetraphenylethylene glycol → Tetraphenyl-1,2-ethanediol page 1546

## 808243 Tetraphenylphosphonium bromide for synthesis



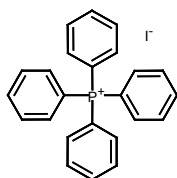
- $(C_6H_5)_4PBr$   
 ■ CAS-No. 2751-90-8 ■ EC-No. 220-393-4  
 ■ Flash point 260 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 419.29 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3
- Specification**  
 Assay (argentometric) ..... ≥ 98,0 % (m)

Melting range (lower value) ..... ≥ 294 °C  
 Melting range (upper value) ..... ≤ 297 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08243.0010	Glass bottle	10 g	inquire
8.08243.0025	Glass bottle	25 g	inquire

$C_{24}H_{20}BrP$

## 841105 Tetraphenylphosphonium iodide for synthesis

C<sub>24</sub>H<sub>20</sub>I<sub>P</sub>

- CAS-No. 2065-67-0 ■ EC-No. 218-179-0
- M = 466.3 g/mol ■ Melting point 338 - 340 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

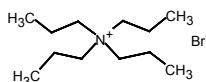
## Specification

Assay (argentometric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 338 °C  
 Melting range (upper value)..... ≤ 342 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41105.0005	Glass bottle	5 g	inquire

(2R,3R)-(-)-1,1,4,4-Tetraphenyl-2,3-(2-propylidenedioxy)butane-1,4-diol → (2R,3R)-(-)-4,5-Bis(diphenylhydroxymethyl)-2,2-dimethyl-1,3-dioxolane page 468

## 818735 Tetrapropylammonium bromide for synthesis

C<sub>12</sub>H<sub>28</sub>BrNC<sub>12</sub>H<sub>28</sub>NBr

- CAS-No. 1941-30-6 ■ EC-No. 217-727-6
- Solub. in H<sub>2</sub>O >1000 g/l (20 °C) ■ M = 266.26 g/mol

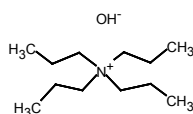
- mol ■ pH value 5 - 7 (100 g/l, H<sub>2</sub>O)
- Melting point 265 - 274 °C (decomposition)
- WGK 3
- LD50 oral rat 3500 mg/kg
- LGK 10 - 13
- HS-No. 2923 90 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (argentometric)..... ≥ 99.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18735.0100	Glass bottle	100 g	inquire
8.18735.0250	Glass bottle	250 g	inquire

## 814068 Tetrapropylammonium hydroxide (40% solution in water) for synthesis



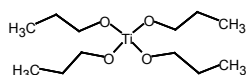
- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value >7 (H<sub>2</sub>O, 20 °C) (undiluted) ■ Boiling point 102 °C (1013 hPa)
- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314,

- P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 B
- HS-No. 2923 90 00 ■ Disposal 13
- ADR-RID UN 3267 Ätzender basischer organischer flüssiger Stoff, n.a.g.(TETRAPROPYLAMMONIUMHYDROXID), 8, II
- IMDG-Code UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(TETRAPROPYLAMMONIUMHYDROXIDE), 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 3267 CORROSIVE LIQUID, BASIC,

ORGANIC, N.O.S.(TETRAPROPYLAMMONIUMHYDROXIDE), 8, II  
**Specification**  
 Assay (acidimetric)..... 38,0 - 42,0 % (m)  
 Density (d 20 °C/ 4 °C)..... 0,998 - 1,010

Ord.No.	Packaging	Quantity	Price
8.14068.0010	Glass bottle	10 ml	inquire
8.14068.0050	Glass bottle	50 ml	inquire
8.14068.0250	Glass bottle	250 ml	inquire

## 821107 Tetrapropyl orthotitanate for synthesis

C<sub>12</sub>H<sub>28</sub>O<sub>4</sub>Ti(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>O)<sub>4</sub>Ti

Propyl titanate(IV), Titanic acid tetrapropyl ester, Titanium tetrapropylate, Orthotitanic acid tetrapropyl ester

- CAS-No. 3087-37-4 ■ EC-No. 221-411-3
- Refractive index 1.4962 (25 °C, 589 nm)
- Spec. density 1.05 g/cm<sup>3</sup> (20 °C)

- Flash point 38 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 284.22 g/mol
- Boiling point 170 °C (36 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Eye irritation, Category 2, H319, P210, P260, P305 + P351 + P338
- LGK 3
- HS-No. 2905 19 00 ■ Disposal 28
- ADR-RID UN 2413 Tetrapropylorthotitanat, 3, III
- IMDG-Code UN 2413 TETRAPROPYL ORTHOTITANATE, 3, III

■ IATA-DGR UN 2413 TETRAPROPYL ORTHOTITANATE, 3, III

## Specification

Assay (ex Ti)..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C)..... 1.041 - 1.044  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21107.0100	Glass bottle	100 ml	inquire
8.21107.0500	Glass bottle	500 ml	inquire

Tetrasodium pyrophosphate → tetra-Sodium diphosphate decahydrate page 1433

Tetrathionate enrichment broth → page 106

Tetrathionate enrichment broth (base) acc. to MUELLER-KAUFMANN → page 105

Tetrazoles → Heterocycles

Tetrazolium blue → page 191

## Tetrazolium salts

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
806	111714	3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium bromide	191	124823	Nitro blue tetrazolium chloride (NBT)	191	108103	Tetrazolium blue

Tetramethylene oxide → page 320

TFA → page 1589

TFAA → page 44

TFFH → page 280

TGE agar → page 105

## Thallium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
171	110107	Arsenazo III	995	107098	8-Hydroxyquinoline	1454	106669	Sodium tetraphenyl borate
172	103092	Dithizone	191	107599	Rhodamine B (C.I. 45170)			

Thallium standard for aqueous matrices ready for use → page 1471

THAM → page 1616

2-Thenaldehyde → Thiophene-2-carbaldehyde page 1552

Thermoreactor → page 93

Thermosensor → page 93

THF → page 4

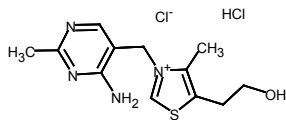
THFA → Tetrahydrofurfuryl alcohol page 308

1,3,4-Thiadiazolidine-2,5-dithione → 2,5-Dimercapto-1,3,4-thiadiazole page 769



# Thiami

## 108181 Thiamine chloride hydrochloride for biochemistry



C<sub>12</sub>H<sub>17</sub>ClN<sub>4</sub>OS \* ClH

C<sub>12</sub>H<sub>17</sub>ClN<sub>4</sub>OS \* ClH

*Aneurin hydrochloride, Vitamin B1*

■ CAS-No. 67-03-8 ■ EC-No. 200-641-8

■ Solub. in H<sub>2</sub>O 1000 g/l ■ M = 337.27 g/mol

■ pH value 2.7 - 3.3 (25 g/l, H<sub>2</sub>O, 20 °C)

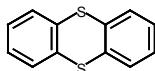
- Melting point 248 °C (decomposition)
  - Bulk density 500 kg/m<sup>3</sup>
  - WGK 1
  - LD50 oral rat 3710 mg/kg
  - LGK 10 - 13
  - HS-No. 2936 22 00 ■ Disposal 3
- Soluble in water (100 g / 100 ml), 96% ethanol (1 g / 100 ml) and glycerol (5 g / 100 ml); slightly soluble in methanol; nearly insoluble in acetone, ether, chloroform and benzene. Aqueous solutions at pH 3.5 are very stable; above pH 5 increasingly unstable.

### Specification

Identity (IR-spectrum) ..... conforms  
 Assay (Perchloric acid titration, calc. on anhydrous substance) ..... ≥ 99.0 %  
 Sulfate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 Water ..... ≤ 5.0 %

Ord.No.	Packaging	Quantity	Price
1.08181.0025	Plastic bottle	25 g	inquire
1.08181.0250	Plastic bottle	250 g	inquire

## 821109 Thianthrene for synthesis



C<sub>12</sub>H<sub>8</sub>S<sub>2</sub>

*Di-o-phenylene disulfide*

■ CAS-No. 92-85-3 ■ EC-No. 202-197-0

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 216.31 g/mol

- mol ■ Melting point 153 - 156 °C
- Boiling point 364 - 366 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

### Specification

Assay (of S) ..... ≥ 97.0 %  
 Melting range (lower value) ..... ≥ 153 °C

Melting range (upper value) ..... ≤ 156 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21109.0025	Glass bottle	25 g	inquire

## 841237 Thiazole for synthesis



C<sub>3</sub>H<sub>3</sub>NS

■ CAS-No. 288-47-1 ■ EC-No. 206-021-3

■ Spec. density 1.2 g/cm<sup>3</sup> (20 °C)

■ Flash point 22 °C ■ M = 85.12 g/mol

■ Melting point -33 °C

■ Boiling point 117 - 118 °C (1013 hPa)

■ WGK 3

- GHS: Danger, Flammable liquid, Category 2, H225, P210, P223
- LGK 3
- HS-No. 2934 10 00 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(THIAZOL), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(THIAZOLE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(THIAZOLE), 3, II

### Specification

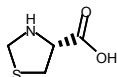
Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.197 - 1.201  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41237.0001	Glass bottle	1 ml	inquire
8.41237.0005	Glass bottle	5 ml	inquire

Thiazoles → Heterocycles

Thiazole yellow → Titan yellow (C.I. 19540) page 1560

## 821110 (R)-(-)-Thiazolidine-4-carboxylic acid for synthesis



C<sub>4</sub>H<sub>7</sub>NO<sub>2</sub>S

*Thioproline*

■ CAS-No. 34592-47-7 ■ EC-No. 252-106-3

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 133.17 g/mol ■ Ignition temp. 196 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2934 10 00 ■ Disposal 3

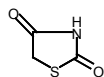
### Specification

Assay (acidimetric) ..... ≥ 98.0 %  
 Spec. rotation [α<sub>D</sub><sup>20</sup>] (c=6 in 20% HCl) .....

..... -102.0 - -98.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21110.0025	Glass bottle	25 g	inquire
8.21110.0100	Glass bottle	100 g	inquire

## 841071 2,4-Thiazolidinedione for synthesis



C<sub>3</sub>H<sub>3</sub>NO<sub>2</sub>S

■ CAS-No. 2295-31-0 ■ EC-No. 218-941-2

■ M = 117.13 g/mol ■ Melting point 123 - 126 °C

- WGK 3
- LGK 10 - 13
- HS-No. 2934 10 00 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 124 °C  
 Melting range (upper value) ..... ≤ 127 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41071.0025	Plastic bottle	25 g	inquire

## 821111 2-Thiazoline-2-thiol for synthesis



C<sub>3</sub>H<sub>5</sub>NS<sub>2</sub>

*2-Mercaptothiazoline*

■ CAS-No. 96-53-7 ■ EC-No. 202-512-1

■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 119.21 g/mol

■ pH value 6 - 7 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 101 - 106 °C

■ WGK 3

- GHS: Danger, Acute toxicity, Category 3, Oral, H301, P309 + P310
- LD50 oral rat 300 mg/kg
- LGK 6.1C
- HS-No. 2934 10 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2-MERCAPTO-2-THIAZOLIN), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-MERCAPTOTHIAZOLINE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2-MERCAPTOTHIAZOLINE), 6.1, III

### Specification

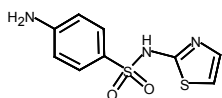
Assay (HPLC, area%) ..... ≥ 98.0 Area %  
 Melting range (lower value) ..... ≥ 101 °C  
 Melting range (upper value) ..... ≤ 106 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21111.0100	Plastic bottle	100 g	inquire
8.21111.0500	Plastic bottle	500 g	inquire

2-Thiazolylamine → 2-Aminothiazole page 404

Thiazolyl blue → 3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium bromide page 806

## 821112 N1-2-Thiazolysulfanilamid for synthesis

C<sub>9</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub>S<sub>2</sub>

Sulfthiazol

■ CAS-No. 72-14-0 ■ EC-No. 200-771-5

- Solub. in H<sub>2</sub>O 0.5 g/l (25 °C) ■ M = 255.3 g/mol
- Melting point 199 - 202 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2935 00 90 ■ Disposal 3

**Specification**Assay (HClO<sub>4</sub>)..... ≥ 98.0 %

Melting range (lower value)..... ≥ 199 °C

Melting range (upper value)..... ≤ 202 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21112.0005	Glass bottle	5 g	inquire
8.21112.0250	Plastic bottle	250 g	inquire

2-Thienylacetic acid → Thiophene-2-acetic acid  
page 1552

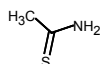
α-Thienyl bromide → 2-Bromothiophene page 515

2-Thienyl iodide → 2-Iodothiophene page 1014

Thin-layer chromatography → page 14

3-Thienylbromide → 3-Bromothiophene page 515

## 108170 Thioacetamide GR for analysis ACS, Reag. Ph Eur

C<sub>2</sub>H<sub>5</sub>NSCH<sub>3</sub>CSNH<sub>2</sub>

- CAS-No. 62-55-5 ■ EC-No. 200-541-4
- Spec. density 1.37 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 163 g/l (25 °C) ■ M = 75.13 g/mol ■ pH value 5.2 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 111 - 114 °C
- Bulk density 600 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B,

H350; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 3, H412, P201, P273, P302 + P352, P305 + P351 + P338, P308 + P313

■ LD50 oral rat 301 mg/kg

■ EC-Index-No. 616-026-00-6 ■ LGK 6.1C

■ HS-No. 2930 90 99 ■ Disposal 9

Releases hydrogen sulfide on heating in aqueous solution, permitting precipitation of sulfides without obnoxious odours.

**Specification**

Assay (argentometric)..... ≥ 99.0 %

Identity (IR-spectrum)..... passes test

Melting point..... 111 - 114 °C

Heavy metals (as Pb)..... ≤ 0.001 %

Fe (Iron)..... ≤ 0.0005 %

Sulfated ash..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.08170.0050	Glass bottle	50 g	inquire
1.08170.0250	Glass bottle	250 g	inquire
1.08170.1000	Glass bottle	1 kg	inquire

## 808076 Thioacetic acid for synthesis

C<sub>2</sub>H<sub>4</sub>OSCH<sub>3</sub>COSH

- CAS-No. 507-09-5 ■ EC-No. 208-063-8
- Refractive index 1.463 (20 °C, 589 nm) ■ Vapour pressure 1 hPa (20 °C) ■ Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Flash point 18 °C ■ Solub. in H<sub>2</sub>O 27 g/l (15 °C) (slow decomposition) ■ M = 76.12 g/mol
- pH value 1.8 (100 g/l, H<sub>2</sub>O, 20 °C) Hydrolysis
- Melting point -17 °C ■ Boiling point 88 - 92 °C

(1013 hPa)

■ WGK 3

■ GHS: Danger, Flammable liquid, Category 2,

H225; Acute toxicity, Category 3, Oral, H301;

Acute toxicity, Category 4, Inhalation, H332; Skin

corrosion, Category 1B, H314; Skin sensitisation,

Category 1, H317, P210, P233, P280, P301 + P330

+ P331, P302 + P352, P305 + P351 + P338, P309

+ P310

■ LC50 rat 2.2 mg/l

■ LD50 oral rat &gt; 200 - 400 mg/kg

■ LGK 3

■ HS-No. 2930 90 99 ■ Disposal 6

■ ADR-RID UN 2436 Thioessigsäure, 3, II ■ IMDG-Code UN 2436 THIOACETIC ACID, 3, II

■ IATA-DGR UN 2436 THIOACETIC ACID, 3, II

**Specification**

Assay (GC, area%)..... ≥ 98.0 Area %

Density (d 20 °C / 4 °C)..... 1,067 - 1,070

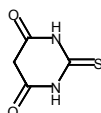
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08076.0100	Glass bottle	100 ml	inquire
8.08076.0250	Glass bottle	250 ml	inquire

Thioacetic acid potassium salt → Potassium  
thioacetate page 1365

Thioanisole → Methyl phenyl sulfide page 1171

## 108180 2-Thiobarbituric acid reagent for sorbic acid

C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>S

■ CAS-No. 504-17-6 ■ EC-No. 207-985-8

■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble

■ M = 144.14 g/mol ■ pH value 1.7 - 1.9 (10 g/l,

H<sub>2</sub>O, 20 °C) ■ Melting point 235 °C■ Bulk density 210 kg/m<sup>3</sup>

■ WGK 2

■ LD50 oral rat &gt; 5000 mg/kg

■ LGK 10 - 13

■ HS-No. 2933 59 95 ■ Disposal 3

**Specification**

Assay (acidimetric; calculated on dried substance).

..... ≥ 99%

Identity (IR-spectrum)..... passes test

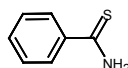
pH-value (1 %; water)..... 1.7 - 1.9

Loss on drying (20 mbar, 60 °C)..... ≤ 1%

Suitability as reagent (for sorbic acid)..... passes test

Ord.No.	Packaging	Quantity	Price
1.08180.0025	Plastic bottle	25 g	inquire

## 821113 Thiobenzamide for synthesis

C<sub>7</sub>H<sub>7</sub>NSC<sub>6</sub>H<sub>5</sub>CSNH<sub>2</sub>

■ CAS-No. 2227-79-4 ■ EC-No. 218-765-6

■ Flash point 120 °C ■ Solub. in

H<sub>2</sub>O (20 °C) slightly soluble ■ M = 137.20 g/mol

■ Melting point 113 - 116 °C

■ WGK 3

■ LGK 10 - 13

■ HS-No. 2930 90 99 ■ Disposal 3

■ ADR-RID UN 2811 Giftiger organischer fester

Stoff, n.a.g.(THIOBENZAMID), 6.1, II ■ IMDG-

Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(THIOBENZAMIDE), 6.1, II

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(THIOBENZAMIDE), 6.1, II

**Specification**

Assay (of S)..... ≥ 98.0 %

Melting range (lower value)..... ≥ 113 °C

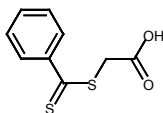
Melting range (upper value)..... ≤ 116 °C

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21113.0050	Plastic bottle	50 g	inquire

# Thiobe

## 814687 Thiobenzoylmercaptoacetic acid for synthesis



$C_9H_8O_2S_2$   
(Thiobenzoylthio)acetic acid  
■ CAS-No. 942-91-6 ■ EC-No. 213-393-0

- M = 212.28 g/mol ■ Melting point 127 - 128 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

**Specification**  
Assay (acidimetric)..... ≥ 96,0 %

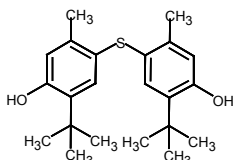
Melting range (lower value)..... ≥ 125 °C  
Melting range (upper value)..... ≤ 128 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14687.0001	Glass bottle	1 g	inquire
8.14687.0005	Glass bottle	5 g	inquire

(Thiobenzoylthio) acetic acid → Thiobenzoylmercaptoacetic acid page 1550

Thiobenzyl alcohol → Benzyl mercaptan page 452

## 818449 4,4'-Thiobis(2-tert-butyl-5-methylphenol) for synthesis



$C_{22}H_{30}O_2S$   
(2-(CH<sub>3</sub>)-4-(OH)-5-((CH<sub>3</sub>)<sub>3</sub>C)C<sub>6</sub>H<sub>2</sub>)<sub>2</sub>S  
Bis(3-tert-butyl-4-hydroxy-6-methylphenyl)

- sulfide*
- CAS-No. 96-69-5 ■ EC-No. 202-525-2
  - Flash point 215 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 358.54 g/mol
  - Melting point 158 - 161 °C
  - Ignition temp. 402 °C
  - WGK 2

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338

■ LD50 oral rat 2345 mg/kg

- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

**Specification**  
Assay (HPLC, area%)..... ≥ 99,0 % (a/a)  
Melting range (lower value)..... ≥ 158 °C  
Melting range (upper value)..... ≤ 161 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18449.0100	Glass bottle	100 g	inquire

Thiocarbamide → page 1554

o-Thiocresol → 2-Methylthiophenol page 1182

Thiocarbaniide → N,N'-Diphenylthiourea page 821

p-Thiocresol → 4-Methylthiophenol page 1183

## Thiocyanates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
415	101213	Ammonium thiocyanate	168	109900	Ammonium thiocyanate solution	1365	105125	Potassium thiocyanate
168	109079	Ammonium thiocyanate solution	1107	104484	Mercury(II) thiocyanate	1365	105124	Potassium thiocyanate

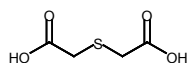
Thiocyanates → Sulfur compounds

Thiocyanic acid chloromethyl ester → Chloromethyl thiocyanate page 621

Thiocyanic acid benzyl ester → Benzyl thiocyanate page 455

Thiocyanic acid methyl ester → Methyl thiocyanate page 1181

## 808625 2,2'-Thiodiacetic acid for synthesis



$C_4H_6O_4S$   
 $S(CH_2COOH)_2$   
Thiodiglycollic acid, Bis(carboxymethyl)sulfide  
■ CAS-No. 123-93-3 ■ EC-No. 204-663-9  
■ Solub. in H<sub>2</sub>O 400 g/l (18 °C) ■ M = 150.14 g/mol ■ pH value 2.2 (10 g/l, H<sub>2</sub>O, 20 °C)  
■ Melting point 128 - 131 °C  
■ Ignition temp. 350 °C  
■ WGK 2

- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg
- LGK 8A
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2,2-THIODIIESSIGSAEURE), 8, III
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2,2-THIODIACETIC ACID), 8, III, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

ORGANIC, N.O.S.(2,2-THIODIACETIC ACID), 8, III

**Specification**  
Assay (acidimetric)..... ≥ 99,0 % (m)  
Melting range (lower value)..... ≥ 128 °C  
Melting range (upper value)..... ≤ 131 °C  
Identity (IR)..... conforms

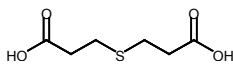
Ord.No.	Packaging	Quantity	Price
8.08625.0250	Plastic bottle	250 g	inquire
8.08625.1000	Plastic bottle	1 kg	inquire

Thiodiglycollic acid → 2,2'-Thiodiacetic acid page 1550

Thiodihydracrylic acid → 3,3'-Thiodipropionic acid page 1550

4,4'-Thiodiphenol → Bis(4-hydroxyphenyl)sulfide page 473

## 808626 3,3'-Thiodipropionic acid for synthesis



$C_6H_{10}O_4S$   
 $S(CH_2CH_2COOH)_2$   
Thiodihydracrylic acid, Bis(2-carboxyethyl)sulfide  
■ CAS-No. 111-17-1 ■ EC-No. 203-841-3

- Flash point 126 - 129 °C ■ Solub. in H<sub>2</sub>O 40 g/l (25 °C) ■ M = 178.2 g/mol
- Melting point 128 - 131 °C
- WGK 2
- GHS: P262
- LD50 oral rat 3000 mg/kg
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 4

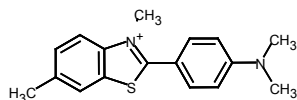
**Specification**  
Assay (acidimetric)..... ≥ 98,0 % (m)  
Melting range (lower value)..... ≥ 128 °C  
Melting range (upper value)..... ≤ 131 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08626.0250	Plastic bottle	250 g	inquire

2-Thioethanol → 2-(Ethylmercapto)-ethanol page 874

Thioethylene glycol → 2-Mercaptoethanol page 1101

## 840072 Thioflavine T (C.I.No.49005) for synthesis

Cl<sup>-</sup>C<sub>17</sub>H<sub>19</sub>ClN<sub>2</sub>S

- CAS-No. 2390-54-7 ■ EC-No. 219-228-9
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 318.87 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 3204 13 00 ■ Disposal 3

## Specification

Assay (of S) ..... ≥ 73,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.40072.0005	Plastic bottle	5 g	inquire

Thioformic acid dimethylamide → N,N-Dimethylthioformamide page 806

Thioglycol → 2-Mercaptoethanol page 1101

Thioglycolate broth → page 107

1-Thioglycerol → 3-Mercapto-1,2-propanediol page 1101

## Thioglycolic acid

C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>SHSCH<sub>2</sub>COOH

Mercaptoacetic acid, 2-Mercaptoethanoic acid

■ CAS-No. 68-11-1 ■ EC-No. 200-677-4

■ Vapour pressure 0.1 hPa (20 °C)

■ Spec. density 1.325 g/cm<sup>3</sup> (20 °C)

■ Flash point 131.5 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) soluble ■ M = 92.11 g/mol
- pH value 1 (H<sub>2</sub>O, 20 °C) ■ Melting point -16.5 °C
- Boiling point 220 °C (1013 hPa) (decomposition)
- WGK 1

- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.21 mg/l

- LD50 oral rat 73 mg/kg
- EC-Index-No. 607-090-00-6 ■ LGK 6.1C ■ Store at +2°C to +8°C.
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 1940 Thioglycolsäure, 8, II
- IMDG-Code UN 1940 THIOGLYCOLIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1940 THIOGLYCOLIC ACID, 8, II For the photometric determination of Al, Fe, Mo, NO<sub>2</sub>-, U.

## 822336 Thioglycolic acid for synthesis

## Specification

Assay (iodometric) ..... ≥ 98,0 %

Density (d 20 °C/ 4 °C) ..... 1.325 - 1.333

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.22336.0250	Glass bottle	250 ml	inquire
	Glass bottle	6 x 250 ml	inquire
8.22336.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

## 100700 Thioglycolic acid GR for analysis Reag. Ph Eur

## Specification

Description ..... clear, colourless liquid

Identity ..... conforms

Assay (iodometric) ..... ≥ 99 % (m)

Solubility (USP) ..... conforms

Sensitivity (USP) ..... conforms

Fe (Iron) ..... ≤ 0,00005 % (m)

Organic bound chlorine ..... ≤ 0,01 % (m)

Sulfated ash ..... ≤ 0,05 % (m)

The statement of the assay applies to the test date. A gradual substance-specific content reduction, especially at higher temperatures, must be expected.

Ord.No.	Packaging	Quantity	Price
1.00700.0100	Glass bottle	100 ml	inquire
1.00700.1000	Glass bottle	1 l	inquire

Thioglycolic acid ethyl ester → Ethyl thioglycolate page 884

Thioglycolic acid ethyl ester → Ethyl thioglycolate page 884

Thionine (acetate) (C.I. 52000) → page 190

Thioglycolic acid ethylhexyl ester → 2-Ethylhexyl thioglycolate page 871

Thiolactic acid → 2-Mercaptopropionic acid page 1101

Thioglycolic acid methyl ester → Methyl thioglycolate page 1182

2-Thionaphthol → 2-Naphthalenethiol page 1198

## 808154 Thionyl chloride for synthesis

Cl<sub>2</sub>O<sub>2</sub>SOCl<sub>2</sub>

Sulfurous acid dichloride, Sulfurous oxychloride

■ CAS-No. 7719-09-7 ■ EC-No. 231-748-8

■ Refractive index 1.517 (20 °C, 589 nm) ■ Vapour pressure 121 hPa (20 °C) ■ Spec. density 1.64 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition) ■ M = 118.97 g/mol■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -104.5 °C ■ Boiling point 76 °C (1013 hPa)

■ WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 3, Inhalation,

H331; Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310

■ LC50 rat 2.7 mg/l

■ LD50 oral rat 324 mg/kg

■ EC-Index-No. 016-015-00-0 ■ LGK 6.1 D

■ HS-No. 2812 10 95 ■ Disposal 24

■ ADR-RID UN 1836 Thionylchlorid, 8, I ■ IMDG-Code UN 1836 THIONYL CHLORIDE, 8, I,

Segregation Group: 1 (Acids)

■ IATA-DGR UN 1836 THIONYL CHLORIDE, 8,

## Specification

Assay (argentometric) ..... ≥ 99,0 %

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.08154.0100	Glass btl. pl.coat.	100 ml	inquire
8.08154.0500	Glass btl. pl.coat.	500 ml	inquire
8.08154.1000	Glass btl. pl.coat.	1 l	inquire
	Glass btl. pl.coat.	6 x 1 l	inquire
8.08154.2500	Glass btl. pl.coat.	2.5 l	inquire
	Glass btl. pl.coat.	4 x 2.5 l	inquire

## 808157 Thiophene for synthesis

C<sub>4</sub>H<sub>4</sub>S

■ CAS-No. 110-02-1 ■ EC-No. 203-729-4

■ Refractive index 1.5289 (20 °C, 589 nm)

■ Vapour pressure 80 hPa (20 °C)

■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.7 (16 °C) ■ Explosivelimit 1.5 - 12.5 % (V) ■ Flash point -9 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 84.14 g/mol■ Saturation conc. 276 g/m<sup>3</sup> (20 °C) Air

■ Melting point -38 °C ■ Boiling point 83 - 84 °C (1013 mbar) ■ Ignition temp. 395 °C

■ WGK 3

■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P210, P260, P262, P273, P305 + P351 + P338

■ LD50 oral rat 1400 mg/kg

■ LGK 3

■ HS-No. 2934 99 90 ■ Disposal 3

■ ADR-RID UN 2414 Thiophen, 3, II ■ IMDG-Code UN 2414 THIOPHENE, 3, II

■ IATA-DGR UN 2414 THIOPHENE, 3, II

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %

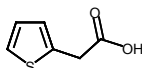
Density (d 20 °C/ 4 °C) ..... 1,062 - 1,065

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08157.0005	Glass bottle	5 ml	inquire
8.08157.0250	Glass bottle	250 ml	inquire
8.08157.1000	Glass bottle	1 l	inquire

# Thioph

## 841123 Thiophene-2-acetic acid for synthesis



$C_6H_6O_2S$   
**2-Thienylacetic acid**  
 ■ CAS-No. 1918-77-0 ■ EC-No. 217-639-8  
 ■ M = 142.17 g/mol ■ Melting point 63 - 66 °C  
 ■ Boiling point 160 °C (29 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(THIOPHEN-2-ESSIGSAEURE), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(THIOPHENE-2-ACETIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(THIOPHENE-2-ACETIC ACID),

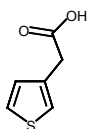
8, III

### Specification

Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 63 °C  
 Melting range (upper value)..... ≤ 66 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41123.0025	Glass bottle	25 g	inquire

## 841797 Thiophene-3-acetic acid for synthesis



$C_6H_6O_2S$   
**2-Cyanomethylthiophene**  
 ■ CAS-No. 6964-21-2 ■ EC-No. 230-166-1  
 ■ M = 142.17 g/mol ■ Melting point 77 - 78 °C  
 ■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(THIOPHEN-3-ESSIGSAEURE), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(3-THIOPHENEACETIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

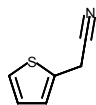
ORGANIC, N.O.S.(3-THIOPHENEACETIC ACID), 8, III

### Specification

Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 76 °C  
 Melting range (upper value)..... ≤ 79 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41797.0001	Glass bottle	1 g	inquire

## 841125 Thiophene-2-acetonitrile for synthesis



$C_6H_5NS$   
**2-Cyanomethylthiophene**  
 ■ CAS-No. 20893-30-5 ■ EC-No. 244-104-6  
 ■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C)

■ Flash point 101 °C ■ M = 123.17 g/mol  
 ■ Boiling point 110 - 114 °C (18.7 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(THIOPHEN-2-ACETONITRIL), 6.1, III  
 ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(THIOPHENE-2-ACETONITRILE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

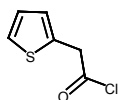
N.O.S.(THIOPHENE-2-ACETONITRILE), 6.1, III

### Specification

Assay (GC, area%)..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.156 - 1.160  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41125.0025	Glass bottle	25 ml	inquire

## 841865 Thiophene-2-acetyl chloride for synthesis



$C_6H_5ClOS$   
 ■ CAS-No. 39098-97-0 ■ EC-No. 254-290-0  
 ■ Spec. density 1.303 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 101 °C ■ M = 160.62 g/mol  
 ■ Boiling point 130 - 135 °C (120 hPa)

■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2934 99 90 ■ Disposal 11  
 ■ ADR-RID UN 1760 Ätzender flüssiger Stoff, n.a.g.(THIOPHEN-2-ACETYLCHLORID), 8, III  
 ■ IMDG-Code UN 1760 CORROSIVE LIQUID, N.O.S.(2-THIOPHENEACETYL CHLORIDE), 8, III

■ IATA-DGR UN 1760 CORROSIVE LIQUID, N.O.S.(2-THIOPHENEACETYL CHLORIDE), 8, III

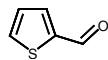
### Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.300 - 1.305  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41865.0025	Glass bottle	25 ml	inquire

Thiophene-2-aldehyde → Thiophene-2-carbaldehyde page 1552

## 808161 Thiophene-2-carbaldehyde for synthesis



$C_5H_4OS$   
**Thiophene-2-aldehyde, 2-Thenaldehyde, 2-Formylthiophene**  
 ■ CAS-No. 98-03-3 ■ EC-No. 202-629-8  
 ■ Refractive index 1.59 (20 °C, 589 nm)  
 ■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C)

■ Flash point 78 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 112.14 g/mol ■ Melting point < 10 °C  
 ■ Boiling point 195 - 198 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302, P262  
 ■ LD50 oral rat 915 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2934 99 90 ■ Disposal 3

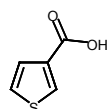
### Specification

Assay (GC, area%)..... ≥ 98 %  
 Density (d 20 °C/ 4 °C)..... 1.221 - 1.224  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.08161.0050	Glass bottle	50 ml	inquire

2-Thiophenecarbonyl chloride → Thiophene-2-carboxylic acid chloride page 1553

## 841525 Thiophene-3-carboxylic acid for synthesis



$C_5H_4O_2S$

■ CAS-No. 88-13-1 ■ EC-No. 201-802-5  
 ■ M = 128.14 g/mol ■ Melting point 137 - 140 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3

### Specification

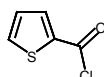
Assay (HPLC, area%)..... ≥ 98.0 % (a/a)

Melting range (lower value)..... ≥ 137 °C  
 Melting range (upper value)..... ≤ 140 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41525.0001	Plastic bottle	1 g	inquire
8.41525.0010	Plastic bottle	10 g	inquire



## 814308 Thiophene-2-carboxylic acid chloride for synthesis

C<sub>5</sub>H<sub>3</sub>ClO<sub>2</sub>

2-Thiophenecarbonyl chloride

- CAS-No. 5271-67-0 ■ EC-No. 226-092-4
- Refractive index 1.59 (20 °C, 589 nm)
- Spec. density 1.37 g/cm<sup>3</sup> (20 °C)
- Flash point 90 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 146.59 g/mol
- Boiling point 206 - 208 °C (1013 hPa)
- WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2934 99 90 ■ Disposal 11
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(THIOPHEN-2-CARBONSAEURECHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(THIOPHEN-2-CARBOXYLIC ACID CHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC,

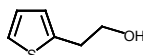
ORGANIC, N.O.S.(THIOPHEN-2-CARBOXYLIC ACID CHLORIDE), 8, II

## Specification

Assay (morpholine method) ..... ≥ 98,0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,370 - 1,372  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14308.0025	Glass bottle	25 ml	inquire
8.14308.0100	Glass bottle	100 ml	inquire

## 818682 Thiophene-2-ethanol for synthesis

C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>

2-(2-Thienyl)ethanol, 2-(2-Hydroxyethyl) thiophene

- CAS-No. 5402-55-1 ■ EC-No. 226-452-0

- Refractive index 1.5478 (20 °C, 589 nm)
- Spec. density 1.16 g/cm<sup>3</sup> (20 °C)
- M = 128.18 g/mol ■ Boiling point 74 - 76 °C (2 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

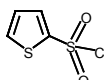
## Specification

Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.150 - 1.160  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18682.0025	Glass bottle	25 ml	inquire

Thiophenes → Heterocycles

## 814879 Thiophene-2-sulfonyl chloride for synthesis

C<sub>4</sub>H<sub>2</sub>ClO<sub>2</sub>S<sub>2</sub>

CAS-No. 16629-19-9 ■ EC-No. 240-677-1

- Flash point 109 °C ■ Solub. in H<sub>2</sub>O (20 °C) decomposes ■ M = 182.65 g/mol
- Melting point 29 - 30 °C
- Boiling point 130 - 132 °C (18.7 hPa)
- WGK 3

- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A ■ Store at +2°C to +8°C.
- HS-No. 2934 99 90 ■ Disposal 11
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(THIOPHEN-2-SULFONYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(THIOPHENESULFONYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

ORGANIC, N.O.S.(THIOPHENESULFONYL CHLORIDE), 8, II

## Specification

Assay (GC, area%) ..... ≥ 96,5 % (a/a)  
 Melting range (lower value) ..... ≥ 29 °C  
 Melting range (upper value) ..... ≤ 30 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14879.0010	Glass bottle	10 g	inquire

## 808159 Thiophenol for synthesis

C<sub>6</sub>H<sub>6</sub>S

Phenyl mercaptan, Mercaptobenzene

- CAS-No. 108-98-5 ■ EC-No. 203-635-3
- Refractive index 1.588 (20 °C, 589 nm) ■ Vapour pressure 2.7 hPa (25 °C) ■ Spec. density 1.08 g/cm<sup>3</sup> (20 °C) ■ Flash point 50 °C ■ Solub. in H<sub>2</sub>O 0.94 g/l (20 °C) ■ M = 110.18 g/mol
- pH value 5 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution) ■ Melting point -15 °C
- Boiling point 168.3 °C (1013 hPa)
- Ignition temp. 450 °C

- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 1, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.15 mg/l
- LD50 oral rat 46.2 mg/kg ■ LD50 dermal rabbit 134 mg/kg
- LGK 3
- HS-No. 2930 90 99 ■ Disposal 6
- ADR-RID UN 2337 Phenylmercaptan, 6.1 (3), I
- IMDG-Code UN 2337 PHENYL MERCAPTAN, 6.1

(3), I

- IATA-DGR UN 2337 PHENYL MERCAPTAN, 6.1

(3), I

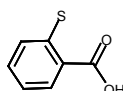
## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,077 - 1,079  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08159.0005	Glass bottle	5 ml	inquire
8.08159.0250	Glass bottle	250 ml	inquire
8.08159.1000	Glass bottle	1 l	inquire

Thioproline → (R)-(-)-Thiazolidine-4-carboxylic acid page 1548

## 841613 Thiosalicylic acid for synthesis

C<sub>7</sub>H<sub>6</sub>O<sub>2</sub>S

2-Mercaptobenzoic acid

- CAS-No. 147-93-3 ■ EC-No. 205-704-3
- Spec. density 1.49 g/cm<sup>3</sup> (20 °C)
- Flash point 150 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 154.19 g/mol

- mol ■ Melting point 165 - 166 °C (sublimed)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR UN 3335 AVIATION REGULATED

SOLID, N.O.S.(THIOSALICYLIC ACID), 9, III

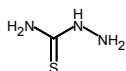
## Specification

Assay (acidimetric) ..... ≥ 98,0 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41613.0100	Plastic bottle	100 g	inquire

# Thiose

## Thiosemicarbazide



CH<sub>5</sub>N<sub>3</sub>S  
H<sub>2</sub>NCSNHNH<sub>2</sub>  
 ■ CAS-No. 79-19-6 ■ EC-No. 201-184-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 91.13 g/mol  
 ■ pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 178 - 180 °C (decomposition)  
 ■ Bulk density 500 - 600 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 2, Oral, H300, P309 + P310  
 ■ LD50 oral rat 9.16 mg/kg ■ LD50 dermal rabbit 2200 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2930 90 99 ■ Disposal 9

■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(THIOSEMICARBAZID), 6.1, II ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(THIOSEMICARBAZIDE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(THIOSEMICARBAZIDE), 6.1, II  
 Reagent for copper, nickel and carbonyl compounds.



### 821119 Thiosemicarbazide for synthesis

#### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21119.0250	Plastic bottle	250 g	inquire
8.21119.1000	Plastic bottle	1 kg	inquire

### 108156 Thiosemicarbazide GR for analysis

#### Specification

Assay (iodometric) ..... ≥ 98%  
 Identity (IR-spectrum) ..... passes test  
 Melting point (Decomposition) ..... ≥ 178 °C  
 Sulfated ash ..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.08156.0010	Glass bottle	10 g	inquire

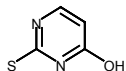
Thiosinamine → N-Allylthiourea page 367

## Thiosulfates

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
416	101208	Ammonium thiosulfate	1455	106516	Sodium thiosulfate pentahydrate	171	109950	Sodium thiosulfate solution
1455	106512	Sodium thiosulfate						
166	106509	Sodium thiosulfate pentahydrate	171	109147	Sodium thiosulfate solution			
			171	109909	Sodium thiosulfate solution			

α-Thiotolene → 2-Methylthiophene page 1182

### 821120 2-Thiouracil for synthesis



C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>  
 4-Hydroxy-2-mercaptopyrimidine  
 ■ CAS-No. 141-90-2 ■ EC-No. 205-508-8  
 ■ Solub. in H<sub>2</sub>O 7.9 g/l (25 °C) ■ M = 128.14 g/mol  
 ■ Melting point >300 °C ■ Bulk density 600 kg/m<sup>3</sup>

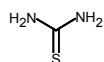
■ Ignition temp. 570 °C  
 ■ WGK 3  
 ■ GHS: P260, P262  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 59 95 ■ Disposal 3

#### Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21120.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire
8.21120.0500	Plastic bottle	500 g	inquire
	Plastic bottle	6 x 500 g	inquire
8.21120.1000	Plastic bottle	1 kg	inquire

## Thiourea



CH<sub>4</sub>N<sub>2</sub>S  
 H<sub>2</sub>NCSNH<sub>2</sub>  
 Thiocarbamide  
 ■ CAS-No. 62-56-6 ■ EC-No. 200-543-5  
 ■ Vapour pressure (20 °C) not applicable  
 ■ Spec. density 1.405 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 137 g/l (20 °C) ■ M = 76.12 g/mol

■ pH value 6 - 8 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 169 - 173 °C  
 ■ Bulk density 640 kg/m<sup>3</sup>  
 ■ Ignition temp. 440 °C Dust  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Carcinogenicity, Category 2, H351; Reproductive toxicity, Category 2, H361d; Chronic aquatic toxicity, Category 2, H411, P273, P281, P308 + P313  
 ■ LD50 oral rat 1750 mg/kg ■ LD50 dermal rabbit

> 2800 mg/kg  
 ■ EC-Index-No. 612-082-00-0 ■ LGK 10 - 13  
 ■ HS-No. 2930 90 99 ■ Disposal 3  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(THIOHARNSTOFF), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(THIOUREA), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(THIOUREA), 9, III



### 818591 Thiourea for synthesis

#### Specification

Assay (ex N) ..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 169 °C  
 Melting range (upper value) ..... ≤ 173 °C  
 Assay (Fe)..... ≤ 0.001 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18591.0500	Plastic bottle	500 g	inquire

### 107979 Thiourea GR for analysis ACS, Reag. Ph Eur

#### Specification

Assay ..... ≥ 99,0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance of solution (50 g/l; water)..... Clear to almost clear and colorless.  
 Melting point ..... 174 - 178 °C  
 Fe (Iron)..... ≤ 0.0005 %  
 Sulfated ash (600 °C)..... ≤ 0.1 %  
 Loss on drying (105 °C) ..... ≤ 0.5 %  
 Sensitivity to bismuth..... passes test  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.07979.0250	Plastic bottle	250 g	inquire
1.07979.1000	Plastic bottle	1 kg	inquire
1.07979.9025	Fibre carton	25 kg	inquire

## 845501 Thiourea for photovoltaic

## Specification

Assay	≥ 98.0 %
Identity (IR)	passes test
Appearance of solution (50 g/l; water)	clear to nearly clear and colourless
Appearance (visual)	white to off white crystallin powder
Melting point	174 - 178 °C
Al (Aluminium)	≤ 5 ppm
As (Arsenic)	≤ 5 ppm

Co (Cobalt)	≤ 5 ppm
Cr (Chromium)	≤ 5 ppm
Cu (Copper)	≤ 5 ppm
Fe (Iron)	≤ 5 ppm
Mn (Manganese)	≤ 5 ppm
Ni (Nickel)	≤ 5 ppm
Pb (Lead)	≤ 5 ppm
Sb (Antimony)	≤ 5 ppm
Sn (Tin)	≤ 5 ppm

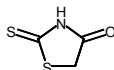
Zn (Zinc)	≤ 5 ppm
Sulfated ash (600 °C)	≤ 0.1 %
Loss on drying (105 °C)	≤ 0.5 %
Sensitivity to bismuth	passes test

Ord.No.	Packaging	Quantity	Price
8.45501.9010	Fibre carton	10 kg	inquire
8.45501.9025	Fibre carton	25 kg	inquire

Thiourea → Sulfur compounds

Thiourea dioxide → Aminoiminomethanesulfinic acid page 390

## 821063 2-Thioxo-4-thiazolidinone for synthesis

C<sub>3</sub>H<sub>3</sub>NOS<sub>2</sub>

2-Thioxo-4-thiazolidinone

- CAS-No. 141-84-4 ■ EC-No. 205-505-1
- Spec. density 0.868 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 2.25 g/l (25 °C) ■ M = 133.19 g/mol

- Melting point 166 - 168 °C
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 320 mg/kg
- LGK 10 - 13
- HS-No. 2934 10 00 ■ Disposal 3

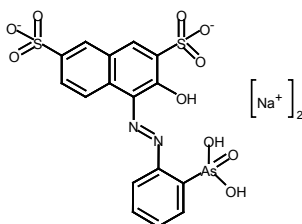
## Specification

Assay (TBAH)	≥ 97.0 %
Melting range (lower value)	≥ 166 °C
Melting range (upper value)	≤ 169 °C
Identity (IR)	passes test

Ord.No.	Packaging	Quantity	Price
8.21063.0050	Glass bottle	50 g	inquire
8.21063.0250	Glass bottle	250 g	inquire

2-Thioxo-4-thiazolidinone → page 1555

## 108294 Thorin indicator for sulfate titration

C<sub>16</sub>H<sub>11</sub>AsN<sub>2</sub>Na<sub>2</sub>O<sub>10</sub>S<sub>2</sub>

1-(2-Arsonophenylazo)-2-hydroxy-3,6-naphthalene-disulfonic acid sodium salt, 2-(2-Hydroxy-3,6-disulfo-1-naphthylazo)-benzene-arsonic acid sodium salt

- CAS-No. 3688-92-4 ■ EC-No. 222-993-1
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 576.3 g/mol
- pH value 6.1 (10 g/l, H<sub>2</sub>O, 20 °C)

- Bulk density 700 kg/m<sup>3</sup>
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P309 + P310
- EC-Index-No. 033-002-00-5 ■ LGK 6.1A
- HS-No. 2931 90 90 ■ Disposal 9
- ADR-RID UN 3465 Organische Arsenverbindung, fest, n.a.g.(1-(2-ARSONOPHENYLAZO)-2-HYDROXYNAPHTHALIN-3,6-DISULFONSAEURE DINATRIUMSALZ-OCTAHYDRAT), 6.1, II ■ IMDG-Code UN 3465 ORGANOARSENIC COMPOUND, SOLID, N.O.S.(1-(2-ARSONOPHENYLAZO)-2-HYDROXY-3,6-NAPHTHALENE-DISULFONIC ACID SODIUM SALT), 6.1, II
- IATA-DGR UN 3465 ORGANOARSENIC COMPOUND, SOLID, N.O.S.(1-(2-

ARSONOPHENYLAZO)-2-HYDROXY-3,6-NAPHTHALENE-DISULFONIC ACID SODIUM SALT), 6.1, II

Use as metal indicator

## Specification

Identity (UV/VIS-Spectrum)	passes test
Absorption maximum λ <sub>max</sub> (Propan-2-ol)	480 - 490 nm
Spec. Absorptivity A 1%/1cm (λ <sub>max</sub> ; 0.025 g/l; propan-2-ol; calc. on anhydrous substance)	250 - 350
Water (according to Karl Fischer)	≤ 25 %
Suitability as indicator (for sulfate titration)	passes test

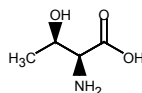
Ord.No.	Packaging	Quantity	Price
1.08294.0005	Glass bottle	5 g	inquire

## Thorium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
663	105227	Cupferron	995	107098	8-Hydroxyquinoline			
763	107998	1,8-Dihydroxy-2-(4-sulfo-phenylazo)naphthalene-3,6-disulfonic acid trisodium salt	1555	108294	Thorin			

Threaded adapter (2") (stainless steel) → page 326

## 816012 (2S,3R)-(-)-Threonine for synthesis

C<sub>4</sub>H<sub>9</sub>NO<sub>3</sub>

Thr, 2-Amino-3-hydroxybutanoic acid

- CAS-No. 72-19-5 ■ EC-No. 200-774-1
- Solub. in H<sub>2</sub>O 90 g/l (20 °C) ■ M = 119.12 g/mol

- pH value 5 - 6 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 265 - 270 °C
- Bulk density 370 kg/m<sup>3</sup>
- WGK 1
- LGK 10 - 13
- HS-No. 2922 50 00 ■ Disposal 3

## Specification

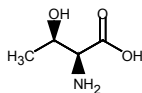
Assay (HClO <sub>4</sub> )	≥ 99.0 % (m)
Spec. rotation [α <sub>D</sub> <sup>20</sup> ] (c=6 in water)	.....-29.0 - -27.5 °

Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.16012.0025	Plastic bottle	25 g	inquire
8.16012.0100	Plastic bottle	100 g	inquire

# Threon

## 108411 L-Threonine for biochemistry



$C_4H_9NO_3$   
**Thr, 2-Amino-3-hydroxybutanoic acid**  
 ■ CAS-No. 72-19-5 ■ EC-No. 200-774-1  
 ■ Solub. in  $H_2O$  90 g/l (20 °C) ■  $M = 119.12$  g/mol  
 ■ pH value 5 - 6 (100 g/l,  $H_2O$ , 20 °C)  
 ■ Melting point 265 - 270 °C  
 ■ Bulk density 370 kg/m<sup>3</sup>

■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 50 00 ■ Disposal 3  
 Soluble in water and mineral acids; insoluble in organic solvents. Unstable in hot alkalis.  
**Specification**  
 Assay (perchloric acid titration)..... ≥ 99.0 %  
 Identity (IR-spectrum)..... passes test  
 Appearance..... white to almost white, fine powder  
 Appearance of solution (1 mol/l, water).... clear and colorless  
 Spec. rotation ( $\alpha$  20/D, 50 g/l, hydrochloric acid

1 mol/l)..... -15.4 to -16.4°  
 Heavy metals (as Pb)..... ≤ 0.001 %  
 $NH_4^+$  (Ammonium)..... ≤ 0.01 %  
 Foreign amino acids..... ≤ 0.3 %  
 Other ninhydrine positive substances..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.08411.0010	Plastic bottle	10 g	inquire
1.08411.0100	Plastic bottle	100 g	inquire
1.08411.1000	Plastic bottle	1 kg	inquire
1.08411.9010	Plastic drum	10 kg	inquire

L-Threonine → (2S,3R)-(-)-Threonine page 1555

## 112374 Thrombin (from bovine plasma) 50 NIH-U/mg for biochemistry EC 3.4.21.5



**Coagulation factor IIa, Fibrinogenase**  
 ■ CAS-No. 9002-04-4 ■ EC-No. 232-648-7  
 ■ Solub. in  $H_2O$  (25 °C) soluble  
 ■ WGK 1  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334, P302 + P352, P305 + P351 + P338, P304 + P341, P342 + P311  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.

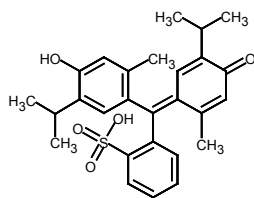
■ HS-No. 3002 10 98 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Catalysed reaction: Hydrolysis of peptides, amides and esters, preferentially of arginine; activation of fibrinogen to fibrin. Investigations of the blood clotting system, e.g. the determination of the thrombin inhibitors antithrombin III and heparin. Other activity value: ca. 8 U/mg (Chromozym® TH as substrate; 25°C).

**Specification**  
 Appearance (colour).....almost white  
 Appearance (description).....powder  
 Activity (fibrinogen; pH 7.6; 37 °C)..... ≥ 50 U/mg

Ord.No.	Packaging	Quantity	Price
1.12374.0001	Glass bottle	1 g	inquire

THT → Tetrahydrothiophene page 1536

## 108176 Thymol blue indicator ACS,Reag. Ph Eur



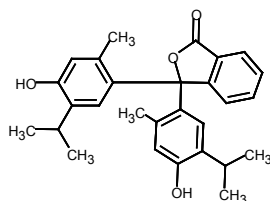
$C_{27}H_{30}O_5S$   
**Thymolsulfonphthalein**

■ CAS-No. 76-61-9 ■ EC-No. 200-973-3  
 ■ Solub. in  $H_2O$  0.11 g/l (25 °C) ■  $M = 466.59$  g/mol ■ Melting point 221 °C (decomposition)  
 ■ Bulk density 350 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2934 99 90 ■ Disposal 3  
 Use as pH indicator: 0.04 g in 100 ml ethanol (20%)  
**Specification**  
 1st transition range..... pH 1.2 - pH 2.8

violet red - brownish yellow  
 2nd transition range..... pH 7.8 - pH 9.5  
 greenish yellow - blue  
 Appearance of solution..... passes test  
 Loss on drying (110 °C)..... ≤ 3%  
 Transition range (according to ACS)..... passes test  
 Sensitivity test..... passes test

Ord.No.	Packaging	Quantity	Price
1.08176.0005	Glass bottle	5 g	inquire
1.08176.0025	Glass bottle	25 g	inquire

## 108175 Thymolphthalein indicator ACS,Reag. Ph Eur



$C_{28}H_{30}O_4$   
 ■ CAS-No. 125-20-2 ■ EC-No. 204-729-7  
 ■ Solub. in  $H_2O$  (20 °C) practically insoluble

■  $M = 430.54$  g/mol ■ Melting point 253 °C  
 ■ Bulk density 400 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2932 20 90 ■ Disposal 3  
 Use as pH indicator: 0.1 g in 100 ml ethanol (50%)  
**Specification**  
 Appearance..... White to almost white powder, eventually slightly yellowish.  
 Identity (UV/VIS-Spectrum)..... passes test  
 Absorption maximum  $\lambda$  max (buffer pH 10.5)..... 592 - 596 nm

Spec. Absorptivity A 1%/1cm ( $\lambda$ max; 0.01 g/l; buffer pH 10.5; calculated on anhydrous substance).....800 - 900  
 Transition range (according to ACS)..... passes test  
 Transition range.pH 9.0 - pH 10.5 colourless - blue  
 Loss on drying (110 °C)..... ≤ 1 %

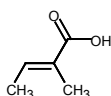
Ord.No.	Packaging	Quantity	Price
1.08175.0005	Glass bottle	5 g	inquire
1.08175.0025	Glass bottle	25 g	inquire
1.08175.0100	Glass bottle	100 g	inquire

Thymolsulfonphthalein → Thymol blue page 1556

TIBA → 2,3,5-Triiodobenzoic acid page 1596

2-(2-Thienyl)ethanol → Thiophene-2-ethanol page 1553

## 841511 Tiglic acid for synthesis



$C_5H_8O_2$   
**trans-2,3-Dimethylacrylic acid, trans-2-Methylcrotonic acid**  
 ■ CAS-No. 80-59-1 ■ EC-No. 201-295-0  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 95 °C ■  $M = 100.11$  g/mol  
 ■ Melting point 63 - 65 °C ■ Boiling point 198 °C (1013 hPa)  
 ■ WGK 2

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ LD50 dermal rabbit > 5000 mg/kg  
 ■ LGK 8A  
 ■ HS-No. 2916 19 95 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2,3-DIMETHYLACRYLSÄURE), 8, III ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2,3-DIMETHYLARYLIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC,

ORGANIC, N.O.S.(2,3-DIMETHYLARYLIC ACID), 8, III  
**Specification**  
 Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 63 °C  
 Melting range (upper value)..... ≤ 65 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41511.0025	Glass bottle	25 g	inquire
8.41511.0100	Glass bottle	100 g	inquire

## Tin, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
663	105227	Cupferron	815	103087	1,5-Diphenylcarbazone			

## Tin

Sn	(1013 hPa)	(molybdenum blue method). Dimensions per strip: 50 mm x 5 mm x 0,04 mm
■ CAS-No. 7440-31-5 ■ EC-No. 231-141-8	■ WGK nwg	
■ Spec. density 7.3 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O (20 °C) insoluble ■ M = 118.71 g/mol	■ LGK 10 - 13	
■ Melting point 232 °C ■ Boiling point 2260 °C	■ HS-No. 8007 00 80	
	Reducing agent for phosphate determinations	

## 107807 Tin fine powder pure (particle size &lt; 71 µm)

Specification		Ord.No.	Packaging	Quantity	Price
Pb (Lead).....	≤ 0.05 %	1.07807.0250	Plastic bottle	250 g	inquire
Bi (Bismuth).....	≤ 0.01 %	1.07807.1000	Plastic bottle	1 kg	inquire
Cu (Copper).....	≤ 0.01 %				
Fe (Iron).....	≤ 0.02 %				

## 107806 Tin granulated for analysis (particle size about 4 mm) EMSURE® Reag. Ph Eur

Specification		Ord.No.	Packaging	Quantity	Price
Pb (Lead).....	≤ 0.005 %	1.07806.0250	Plastic bottle	250 g	inquire
Bi (Bismuth).....	≤ 0.004 %	1.07806.1000	Plastic bottle	1 kg	inquire
Cu (Copper).....	≤ 0.001 %				
Fe (Iron).....	≤ 0.005 %				

## 107826 Tin foil about 0.04 mm thick

Specification		Ord.No.	Packaging	Quantity	Price
Identity (Sn).....	positive	1.07826.0001	Plastic box	200 strips	inquire

Tin Cell Test → page 85

## 818150 Tin(II) chloride anhydrous for synthesis

Cl <sub>2</sub> Sn	H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310	DICHLORIDE), 8, II, Segregation Group: 1 (Acids)
SnCl <sub>2</sub>	■ LD50 oral rat 700 mg/kg	■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(TIN DICHLORIDE), 8, II
<i>Tin dichloride, Stannous chloride</i>	■ LGK 8B	<b>Specification</b>
■ CAS-No. 7772-99-8 ■ EC-No. 231-868-0	■ HS-No. 2827 39 10 ■ Disposal 14	Assay (iodometric).....
■ Spec. density 3.95 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O 2700 g/l (20 °C) ■ M = 189.62 g/mol	■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(ZINN(II)-CHLORID), 8, II ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(TIN	≥ 97,0 % (m)
■ pH value 2.0 (100 g/l, H <sub>2</sub> O, 20 °C)		
■ Melting point 246 °C ■ Boiling point 623 °C (1013 hPa)		
■ WGK 1		
■ GHS: Danger, Acute toxicity, Category 4, Oral,		

## 107810 Tin(IV) chloride extra pure

Cl <sub>4</sub> Sn	Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310	<b>Specification</b>
SnCl <sub>4</sub>	■ LC50 rat 1.4 mg/l	Assay (acidimetric).....
<i>Tin tetrachloride, Stannous chloride</i>	■ EC-Index-No. 050-001-00-5 ■ LGK 8B	≥ 99.0 %
■ CAS-No. 7646-78-8 ■ EC-No. 231-588-9	■ HS-No. 2827 39 10 ■ Disposal 24	Fe (Iron).....
■ Vapour pressure 31 hPa (20 °C)	■ ADR-RID UN 1827 Zinntetrachlorid, wasserfrei, 8, II ■ IMDG-Code UN 1827 STANNIC CHLORIDE, ANHYDROUS, 8, II, Segregation Group: 1 (Acids)	≤ 0.0005 %
■ Spec. density 2.23 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O (20 °C) (rigorous decomposition)	■ IATA-DGR UN 1827 STANNIC CHLORIDE, ANHYDROUS, 8, II	Substances not precipitated by hydrogen sulfide (as SO <sub>4</sub> ).....
■ M = 260.5 g/mol ■ pH value 0.2 (60 g/l, H <sub>2</sub> O, 20 °C) Hydrolysis ■ Melting point -33 °C		≤ 0.05 %
■ Boiling point 114 °C		Iodine reducing matter (as Tin (II) chloride).....
■ WGK 1		≤ 0.001 %
■ GHS: Danger, Skin corrosion, Category 1B, H314;		Iodine oxidizing substances (as Cl <sub>2</sub> ).....

## Tin(II) chloride dihydrate

Cl <sub>2</sub> Sn * 2 H <sub>2</sub> O	(1013 hPa) (anhydrous substance)	■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(ZINN(II)-CHLORID-DIHYDRAT), 8, II ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(TIN DICHLORIDE, DIHYDRATE), 8, II, Segregation Group: 1 (Acids)
SnCl <sub>2</sub> * 2 H <sub>2</sub> O	■ WGK 1	■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(TIN DICHLORIDE, DIHYDRATE), 8, II
<i>Tin dichloride, dihydrate, Stannous chloride</i>	■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317, P280, P302 + P352, P305 + P351 + P338, P309 + P310	
■ CAS-No. 10025-69-1 ■ EC-No. 231-868-0	■ LD50 oral rat 700 mg/kg	
■ Spec. density 2.71 g/cm <sup>3</sup> (20 °C) ■ Solub. in H <sub>2</sub> O 1187 g/l (20 °C) ■ M = 225.63 g/mol	■ LGK 8B	
■ pH value 1 - 2 (100 g/l, H <sub>2</sub> O, 20 °C)	■ HS-No. 2827 39 10 ■ Disposal 15	
■ Melting point 246 °C (anhydrous substance)		
■ Bulk density 1250 kg/m <sup>3</sup> ■ Boiling point 623 °C		

## 107814 Tin(II) chloride dihydrate for analysis (max. 0.000001% Hg) EMSURE®

Specification		Ord.No.	Packaging	Quantity	Price
Assay (iodometric, SnCl <sub>2</sub> ·2H <sub>2</sub> O).....	98.0 - 101.0 %	1.07814.0250	Glass bottle	250 g	inquire
Appearance of solution in hydrochloric acid. passes test		1.07814.2500	Glass bottle	2.5 kg	inquire
Sulphate (SO <sub>4</sub> ).....	≤ 0.002 %				
Heavy metals (as Pb).....	≤ 0.01 %				
As (Arsenic).....	≤ 0.0001 %				



# Tinchl

## 107815 Tin(II) chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

### Specification

Assay (iodometric, SnCl <sub>2</sub> ·2H <sub>2</sub> O).....	98.0 - 103.0 %
Identity.....	passes test
Appearance of solution in hydrochloric acid.....	passes test
Sulphate (SO <sub>4</sub> ).....	≤ 0.002 %
Heavy metals (as Pb).....	≤ 0.005 %
As (Arsenic).....	≤ 0.0001 %
Ca (Calcium).....	≤ 0.005 %

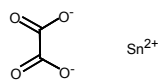
Cu (Copper).....	≤ 0.001 %
Fe (Iron).....	≤ 0.002 %
K (Potassium).....	≤ 0.005 %
Na (Sodium).....	≤ 0.01 %
NH <sub>4</sub> <sup>+</sup> (Ammonium).....	≤ 0.002 %
Pb (Lead).....	≤ 0.005 %
Substances not precipitated with H <sub>2</sub> S (as sulphates).....	≤ 0.05 %

Ord.No.	Packaging	Quantity	Price
1.07815.0100	Glass bottle	100 g	inquire
1.07815.0250	Glass bottle	250 g	inquire
	Glass bottle	6 x 250 g	inquire
1.07815.1000	Glass bottle	1 kg	inquire
	Glass bottle	6 x 1 kg	inquire

Tin dichloride → Tin(II) chloride page 1557

Tin dioxide → Tin(IV) oxide page 1558

## 840128 Tin(II) oxalate for synthesis



- Melting point 280 °C (decomposition)
- Ignition temp. 550 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Dermal, H312, P262
- LD50 oral rat 3620 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- EC-Index-No. 607-007-00-3 ■ LGK 10 - 13

- HS-No. 2917 11 00 ■ Disposal 15

### Specification

Assay (iodometric).....	≥ 98.0 %
Identity (IR).....	passes test

C<sub>2</sub>O<sub>4</sub>Sn

- CAS-No. 814-94-8 ■ EC-No. 212-414-0
- Spec. density 3.55 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 206.73 g/mol

Ord.No.	Packaging	Quantity	Price
8.40128.0050	Plastic bottle	50 g	inquire
8.40128.0250	Plastic bottle	250 g	inquire

## 107818 Tin(IV) oxide extra pure

O<sub>2</sub>Sn

SnO<sub>2</sub>

Tin dioxide

- CAS-No. 18282-10-5 ■ EC-No. 242-159-0
- Spec. density 6.95 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 150.69 g/mol ■ pH value 4 - 5 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 1630 °C
- Bulk density 500 - 600 kg/m<sup>3</sup>
- Boiling point 1800 - 1900 °C (sublimed)

- WGK nwg
- LD50 oral rat > 20000 mg/kg
- LGK 10 - 13
- HS-No. 2825 90 85 ■ Disposal 15

### Specification

Purity ( RFA).....	≥ 99.0 %
Acid soluble matter.....	≤ 0.4 %
Acid soluble lead (Pb).....	≤ 0.05 %
Acid-soluble Iron (Fe).....	≤ 0.01 %

Loss on ignition (900 °C).....	≤ 0.2 %
Bulk density.....	40 - 70 g/100 ml
Particle size (< 5 µm).....	about 99 %

Ord.No.	Packaging	Quantity	Price
1.07818.0250	Plastic bottle	250 g	inquire
1.07818.1000	Plastic bottle	1 kg	inquire
1.07818.5000	Plastic bottle	5 kg	inquire
1.07818.9025	Fibre carton	25 kg	inquire

Tinplate container → Laboratory equipment, auxiliaries

## Tin(II) sulfate

O<sub>4</sub>SSn

SnSO<sub>4</sub>

- CAS-No. 7488-55-3 ■ EC-No. 231-302-2
- Solub. in H<sub>2</sub>O (20 °C) soluble

- M = 214.77 g/mol ■ pH value 1.6 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 800 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat 2207 mg/kg

- LGK 10 - 13

- HS-No. 2833 29 80 ■ Disposal 15

## 107823 Tin(II) sulfate for analysis EMSURE®

### Specification

Assay (iodometric).....	min 96.0 %
Substances insoluble in dilute hydrochloric acid.....	max 0.01 %

Nitrate (NO <sub>3</sub> ).....	max 0.001 %
Fe (Iron).....	max 0.001 %
Pb (Lead).....	max 0.02 %

Ord.No.	Packaging	Quantity	Price
1.07823.0250	Plastic bottle	250 g	inquire

## 112416 Tin(II) sulfate LAB

### Specification

Assay (iodometric).....	≥ 93.0 %
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Ord.No.	Packaging	Quantity	Price
1.12416.0250	Plastic bottle	250 g	inquire
1.12416.1000	Plastic bottle	1 kg	inquire

Tin Test → page 85

Tin tetrabutyl → Tetra-n-butyltin page 1526

Tin tetrachloride → Tin(IV) chloride page 1557

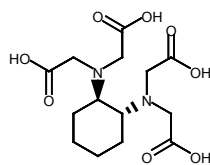
Tin tetramethyl → Tetramethyltin page 1545

Tin tetraoctyl → Tetraoctyltin page 1546

TIPSCI → 1,3-Dichloro-1,1,3,3-tetraisopropylidisiloxane page 732

Tiron → 3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate page 172

## 116770 TISAB-III solution for fluoride determination



- Spec. density 1.093 g/cm<sup>3</sup> (20 °C) ■ pH value 5.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

### Specification

Concentration (NH <sub>4</sub> Cl).....	128.0 - 132.0 g/l
Concentration (Titriplex IV).....	18.0 - 20.0 g/l
pH-value (20 °C).....	5.0 - 5.5
Concentration (fluoride).....	≤ 1 µg/ml

Ord.No.	Packaging	Quantity	Price
1.16770.0500	Plastic bottle	500 ml	inquire

## 115368 TISAB solution for fluoride determination

- Spec. density 1.07 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.5 (H<sub>2</sub>O, 20 °C)
- WGK 2
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

### Specification

Assay (NaCl).....	58.0 - 60.0 g/l
Assay (Titriplex IV).....	3.6 - 4.0 g/l
pH-value (20 °C).....	5.0 - 6.0
Fluoride (F).....	≤ 0.1 µg/ml

Ord.No.	Packaging	Quantity	Price
1.15368.0500	Plastic bottle	500 ml	inquire

Titanic acid tetrabutyl ester → Tetra-n-butyl orthotitanate page 1525

Titanic acid tetraethyl ester → Tetraethyl orthotitanate page 1531

Titanic acid tetra-tert-butyl ester → Tetra-tert-butyl orthotitanate page 1525

Titanic acid tetrapropyl ester → Tetrapropyl orthotitanate page 1547

## Titanium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
172	102498	Chromotropic acid disodium salt dihydrate	699	103133	Diantiprylmethane	172	101922	3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate
663	105227	Cupferron	995	107098	8-Hydroxyquinoline			

### 112379 Titanium fine powder 98+

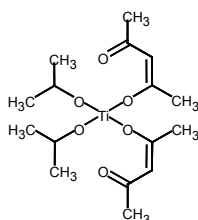
Ti  
 ■ CAS-No. 7440-32-6 ■ EC-No. 231-142-3  
 ■ Spec. density 4.5 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble, (reaction) ■ M = 47.88 g/mol  
 ■ pH value 5 - 8 (50 g/l, H<sub>2</sub>O) suspension  
 ■ Melting point 1670 °C ■ Bulk density 1260 kg/m<sup>3</sup> ■ Boiling point 3260 °C  
 ■ Ignition temp. 300 - 450 °C  
 ■ WGK nwg  
 ■ GHS: Danger, Flammable solid, Category 1,

H228, P210, P370 + P378  
 ■ LGK 4.2  
 ■ HS-No. 8108 20 00 ■ Disposal 27  
 ■ ADR-RID UN 2546 Titan-Pulver, trocken, 4.2, III  
 ■ IMDG-Code UN 2546 TITANIUM POWDER, DRY, 4.2, III, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 15 (Powdered metals)  
 ■ IATA-DGR UN 2546 TITANIUM POWDER, DRY, 4.2, III

**Specification**  
 Identity (atomic absorption spectroscopy) conforms Assay (cerimetric)..... ≥ 98  
 Particle size (laser diffraction) (d90)..... ≤ 150 µm

Ord.No.	Packaging	Quantity	Price
1.12379.0250	Alu bottle	250 g	inquire

### 843742 Titanium(IV) bis(acetylacetonate) diisopropoxide (75% solution in 2-propanol) for synthesis



■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 12 °C ■ Solub. in

H<sub>2</sub>O (20 °C) Hydrolysis  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 1, H224; Specific target organ toxicity - single exposure, Category 3, H336; Serious eye damage, Category 1, H318, P210, P240, P280, P305 + P351 + P338  
 ■ LGK 3  
 ■ HS-No. 3815 90 90 ■ Disposal 3  
 ■ ADR-RID UN 1219 Isopropanol, Lösung, 3, II  
 ■ IMDG-Code UN 1219 ISOPROPANOL SOLUTION, 3, II

■ IATA-DGR UN 1219 ISOPROPANOL SOLUTION, 3, II

**Specification**  
 Assay (ex Ti)..... 72.0 - 78.0 %  
 Density (d 20 °C/ 4 °C)..... 0.990 - 1.020  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43742.0100	Glass bottle	100 ml	inquire
8.43742.0500	Glass bottle	500 ml	inquire

Titanium tetra-tert-butylate → Tetra-tert-butyl orthotitanate page 1525

### 812382 Titanium(IV) chloride for synthesis

Cl<sub>4</sub>Ti  
 TiCl<sub>4</sub>  
 Titanium tetrachloride  
 ■ CAS-No. 7550-45-0 ■ EC-No. 231-441-9  
 ■ Vapour pressure 12 hPa (20 °C)  
 ■ Spec. density 1.728 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) Risk of violent reaction.  
 ■ M = 189.68 g/mol ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -24 °C  
 ■ Boiling point 136 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.46 mg/l  
 ■ LD50 dermal rabbit 3160 mg/kg  
 ■ EC-Index-No. 022-001-00-5 ■ LGK 6.1B  
 ■ HS-No. 2827 39 85  
 ■ ADR-RID UN 1838 Titantetrachlorid, 6.1 (8), I  
 ■ IMDG-Code UN 1838 TITANIUM TETRACHLORIDE, 6.1 (8), I, Segregation Group: 1 (Acids), 7 (Heavy metals and their salts (including their organometallic compounds))  
 ■ IATA-DGR UN 1838 TITANIUM TETRACHLORIDE,

6.1 (8),  
**Specification**  
 Assay (cerimetric after reduction)..... ≥ 99.0 % (m)

Ord.No.	Packaging	Quantity	Price
8.12382.0100	Glass btl. pl.coat.	100 ml	inquire
	Glass btl. pl.coat.	6 x 100 ml	inquire
8.12382.1000	Glass btl. pl.coat.	1 l	inquire
	Glass btl. pl.coat.	6 x 1 l	inquire

### Titanium(III) chloride solution about 15%

Titanium trichloride  
 ■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (25 °C) soluble ■ pH value < 1 (H<sub>2</sub>O, 20 °C) (undiluted)  
 ■ WGK 1  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Specific

target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8 B  
 ■ HS-No. 3824 90 97 ■ Disposal 12  
 ■ ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II  
 ■ IMDG-Code UN 1789 HYDROCHLORIC ACID, 8,

II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II  
 Reducing agent used in amino analysis acc. to the Spackman, Stein and Moore Ninhydrin method.

### 808307 Titanium(III) chloride solution about 15% (in about 10% hydrochloric acid) for synthesis

**Specification**  
 Assay (cerimetric TiCl<sub>3</sub>)..... 14.5 - 15.5 %

Ord.No.	Packaging	Quantity	Price
8.08307.0100	Glass bottle	100 ml	inquire
8.08307.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.08307.1000	Glass bottle	1 l	inquire
8.08307.2500	Glass bottle	2.5 l	inquire

### 110789 Titanium(III) chloride solution about 15% (in about 10% hydrochloric acid) for amino acid analysis Reag. Ph Eur

**Specification**  
 Assay (cerimetric TiCl<sub>3</sub>)..... 14.5 - 15.5 %  
 - (argentometric, HCl)..... 9.0 - 11.0 %  
 Density (d 20/20)..... about 1.19  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.005 %

Total nitrogen (N)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.10789.0001	Glass bottle	6 x 7.5 ml	inquire

# Titani

## 808308 Titanium(III) chloride solution about 30% (in about 10% hydrochloric acid) for synthesis



- Spec. density 1.334 g/cm<sup>3</sup> (20 °C)
- pH value (H<sub>2</sub>O, 20 °C) acidic
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P280, P301 + P330 + P331, P305 + P351

- + P338, P309 + P310
- LGK 8B
- HS-No. 3824 90 97 ■ Disposal 24
- ADR-RID UN 1789 Chlorwasserstoffsäure, 8, II
- IMDG-Code UN 1789 HYDROCHLORIC ACID, 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 1789 HYDROCHLORIC ACID, 8, II

### Specification

Assay (cerimetric TiCl<sub>3</sub>)..... 27 - 33 %

Ord.No.	Packaging	Quantity	Price
8.08308.0100	Glass bottle	100 ml	inquire
8.08308.0500	Glass bottle	500 ml	inquire

## 112384 Titanium hydride fine powder 98+



- H<sub>2</sub>Ti
- TiH<sub>2</sub>
- CAS-No. 7704-98-5 ■ EC-No. 231-726-8
- Spec. density 3.76 g/cm<sup>3</sup> (20 °C)
- Flash point >400 °C ■ M = 49.88 g/mol
- pH value (H<sub>2</sub>O) not applicable
- Melting point >400 °C ■ Bulk density 1400 kg/m<sup>3</sup> ■ Ignition temp. 400 °C

- WGK 1
- GHS: Danger, Flammable solid, Category 1, H228, P210
- LGK 4.1B
- HS-No. 2850 00 20 ■ Disposal 26
- ADR-RID UN 1871 Titanhydrid, 4.1, II ■ IMDG-Code UN 1871 TITANIUM HYDRIDE, 4.1, II
- IATA-DGR UN 1871 TITANIUM HYDRIDE, 4.1, II

### Specification

Identity (elemental analysis)..... passes test  
Assay (potentiometric) ..... ≥ 98.0 %  
H (Hydrogen) ..... 3.6 - 4.4 %

Ord.No.	Packaging	Quantity	Price
1.12384.0100	Plastic bottle	100 g	inquire

## 100808 Titanium(IV) oxide for analysis EMSURE® Reag. Ph Eur

- O<sub>2</sub>Ti
- TiO<sub>2</sub>
- Titanic anhydride, Titanium dioxide*
- CAS-No. 13463-67-7 ■ EC-No. 236-675-5
- Spec. density 4.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 79.87 g/mol
- pH value 7 - 8 (100 g/l, H<sub>2</sub>O, 20 °C) (slurry)
- Melting point 1855 °C ■ Bulk density 850 kg/m<sup>3</sup>
- Boiling point 2900 °C
- WGK nwg
- GHS: P260
- LD50 oral rat > 10000 mg/kg
- LGK 10 - 13
- HS-No. 2823 00 00 ■ Disposal 27

Catalyst for Kjeldahl nitrogen determinations.

### Specification

Assay (cerimetric)..... 98.0 - 100.5 %  
Assay (cerimetric, calculated on dried substance) ..... ≥ 99.0 %  
Identity..... passes test  
Appearance of solution ..... passes test  
Substances soluble in water ..... ≤ 0.5 %  
Substances soluble in dilute hydrochloric acid ..... ≤ 0.5 %  
Acidity or alkalinity ..... passes test  
As (Arsenic) ..... ≤ 0.0005 %  
Acid soluble barium (Ba)..... passes test

Fe (Iron)..... ≤ 0.005 %  
Pb (Lead)..... ≤ 0.001 %  
Sb (Antimony) ..... ≤ 0.01 %  
Zn (Zinc)..... ≤ 0.005 %  
Heavy metals (as Pb)..... ≤ 0.002 %  
Loss on drying (105 °C; 3 h)..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.00808.1000	Plastic bottle	1 kg	inquire
1.00808.9025	Fibre carton	25 kg	inquire
1.00808.9050	Fibre carton	50 kg	inquire

## 109829 Titanium standard 1000 mg Ti, (NH<sub>4</sub>)<sub>2</sub>TiF<sub>6</sub> in H<sub>2</sub>O Titrisol®

- Spec. density 1.045 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) not applicable ■ pH value 2 (H<sub>2</sub>O, 20 °C)
- WGK 2
- LGK 10 - 13
- HS-No. 2826 90 80 ■ Disposal 28

### Specification

content (Ti)..... 1000 mg/Ampoule  
Determination method: alcalimetric titration (traceable to NIST - SRM 723e) Accuracy of the method: +/- 5 mg

Ord.No.	Packaging	Quantity	Price
1.09829.0001	Plastic ampoule	1 amp	inquire

Titanium tetrabutylate → Tetra-n-butyl orthotitanate page 1525

Titanium tetraethylate → Tetraethyl orthotitanate page 1531

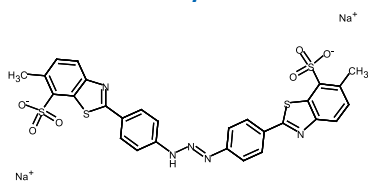
Titanium trichloride → page 1559

Titanium tetrachloride → Titanium(IV) chloride page 1559

Titanium tetrapropylate → Tetrapropyl orthotitanate page 1547

Titanocene dichloride → Bis(cyclopentadienyl) titanium dichloride page 466

## 101307 Titan yellow (C.I. 19540) indicator Reag. Ph Eur



- Solub. in H<sub>2</sub>O 29 g/l (24 °C) ■ M = 695.7 g/mol
- pH value 5.1 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point >300 °C (decomposition)
- Bulk density 310 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 3204 19 00 ■ Disposal 3
- Use as pH indicator: 0.1 g in 100 ml ethanol (20%)

Absorption maximum λ<sub>max</sub>. (buffer pH 7.0)..... 398 - 402 nm  
Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.01 g/l; buffer pH 7.0; calc. on dried substance)..... ≥ 350  
Transition range..... pH 12.0 - pH 13.0  
Yellow - orange  
Loss on drying (110 °C)..... ≤ 8 %  
Suitability as reagent (for magnesium) .. passes test

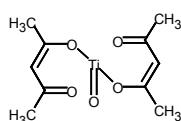
- C<sub>28</sub>H<sub>19</sub>N<sub>5</sub>Na<sub>2</sub>O<sub>6</sub>S<sub>4</sub>
- Clayton yellow, Naphthamine G, Thiazole yellow*
- CAS-No. 1829-00-1 ■ EC-No. 217-377-4

### Specification

Identity (UV/VIS-Spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.01307.0025	Glass bottle	25 g	inquire

## 808305 Titanyl acetylacetonate for synthesis



- CAS-No. 14024-64-7 ■ EC-No. 237-861-9
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 262.08 g/mol ■ Melting point 200 °C
- Bulk density 500 kg/m<sup>3</sup>
- Boiling point 159 - 160 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2914 19 90 ■ Disposal 3

### Specification

Assay (ex Ti) ..... ≥ 97%  
Identity (IR-spectrum) ..... conforms  
Loss on drying ..... ≤ 1.0%

Ord.No.	Packaging	Quantity	Price
8.08305.0025	Glass bottle	25 g	inquire
8.08305.0100	Glass bottle	100 g	inquire

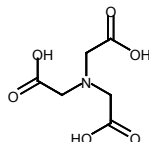
- C<sub>10</sub>H<sub>14</sub>O<sub>5</sub>Ti
- Bis(acetylacetonato)titanium(IV) oxide, Bis(2,4-pentanedionato)titanium(IV) oxide*

Titration standards → Standards

## Titripac®

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
177	109476	Buffer solution	169	109057	Hydrochloric acid	170	109137	Sodium hydroxide solution
175	109461	Buffer solution	169	113134	Hydrochloric acid	171	109147	Sodium thiosulfate solution
177	109475	Buffer solution	170	109081	Silver nitrate solution	171	109074	Sulfuric acid
175	109435	Buffer solution	170	109141	Sodium hydroxide solution	171	109073	Sulfuric acid
177	109477	Buffer solution	170	109140	Sodium hydroxide solution	171	109072	Sulfuric acid
175	109439	Buffer solution	170	109139	Sodium hydroxide solution	171	108431	Titriplex® III solution
168	109060	Hydrochloric acid	170	105595	Sodium hydroxide solution	1563	108420	Titriplex® solution B
168	113136	Hydrochloric acid	170	109138	Sodium hydroxide solution	321	116754	Water

## 108416 Titriplex® I GR for analysis (nitritotriacetic acid)

C<sub>6</sub>H<sub>9</sub>NO<sub>6</sub>

NTA

- CAS-No. 139-13-9 ■ EC-No. 205-355-7
- Solub. in H<sub>2</sub>O 1.28 g/l (22.5 °C) ■ M = 191.14 g/mol

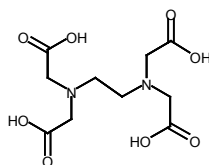
- mol ■ pH value (H<sub>2</sub>O, 20 °C) Aqueous solution, acidic ■ Melting point 242 °C (decomposition)
- Bulk density 350 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Carcinogenicity, Category 2, H351, P281, P305 + P351 + P338, P308 + P313
- LD50 oral rat 1100 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

- Assay (complexometric) ..... ≥ 99.0 %
- Identity (IR-spectrum) ..... conforms
- Heavy metals (as Pb) ..... ≤ 0.001 %
- Fe (Iron) ..... ≤ 0.001 %
- Sulfated ash ..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.08416.0250	Plastic bottle	250 g	inquire

## 108417 Titriplex® II GR for analysis (ethylenedinitritotetraacetic acid) ACS,Reag. Ph Eur

C<sub>10</sub>H<sub>16</sub>N<sub>2</sub>O<sub>8</sub>

EDTA, Edetic acid, Diaminoethane-tetraacetic acid

- CAS-No. 60-00-4 ■ EC-No. 200-449-4
- Vapour pressure < 0.013 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C)
- Flash point > 100 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 292.24 g/mol

- pH value 2.5 (10 g/l, H<sub>2</sub>O, 23 °C) (slurry)
- Melting point 220 °C (decomposition)
- Bulk density 600 kg/m<sup>3</sup> ■ Ignition temp. > 200 °C
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 2580 mg/kg
- EC-Index-No. 607-429-00-8 ■ LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

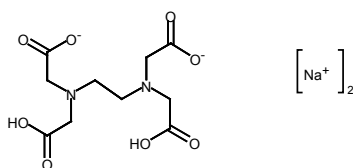
## Specification

- Assay (complexometric) ..... 99.4 - 100.6 %
- Identity (IR-spectrum) ..... conforms
- Appearance White to almost white, fine crystalline to crystalline powder.
- in ammonia insoluble components ..... ≤ 0.005 %

- Heavy metals (as Pb) ..... ≤ 0.001 %
- Ca (Calcium) ..... ≤ 0.001 %
- Fe (Iron) ..... ≤ 0.001 %
- Mg (Magnesium) ..... ≤ 5 ppm
- Nitritotriacetic acid ..... ≤ 0.1 %
- Sulfated ash ..... ≤ 0.1 %
- Water (according to Karl Fischer) ..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.08417.0100	Plastic bottle	100 g	inquire
1.08417.0250	Plastic bottle	250 g	inquire
1.08417.1000	Plastic bottle	1 kg	inquire
1.08417.5000	Plastic bottle	5 kg	inquire

## 108418 Titriplex® III GR for analysis (ethylenedinitritotetraacetic acid, disodium salt dihydrate) ACS,ISO,Reag. Ph Eur

C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>8</sub> · 2 H<sub>2</sub>O

Disodium dihydrogen

ethylenediaminetetraacetate, Ethylenediamine-tetraacetic acid disodium salt

- CAS-No. 6381-92-6 ■ EC-No. 205-358-3
- Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ M = 372.24 g/mol
- pH value 4 - 5 (50 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 110 °C Elimination of water of crystallisation ■ Bulk density 700 kg/m<sup>3</sup>

- WGK 2
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

## Specification

- Assay (complexometric; calculated as dihydrate) ..... 99.0 - 101.0 %
- Identity (IR-spectrum) ..... passes test
- Identity (Complexation) ..... passes test
- Identity (Sodium) ..... passes test
- Appearance ..... passes test
- Appearance of solution (50 g/l; water) ..... passes test
- pH (50 g/l; water) ..... 4.0 - 5.0
- In water insoluble matter ..... ≤ 0.003 %
- Chloride (Cl) ..... ≤ 0.004 %
- Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %

- Cyanide (CN) ..... ≤ 0.001 %
- Heavy metals (as Pb) ..... ≤ 0.0005 %
- Ca (Calcium) ..... passes test
- Cu (Copper) ..... ≤ 0.0001 %
- Fe (Iron) ..... ≤ 0.0005 %
- Pb (Lead) ..... ≤ 0.001 %
- Nitritotriacetic acid (HPLC) ..... ≤ 0.05 %
- Loss on drying (150 °C; 6 h) ..... 8.7 - 11.4 %

Ord.No.	Packaging	Quantity	Price
1.08418.0100	Plastic bottle	100 g	inquire
1.08418.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
1.08418.1000	Plastic bottle	1 kg	inquire
1.08418.5000	Plastic bottle	5 kg	inquire
1.08418.9025	Fibre carton	25 kg	inquire

108446 Titriplex® III solution for 1000 ml, c(Na<sub>2</sub>-EDTA 2 H<sub>2</sub>O) = 0.01 mol/l Titrisol®

- Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.8 (H<sub>2</sub>O, 20 °C)
- WGK 2
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 28

## Specification

- Concentration after dilution to 1l: c(C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>8</sub> · 2 H<sub>2</sub>O) = 0.01 mol/l
- Amount-of-substance concentration ..... c(C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>8</sub>) = 0.01000 mol/l

Ord.No.	Packaging	Quantity	Price
1.08446.0001	Plastic ampoule	1 amp	inquire

109992 Titriplex® III solution for 1000 ml, c(Na<sub>2</sub>-EDTA 2 H<sub>2</sub>O) = 0.1 mol/l Titrisol®

- Spec. density 1.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.4 - 7.6 (H<sub>2</sub>O, 20 °C)
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 28

## Specification

- Concentration after dilution to 1 liter: c(C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>8</sub> · 2 H<sub>2</sub>O) = 0.1 mol/l
- Amount-of-substance concentration ..... 0.1000 mol/l

The concentration of this solution was determined with volumetric standard zinc (Merck article number 1.02409). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of ± 0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 682 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard

zinc, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09992.0001	Plastic ampoule	1 amp	inquire
	Plastic ampoule	24 x 1 amp	inquire

## 108431 Titriplex® III solution for metal titration $c(\text{Na}_2\text{-EDTA} \cdot 2 \text{H}_2\text{O}) = 0.1 \text{ mol/l}$ Titripur®

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 28

### Specification

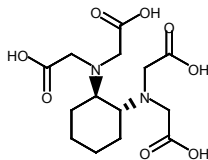
Volumetric solution in accordance to the chapter reagents of the Pharmacopoeia (Ph Eur). Amount-of-substance concentration .0.1000 mol/l The concentration of this volumetric solution was

determined with volumetric standard zinc (Merck article number 1.02409). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 682 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard zinc, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN

EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.08431.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.08431.4000	Titripac PE/Alu	4 l	inquire
1.08431.9010	Titripac PE/Alu	10 l	inquire

## 108424 Titriplex® IV GR for analysis (1,2-cyclohexylenedinitrilotetraacetic acid monohydrate)



- CAS-No. 125572-95-4 ■ EC-No. 236-308-9
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 364.34 g/mol ■ Melting point 213 °C
- Bulk density 500 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 3

### Specification

Assay (complexometric, calc. on anhydrous substance) ..... ≥ 99.0 %

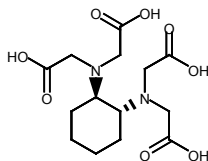
Identity (IR-spectrum) ..... passes test  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Sulfated ash ..... ≤ 0.1 %  
 Water (according to Karl Fischer) ..... 4.8 - 5.6 %

Ord.No.	Packaging	Quantity	Price
1.08424.0025	Plastic bottle	25 g	inquire
1.08424.0100	Plastic bottle	100 g	inquire
	Plastic bottle	6 x 100 g	inquire

C<sub>14</sub>H<sub>22</sub>N<sub>2</sub>O<sub>8</sub> · H<sub>2</sub>O

1,2-Cyclohexanediamine-*N,N,N',N'*-tetraacetic acid, 1,2-Cyclohexylenedinitrilotetraacetic acid, 1,2-Diaminocyclohexane-*N,N,N',N'*-tetraacetic acid

## 108447 Titriplex® IV solution for metal titration $c(\text{DCTA Na}_2) = 0.1 \text{ mol/l}$ Titripur®



- WGK 1
- LGK 10 - 13
- HS-No. 2922 49 85 ■ Disposal 28

### Specification

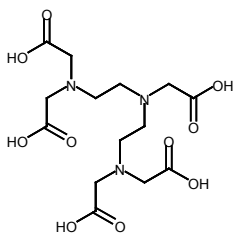
Amount-of-substance concentration .0.1000 mol/l The concentration of this volumetric solution was determined with volumetric standard zinc (Merck article number 1.02409). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of +/-0.003 (k=2 coverage factor for

95% coverage probability). The certified value is traceable to primary standard NIST SRM 682 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard zinc, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.08447.1000	Plastic bottle	1 l	inquire

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.2 (H<sub>2</sub>O, 20 °C)

## 108426 Titriplex® V GR for analysis (diethylenetriaminepentaacetic acid)



- CAS-No. 67-43-6 ■ EC-No. 200-652-8
- Spec. density 1.56 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 4.8 g/l (25 °C) ■ M = 393.34 g/mol ■ pH value 2 - 3 (H<sub>2</sub>O, 20 °C) (saturated solution)
- Melting point 220 - 222 °C decomposes
- Bulk density 580 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2922 49 85

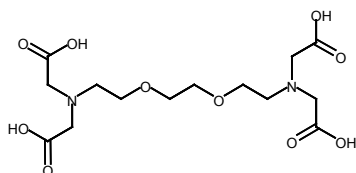
### Specification

Assay (complexometric, calc. on anhydrous substance) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... passes test  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Sulfated ash ..... ≤ 0.1 %  
 Water (according to Karl Fischer) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.08426.0100	Plastic bottle	100 g	inquire

C<sub>14</sub>H<sub>23</sub>N<sub>3</sub>O<sub>10</sub>

## 108435 Titriplex® VI GR for analysis



- tetraacetic acid, Ethylene glycol-bis (β-amino ethyl ether)-*N,N'*-tetraacetic acid*
- CAS-No. 67-42-5 ■ EC-No. 200-651-2
  - Solub. in H<sub>2</sub>O (20 °C) slightly soluble
  - M = 380.35 g/mol
  - Melting point 240 - 245 °C decomposes
  - Bulk density 450 kg/m<sup>3</sup>
  - WGK 2
  - LD50 oral rat 3587 mg/kg
  - LGK 10 - 13
  - HS-No. 2922 50 00 ■ Disposal 3

### Specification

Assay (complexometric, calc. on anhydrous substance) ..... ≥ 98.5 %  
 Identity (IR-spectrum) ..... conforms  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 Fe (Iron) ..... ≤ 0.001 %  
 Sulfated ash ..... ≤ 0.1 %  
 Water (according to Karl Fischer) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.08435.0025	Plastic bottle	25 g	inquire
1.08435.0100	Plastic bottle	100 g	inquire
1.08435.1000	Plastic bottle	1 kg	inquire

C<sub>14</sub>H<sub>24</sub>N<sub>2</sub>O<sub>10</sub>

3,6-Dioxaoctamethylenedinitrilotetraacetic acid, Ethylenedioxybis(ethylenenitrilo)tetraacetic acid, Bis(aminoethyl)glycoether-*N,N,N,N'*-

Titriplex® Copper-di-ammonium solution →  
 Copper di-ammonium Titriplex® solution page 172

Titriplex® Magnesium salt →  
 Ethylenediaminetetraacetic acid magnesium dipotassium salt page 172

Titriplex® Potassium salt →  
 Ethylenedinitrilotetraacetic acid dipotassium salt dihydrate page 172



### 109894 Titriplex® solution A for the determination of alkaline earth in water (hardness), 1 ml = 56 mg CaO/l ( $\Delta$ 5.6 German degrees of hardness) using 100 ml of water for 1000 ml, Titrisol®



#### Alkaline, determination

- Spec. density 1.141 g/cm<sup>3</sup> (20 °C) ■ pH value 7.5 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P305 + P351 + P338
- LGK 10 - 13

- HS-No. 3822 00 00 ■ Disposal 28

#### Specification

1 ml of reagent is equivalent to 5.6 degree german hardness when using 100 ml of water.  
Efficiency value..... 5.57 - 5.63 °d  
This volumetric solution was checked by means of Calcium carbonate Merck volumetric standard.

Merck volumetric standards are directly traceable to the Standard Reference Materials of NIST (National Institute of Standards and Technology, USA).

Ord.No.	Packaging	Quantity	Price
1.09894.0001	Plastic ampoule	1 amp	inquire

### 108419 Titriplex® solution A for the determination of alkaline earth metals in water 1 ml $\Delta$ 56 mg CaO/l using 100 ml of water

#### Hardness, determinations

- Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.4 - 7.6 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13

- HS-No. 3822 00 00 ■ Disposal 28

#### Specification

1 ml of reagent is equivalent to 5,6 degree German hardness when using 100 ml of water. 1°d  $\Delta$  10 mg CaO/l

Efficiency value..... 5.57 - 5.63 °dH

Ord.No.	Packaging	Quantity	Price
1.08419.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

### 109895 Titriplex® solution B for the determination of alkaline earth in water (hardness), 1 ml = 10 mg CaO/l ( $\Delta$ 1 German degrees of hardness) using 100 ml of water for 1000 ml Titrisol®



#### Alkaline, determination

- Spec. density 1.10 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.5 (H<sub>2</sub>O, 20 °C)
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

hardness when using 100 ml of water. 1°d = 10 mg CaO/l

Efficiency value..... 0.995 - 1.005 °dH  
Determination method: Complexometric titration. The efficiency value of this solution was determined with volumetric standard calcium carbonate (Merck article number 1.02410). The expanded measurement uncertainty is  $\pm$  0.007 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary

standard NIST SRM 682 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard calcium carbonate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.09895.0001	Plastic ampoule	1 amp	inquire

### 108420 Titriplex® solution B for the determination of alkaline earth metals in water 1 ml $\Delta$ 10 mg CaO/l using 100 ml of water Titripur®

- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 7.5 (H<sub>2</sub>O, 20 °C)
- WGK 1
- LGK 10 - 13
- HS-No. 3822 00 00 ■ Disposal 28

The concentration of this volumetric solution was determined with volumetric standard calcium carbonate (Merck article number 1.02410). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of  $\pm$ 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 682 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard calcium carbonate,

measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.08420.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
1.08420.5000	Plastic bottle	5 l	inquire
1.08420.9010	Titripac PE/Alu	10 l	inquire

Titrisol® → Ion standards for ion chromatography, Titrisol® and ready for use  
Titrisol® buffer → page 176

Titrisol® for preparation of standard solution → Aluminium standard page 370  
Titrisols for preparation of buffer solutions → page 176

### Titrisol® concentrates for the preparation of buffer solutions

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
176	109888	Buffer concentrate	176	109883	Buffer concentrate	176	109892	Buffer concentrate
176	109889	Buffer concentrate	176	109884	Buffer concentrate	176	109887	Buffer concentrate
176	109890	Buffer concentrate	176	109885	Buffer concentrate	176	109893	Buffer concentrate
176	109880	Buffer concentrate	176	109886	Buffer concentrate			
176	109882	Buffer concentrate	176	109881	Buffer concentrate			

### Titrisol® concentrates for the preparation of standard solutions

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
40	109871	Chloride standard	40	109866	Nitrite standard	40	109872	Sulfate standard
40	109869	Fluoride standard	40	109870	Phosphate standard			

## Titrisol® concentrates for the preparation of volumetric solutions

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
168	109951	Acetic acid	169	109932	Oxalic acid solution	170	109958	Sodium hydroxide solution
168	109944	Acetic acid	169	109965	Oxalic acid solution	170	109957	Sodium hydroxide solution
168	109864	Ammonium iron(II) sulfate solution	169	109925	Potassium bromate solution	171	109956	Sodium hydroxide solution
168	109900	Ammonium thiocyanate solution	169	109928	Potassium dichromate solution	171	109909	Sodium thiosulfate solution
168	109962	Barium chloride solution	169	109921	Potassium hydroxide solution	171	109950	Sodium thiosulfate solution
168	109905	Bromide bromate solution	169	109919	Potassium hydroxide solution	171	109982	Sulfuric acid
961	188075	Hose connection for Titripac	169	109918	Potassium hydroxide solution	171	109984	Sulfuric acid
169	109974	Hydrochloric acid	170	109917	Potassium iodate solution	171	109981	Sulfuric acid
169	109973	Hydrochloric acid	170	109930	Potassium permanganate solution	171	108446	Titriplex® III solution
169	109971	Hydrochloric acid	170	109935	Potassium permanganate solution	171	109992	Titriplex® III solution
169	109970	Hydrochloric acid	170	109990	Silver nitrate solution	1563	109894	Titriplex® solution A
169	109914	Iodide iodate solution	170	109940	Sodium carbonate solution	1563	109895	Titriplex® solution B
169	109910	Iodine solution	170	109945	Sodium chloride solution	171	109991	Zinc sulfate solution
169	109964	Nitric acid	170	109961	Sodium hydroxide solution			
169	109966	Nitric acid	170	109959	Sodium hydroxide solution			

TLC → page 14	TLC Silica gel 60 H → page 14	TMCS → page 44
TLC Aluminium oxide 60 F <sub>254</sub> , basic → page 12	TLC Silica gel 60/kieselguhr F <sub>254</sub> → page 12	TMDS → 1,1,3,3-Tetramethyldisilazane page 1541
TLC Aluminium oxide 60 F <sub>254</sub> , neutral → page 12	TLC Silica gel 60 RP-2 → page 12	TMEDA → page 1541
TLC Aluminium oxide 150 F <sub>254</sub> , neutral → page 12	TLC Silica gel 60 RP-2 F <sub>254</sub> (silanized) 25 Glass plates 20*20cm → page 12	TMS → Tetramethylsilane page 296
TLC Cellulose → page 13	TLC Silica gel 60 RP-8 F <sub>254S</sub> → page 12	TMS-acetamide → N-(Trimethylsilyl)acetamide page 1606
TLC Cellulose F → page 13	TLC Silica gel 60 RP-18 F <sub>254S</sub> → page 12	TMSCN → Trimethylsilyl cyanide page 1607
TLC Kieselguhr F <sub>254</sub> → page 12	TLC Silica gel 60 W → page 10	TMSDEA → Diethylaminotrimethylsilane page 739
TLC LuxPlate® Silica gel 60 F <sub>254</sub> → page 10	TLC Silica gel 60 W F <sub>254S</sub> → page 10	TMSDMA → Dimethylaminotrimethylsilane page 780
TLC PEI Cellulose F → page 13	TLC Silica gel 60 with concentrating zone 2.5 x 20 cm → page 13	TMU → Tetramethylurea page 309
TLC Silica gel 60 → page 10	TLC Silica gel 60 with concentrating zone 10 x 2.5 cm → page 13	TNTU → O-(5-Norbornen-2,3-dicarboximido)-N,N,N',N'-tetramethyluroniumtetrafluoroborate page 1235
TLC Silica gel 60 F <sub>254</sub> → page 10	TLC Silica gel 60 with concentrating zone 20 x 2.5 cm → page 13	TOC Cell Test → page 86
TLC Silica gel 60 F <sub>254</sub> GLP → page 14	TLC Silica gel 60G 25 Glassplates 20*20cm → page 10	TOC standard solution → Standards
TLC Silica gel 60 F <sub>254</sub> Multiformat prescored to 5 x 10 cm → page 14	TLC Silica gel 60G F <sub>254</sub> 25 Glassplates 20*20cm → page 10	Tolan → Diphenylacetylene page 813
TLC Silica gel 60 F <sub>254</sub> Multiformat pre-scored to 5 x 20 cm → page 14	TLC Silica gel 60G F <sub>254</sub> 25 Glassplates 20*20cm → page 10	Tolidine-disazo-bis-8-amino-1-naphthol-3,6-disulfonic acid tetrasodium salt → page 192
TLC Silica gel 60 F <sub>254</sub> with concentrating zone 10 x 2.5 cm → page 13	TLC Silice gel 60 NH <sub>2</sub> F <sub>254S</sub> → page 12	m-Tolualdehyde → 3-Methylbenzaldehyde page 1133
TLC Silica gel 60 F <sub>254</sub> with concentrating zone 20 x 2.5 cm → page 13	TLC sprayer → page 15	o-Tolualdehyde → 2-Methylbenzaldehyde page 1133
TLC-Silica gel 60 GF <sub>254</sub> → page 14	TMB → 3,3',5,5'-Tetramethylbenzidine page 1540	p-Tolualdehyde → 4-Methylbenzaldehyde page 1133
	TMBS → Bromotrimethylsilane page 518	

## Toluene



C<sub>7</sub>H<sub>8</sub>  
C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub>  
*Toluol, Methylbenzene*  
■ CAS-No. 108-88-3 ■ EC-No. 203-625-9  
■ Refractive index 1.4968 (20 °C) ■ Vapour pressure 29 hPa (20 °C) ■ Spec. density 0.87 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 8 % (V)

■ Flash point 4 °C ■ Kin. viscosity 0.7 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.52 g/l (20 °C)  
■ M = 92.14 g/mol ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point -95 °C  
■ Boiling point 110.6 °C (1013 hPa)  
■ Ignition temp. 535 °C  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Reproductive toxicity, Category 2, H361d; Aspiration hazard, Category 1, H304; Specific target organ toxicity - single exposure, Category

3, H336, P210, P240, P301 + P310, P331, P302 + P352  
■ LC50 rat 28.1 mg/l  
■ LD50 oral rat 636 mg/kg ■ LD50 dermal rabbit 12124 mg/kg  
■ EC-Index-No. 601-021-00-3 ■ LGK 3 ■ Store below +30°C.  
■ HS-No. 2902 30 00 ■ Disposal 1  
■ ADR-RID UN 1294 Toluene, 3, II ■ IMDG-Code UN 1294 TOLUENE, 3, II  
■ IATA-DGR UN 1294 TOLUENE, 3, II



### 108323 Toluene EEMPLURA®

#### Specification

Purity (GC)..... ≥ 99.0 %  
Identity (IR)..... conforms  
Free acid (as HCl)..... ≤ 0.002 %  
Density (d 20 °C/ 4 °C)..... 0.867  
Readily carbonizable substances..... conforms

Ord.No.	Packaging	Quantity	Price
1.08323.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.08323.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.08323.6025	Drum stainl. st.	25 l	inquire
1.08323.6190	Drum stainl. st.	190 l	inquire
1.08323.9011	Steel barrel	10 l	inquire
1.08323.9190	Steel barrel	190 l	inquire

**107019 Toluene for analysis EMPARTA® ACS**

<b>Specification</b>	Boiling point.....	109 - 111 °C
Purity (GC).....	Sulfur compounds (as S).....	≥ 99.5 % ≤ 0.003 %
Identity (IR).....	Readily carbonizable substances.....	conforms
Appearance.....	Evaporation residue.....	clear ≤ 0.001 %
Colour.....	Water.....	≤ 10 Hazen ≤ 0.03 %
Acidity.....		≤ 0.0002 meq/g
Alkalinity.....		≤ 0.0006 meq/g

Ord.No.	Packaging	Quantity	Price
1.07019.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.07019.2511	Plastic bottle	2.5 l	inquire
1.07019.4000	Glass bottle	4 l	inquire

**108325 Toluene for analysis EMSURE® ACS,ISO,Reag. Ph Eur**

<b>Specification</b>	Be (Beryllium).....	≤ 0.000002 %
Purity (GC).....	Bi (Bismuth).....	≥ 99.9 % ≤ 0.00001 %
Identity (IR).....	Ca (Calcium).....	conforms ≤ 0.00005 %
Appearance.....	Cd (Cadmium).....	clear ≤ 0.000005 %
Colour.....	Co (Cobalt).....	≤ 10 Hazen ≤ 0.000002 %
Acidity.....	Cr (Chromium).....	≤ 0.00002 meq/g ≤ 0.000002 %
Alkalinity.....	Cu (Copper).....	≤ 0.0006 meq/g ≤ 0.000002 %
Density (d 20 °C/20 °C).....	Fe (Iron).....	0.865 - 0.870 ≤ 0.00001 %
Boiling point.....	Ga (Gallium).....	109 - 111 °C ≤ 0.000002 %
Chloride (Cl).....	In (Indium).....	≤ 0.5 ppm ≤ 0.000002 %
Sulphate (SO <sub>4</sub> ).....	Li (Lithium).....	≤ 1 ppm ≤ 0.000002 %
Thiophene.....	Mg (Magnesium).....	≤ 0.0001 % ≤ 0.000002 %
Sulfur compounds (as S).....	Mn (Manganese).....	≤ 0.003 % ≤ 0.000002 %
Benzene (GC).....	Mo (Molybdenum).....	≤ 0.005 % ≤ 0.000005 %
Readily carbonizable substances.....	Ni (Nickel).....	conforms ≤ 0.000002 %
Ag (Silver).....	Pb (Lead).....	≤ 0.000002 % ≤ 0.00001 %
Al (Aluminium).....	Pt (Platinum).....	≤ 0.000005 % ≤ 0.000002 %
As (Arsenic).....	Sb (Antimony).....	≤ 0.000002 % ≤ 0.000002 %
Au (Gold).....	Sn (Tin).....	≤ 0.00001 % ≤ 0.000002 %
B (Boron).....	Ti (Titanium).....	≤ 0.000002 % ≤ 0.000005 %
Ba (Barium).....		≤ 0.00001 %

Tl (Thallium).....	≤ 0.000005 %
V (Vanadium).....	≤ 0.000005 %
Zn (Zinc).....	≤ 0.00001 %
Zr (Zirconium).....	≤ 0.000002 %
Evaporation residue.....	≤ 0.0005 %
Water.....	≤ 0.03 %

Ord.No.	Packaging	Quantity	Price
1.08325.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.08325.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.08325.2511	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
1.08325.4000	Glass bottle	4 l	inquire
1.08325.6010	Drum stainl. st.	10 l	inquire
1.08325.6025	Drum stainl. st.	25 l	inquire
1.08325.9185	Barrel stainl. st.	185 l	inquire
1.08325.9190	Steel barrel	190 l	inquire

**108326 Toluene dried (max. 0.005% H<sub>2</sub>O) SeccoSolv®**

<b>Specification</b>	Ethylbenzene (GC).....	≤ 0.05 %
Purity (GC).....	Xylene (GC).....	≥ 99.9 % ≤ 0.1 %
Identity (IR).....	Evaporation residue.....	conforms ≤ 10 mg/l
Colour.....	Water.....	≤ 10 Hazen ≤ 0.005 %
Acidity.....		≤ 0.0005 meq/g
Alkalinity.....		≤ 0.0002 meq/g
Benzene (GC).....		≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.08326.0161	Septum bottle	150 ml	inquire
	Septum bottle	12 x 150 ml	inquire
1.08326.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
1.08326.1001	Septum bottle	1 l	inquire
	Septum bottle	6 x 1 l	inquire

**108389 Toluene for gas chromatography ECD and FID SupraSolv®**

<b>Specification</b>	chlorobenzene to decachlorobiphenyle, individual signals (lindane standard)).....	≥ 99.8 % conforms ≤ 3 pg/ml
Purity (GC).....	GC/FID (retention range n-undecane to n-tetracontane, individual signals (n-tetradecane standard)).....	conforms ≤ 3.0 mg/l ≤ 0.03 % ≤ 10 Hazen ≤ 3 ng/ml
Identity (IR).....	Suitable for residue analysis	
Evaporation residue.....		
Water.....		
Colour.....		
GC/ECD (retention range 1,2,4-tri-		

Ord.No.	Packaging	Quantity	Price
1.08389.1000	Glass bottle	1 l	inquire
1.08389.2500	Glass bottle	2.5 l	inquire
1.08389.4000	Glass bottle	4 l	inquire
1.08389.9010	Barrel stainl. st.	10 l	inquire

**100849 Toluene for gas chromatography MS SupraSolv®**

<b>Specification</b>	GC/MSD (retention range n-undecane - n- tetracontane; scanning area 30 -600 amu individual signals (n- tetradecane standard)).....	≥ 99.8 % conforms ≤ 3.0 mg/l ≤ 0.03 % ≤ 10 Hazen
Purity (GC).....	Suitable for residue analysis.	
Identity (IR).....		
Evaporation residue.....		
Water.....		
Colour.....		

Ord.No.	Packaging	Quantity	Price
1.00849.1000	Glass bottle	1 l	inquire
1.00849.2500	Glass bottle	2.5 l	inquire

**108331 Toluene for spectroscopy Uvasol®**

<b>Specification</b>	Transmission (at 300 nm).....	≥ 80 %
Purity (GC).....	Transmission (at 310 nm).....	≥ 99.9 % ≥ 90 %
Identity (IR).....	Transmission (at 335 nm).....	conforms ≥ 96 %
Evaporation residue.....	Transmission (from 350 nm).....	≤ 0.0002 % ≥ 98 %
Water.....	Absorbance (at 285 nm).....	≤ 0.01 % ≤ 0.82
Colour.....	Absorbance (at 290 nm).....	≤ 10 Hazen ≤ 0.22
Acidity.....	Absorbance (at 300 nm).....	≤ 0.0001 meq/g ≤ 0.10
Alkalinity.....	Absorbance (at 310 nm).....	≤ 0.0002 meq/g ≤ 0.05
Fluorescence (as quinine at 365 nm).....	Absorbance (at 335 nm).....	≤ 1.0 ppb ≤ 0.02
Transmission (at 285 nm).....		≥ 15 %
Transmission (at 290 nm).....		≥ 60 %

Absorbance (from 350 nm)..... ≤ 0.01  
Meet the requirements of "Specific use spectroscopy" according ACS

Ord.No.	Packaging	Quantity	Price
1.08331.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire

**108327 Toluene for liquid chromatography LiChrosolv®**

<b>Specification</b>	Transmission (at 300 nm).....	≥ 70 %
Purity (GC).....	Transmission (at 310 nm).....	≥ 99.9 % ≥ 80 %
Identity (IR).....	Transmission (from 350 nm).....	conforms ≥ 98 %
Evaporation residue.....	Filtered by 0.2 µm filter	≤ 2.0 mg/l
Water.....		≤ 0.05 %
Acidity.....		≤ 0.0002 meq/g
Alkalinity.....		≤ 0.0006 meq/g

Ord.No.	Packaging	Quantity	Price
1.08327.1000	Glass bottle	1 l	inquire
1.08327.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.08327.4000	Glass bottle	4 l	inquire

# Toluen

## 109768 Toluene reference substance for gas chromatography

### Specification

Assay (GC) ..... ≥ 99.7 %  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09768.0005	Glass bottle	5 ml	inquire

## 108388 Toluene for organic trace analysis UniSolv®

### Specification

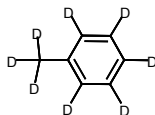
Purity (GC) ..... ≥ 99.9 %  
Identity (IR) ..... conforms  
Evaporation residue ..... ≤ 3.0 mg/l  
Water ..... ≤ 0.005 %  
Colour ..... ≤ 10 Hazen  
GC/ECD (retention range 1,2,4-trichlorobenzene to decachlorobiphenyl individual signals (lindane standard)) ..... ≤ 2 pg/ml  
GC/ECD (retention range dichloromethane to 1,2,4-trichlorobenzene individual signals (tetrachloromethane)) ..... ≤ 1 ng/ml  
GC/FID (retention range n-undecane - n-tetracontane individual signals (n- tetradecane standard)) ..... ≤ 2 ng/ml  
GC/MSD (retention range n-undecane - n-tetracontane; scanning area 30 -600 amu individual signals (n- tetradecane standard)) ..... ≤ 2 ng/ml

Recommended for analysis of polychlorinated Dibenzodioxins and polychlorinated Dibenzofurans (PCDD/F).

Ord.No.	Packaging	Quantity	Price
1.08388.1000	Glass bottle	1 l	inquire
1.08388.2500	Glass bottle	2.5 l	inquire

Toluene → page 309

## 113368 Toluene-D8 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™



C<sub>7</sub>D<sub>8</sub>

### Methylbenzene deuterated

■ CAS-No. 2037-26-5 ■ EC-No. 218-009-5  
■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 8.0 % (V) ■ Flash point 4 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 100.19 g/mol  
■ Melting point -85 °C ■ Boiling point 109 °C

■ Ignition temp. 535 °C  
■ WGK 2  
■ GHS: Danger, Flammable liquid, Category 2, H225; Reproductive toxicity, Category 2, H361d; Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336; Specific target organ toxicity - repeated exposure, Category 2, H373, P210, P233, P240, P281, P301 + P310, P302 + P352, P308 + P313, P331  
■ LC50 rat 49 mg/l  
■ LD50 oral rat 636 mg/kg ■ LD50 dermal rabbit 12124 mg/kg

■ LGK 3  
■ HS-No. 2845 90 10 ■ Disposal 1  
■ ADR-RID UN 1294 Toluene, 3, II ■ IMDG-Code UN 1294 TOLUENE, 3, II  
■ IATA-DGR UN 1294 TOLUENE, 3, II

### Specification

Deuteration degree ..... ≥ 99.50 %  
Water (NMR, H<sub>2</sub>O) ..... ≤ 0.020 %  
Performance test (NMR-spectrum) ..... passes test

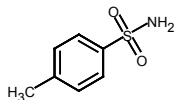
Ord.No.	Packaging	Quantity	Price
1.13368.0010	Septum ampoule	10 ml	inquire

m-Toluenecarbonyl chloride → 3-Methylbenzoyl chloride page 1135

2,5-Toluenediamine sulfate → 2-Methyl-1,4-phenylenediammonium sulfate page 1169

p-Toluenesulfochloride → page 1567

## 808230 4-Toluenesulfonamide for synthesis



C<sub>7</sub>H<sub>9</sub>NO<sub>2</sub>S

4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>NH<sub>2</sub>

PTSA

■ CAS-No. 70-55-3 ■ EC-No. 200-741-1

■ Flash point 202 °C ■ Solub. in H<sub>2</sub>O 3200 mg/l (25 °C) ■ M = 171.21 g/mol  
■ Melting point 136 - 138 °C  
■ Boiling point 220 - 222 °C (13 hPa)  
■ WGK 1  
■ LGK 10 - 13  
■ HS-No. 2935 00 90 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %

Melting range (lower value) ..... ≥ 136 °C  
Melting range (upper value) ..... ≤ 140 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08230.0100	Plastic bottle	100 g	inquire
8.08230.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

p-Toluenesulfonic acid → page 1567

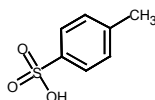
(2R)-(-)-Toluene-4-sulfonic acid 2,3-epoxypropyl ester → (2R)-(-)-2,3-Epoxypropyl toluene-4-sulfonate page 837

p-Toluenesulfonic acid ethyl ester → Ethyl 4-toluenesulfonate page 885

4-Toluenesulfonic acid hydrazide → 4-Toluenesulfonohydrazide page 1567

p-Toluenesulfonic acid methyl ester → Methyl-4-toluenesulfonate page 1184

## Toluene 4-sulfonic acid monohydrate



C<sub>7</sub>H<sub>9</sub>O<sub>3</sub>S \* H<sub>2</sub>O

CH<sub>3</sub>C<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H \* H<sub>2</sub>O

p-Toluenesulfonic acid, Tosylic acid, Tolic acid, PTSA

■ CAS-No. 6192-52-5 ■ EC-No. 203-180-0

■ Spec. density 0.5 g/cm<sup>3</sup> ■ Flash point 180 °C  
■ Solub. in H<sub>2</sub>O 670 g/l (20 °C) ■ M = 190.22 g/mol ■ pH value 1 (650 g/l, H<sub>2</sub>O, 20 °C) (anhydrous substance) ■ Melting point 56 °C Elimination of water of crystallisation ■ Bulk density 510 kg/m<sup>3</sup>  
■ Boiling point 140 °C (27 hPa)  
■ Ignition temp. 600 °C  
■ WGK 1  
■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LD50 oral rat 2570 mg/kg  
■ EC-Index-No. 016-030-00-2 ■ LGK 8A  
■ HS-No. 2904 10 00 ■ Disposal 3  
■ ADR-RID UN 2585 Arylsulfonsäuren, fest, 8, III  
■ IMDG-Code UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III

organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LD50 oral rat 2570 mg/kg  
■ EC-Index-No. 016-030-00-2 ■ LGK 8A  
■ HS-No. 2904 10 00 ■ Disposal 3  
■ ADR-RID UN 2585 Arylsulfonsäuren, fest, 8, III  
■ IMDG-Code UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 2585 ARYLSULPHONIC ACIDS, SOLID, 8, III

## 814725 Toluene-4-sulfonic acid monohydrate for synthesis

### Specification

Assay (acidimetric, calc. on anhydrous substance) ..... ≥ 98,0 % (m)  
Water (K. F.) ..... 9,0 - 13,0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14725.0100	Plastic bottle	100 g	inquire
8.14725.1000	Plastic bottle	1 kg	inquire
8.14725.5000	Plastic bottle	5 kg	inquire

## 109613 Toluene-4-sulfonic acid monohydrate for analysis EMSURE® ACS

## Specification

Assay (acidimetric, calc. on anhydrous substance) ..  
 Identity.....passes test  
 Appearance of solution.....conforms  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.3 %

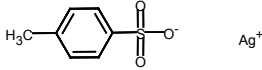
Heavy metals (as Pb)..... ≤ 0.001 %  
 Fe (Iron)..... ≤ 0.01 %  
 Na (Sodium)..... ≤ 0.002 %  
 TLC-Test.....passes test  
 Sulfated ash..... ≤ 0.1 %

Water (according to Karl Fischer).....9.5 - 11.5 %

Ord.No.	Packaging	Quantity	Price
1.09613.0100	Plastic bottle	100 g	inquire
1.09613.0500	Plastic bottle	500 g	inquire

4-Toluenesulfonic acid pyridine salt → Pyridinium 4-toluenesulfonate page 1389

## 818000 Toluene 4-sulfonic acid silver salt for synthesis

C<sub>7</sub>H<sub>7</sub>O<sub>3</sub>S\*Ag4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>Ag

Silver tosylate, Silver 4-toluenesulfonate

■ CAS-No. 16836-95-6 ■ EC-No. 240-859-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 279.07 g/mol

■ WGK 3  
 ■ LGK 8 A  
 ■ HS-No. 2843 29 00 ■ Disposal 27  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(TOLUOL-4-SULFONSAEURE SILBERSALZ), 8, III ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(TOLUENE 4-SULFONIC ACID SILVER SALT), 8, III  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID, N.O.S.(TOLUENE 4-SULFONIC ACID SILVER SALT),

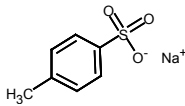
8, III

## Specification

Assay (from Ag)..... ≥ 99,0 % (m)  
 Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.18000.0010	Glass bottle	10 g	inquire
8.18000.0025	Glass bottle	25 g	inquire

## 821125 Toluene-4-sulfonic acid sodium salt for synthesis

C<sub>7</sub>H<sub>7</sub>NaO<sub>3</sub>S4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>Na

4-Toluenesulfonic acid sodium salt  
 ■ CAS-No. 657-84-1 ■ EC-No. 211-522-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 194.18 g/mol  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2904 10 00 ■ Disposal 3

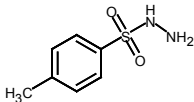
## Specification

Assay (acidimetric after ion exchange).....  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.21125.0005	Glass bottle	5 g	inquire
8.21125.0250	Plastic bottle	250 g	inquire

4-Toluenesulfonic acid sodium salt → Toluene-4-sulfonic acid sodium salt page 1567

## 800767 4-Toluenesulfonohydrazide for synthesis

C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub>S4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>NHNH<sub>2</sub>

4-Methyl-benzenesulfonic acid hydrazide

■ CAS-No. 1576-35-8 ■ EC-No. 216-407-3  
 ■ Spec. density 1.4 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 5 g/l (15 °C) ■ M = 186.22 g/mol  
 ■ Melting point 105 - 108 °C

■ WGK 2  
 ■ GHS: Danger, Self-reactive substances and mixtures, Type D, H242; Acute toxicity, Category 3, Oral, H301, P210, P260, P280, P309 + P310, P370 + P378  
 ■ LD50 oral rat 280 mg/kg  
 ■ LGK 5.2  
 ■ HS-No. 2935 00 90 ■ Disposal 3  
 ■ ADR-RID UN 3226 Selbstzersetzlicher Stoff Typ D, fest(TOLUOL-4-SULFONSAEUREHYDRAZID), 4,1, ■ IMDG-Code UN 3226 SELF-REACTIVE SOLID TYPE D(4-METHYL BENZENE SULPHONYL HYDRAZIDE), 4,1,

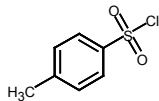
■ IATA-DGR UN 3226 SELF-REACTIVE SOLID TYPE D(4-METHYL BENZENE SULPHONYL HYDRAZIDE), 4,1,

## Specification

Assay (HPLC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 106 °C  
 Melting range (upper value)..... ≤ 109 °C  
 Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.00767.0050	Plastic bottle	50 g	inquire
8.00767.0250	Plastic bottle	250 g	inquire

## 4-Toluenesulfonyl chloride

C<sub>7</sub>H<sub>7</sub>ClO<sub>2</sub>S4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>Cl

■ CAS-No. 98-59-9 ■ EC-No. 202-684-8  
 ■ Spec. density 1.49 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 128 °C ■ Solub. in

H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 190.65 g/mol  
 ■ pH value (H<sub>2</sub>O) strongly acid  
 ■ Melting point 67 °C ■ Bulk density 800 kg/m<sup>3</sup>  
 ■ Boiling point 135 °C (13 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318, P280, P302 + P352, P305 + P351 + P338, P313  
 ■ LD50 oral rat 4680 mg/kg  
 ■ LGK 8A

■ HS-No. 2904 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(TOLUEN-4-SULFONYLCHLORID), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-TOLUENESULFONYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(4-TOLUENESULFONYL CHLORIDE), 8, II

## 808326 4-Toluenesulfonyl chloride for synthesis

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 66 °C  
 Melting range (upper value)..... ≤ 70 °C

Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.08326.0250	Glass bottle	250 g	inquire
8.08326.1000	Glass bottle	1 kg	inquire

## 845136 4-Toluenesulfonyl chloride for pharma synthesis, non-GMP

## Specification

Colour (visual).....white  
 Appearance of substance (visual).....powder  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 65 °C

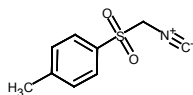
Melting range (upper value)..... ≤ 69 °C  
 Identity (IR).....passes test  
 Toluene (GC).....lot specific result  
 Heptane (GC).....lot specific result

Ord.No.	Packaging	Quantity	Price
8.45136.0250	Glass bottle	250 g	inquire
8.45136.1000	Glass bottle	1 kg	inquire

α-Toluenesulfonyl chloride → Phenylmethanesulfonyl chloride page 1309



## 818074 4-Toluenesulfonylmethyl isocyanide for synthesis



$C_9H_9NO_2S$   
4-( $CH_3$ ) $C_6H_4SO_2CH_2NC$   
*TOSMIC, Tosylmethyl isocyanide*  
■ CAS-No. 36635-61-7 ■ EC-No. 253-140-1  
■ Solub. in  $H_2O$  (20 °C) insoluble ■  $M = 195.23$  g/mol ■ Melting point 110 - 115 °C  
■ WGK 3

■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310; Acute toxicity, Category 2, Oral, H300, P280, P304 + P340, P302 + P352, P309 + P310  
■ LGK 6.1A  
■ HS-No. 2930 90 99 ■ Disposal 6  
■ ADR-RID UN 1588 Cyanide, anorganisch, fest, n.a.g.(TOLUENE-4-SULFONYLMETHYLISOCYANID), 6.1, II ■ IMDG-Code UN 1588 CYANIDES, INORGANIC, SOLID, N.O.S.(TOLUENE-4-SULFONYLMETHYLISOCYANIDE), 6.1, II, Marine

Pollutant: P, Segregation Group: 6 (Cyanides)  
■ IATA-DGR UN 1588 CYANIDES, INORGANIC, SOLID, N.O.S.(TOLUENE-4-SULFONYLMETHYLISOCYANIDE), 6.1, II

**Specification**  
Assay (HPLC, area%) .....  $\geq 98,0$  Area %  
Melting range (lower value) .....  $\geq 109$  °C  
Melting range (upper value) .....  $\leq 114$  °C  
Identity (IR) ..... passes test

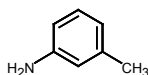
Ord.No.	Packaging	Quantity	Price
8.18074.0010	Glass bottle	10 g	inquire

$\alpha$ -Toluenethiol → Benzyl mercaptan page 452  
Toluhydroquinone → 2-Methylhydroquinone page 1155  
m-Toluic acid → 3-Methylbenzoic acid page 1134

o-Toluic acid → 2-Methylbenzoic acid page 1134  
p-Toluic acid → 4-Methylbenzoic acid page 1134  
p-Toluic acid ethyl ester → Ethyl 4-methylbenzoate page 875

p-Toluic acid methyl ester → Methyl 4-methylbenzoate page 1161

## 808314 m-Toluidine for synthesis



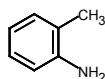
$C_7H_9N$   
3-( $CH_3$ ) $C_6H_4NH_2$   
*3-Methylaniline, 3-Aminotoluene*  
■ CAS-No. 108-44-1 ■ EC-No. 203-583-1  
■ Refractive index 1.5669 (20 °C, 589 nm)  
■ Vapour pressure 0.3 hPa (20 °C)  
■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C)  
■ Flash point 90 °C ■ Solub. in  $H_2O$  (20 °C) insoluble ■  $M = 107.15$  g/mol  
■ pH value 7 ( $H_2O$ , 20 °C) ■ Melting point -30 °C

■ Boiling point 204 °C (1013 hPa)  
■ Ignition temp. >500 °C  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400, P273, P280, P302 + P352, P304 + P340, P309 + P310  
■ LD50 oral rat 450 mg/kg  
■ EC-Index-No. 612-024-00-4 ■ LGK 6.1A  
■ HS-No. 2921 43 00 ■ Disposal 9  
■ ADR-RID UN 1708 Toluidine, flüssig, 6.1, II

■ IMDG-Code UN 1708 TOLUIDINES, LIQUID, 6.1, II  
■ IATA-DGR UN 1708 TOLUIDINES, LIQUID, 6.1, II  
**Specification**  
Assay (GC, area%) .....  $\geq 99,0$  Area %  
Density (d 20 °C/ 4 °C) ..... 0,988 - 0,989  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08314.0100	Glass bottle	100 ml	inquire
8.08314.1000	Glass bottle	1 l	inquire

## o-Toluidine



$C_7H_9N$   
2-( $CH_3$ ) $C_6H_4NH_2$   
*2-Aminotoluene, 2-Methylaniline*  
■ CAS-No. 95-53-4 ■ EC-No. 202-429-0  
■ Vapour pressure 0.18 hPa (20 °C)  
■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.5 - 7.5 % (V) ■ Flash point 85 °C ■ Solub. in

$H_2O$  15 g/l (20 °C) ■  $M = 107.15$  g/mol  
■ pH value 7.4 ( $H_2O$ , 20 °C) Aqueous solution  
■ Saturation conc. 0.9 g/m<sup>3</sup> (20 °C) Air  
■ Melting point < -15 °C ■ Boiling point 200 °C (1013 hPa) ■ Ignition temp. 480 °C  
■ WGK 3  
■ GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400, P201, P273, P304 +

P340, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 670 mg/kg ■ LD50 dermal rabbit 3250 mg/kg  
■ EC-Index-No. 612-091-00-X ■ LGK 6.1A  
■ HS-No. 2921 43 00 ■ Disposal 9  
■ ADR-RID UN 1708 Toluidine, flüssig, 6.1, II  
■ IMDG-Code UN 1708 TOLUIDINES, LIQUID, 6.1, II  
■ IATA-DGR UN 1708 TOLUIDINES, LIQUID, 6.1, II

## 808312 o-Toluidine for synthesis

**Specification**  
Assay (GC, area%) .....  $\geq 99,0$  Area %  
Density (d 20 °C/ 4 °C) ..... 0,998 - 1,000  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08312.0100	Glass bottle	100 ml	inquire
8.08312.0500	Glass bottle	500 ml	inquire
8.08312.1000	Glass bottle	1 l	inquire
8.08312.2500	Glass bottle	2.5 l	inquire

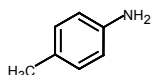
## 108310 o-Toluidine GR for analysis

**Specification**  
Assay (GC, area%) .....  $\geq 99,5$  % (a/a)  
p-toluidine and m-toluidine (GC, area%)  $\leq 0,40$  % (a/a)  
Water (K. F.) .....  $\leq 0,10$  %  
Chloride (Cl) .....  $\leq 0,0005$  %

Fe (Iron) .....  $\leq 0,0001$  %  
Heavy metals (as Pb) .....  $\leq 0,0001$  %  
Sulfated ash .....  $\leq 0,005$  %  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.08310.0250	Glass bottle	250 ml	inquire
1.08310.1000	Glass bottle	1 l	inquire

## p-Toluidine



C<sub>7</sub>H<sub>9</sub>N  
CH<sub>3</sub>C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>  
4-Aminotoluene, 4-Methylaniline  
■ CAS-No. 106-49-0 ■ EC-No. 203-403-1  
■ Vapour pressure 1.3 hPa (50 °C)  
■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C)  
■ Flash point 87 °C ■ Solub. in H<sub>2</sub>O 7.5 g/l (20 °C)

■ M = 107.15 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) alkaline ■ Melting point 43 °C  
■ Boiling point 200 °C ■ Ignition temp. 480 °C  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Carcinogenicity, Category 2, H351; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P273, P280, P302 + P352, P304

+ P340, P305 + P351 + P338, P309 + P310  
■ LC50 rat > 0.16 mg/l  
■ LD50 oral rat 336 mg/kg ■ LD50 dermal rabbit 890 mg/kg  
■ EC-Index-No. 612-160-00-4 ■ LGK 6.1A  
■ HS-No. 2921 43 00 ■ Disposal 9  
■ ADR-RID UN 3451 Toluidine, fest, 6.1, II  
■ IMDG-Code UN 3451 TOLUIDINES, SOLID, 6.1, II  
■ IATA-DGR UN 3451 TOLUIDINES, SOLID, 6.1, II for the Winkler determination of hydroxymethylfurfural



## 808315 p-Toluidine for synthesis

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
Melting range (lower value) ..... ≥ 43 °C  
Melting range (upper value) ..... ≤ 46 °C  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08315.0005	Glass bottle	5 g	inquire
8.08315.0250	Glass bottle	250 g	inquire
	Glass bottle	6 x 250 g	inquire
8.08315.1000	Glass bottle	1 kg	inquire

## 110841 p-Toluidine GR for analysis

## Specification

Purity (GC) ..... ≥ 99% (a/a)  
Identity (IR-spectrum) ..... passes test  
Melting range ..... 43 - 46 °C  
o-Toluidine (GC) ..... ≤ 0.1 %

m-Toluidine (GC) ..... ≤ 0.2 %  
Performance test (for the determination of hydroxy methylfurfurale) ..... passes test

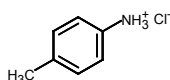
Ord.No.	Packaging	Quantity	Price
1.10841.0050	Glass bottle	50 g	inquire

Toluidine blue O (C.I.52040) → page 190

Toluidine blue O (C.I. 52040) Certistain® → page 190

p-Toluidine hydrochloride → p-Toluidinium chloride page 1569

## 821122 p-Toluidinium chloride for synthesis



C<sub>7</sub>H<sub>10</sub>ClN  
4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub> \* HCl  
p-Aminotoluene hydrochloride, p-Toluidine hydrochloride  
■ CAS-No. 540-23-8 ■ EC-No. 208-740-8  
■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 143.61 g/mol  
■ Melting point 239 - 242 °C  
■ WGK 2

■ GHS: Danger, Carcinogenicity, Category 2, H351; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Eye irritation, Category 2, H319; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400, P281, P273, P304 + P340, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 1285 mg/kg  
■ EC-Index-No. 612-160-00-4 ■ LGK 6.1A  
■ HS-No. 2921 43 00 ■ Disposal 9  
■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(P-TOLUIDINIUMCHLORID), 6.1, II

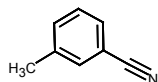
■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(P-TOLUIDINIUM CHLORIDE), 6.1, II  
■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(P-TOLUIDINIUM CHLORIDE), 6.1, II

## Specification

Assay (argentometric) ..... ≥ 98,0 %  
Melting range (lower value) ..... ≥ 239 °C  
Melting range (upper value) ..... ≤ 242 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21122.0250	Glass bottle	250 g	inquire

## 808268 m-Tolunitrile for synthesis



C<sub>8</sub>H<sub>7</sub>N  
■ CAS-No. 620-22-4 ■ EC-No. 210-631-5  
■ Refractive index 1.5256 (20 °C, 589 nm)  
■ Vapour pressure 0.52 hPa (20 °C)  
■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)  
■ Flash point 86 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly

soluble ■ M = 117.15 g/mol ■ Melting point -23 °C ■ Boiling point 213 °C (1013 hPa)  
■ WGK 2  
■ LD50 oral rat 3000 mg/kg  
■ LGK 10  
■ HS-No. 2926 90 95  
■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(M-TOLUNITRIL), 6.1, III ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(M-TOLUNITRILE), 6.1, III  
■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC,

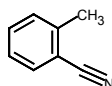
N.O.S.(M-TOLUNITRILE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,984 - 0,987  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08268.0050	Glass bottle	50 ml	inquire
8.08268.0250	Glass bottle	250 ml	inquire

## 808273 o-Tolunitrile for synthesis



C<sub>8</sub>H<sub>7</sub>N  
2-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>CN  
o-Tolyl cyanide, 2-Methylbenzonitrile  
■ CAS-No. 529-19-1 ■ EC-No. 208-451-7  
■ Refractive index 1.5279 (20 °C, 589 nm)  
■ Vapour pressure 0.5 hPa (20 °C)

■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 - 6.7 % (V) ■ Flash point 85 °C DIN 51758  
■ Kin. viscosity 1.7 mm<sup>2</sup>/s (23 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 117.15 g/mol  
■ pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point -13 °C  
■ Boiling point 93 - 94 °C (27 hPa)  
■ Ignition temp. >525 °C DIN 51794  
■ WGK 1  
■ GHS: Warning, Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352

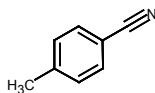
■ LD50 oral rat 3185 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2926 90 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,992 - 0,993  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08273.0250	Glass bottle	250 ml	inquire
8.08273.1000	Glass bottle	1 l	inquire



808274 *p*-Tolunitrile for synthesisC<sub>8</sub>H<sub>7</sub>N*p*-Tolyl cyanide

- CAS-No. 104-85-8 ■ EC-No. 203-244-8
- Vapour pressure 4 hPa (42 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C)
- Flash point 78 °C ■ Solub. in H<sub>2</sub>O < 1 g/l (17 °C)

- M = 117.15 g/mol ■ Melting point 25 - 28 °C
- Bulk density 700 kg/m<sup>3</sup> ■ Boiling point 217 °C (1013 hPa)
- WGK 2
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LD50 oral rat 3800 mg/kg
- LGK 10 - 13
- HS-No. 2926 90 95

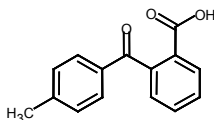
## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Melting range (lower value)..... ≥ 26 °C  
 Melting range (upper value)..... ≤ 28 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08274.0050	Glass bottle	50 ml	inquire
8.08274.0250	Glass bottle	250 ml	inquire

α-Tolunitrile → Benzyl cyanide page 450

## 842258 2-(4-Toluoyl)benzoic acid for synthesis

C<sub>15</sub>H<sub>12</sub>O<sub>3</sub>

CAS-No. 85-55-2 ■ EC-No. 201-614-3

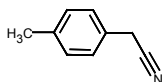
- M = 240.26 g/mol ■ Melting point 133 - 137 °C
- WGK 3
- GHS: Warning, Eye irritation, Category 2, H319, P262, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2918 30 00 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 97,0 %

Melting range (lower value)..... ≥ 133 °C  
 Melting range (upper value)..... ≤ 137 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42258.0025	Glass bottle	25 g	inquire

m-Toluoyl chloride → 3-Methylbenzoyl chloride  
page 1135p-Toluoyl chloride → 4-Methylbenzoyl chloride  
page 1135821132 *p*-Toluylacetonitrile for synthesisC<sub>9</sub>H<sub>9</sub>N4-(CH<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CN*p*-Methylbenzyl cyanide, (*p*-Methylphenyl) acetonitrile

- CAS-No. 2947-61-7 ■ EC-No. 220-963-2
- Refractive index 1.5153 (25 °C, 589 nm)
- Spec. density 0.99 g/cm<sup>3</sup> (20 °C)

- Flash point 106 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 131.18 g/mol
- Melting point 18 °C ■ Boiling point 242 - 243 °C
- WGK 3
- GHS: Warning, Eye irritation, Category 2, H319, P260, P262, P305 + P351 + P338
- LGK 6.1A
- HS-No. 2926 90 95 ■ Disposal 3
- ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(P-TOLYLACETONITRIL), 6.1, II ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID, N.O.S.(P-

TOLYLACETONITRILE), 6.1, II

■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(P-TOLYLACETONITRILE), 6.1, II

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.991 - 0.994  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21132.0025	Glass bottle	25 ml	inquire

m-Toluylaldehyde → 3-Methylbenzaldehyde page 1133

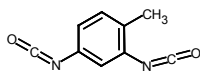
p-Toluylaldehyde → 4-Methylbenzaldehyde page 1133

o-Toluylaldehyde → 2-Methylbenzaldehyde page 1133

2,4-Toluylenediamine → 4-Methyl-1,3-phenylenediamine page 1169

p-Toluylenediamine sulfate → 2-Methyl-1,4-phenylenediammonium sulfate page 1169

## 808264 Toluylene diisocyanate (mixture of isomeres) for synthesis

C<sub>9</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>(NCO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>CH<sub>3</sub>4-Methyl-*m*-phenylene diisocyanate, TDI

- CAS-No. 26471-62-5 ■ EC-No. 247-722-4
- Refractive index 1.5689 (20 °C, 589 nm)
- Vapour pressure 0.03 hPa (20 °C)
- Spec. density 1.22 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 9.5 % (V) ■ Flash point 132 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble, (decomposition)
- M = 174.16 g/mol ■ pH value (H<sub>2</sub>O) not applicable ■ Melting point 12 - 14 °C
- Boiling point 247 °C (1013 hPa)
- Ignition temp. 620 °C

- WGK 2
- GHS: Danger, Carcinogenicity, Category 2, H351; Acute toxicity, Category 2, Inhalation, H330; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P260, P273, P280, P281, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 0.11 mg/l
- LD50 oral rat 4130 mg/kg ■ LD50 dermal rabbit > 12200 mg/kg
- EC-Index-No. 615-006-00-4 ■ LGK 6.1A
- HS-No. 2929 10 00 ■ Disposal 11
- ADR-RID UN 2078 Toluendiisocyanat, 6.1, II

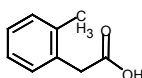
■ IMDG-Code UN 2078 TOLUENE DIISOCYANATE, 6.1, II  
 ■ IATA-DGR UN 2078 TOLUENE DIISOCYANATE, 6.1, II

## Specification

Assay (GC, area%)..... 70,0 - 90,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,218 - 1,220  
 Toluylene-2,6-diisocyanate (GC, area%)..... 10,0 - 30,0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08264.0100	Glass bottle	100 ml	inquire
8.08264.0500	Glass bottle	500 ml	inquire

Toluylene red → page 1205

N-*p*-Tolylacetamide → 4'-Methylacetanilide page 1128841360 *o*-Tolylacetic acid for synthesisC<sub>9</sub>H<sub>10</sub>O<sub>2</sub>

2-Methylphenylacetic acid

CAS-No. 644-36-0 ■ EC-No. 211-416-9

- M = 150.17 g/mol ■ Melting point 86 - 87 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 82 °C

Melting range (upper value)..... ≤ 84 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41360.0005	Plastic bottle	5 g	inquire

p-Tolylacetic acid ethyl ester → Ethyl *p*-tolylacetate page 8853-(4-Tolyl)acrylic acid → 4-Methylcinnamic acid  
page 1143

## 843972 1-(o-Tolyl) biguanide for synthesis

C<sub>9</sub>H<sub>13</sub>N<sub>5</sub>

- CAS-No. 93-69-6 ■ EC-No. 202-268-6
- Flash point 113 °C ■ M = 191.23 g/mol
- Melting point 143 - 145 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral,

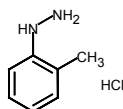
- H302; Eye irritation, Category 2, H319, P305 + P351 + P338
- LD50 oral rat 800 mg/kg
- LGK 10 - 13
- HS-No. 2925 29 00 ■ Disposal 3

Ord.No.	Packaging	Quantity	Price
8.43972.0050	Glass bottle	50 g	inquire
8.43972.0250	Glass bottle	250 g	inquire

o-Tolyl cyanide → o-Tolunitrile page 1569

p-Tolyl cyanide → p-Tolunitrile page 1570

## 841303 o-Tolylhydrazine hydrochloride for synthesis

C<sub>7</sub>H<sub>11</sub>ClN<sub>2</sub>C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>\*HCl

2-Methylphenylhydrazine hydrochloride

- CAS-No. 635-26-7 ■ EC-No. 211-232-9
- M = 158.63 g/mol
- Melting point 191 - 194 °C (decomposition)
- WGK 3

- GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A
- HS-No. 2928 00 90 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(O-TOLYLHYDRAZINIUMCHLORID), 6.1, III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

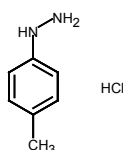
N.O.S.(O-TOLYLHYDRAZINE HYDROCHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(O-TOLYLHYDRAZINE HYDROCHLORIDE), 6.1, III

## Specification

Assay (argentometric)..... ≥ 97.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41303.0005	Glass bottle	5 g	inquire

## 841305 p-Tolylhydrazine hydrochloride for synthesis

C<sub>7</sub>H<sub>11</sub>ClN<sub>2</sub>C<sub>7</sub>H<sub>10</sub>N<sub>2</sub>\*HCl

4-Methylphenylhydrazine hydrochloride

- CAS-No. 637-60-5 ■ EC-No. 211-295-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 158.63 g/mol
- Melting point 215 °C (decomposition)

- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B, H350; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin sensitisation, Category 1, H317; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P201, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 6.1A
- HS-No. 2928 00 90 ■ Disposal 9
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(P-TOLYLHYDRAZINIUMCHLORID), 6.1, III

III ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(P-TOLYLHYDRAZINE HYDROCHLORIDE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(P-TOLYLHYDRAZINE HYDROCHLORIDE), 6.1, III

## Specification

Assay (argentometric)..... ≥ 98.0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41305.0005	Glass bottle	5 g	inquire

3-Tolyl isothiocyanate → 2-Methylphenyl isothiocyanate page 1170  
 4-Tolyl isothiocyanate → 4-Methylphenyl isothiocyanate page 1170  
 p-Tolyl mercaptan → 4-Methylthiophenol page 1183  
 TOSMIC → 4-Toluenesulfonylmethyl isocyanide page 1568  
 Tosylchloramide sodium → page 592  
 Tosyl chloride → page 1567  
 Tosylmethyl isocyanide → 4-Toluenesulfonylmethyl isocyanide page 1568

Total Acidity Test pH 7.0 → page 86  
 Total Hardness Cell Test → page 87  
 Total hardness, determination → page 86  
 Total Hardness Test → page 86  
 Total Hardness Test in freshwater → page 87  
 Total Hardness Test Reagent H-2 (titration solution) Refill pack → page 87  
 Total Hardness Test Refill pack → page 87

Total Hardness Test Refill pack Reagent H-1 (indicator solution) → page 87  
 Total Hardness Test Refill pack Reagent H-2 (titration solution) → page 87  
 Total Sugar Test (glucose and fructose) → page 88  
 TOTU → page 280  
 TPSCI → 2,4,6-Triisopropylbenzenesulfonyl chloride page 1597  
 Traceable reference material → Standards

## Trace element enrichment

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
315	109600	Acetylacetone	1394	107495	Pyrrolidine-1-dithiocarboxylic acid ammonium salt	172	108418	Titriplex® III
663	105227	Cupferron				172	108424	Titriplex® IV
172	103092	Dithizone	1421	101515	Silver diethyldithiocarbamate	173	108426	Titriplex® V
995	107098	8-Hydroxyquinoline	1432	106689	Sodium diethyldithiocarbamate trihydrate	173	108435	Titriplex® VI
172	107531	1-(2-Pyridylazo)-2-naphthol (PAN)	172	108416	Titriplex® I			
			172	108417	Titriplex® II			

## Traces, organic analysis of..., solvents and auxiliaries

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
42	100012	Acetone	42	110983	N,N-Dimethylformamide	43	100882	n-Pentane
291	100658	Acetone	42	102371	Ethanol	43	107288	n-Pentane
42	100017	Acetonitrile	42	110972	Ethyl acetate	43	101772	Petroleum benzine boiling range 40–60°C
291	100665	Acetonitrile	42	100789	Ethyl acetate	43	116740	Petroleum benzine boiling range 40–60°C
42	101995	tert-Butyl methyl ether	42	104371	n-Hexane	43	100998	2-Propanol
42	102432	Chloroform	291	100795	n-Hexane	1451	106639	Sodium sulfate
42	102817	Cyclohexane	42	104369	n-Hexane	43	108389	Toluene
42	100667	Cyclohexane	43	104340	Isohexane	291	100849	Toluene
42	106054	Dichloromethane	43	115440	Isooctane	43	108388	Toluene
291	100668	Dichloromethane	43	106011	Methanol			
291	106454	Dichloromethane	43	100837	Methanol			

Traces, analysis of... → Organic trace analysis

Triacetin → Glycerol triacetate page 928

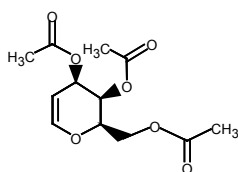
Triacetone amine → 2,2,6,6-Tetramethyl-4-piperidone page 1543

Triacetonediamine → 4-Amino-2,2,6,6-tetramethylpiperidine page 404

3,4,6-Tri-O-acetyl-1,5-anhydro-D-arabino-hex-1-enitol → (-)-Tri-O-acetyl-D-glucal page 1572

3,4,6-Tri-O-acetyl-1,5-anhydro-D-lyxo-hex-1-enitol → (-)-Tri-O-acetyl-D-galactal page 1572

## 818251 (-)-Tri-O-acetyl-D-galactal for synthesis

C<sub>12</sub>H<sub>16</sub>O<sub>7</sub>

3,4,6-Tri-O-acetyl-1,5-anhydro-D-lyxo-hex-1-enitol

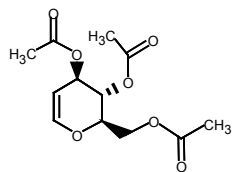
- CAS-No. 4098-06-0 ■ EC-No. 223-859-5
- Refractive index 1.4677 (18 °C, 589 nm)
- Spec. density 1.23 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 272.25 g/mol
- WGK 3
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Density (20/4 °C) ..... 1.215 - 1.220  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18251.0001	Glass bottle	1 ml	inquire
8.18251.0005	Glass bottle	5 ml	inquire

## 818298 (-)-Tri-O-acetyl-D-glucal for synthesis

C<sub>12</sub>H<sub>16</sub>O<sub>7</sub>

3,4,6-Tri-O-acetyl-1,5-anhydro-D-arabino-hex-1-

enitol

- CAS-No. 2873-29-2 ■ EC-No. 220-709-0
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 272.25 g/mol ■ Melting point 50 - 53 °C
- WGK 3
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2932 99 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

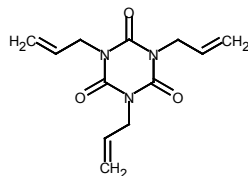
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 50 °C  
 Melting range (upper value) ..... ≤ 53 °C  
 Spec. rotation [α<sup>20</sup>/D (c=1 in chloroform) ... -25.0 - -23.0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18298.0010	Glass bottle	10 g	inquire

Triallyl cyanurate → 2,4,6-Tris(allyloxy)-1,3,5-triazine page 1615

Triallyl isocyanurate → 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione page 1572

## 816113 1,3,5-Triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (stabilised) for synthesis

C<sub>12</sub>H<sub>15</sub>N<sub>3</sub>O<sub>3</sub>

Isocyanuric acid triallyl ester, Triallyl isocyanurate

- CAS-No. 1025-15-6 ■ EC-No. 213-834-7
- Vapour pressure 3.5 hPa (143 °C)
- Spec. density 1.16 g/cm<sup>3</sup> (20 °C)
- Flash point 160 °C ■ Kin. viscosity 78.2 mm<sup>2</sup>/s (30 °C) ■ Solub. in H<sub>2</sub>O 3.7 g/l (30 °C)
- M = 249.27 g/mol ■ Melting point 25 °C
- Boiling point 150 °C (5.3 hPa)
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373

- LD50 oral rat 700 mg/kg ■ LD50 dermal rat 2480 mg/kg
- LGK 10 - 13
- HS-No. 2933 69 80 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,157 - 1,161  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16113.0100	Glass bottle	100 g	inquire

## 814764 2,4,5-Triamino-6-hydroxypyrimidine sulfate for synthesis

C<sub>4</sub>H<sub>9</sub>N<sub>5</sub>O<sub>5</sub>SC<sub>4</sub>H<sub>7</sub>N<sub>5</sub>O . x H<sub>2</sub>SO<sub>4</sub>

- CAS-No. 39267-74-8 ■ EC-No. 254-393-0
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 2 g/l (20 °C) ■ pH value 2 - 3 (2 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 350 °C ■ Bulk density 480 kg/m<sup>3</sup>

- WGK 2
- LD50 oral rat > 3000 mg/kg
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

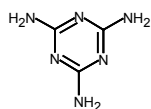
## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14764.0025	Plastic bottle	25 g	inquire



## 808614 2,4,6-Triamino-1,3,5-triazine for synthesis

C<sub>3</sub>H<sub>6</sub>N<sub>6</sub>

Melamine

- CAS-No. 108-78-1 ■ EC-No. 203-615-4
- Vapour pressure 66.65 hPa (315 °C)

- Spec. density 1.57 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 3.2 g/l (20 °C) ■ M = 126.12 g/mol
- pH value 7 - 8 (32 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 354 °C (decomposition)
- Bulk density 800 kg/m<sup>3</sup> ■ Boiling point >354 °C (1013 hPa) (sublimed) ■ Ignition temp. >600 °C
- WGK 1
- LD50 oral rat 3161 mg/kg ■ LD50 dermal rabbit > 1000 mg/kg
- LGK 10 - 13

- HS-No. 2933 61 00 ■ Disposal 3

## Specification

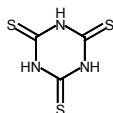
Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08614.0100	Plastic bottle	100 g	inquire
8.08614.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

1,2,4-Triazine-3,5(2H,4H)-dione → 6-Azauracil  
 page 427

Triazines → Heterocycles

## 843815 1,3,5-Triazine-2,4,6(1H,3H,5H)-thiurion for synthesis

C<sub>3</sub>H<sub>3</sub>N<sub>3</sub>S<sub>3</sub>

- CAS-No. 638-16-4 ■ EC-No. 211-322-8
- M = 177.27 g/mol ■ Melting point 300 °C
- WGK 2
- LD50 oral rat 9500 mg/kg
- LGK 10 - 13
- HS-No. 2933 69 80 ■ Disposal 3

## Specification

Assay (acidimetric)..... ≥ 97,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43815.0005	Glass bottle	5 g	inquire
8.43815.0025	Glass bottle	25 g	inquire

1,3,5-Triazine-2,4,6-triol → Cyanuric acid page 666

## 808388 1,2,4-Triazole for synthesis

C<sub>2</sub>H<sub>3</sub>N<sub>3</sub>

- CAS-No. 288-88-0 ■ EC-No. 206-022-9
- Spec. density 1.15 g/cm<sup>3</sup> (130 °C)
- Flash point 170 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 547 g/l (22 °C) ■ M = 69.07 g/mol
- pH value 8 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 119 - 122 °C

- Bulk density 550 kg/m<sup>3</sup>
- Boiling point 259 - 261 °C (1013 hPa)
- Ignition temp. 490 °C DIN 51794
- WGK 2
- GHS: Warning, Reproductive toxicity, Category 2, H361d; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P280, P305 + P351 + P338, P308 + P313
- LD50 oral rat 1650 mg/kg ■ LD50 dermal rabbit 3129 - 4200 mg/kg
- EC-Index-No. 613-111-00-X ■ LGK 10 - 13

- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 117 °C  
 Melting range (upper value)..... ≤ 121 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08388.0025	Glass bottle	25 g	inquire
8.08388.0100	Glass bottle	100 g	inquire

Triazoles → Heterocycles

## 814650 1H-1,2,4-Triazole sodium salt for synthesis

Na<sup>+</sup>C<sub>2</sub>H<sub>2</sub>N<sub>3</sub>Na

- CAS-No. 41253-21-8 ■ EC-No. 255-280-9
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 91.05 g/mol
- pH value 11 (100 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 295 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313
- LD50 oral rat 1000 - 2000 mg/kg
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

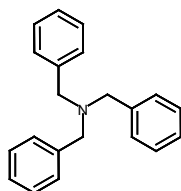
## Specification

Assay (HClO<sub>4</sub>)..... ≥ 95,0 %  
 Water (K. F.)..... ≤ 5,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14650.0025	Plastic bottle	25 g	inquire

1H-1,2,4-Triazol-3-thiol → 3-Mercapto-1,2,4-triazole page 1102

## 822163 Tribenzylamine for synthesis

C<sub>21</sub>H<sub>21</sub>N(C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>)<sub>3</sub>N

- CAS-No. 620-40-6 ■ EC-No. 210-638-3
- Flash point 65 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 287.4 g/mol

- pH value 6.5 - 9.0 (10 g/l, H<sub>2</sub>O, 20 °C) suspension ■ Melting point 91 - 93 °C
- Boiling point 380 - 390 °C
- WGK 3
- GHS: Warning, Flammable solid, Category 2, H228; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 4.1B
- HS-No. 2921 49 00 ■ Disposal 3
- ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(TRIBENZYLAMIN), 4.1, III
- IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(TRIBENZYLAMINE), 4.1, III

- IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(TRIBENZYLAMINE), 4.1, III

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 99,0 % (m)  
 Melting range (lower value)..... ≥ 91 °C  
 Melting range (upper value)..... ≤ 94 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22163.0250	Plastic bottle	250 g	inquire

## 822164 2,4,6-Tribromoaniline for synthesis



$C_6H_4Br_3N$   
 ■ CAS-No. 147-82-0 ■ EC-No. 205-700-1  
 ■ Solub. in  $H_2O$  (20 °C) insoluble ■  $M = 329.82$  g/

mol ■ Melting point 118 - 121 °C  
 ■ Boiling point 300 °C (1013 hPa)  
 ■ WGK 3  
 ■ LGK 6.1A  
 ■ HS-No. 2921 42 00 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,4,6-TRIBROMANILIN), 6.1, II  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,4,6-TRIBROMOANILINE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

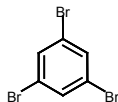
N.O.S.(2,4,6-TRIBROMOANILINE), 6.1, II

**Specification**

Assay (GC, area%).....  $\geq 98,0$  % (a/a)  
 Melting range (lower value).....  $\geq 118$  °C  
 Melting range (upper value).....  $\leq 121$  °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22164.0100	Glass bottle	100 g	inquire
8.22164.0500	Glass bottle	500 g	inquire

## 841306 1,3,5-Tribromobenzene for synthesis



$C_6H_3Br_3$   
 ■ CAS-No. 626-39-1 ■ EC-No. 210-947-3

■  $M = 314.8$  g/mol ■ Melting point 118 - 121 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 99 90 ■ Disposal 3

Melting range (upper value).....  $\leq 123$  °C  
 Identity (IR)..... passes test

**Specification**

Assay (GC, area%).....  $\geq 99,0$  % (a/a)  
 Melting range (lower value).....  $\geq 119$  °C

Ord.No.	Packaging	Quantity	Price
8.41306.0025	Plastic bottle	25 g	inquire

Tribromomethane → page 299

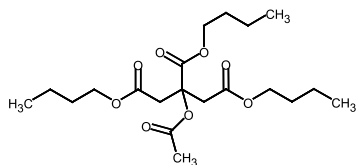
## 843967 1,2,3-Tribromopropane for synthesis

$C_3H_5Br_3$   
 ■ CAS-No. 96-11-7 ■ EC-No. 202-478-8  
 ■ Refractive index 1.5840 ■ Spec. density 2.398 g/  
 $cm^3$  (25 °C) ■ Flash point 93 °C ■  $M = 280.78$  g/  
 mol ■ Melting point 16 - 17 °C  
 ■ Boiling point 220 °C (1013 hPa)  
 ■ WGK 3

■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319; Specific target  
 organ toxicity - single exposure, Category 3, H335,  
 P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 39 19 ■ Disposal 3

Ord.No.	Packaging	Quantity	Price
8.43967.0050	Glass bottle	50 ml	inquire
8.43967.0250	Glass bottle	250 ml	inquire

## 814437 Tributylacetyl citrate for synthesis



$C_{20}H_{34}O_8$   
 2-(Acetyloxy)-1,2,3-Propanetricarboxylic acid

*tributyl ester*  
 ■ CAS-No. 77-90-7 ■ EC-No. 201-067-0  
 ■ Refractive index 1.441 (25 °C, 589 nm) ■ Vapour  
 pressure 0.07 hPa (20 °C) ■ Spec. density 1.05 g/  
 $cm^3$  (20 °C) ■ Flash point 204 °C ■ Solub. in  
 $H_2O$  (20 °C) insoluble ■  $M = 402.49$  g/mol  
 ■ Melting point -80 °C  
 ■ Boiling point 170 - 173 °C (1 hPa)  
 ■ WGK 1  
 ■ LGK 10

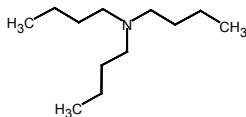
■ HS-No. 2918 15 00 ■ Disposal 3

**Specification**

Assay (acidimetric).....  $\geq 98,0$  % (m)  
 Density (d 20 °C/ 4 °C)..... 1,049 - 1,052  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14437.0100	Glass bottle	100 ml	inquire
8.14437.1000	Glass bottle	1 l	inquire

## 808358 Tributylamine for synthesis



$C_{12}H_{27}N$   
 $(CH_2CH_2CH_2CH_2)_3N$   
 ■ CAS-No. 102-82-9 ■ EC-No. 203-058-7  
 ■ Vapour pressure 0.18 hPa (20 °C)  
 ■ Spec. density 0.78 g/ $cm^3$  (20 °C) ■ Explosive  
 limit 1.4 - 6.0 % (V) ■ Flash point 63 - 66 °C  
 ■ Solub. in  $H_2O$  0.3 g/l (20 °C) ■  $M = 185.35$  g/mol  
 ■ pH value 10.6 ( $H_2O$ , 20 °C) (saturated aqueous  
 solution) ■ Melting point -70 °C

■ Boiling point 216 - 217 °C (1013 hPa)  
 ■ Ignition temp. 190 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 2,  
 Inhalation, H330; Acute toxicity, Category 2,  
 Dermal, H310; Acute toxicity, Category 4, Oral,  
 H302; Skin irritation, Category 2, H315, P280,  
 P302 + P352, P304 + P340, P309 + P310  
 ■ LC50 rat 0.69 mg/l  
 ■ LD50 oral rat 420 - 780 mg/kg  
 ■ LD50 dermal rabbit 195 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2921 19 99  
 ■ ADR-RID UN 2542 Tributylamin, 6.1, II ■ IMDG-  
 Code UN 2542 TRIBUTYLAMINE, 6.1, II

■ IATA-DGR UN 2542 TRIBUTYLAMINE, 6.1, II

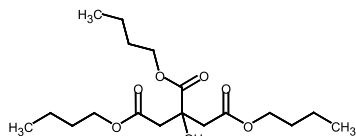
**Specification**

Assay (GC, area%).....  $\geq 99,0$  Area %  
 Density (d 20 °C/ 4 °C)..... 0,776 - 0,777  
 Water (K. F.).....  $\leq 0,20$  % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08358.0100	Glass bottle	100 ml	inquire
8.08358.1000	Glass bottle	1 l	inquire
8.08358.2500	Glass bottle	2.5 l	inquire
8.08358.9040	Steel barrel	40 kg	inquire

Tributylbenzylammonium chloride → Benzyltributylammonium chloride page 456

## 820350 Tributyl citrate for synthesis



$C_{18}H_{32}O_7$   
 $HOC(COOCH_2CH_2CH_2CH_3)(CH_2COOCH_2CH_2CH_2CH_3)_2$   
 Citric acid tributyl ester

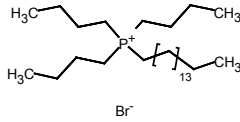
■ CAS-No. 77-94-1 ■ EC-No. 201-071-2  
 ■ Refractive index 1.443 (25 °C, 589 nm)  
 ■ Spec. density 1.04 g/ $cm^3$  (20 °C)  
 ■ Flash point 184 °C ■ Solub. in  
 $H_2O$  (20 °C) insoluble ■  $M = 360.44$  g/mol  
 ■ Melting point -20 °C  
 ■ Boiling point 169 - 171 °C (1 hPa)  
 ■ WGK 1  
 ■ LGK 10  
 ■ HS-No. 2918 15 00 ■ Disposal 3

**Specification**

Assay (GC, area%).....  $\geq 99,0$  % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.042 - 1.045  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.20350.0100	Glass bottle	100 ml	inquire
8.20350.1000	Glass bottle	1 l	inquire

## 818075 Tributylhexadecylphosphonium bromide for synthesis

C<sub>28</sub>H<sub>60</sub>BrP

CH<sub>3</sub>(CH<sub>2</sub>)<sub>15</sub>(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>3</sub>PBr  
Hexadecyltributylphosphonium bromide

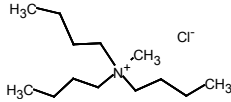
- CAS-No. 14937-45-2 ■ EC-No. 239-014-9
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 507.67 g/mol
- Melting point 57 - 60 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## Specification

Assay (argentometric)..... ≥ 96,0 % (m)  
Melting range (lower value)..... ≥ 57 °C  
Melting range (upper value)..... ≤ 60 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18075.0025	Glass bottle	25 g	inquire

## 814088 Tributylmethylammonium chloride (75% solution in water) for synthesis

(C<sub>4</sub>H<sub>9</sub>)<sub>3</sub>N(Cl)CH<sub>3</sub>

Methyltributylammonium chloride

- Vapour pressure 7.9 hPa (25 °C)
- Spec. density 0.96 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 8 (H<sub>2</sub>O, 20 °C)
- Melting point -33 °C ■ Boiling point 84 - 85 °C

- (133 hPa)
- WGK 2
  - GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
  - LD50 oral rat 933 mg/kg ■ LD50 dermal rabbit 2000 mg/kg
  - LGK 10 - 13

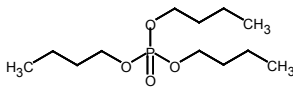
- HS-No. 2923 90 00 ■ Disposal 3

## Specification

Assay (argentometric)..... 74,0 - 79,0 % (m)  
Density (d 20 °C / 4 °C)..... 0,960 - 0,970

Ord.No.	Packaging	Quantity	Price
8.14088.0500	Glass bottle	500 ml	inquire

## 818604 Tributyl phosphate for synthesis

C<sub>12</sub>H<sub>27</sub>O<sub>4</sub>P(C<sub>4</sub>H<sub>9</sub>O)<sub>3</sub>PO

TBP

- CAS-No. 126-73-8 ■ EC-No. 204-800-2
- Vapour pressure 0.008 hPa (20 °C)
- Spec. density 0.97 g/cm<sup>3</sup> (20 °C)
- Flash point 146 °C ■ Solub. in H<sub>2</sub>O 0.4 g/l (20 °C) ■ M = 266.31 g/mol
- pH value (H<sub>2</sub>O) neutral ■ Melting point -79 °C

- Boiling point 289 °C (1013 hPa) (decomposition)
- Ignition temp. 400 °C
- WGK 2
- GHS: Warning, Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P281, P302 + P352, P308 + P313
- LC50 rat > 4.242 mg/l
- LD50 oral rat 1550 mg/kg ■ LD50 dermal rabbit > 3100 mg/kg
- EC-Index-No. 015-014-00-2 ■ LGK 10 - 13
- HS-No. 2919 90 00 ■ Disposal 3

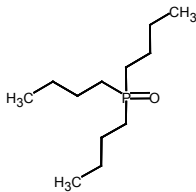
## Specification

Assay (GC, area%)..... ≥ 99,0 Area %

Density (d 20 °C / 4 °C)..... 0,976 - 0,978  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18604.0100	Glass bottle	100 ml	inquire
8.18604.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
8.18604.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.18604.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire
8.18604.9026	Plastic container	25 l	inquire

## 821145 Tributylphosphine oxide for synthesis

C<sub>12</sub>H<sub>27</sub>OP

- CAS-No. 814-29-9 ■ EC-No. 212-394-3
- Solub. in H<sub>2</sub>O 55.7 g/l (25 °C) ■ M = 218.32 g/mol
- Melting point 68 - 71 °C
- Boiling point 150 °C (2 hPa)
- WGK 3
- GHS: Warning, Eye irritation, Category 2, H319, P262, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

- IATA-DGR No Dangerous Good

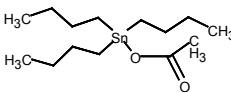
## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21145.0005	Glass bottle	5 g	inquire
8.21145.0025	Glass bottle	25 g	inquire

Tributylstannane → Tributyltin hydride page 1576

## 821650 Tributyltin acetate for synthesis

C<sub>14</sub>H<sub>30</sub>O<sub>2</sub>Sn(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>3</sub>SnOOCCH<sub>3</sub>

Acetoxytributyltin

- CAS-No. 56-36-0 ■ EC-No. 200-269-6
- Vapour pressure 0.001 hPa (20 °C)
- Flash point 120 °C ■ Solub. in H<sub>2</sub>O 0.065 g/l (20 °C) ■ M = 349.07 g/mol
- Melting point 79 - 82 °C

- WGK 3
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - repeated exposure, Category 1, H372; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 99 mg/kg
- EC-Index-No. 050-008-00-3 ■ LGK 6.1C
- HS-No. 2931 20 00 ■ Disposal 15
- ADR-RID UN 3146 Organische Zinnverbindung, fest, n.a.g.(TRIBUTYLZINNACETAT), 6.1, III ■ IMDG-

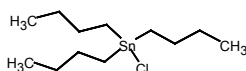
Code UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(TRIBUTYL TIN ACETATE), 6.1, III, Marine Pollutant: P

■ IATA-DGR UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(TRIBUTYL TIN ACETATE), 6.1, III

**Specification**  
Assay (ex Sn)..... ≥ 97,0 %  
Melting range (lower value)..... ≥ 79 °C  
Melting range (upper value)..... ≤ 82 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21650.0050	Glass bottle	50 g	inquire

## 808390 Tributyltin chloride for synthesis

C<sub>12</sub>H<sub>27</sub>ClSn(CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>3</sub>SnCl*Chlorotributyltin, Chlorotributylstannane*

■ CAS-No. 1461-22-9 ■ EC-No. 215-958-7

■ Refractive index 1.4905 (20 °C, 589 nm)

■ Vapour pressure &lt; 0.01 hPa (20 °C)

■ Spec. density 1.20 g/cm<sup>3</sup> (20 °C)■ Flash point > 100 °C ■ Solub. in H<sub>2</sub>O 0.017 g/l

(20 °C) ■ M = 325.48 g/mol ■ Melting point -9 °C

■ Boiling point 140 °C (13 hPa)

■ Ignition temp. &gt; 150 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - repeated exposure, Category 1, H372; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 129 mg/kg

■ EC-Index-No. 050-008-00-3 ■ LGK 6.1 C

■ HS-No. 2931 20 00 ■ Disposal 15

■ ADR-RID UN 2788 Organische Zinnverbindung,

flüssig, n.a.g.(TRIBUTYLZINNCHLORID), 6.1, III

■ IMDG-Code UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(TRIBUTYLZINNCHLORIDE), 6.1, III, Marine Pollutant: P

■ IATA-DGR UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(TRIBUTYLZINNCHLORIDE), 6.1, III

**Specification**

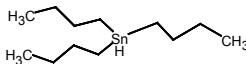
Assay (GC, area%)..... ≥ 97,0 Area %

Density (d 20 °C/ 4 °C)..... 1,199 - 1,204

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08390.0100	Glass bottle	100 ml	inquire

## 814109 Tributyltin hydride for synthesis

C<sub>12</sub>H<sub>28</sub>Sn*Tributylstannane*

■ CAS-No. 688-73-3 ■ EC-No. 211-704-4

■ Refractive index 1.4726 (20 °C, 589 nm)

■ Vapour pressure 5 hPa (20 °C)

■ Spec. density 1.10 g/cm<sup>3</sup> (20 °C)

■ Flash point 109 °C ■ M = 291.06 g/mol

■ Boiling point 112 - 114 °C (11 hPa)

■ Ignition temp. &gt; 250 °C

■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - repeated exposure, Category 1, H372; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338, P309 + P310

■ EC-Index-No. 050-008-00-3 ■ LGK 6.1A

■ HS-No. 2931 20 00 ■ Disposal 26

■ ADR-RID UN 2788 Organische Zinnverbindung,

flüssig, n.a.g.(TRIBUTYLZINNHYDRID), 6.1, II

■ IMDG-Code UN 2788 ORGANOTIN COMPOUND,

LIQUID, N.O.S.(TRIBUTYLZINNHYDRIDE), 6.1, II,

Marine Pollutant: P

■ IATA-DGR UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(TRIBUTYLZINNHYDRIDE), 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 97,0 Area %

Density (d 20 °C/ 4 °C)..... 1,100 - 1,102

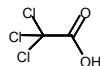
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14109.0005	Glass bottle	5 ml	inquire
8.14109.0025	Glass bottle	25 ml	inquire
8.14109.0100	Glass bottle	100 ml	inquire

Tricarballic acid trimethyl ester → Trimethyl 1,2,3-propanetricarboxylate page 1606

Tricetol → Hexadecyltrimethylammonium-p-toluenesulfonate page 947

## Trichloroacetic acid

C<sub>2</sub>HCl<sub>3</sub>O<sub>2</sub>CCl<sub>3</sub>COOH

■ CAS-No. 76-03-9 ■ EC-No. 200-927-2

■ Vapour pressure 1 hPa (20 °C)

■ Spec. density 1.63 g/cm<sup>3</sup> (20 °C)■ Flash point > 110 °C ■ Solub. in H<sub>2</sub>O 1600 g/l(20 °C) ■ M = 163.38 g/mol ■ pH value < 1 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 54 - 56 °C■ Bulk density 900 kg/m<sup>3</sup> ■ Boiling point 197 °C

■ Ignition temp. 711 °C

■ WGK 2

■ GHS: Danger, Skin corrosion, Category 1A, H314;

Acute aquatic toxicity, Category 1, H400; Chronic

aquatic toxicity, Category 1, H410, P273, P280,

P301 + P330 + P331, P305 + P351 + P338, P309

+ P310

■ LD50 oral rat 3320 mg/kg

■ EC-Index-No. 607-004-00-7 ■ LGK 8 B

■ HS-No. 2915 40 00 ■ Disposal 3

■ ADR-RID UN 1839 Trichloressigsäure, 8, II

■ IMDG-Code UN 1839 TRICHLOROACETIC ACID,

SOLID, 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 1839 TRICHLOROACETIC ACID, 8,

II

## 822342 Trichloroacetic acid for synthesis

**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22342.0250	Glass bottle	250 g	inquire
8.22342.1000	Glass bottle	1 kg	inquire

## 100807 Trichloroacetic acid for analysis EMSURE® ACS, Reag. Ph Eur

**Specification**

Assay (alkalimetric)..... ≥ 99.5 %

Identity (IR-spectrum)..... passes test

Appearance..... colorless, deliquescent crystals

Appearance of solution (200 g/l; water)..... clear and colorless

In water insoluble matter..... ≤ 0.01 %

Chloride (Cl)..... ≤ 10 ppm

Nitrate (NO<sub>3</sub>)..... ≤ 20 ppmPhosphate (PO<sub>4</sub>)..... ≤ 5 ppmSulphate (SO<sub>4</sub>)..... ≤ 200 ppm

Heavy metals (as Pb)..... ≤ 20 ppm

Cu (Copper)..... ≤ 5 ppm

Fe (Iron)..... ≤ 10 ppm

Readily carbonisable substance..... passes test

Sulfated ash (600 °C)..... ≤ 300 ppm

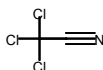
Ord.No.	Packaging	Quantity	Price
1.00807.0100	Glass bottle	100 g	inquire
	Glass bottle	6 x 100 g	inquire
1.00807.0250	Glass bottle	250 g	inquire
	Glass bottle	6 x 250 g	inquire
1.00807.1000	Glass bottle	1 kg	inquire
	Glass bottle	6 x 1 kg	inquire

Trichloroacetic acid chloride → Trichloroacetyl chloride page 1577

Trichloroacetic acid methyl ester → Methyl trichloroacetate page 1184

Trichloroacetimidate Wang resin → page 270

## 808222 Trichloroacetonitrile for synthesis

C<sub>2</sub>Cl<sub>3</sub>NCCl<sub>3</sub>CN*Trichloromethylnitrile*

■ CAS-No. 545-06-2 ■ EC-No. 208-885-7  
 ■ Refractive index 1.44 (20 °C, 589 nm) ■ Vapour pressure 77 hPa (20 °C) ■ Spec. density 1.44 g/cm<sup>3</sup> (20 °C) ■ Flash point >195 °C ■ Solub. in H<sub>2</sub>O 750 mg/l (25 °C) ■ M = 144.38 g/mol  
 ■ Melting point -44 °C ■ Boiling point 85.7 °C (1013 hPa)

■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ LD50 oral rat 250 mg/kg ■ LD50 dermal rabbit 1296 mg/kg  
 ■ EC-Index-No. 608-002-00-9 ■ LGK 6.1A  
 ■ HS-No. 2926 90 95 ■ Disposal 9  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(TRICHLORACETONITRIL), 6.1, I ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID,

N.O.S.(TRICHLOROACETONITRILE), 6.1, I  
 ■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(TRICHLOROACETONITRILE), 6.1, I

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.442 - 1.448  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.08222.0050	Glass bottle	50 ml	inquire
8.08222.0250	Glass bottle	250 ml	inquire

## 808391 Trichloroacetyl chloride for synthesis

C<sub>2</sub>Cl<sub>4</sub>OCCl<sub>3</sub>COCl*Trichloroacetic acid chloride*

■ CAS-No. 76-02-8 ■ EC-No. 200-926-7  
 ■ Refractive index 1.4695 (20 °C, 589 nm)  
 ■ Vapour pressure 23 hPa (20 °C)  
 ■ Spec. density 1.62 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 100 °C ■ Solub. in H<sub>2</sub>O (20 °C) (rigorous decomposition)

■ M = 181.83 g/mol ■ Melting point -57 °C  
 ■ Boiling point 118 °C (decomposition)  
 ■ WGK 2  
 ■ GHS: Danger, Corrosive to metals, Category 1, H290; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 0.475 mg/l  
 ■ LD50 oral rat 600 mg/kg  
 ■ LGK 6.1A  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 2442 Trichloroacetylchlorid, 8, II

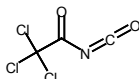
■ IMDG-Code UN 2442 TRICHLOROACETYL CHLORIDE, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2442 TRICHLOROACETYL CHLORIDE, 8, II

**Specification**

Assay (argentometric) ..... ≥ 98.0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 1,616 - 1,621  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08391.0100	Glass bottle	100 ml	inquire
8.08391.0250	Glass bottle	250 ml	inquire

## 808613 Trichloroacetyl isocyanate for synthesis

C<sub>3</sub>Cl<sub>3</sub>NO<sub>2</sub>CCl<sub>3</sub>CONCO

■ CAS-No. 3019-71-4 ■ EC-No. 221-165-7  
 ■ Refractive index 1.4809 (20 °C, 589 nm)  
 ■ Spec. density 1.59 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 65 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 188.39 g/mol

■ Boiling point 40 - 42 °C (20 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Respiratory sensitisation, Category 1, H334; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P262, P302 + P352, P304 + P340, P305 + P351 + P338, P342 + P311  
 ■ LGK 10 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2929 10 00 ■ Disposal 11  
 ■ ADR-RID UN 2206 Isocyanate, giftig, n.a.g.(TRICHLORACETYLISOCYANAT), 6.1, II

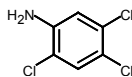
■ IMDG-Code UN 2206 ISOCYANATES, TOXIC, N.O.S.(TRICHLOROACETYLISOCYANATE), 6.1, II  
 ■ IATA-DGR UN 2206 ISOCYANATES, TOXIC, N.O.S.(TRICHLOROACETYLISOCYANATE), 6.1, II

**Specification**

Assay (GC, area%) ..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,585 - 1,595  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08613.0005	Glass bottle	5 ml	inquire

## 821149 2,4,5-Trichloroaniline for synthesis

C<sub>6</sub>H<sub>4</sub>Cl<sub>3</sub>N2,4,5-(Cl)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>NH<sub>2</sub>

■ CAS-No. 636-30-6 ■ EC-No. 211-254-9  
 ■ Flash point 175 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 196.46 g/mol  
 ■ Melting point 93 - 96 °C ■ Bulk density 660 kg/m<sup>3</sup> ■ Boiling point 270 °C (1013 hPa)  
 ■ Ignition temp. >500 °C  
 ■ WGK 3

■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, Oral, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310  
 ■ EC-Index-No. 612-010-00-8 ■ LGK 6.1A  
 ■ HS-No. 2921 42 00 ■ Disposal 9  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(2,4,5-TRICHLORANILIN), 6.1, II  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

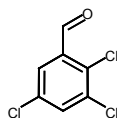
N.O.S.(2,4,5-TRICHLORO ANILINE), 6.1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(2,4,5-TRICHLORO ANILINE), 6.1, II

**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Melting range (lower value) ..... ≥ 93 °C  
 Melting range (upper value) ..... ≤ 96 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21149.0005	Glass bottle	5 g	inquire
8.21149.0250	Glass bottle	250 g	inquire

## 841271 2,3,5-Trichlorobenzaldehyde for synthesis

C<sub>7</sub>H<sub>3</sub>Cl<sub>3</sub>O

■ CAS-No. 56961-75-2

■ M = 209.45 g/mol ■ Melting point 75 - 76 °C  
 ■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2913 00 00 ■ Disposal 3  
 ■ ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(2,3,5-TRICHLOROBENZALDEHYD), 8, II  
 ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(2,3,5-TRICHLOROBENZALDEHYDE), 8, II  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID,

N.O.S.(2,3,5-TRICHLOROBENZALDEHYDE), 8, II

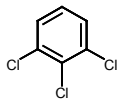
**Specification**

Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Melting range (lower value) ..... ≥ 73 °C  
 Melting range (upper value) ..... ≤ 76 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41271.0001	Glass bottle	1 g	inquire



## 808285 1,2,3-Trichlorobenzene for synthesis



$C_6H_3Cl_3$   
 $C_6H_3-1,2,3-(Cl)_3$   
 ■ CAS-No. 87-61-6 ■ EC-No. 201-757-1  
 ■ Vapour pressure 1.33 hPa (20 °C) ■ Explosive limit 2.5 - 6.6 % (V) ■ Flash point 112 °C ■ Solub. in  $H_2O$  0.02 g/l (25 °C) ■ M = 181.44 g/mol  
 ■ Melting point 51 - 54 °C  
 ■ Bulk density 1690 kg/m<sup>3</sup>

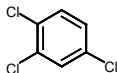
■ Boiling point 220 - 222 °C  
 ■ Ignition temp. 571 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P273  
 ■ LD50 oral rat 1830 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 99 90 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,2,3-TRICHLORBENZOL), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(1,2,3-TRICHLOROBENZENE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,2,3-TRICHLOROBENZENE), 6.1, III

**Specification**  
 Assay (GC, area%)..... ≥ 97,0 Area %  
 Melting range (lower value)..... ≥ 49 °C  
 Melting range (upper value)..... ≤ 53 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08285.0100	Glass bottle	100 g	inquire
8.08285.1000	Glass bottle	1 kg	inquire

## 821152 1,2,4-Trichlorobenzene for synthesis



$C_6H_3Cl_3$   
 $C_6H_3-1,2,4-(Cl)_3$   
 ■ CAS-No. 120-82-1 ■ EC-No. 204-428-0  
 ■ Vapour pressure 1.3 hPa (20 °C)  
 ■ Spec. density 1.45 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.5 - 6.6 % (V) ■ Flash point 99 °C ■ Solub. in  $H_2O$  0.049 g/l (20 °C) ■ M = 181.45 g/mol  
 ■ Melting point 17 °C ■ Boiling point 213.5 °C (1013 hPa) ■ Ignition temp. 571 °C

■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352  
 ■ LD50 oral rat 550 mg/kg ■ LD50 dermal rat 6139 mg/kg  
 ■ EC-Index-No. 602-087-00-6 ■ LGK 6.1C  
 ■ HS-No. 2903 99 90  
 ■ ADR-RID UN 2321 Trichlorbenzene, flüssig, 6.1, III ■ IMDG-Code UN 2321 TRICHLOROBENZENES, LIQUID, 6.1, III, Marine Pollutant: P, Segregation

Group: 10 (Liquid halogenated hydrocarbons)  
 ■ IATA-DGR UN 2321 TRICHLOROBENZENES, LIQUID, 6.1, III

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C / 4 °C)..... 1,453 - 1,456  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21152.0100	Glass bottle	100 ml	inquire
8.21152.1000	Glass bottle	1 l	inquire
8.21152.2500	Glass bottle	2.5 l	inquire

Trichlorobromomethane → Bromotrchloromethane page 517

## 842025 Trichloro(chloromethyl)silane for synthesis



$CH_2Cl_2Si$   
 ■ CAS-No. 1558-25-4 ■ EC-No. 216-316-9  
 ■ Spec. density 1.47 g/cm<sup>3</sup> ■ Flash point 69 °C  
 ■ Solub. in  $H_2O$  (20 °C) not applicable, Hydrolysis  
 ■ M = 183.93 g/mol ■ Boiling point 117 - 118 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Specific target organ toxicity -

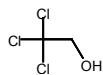
single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 24  
 ■ ADR-RID UN 3389 Beim Einatmen giftiger flüssiger Stoff, ätzend, n.a.g.(TRICHLOR(CHLORMETHYL)SILAN), 6.1 (8), I  
 ■ IMDG-Code UN 3389 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S.(TRICHLORO(CHLOROMETHYL)SILANE), 6.1 (8), I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3389 TOXIC BY INHALATION

LIQUID, CORROSIVE,  
 N.O.S.(TRICHLORO(CHLOROMETHYL)SILANE), 6.1 (8),

**Specification**  
 Assay (GC, area%)..... ≥ 95,5 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.42025.0005	Glass btl.pl.coat.	5 ml	inquire
8.42025.0025	Glass btl.pl.coat.	25 ml	inquire

## 808610 2,2,2-Trichloroethanol for synthesis



$C_2H_2Cl_3O$   
 $CCl_3CH_2OH$   
*β,β,β-Trichloroethyl alcohol*  
 ■ CAS-No. 115-20-8 ■ EC-No. 204-071-0  
 ■ Refractive index 1.4885 (20 °C, 589 nm)  
 ■ Vapour pressure 1.3 hPa (20 °C)  
 ■ Spec. density 1.56 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >110 °C ■ Solub. in  $H_2O$  83 g/l

(20 °C) ■ M = 149.4 g/mol ■ pH value 5 - 6 ( $H_2O$ , 20 °C) (saturated solution)  
 ■ Melting point 17 - 18 °C  
 ■ Boiling point 151 - 153 °C (1013 hPa)  
 ■ Ignition temp. 151 °C  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Specific target organ toxicity - single exposure, Category 3, H336, P280, P305 + P351 + P338, P313  
 ■ LD50 oral rat 600 mg/kg

■ LGK 10 - 13  
 ■ HS-No. 2905 59 98 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good

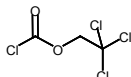
**Specification**  
 Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C / 4 °C)..... 1,551 - 1,561  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08610.0100	Glass bottle	100 ml	inquire

1,1,2-Trichloroethene → page 309

*β,β,β-Trichloroethyl alcohol* → 2,2,2-Trichloroethanol page 1578

## 842265 2,2,2-Trichloroethyl chloroformate for synthesis



$C_3H_2Cl_4O_2$   
 ■ CAS-No. 17341-93-4 ■ EC-No. 241-363-7  
 ■ Spec. density 1.57 g/cm<sup>3</sup> (20 °C)  
 ■ M = 211.86 g/mol ■ Boiling point 171 - 172 °C (1013 hPa)  
 ■ WGK 3

■ GHS: Danger, Skin corrosion, Category 1B, H314; Acute toxicity, Category 3, Inhalation, H331, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 6.1A ■ Store at +2°C to +8°C.  
 ■ HS-No. 2915 90 70 ■ Disposal 3  
 ■ ADR-RID UN 3277 Chlorformiate, giftig, ätzend, n.a.g.(2,2,2-TRICHLORETHYLCHLORFORMIAT), 6.1 (8), II ■ IMDG-Code UN 3277 CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.(2,2,2-TRICHLOROETHYL

CHLOROFORMATE), 6.1 (8), II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3277 CHLOROFORMATES, TOXIC, CORROSIVE, N.O.S.(2,2,2-TRICHLOROETHYL CHLOROFORMATE), 6.1 (8), II

Ord.No.	Packaging	Quantity	Price
8.42265.0050	Glass bottle	50 ml	inquire
8.42265.0250	Glass bottle	250 ml	inquire

## Trichloroethylene



C<sub>2</sub>HCl<sub>3</sub>  
Cl<sub>2</sub>CCHCl  
*Ethylene trichloride, 1,1,2-Trichloroethene*  
■ CAS-No. 79-01-6 ■ EC-No. 201-167-4  
■ Vapour pressure 77 hPa (20 °C)  
■ Spec. density 1.46 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 3.4 (16 °C) ■ El. dipole moment 0.8 (20 °C) ■ Explosive limit >7.9 - 99 % (V) (Saturation - at high volume

fractions, explosion turns into a decomposition reaction) ■ Solub. in H<sub>2</sub>O 1.28 g/l (25 °C)  
■ M = 131.39 g/mol ■ Saturation conc. 415 g/m<sup>3</sup> (20 °C) Air ■ Melting point -86 °C  
■ Ignition temp. 410 °C  
■ WGK 3  
■ GHS: Danger, Carcinogenicity, Category 1B, H350; Germ cell mutagenicity, Category 2, H341; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Specific target organ toxicity - single exposure, Category 3, H336; Chronic aquatic toxicity, Category 3, H412, P201, P273, P308 + P313, P305 + P351 + P338, P302 + P352

■ LC50 rat 43.84 mg/l  
■ LD50 oral rat 4920 mg/kg ■ LD50 dermal rabbit > 29000 mg/kg  
■ EC-Index-No. 602-027-00-9 ■ LGK 6.1B  
■ HS-No. 2903 22 00  
■ ADR-RID UN 1710 Trichloroethylen, 6.1, III  
■ IMDG-Code UN 1710 TRICHLOROETHYLENE, 6.1, III, Segregation Group: 10 (Liquid halogenated hydrocarbons)  
■ IATA-DGR UN 1710 TRICHLOROETHYLENE, 6.1, III

## 100958 Trichloroethylene EEMPLURA®

## Specification

Purity (GC)..... ≥ 99.5 %  
Identity (IR)..... conforms  
Free alkali (as NH<sub>3</sub>)..... ≤ 0.001 %  
Chloride (Cl)..... ≤ 0.0001 %  
Evaporation residue..... ≤ 0.001 %

Water..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.00958.1000	Glass bottle	1 l	inquire
1.00958.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.00958.6025	Drum stainl. st.	25 l	inquire
1.00958.9190	Steel barrel	190 l	inquire

## 111872 Trichloroethylene for analysis EMSURE® ACS, Reag. Ph Eur

## Specification

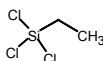
Purity (GC)..... ≥ 99.5 %  
Identity (IR)..... conforms  
Colour..... ≤ 10 Hazen  
Acidity..... ≤ 0.0001 meq/g  
Alkalinity..... ≤ 0.0003 meq/g  
Density (d 20 °C/20 °C)..... 1.458 - 1.468  
Refractive index (n 20/D)..... 1.476 - 1.478  
Free chlorine (as Cl)..... ≤ 0.00003 %  
Heavy metals (as Pb)..... ≤ 0.0001 %  
Al (Aluminium)..... ≤ 0.00005 %  
B (Boron)..... ≤ 0.000002 %

Ba (Barium)..... ≤ 0.00001 %  
Ca (Calcium)..... ≤ 0.00005 %  
Cd (Cadmium)..... ≤ 0.000005 %  
Co (Cobalt)..... ≤ 0.000002 %  
Cr (Chromium)..... ≤ 0.000002 %  
Cu (Copper)..... ≤ 0.000002 %  
Fe (Iron)..... ≤ 0.00001 %  
Mg (Magnesium)..... ≤ 0.00001 %  
Mn (Manganese)..... ≤ 0.000002 %  
Ni (Nickel)..... ≤ 0.000002 %  
Pb (Lead)..... ≤ 0.00001 %

Sn (Tin)..... ≤ 0.00001 %  
Zn (Zinc)..... ≤ 0.00001 %  
Evaporation residue..... ≤ 0.001 %  
Water..... ≤ 0.01 %  
Corresponds to ACS, Ph Eur-reagent

Ord.No.	Packaging	Quantity	Price
1.11872.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.11872.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire

## 821667 Trichloroethylsilane for synthesis



C<sub>2</sub>H<sub>5</sub>Cl<sub>3</sub>Si  
C<sub>2</sub>H<sub>5</sub>SiCl<sub>3</sub>  
*Ethyltrichlorosilane*  
■ CAS-No. 115-21-9 ■ EC-No. 204-072-6  
■ Refractive index 1.4257 (20 °C, 589 nm)  
■ Vapour pressure 36 hPa (20 °C)  
■ Spec. density 1.24 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.68 % (V) ■ Flash point 14 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 163.5 g/mol

■ Melting point -105 °C ■ Boiling point 98 °C (1013 hPa) ■ Ignition temp. 385 °C  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314; Acute toxicity, Category 4, Oral, H302, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 1330 mg/kg  
■ LGK 3  
■ HS-No. 2931 90 90 ■ Disposal 24  
■ ADR-RID UN 1196 Ethyltrichlorosilan, 3 (8), II

■ IMDG-Code UN 1196 ETHYLTRICHLOROSILANE, 3 (8), II  
■ IATA-DGR UN 1196 ETHYLTRICHLOROSILANE, 3 (8), II

## Specification

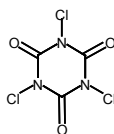
Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Density (d 20 °C/4 °C)..... 1.239 - 1.241  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21667.0025	Glass bottle	25 ml	inquire

1,3,5-Trichlorohexahydro-1,3,5-triazine-2,4,6-trione → Trichloroisocyanuric acid page 1579

Trichlorohydrin → 1,2,3-Trichloropropane page 1581

## 808607 Trichloroisocyanuric acid for synthesis



C<sub>3</sub>Cl<sub>3</sub>N<sub>3</sub>O<sub>3</sub>  
*1,3,5-Trichlorohexahydro-1,3,5-triazine-2,4,6-trione, 1,3,5-Trichloro-1,3,5-triazine-2,4,6-trione, TCCA, Bleaching solution*  
■ CAS-No. 87-90-1 ■ EC-No. 201-782-8  
■ Spec. density 2.07 g/cm<sup>3</sup> ■ Flash point >250 °C  
■ Solub. in H<sub>2</sub>O 12 g/l (20 °C) ■ M = 232.41 g/mol  
■ pH value 2.0 - 2.7 (10 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point 225 - 230 °C (decomposition)  
■ Bulk density 850 kg/m<sup>3</sup>  
■ WGK 2  
■ GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P305 + P351 + P338  
■ LD50 oral rat 406 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg  
■ EC-Index-No. 613-031-00-5 ■ LGK 5.1B  
■ HS-No. 2933 69 80 ■ Disposal 22  
■ ADR-RID UN 2468 Trichlorisocyanursäure,

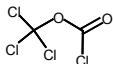
trocken, 5.1, II ■ IMDG-Code UN 2468 TRICHLOROISOCYANURIC ACID, DRY, 5.1, II, Marine Pollutant: P  
■ IATA-DGR UN 2468 TRICHLOROISOCYANURIC ACID, DRY, 5.1, II

## Specification

Assay (iodometric)..... ≥ 98.0 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08607.0005	Glass bottle	5 g	inquire
8.08607.0250	Plastic bottle	250 g	inquire
8.08607.1000	Plastic bottle	1 kg	inquire
8.08607.9050	Plastic drum	50 kg	inquire

## 818154 Trichloromethyl chloroformate for synthesis



C<sub>2</sub>Cl<sub>4</sub>O<sub>2</sub>  
ClC(=O)OCCl<sub>3</sub>  
*Diphosgene, Chloroformic acid trichloromethyl ester*  
■ CAS-No. 503-38-8 ■ EC-No. 207-965-9  
■ Refractive index 1.4566 (22 °C, 589 nm)  
■ Vapour pressure 13 hPa (20 °C)  
■ Spec. density 1.63 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 197.83 g/mol

■ Melting point -57 °C ■ Boiling point 128 °C  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
■ LGK 6.1B  
■ HS-No. 2915 90 70 ■ Disposal 11  
■ ADR-RID UN 3389 Beim Einatmen giftiger flüssiger Stoff, ätzend, n.a.g.(TRICHLORMETHYL-CHLORFORMIAT), 6.1 (8), I ■ IMDG-Code UN 3389 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S.(TRICHLOROMETHYL CHLOROFORMIATE), 6.1

(8), I, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3389 TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S.(TRICHLOROMETHYL CHLOROFORMIATE), 6.1 (8),  
**Specification**  
Assay (argentometric)..... ≥ 98.0 %  
Density (d 20 °C/ 4 °C)..... 1.635 - 1.642  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18154.0025	Glass btl. pl.coat.	25 ml	inquire
8.18154.0100	Glass bottle	100 ml	inquire

Trichloromethylnitrile → Trichloroacetonitrile page 1577

## 808255 Trichloromethylsilane for synthesis



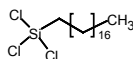
CH<sub>3</sub>Cl<sub>3</sub>Si  
CH<sub>3</sub>SiCl<sub>3</sub>  
*Methyltrichlorosilane*  
■ CAS-No. 75-79-6 ■ EC-No. 200-902-6  
■ Refractive index 1.411 (20 °C, 589 nm) ■ Vapour pressure 189 hPa (20 °C) ■ Spec. density 1.27 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.5 - 10.4 % (V)  
■ Flash point -1 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 149.47 g/mol  
■ pH value (H<sub>2</sub>O) acidic, Hydrolysis

■ Melting point -90 °C ■ Boiling point 66 °C  
■ Ignition temp. >500 °C  
■ WGK 1  
■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P202 + P352, P304 + P340, P305 + P351 + P338  
■ LC50 rat 2.8 mg/l  
■ LD50 oral rat 800 mg/kg ■ LD50 dermal rabbit 1067 mg/kg  
■ EC-Index-No. 014-004-00-5 ■ LGK 3  
■ HS-No. 2931 90 90 ■ Disposal 24  
■ ADR-RID UN 1250 Methyltrichlorsilan, 3 (8), II

■ IMDG-Code UN 1250 METHYLTRICHLOROSILANE, 3 (8), II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1250 METHYLTRICHLOROSILANE, 3 (8), II  
**Specification**  
Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.271 - 1.274  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.08255.0250	Glass bottle	250 ml	inquire
8.08255.1000	Glass bottle	1 l	inquire

## 822170 Trichlorooctadecylsilane for synthesis



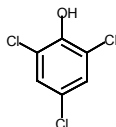
C<sub>18</sub>H<sub>37</sub>Cl<sub>3</sub>Si  
■ CAS-No. 112-04-9 ■ EC-No. 203-930-7  
■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)  
■ Flash point 89 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 387.94 g/mol  
■ pH value (H<sub>2</sub>O, 20 °C) not applicable  
■ Boiling point 223 °C (13 hPa)

■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8A  
■ HS-No. 2931 90 90 ■ Disposal 24  
■ ADR-RID UN 1800 Octadecyltrichlorsilan, 8, II  
■ IMDG-Code UN 1800 OCTADECYLTRICHLOROSILANE, 8, II, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 1800

OCTADECYLTRICHLOROSILANE, 8, II  
**Specification**  
Assay (argentometric)..... ≥ 96.0 %  
Density (d 20 °C/ 4 °C)..... 0,978 - 0,985  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22170.0100	Glass bottle	100 ml	inquire

## 818469 2,4,6-Trichlorophenol for synthesis



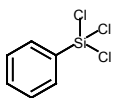
C<sub>6</sub>H<sub>2</sub>Cl<sub>3</sub>O  
■ CAS-No. 88-06-2 ■ EC-No. 201-795-9  
■ Vapour pressure 0.035 hPa (20 °C)  
■ Spec. density 1.675 g/cm<sup>3</sup> (25 °C)  
■ Flash point 99 °C ■ Solub. in H<sub>2</sub>O 0.43 g/l (20 °C) ■ M = 197.44 g/mol  
■ Melting point 65 - 68 °C

■ Boiling point 244 - 246 °C (1013 hPa)  
■ WGK 3  
■ GHS: Warning, Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Carcinogenicity, Category 2, H351; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 887 mg/kg ■ LD50 dermal rat 400 - 2000 mg/kg  
■ EC-Index-No. 604-018-00-5 ■ LGK 6.1C  
■ HS-No. 2908 19 00

■ ADR-RID UN 2020 Chlorphenole, fest, 6.1, III  
■ IMDG-Code UN 2020 CHLOROPHENOLS, SOLID, 6.1, III  
■ IATA-DGR UN 2020 CHLOROPHENOLS, SOLID, 6.1, III  
**Specification**  
Assay (GC, area%)..... ≥ 97.0 % (a/a)  
Melting range (lower value)..... ≥ 65 °C  
Melting range (upper value)..... ≤ 68 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18469.0100	Glass bottle	100 g	inquire
8.18469.1000	Glass bottle	1 kg	inquire

## 807328 Trichlorophenylsilane for synthesis



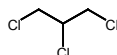
C<sub>6</sub>H<sub>4</sub>Cl<sub>3</sub>Si  
*Phenyltrichlorosilane*  
■ CAS-No. 98-13-5 ■ EC-No. 202-640-8  
■ Refractive index 1.524 (20 °C, 589 nm) ■ Vapour pressure 0.5 hPa (20 °C) ■ Spec. density 1.32 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.6 - 9.2 % (V)  
■ Flash point 86 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 211.55 g/mol

■ Melting point -40 °C ■ Boiling point 201 °C (1013 hPa) ■ Ignition temp. >400 °C  
■ WGK 1  
■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LD50 oral rat 2390 mg/kg ■ LD50 dermal rabbit 1175 mg/kg  
■ LGK 8A  
■ HS-No. 2931 90 90 ■ Disposal 24  
■ ADR-RID UN 1804 Phenyltrichlorsilan, 8, II  
■ IMDG-Code UN 1804 PHENYLTRICHLOROSILANE, 8, II, Segregation

Group: 1 (Acids)  
■ IATA-DGR UN 1804 PHENYLTRICHLOROSILANE, 8, II  
**Specification**  
Assay (GC, area%)..... ≥ 97,0 Area %  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.07328.0025	Glass bottle	25 ml	inquire
8.07328.0250	Glass bottle	250 ml	inquire

## 821159 1,2,3-Trichloropropane for synthesis

C<sub>3</sub>H<sub>5</sub>Cl<sub>3</sub>

Trichlorohydrin, Glycerol trichlorohydrin

- CAS-No. 96-18-4 ■ EC-No. 202-486-1
- Refractive index 1.4822 (20 °C, 589 nm)
- Vapour pressure 4.9 hPa (25 °C)
- Spec. density 1.38 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.2 - 12.6 % (V) ■ Flash point 74 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (20 °C) ■ M = 147.43 g/mol
- pH value 7 (H<sub>2</sub>O, 20 °C) Water ■ Melting point -14.7 °C ■ Boiling point 156 - 158 °C (1013 hPa)
- Ignition temp. 304 °C

- WGK 3
- GHS: Danger, Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 1B, H360F; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P201, P308 + P313, P302 + P352
- LC50 rat 6.1 mg/l
- LD50 oral rat 440 mg/kg ■ LD50 dermal rabbit 840 mg/kg
- EC-Index-No. 602-062-00-X ■ LGK 6.1A
- HS-No. 2903 19 80 ■ Disposal 9
- ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1,2,3-TRICHLORPROPAN), 6.1, III

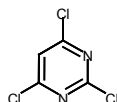
- IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,2,3-TRICHLORPROPANE), 6.1, III
- IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1,2,3-TRICHLORPROPANE), 6.1, III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.385 - 1.390  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21159.1000	Glass bottle	1 l	inquire

## 816121 2,4,6-Trichloropyrimidine for synthesis

C<sub>4</sub>HCl<sub>3</sub>N<sub>2</sub>

- CAS-No. 3764-01-0 ■ EC-No. 223-183-0
- Spec. density 1.60 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ M = 183.43 g/mol

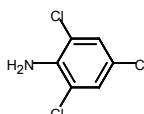
- Melting point 23 - 25 °C
- Boiling point 210 - 215 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2933 59 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1.592 - 1.598  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16121.0010	Glass bottle	10 ml	inquire

## 821151 2,4,6-Trichlororaniline for synthesis

C<sub>6</sub>H<sub>4</sub>Cl<sub>3</sub>N

- CAS-No. 634-93-5 ■ EC-No. 211-219-8
- Solub. in H<sub>2</sub>O 0.039 g/l (20 °C) slightly soluble
- M = 196.46 g/mol ■ Melting point 75 - 79 °C
- Boiling point 262 °C (1013 hPa)
- WGK 3
- GHS: Danger, Acute toxicity, Category 3,

- Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 2400 mg/kg
- EC-Index-No. 612-010-00-8 ■ LGK 6.1A
- HS-No. 2921 42 00 ■ Disposal 9
- ADR-RID UN 2018 Chloraniline, fest(2,4,6-TRICHLORANILIN), 6.1, II ■ IMDG-Code UN 2018 CHLOROANILINES, SOLID(2,4,6-

TRICHLORORANILINE), 6.1, II

- IATA-DGR UN 2018 CHLOROANILINES, SOLID(2,4,6-TRICHLORORANILINE), 6.1, II

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 77 °C  
 Melting range (upper value) ..... ≤ 81 °C  
 Identity (IR) ..... passes test

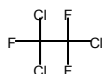
Ord.No.	Packaging	Quantity	Price
8.21151.0005	Glass bottle	5 g	inquire
8.21151.0250	Glass bottle	250 g	inquire

4-(Trichlorosilyl)-butyronitrile → 3-Cyanopropyl-trichlorosilane page 665

2,4,6-Trichloro-1,3,5-triazine → Cyanuric chloride page 666

1,3,5-Trichloro-1,3,5-triazine-2,4,6-trione → Trichloroisocyanuric acid page 1579

## 108440 1,1,2-Trichlorotrifluoroethane for analysis EMSURE® Reag. Ph Eur

C<sub>2</sub>Cl<sub>3</sub>F<sub>3</sub>ClCFC<sub>2</sub>Cl<sub>2</sub>F

1,1,2-Trifluoro-trichloroethane

- CAS-No. 76-13-1 ■ EC-No. 200-936-1
- Vapour pressure 360 hPa (20 °C)
- Spec. density 1.58 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.4 (20 °C) ■ Flash point 195 °C ■ Solub. in H<sub>2</sub>O 0.17 g/l (20 °C) ■ M = 187.37 g/mol
- pH value (H<sub>2</sub>O, 20 °C) neutral
- Saturation conc. 2754 g/m<sup>3</sup> (20 °C) Air
- Melting point -35 °C ■ Boiling point 47.6 °C (1013 hPa) ■ Ignition temp. 680 °C
- WGK 2
- GHS: Warning, Chronic aquatic toxicity, Category 2, H411; Hazardous to the ozone layer, Category 1, H420, P273
- LC50 rat 299.33 mg/l
- LD50 oral rat 43000 mg/kg
- LGK 10 - 13
- HS-No. 2903 77 30 ■ Disposal 3

- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1,1,2-TRICHLORTRIFLUORETHAN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,1,2-TRICHLOROTRIFLUOROETHANE), 9, III, Marine Pollutant: P
- IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,1,2-TRICHLOROTRIFLUOROETHANE), 9, III

## Specification

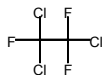
Purity (GC) ..... ≥ 99.8 %  
 Identity (IR) ..... conforms  
 Colour ..... ≤ 10 Hazen  
 Free acid (as HCl) ..... ≤ 0.0005 %  
 Density (d 20 °C/20 °C) ..... 1.577 - 1.579  
 Boiling range (47-48°C) ..... ≥ 98 % (v/v)  
 Chloroform (GC) ..... ≤ 0.01 %  
 Dichloromethane (GC) ..... ≤ 0.01 %  
 Carbon tetrachloride (GC) ..... ≤ 0.01 %  
 Hydrocarbons (related to squalane/squalene (3050-2900 cm<sup>-1</sup>)) ..... ≤ 5 ppm  
 Matter discoloured by H<sub>2</sub>SO<sub>4</sub> ..... ≤ 10 Hazen  
 Iodine reducing matter (as HCHO) ..... ≤ 0.0002 %  
 Al (Aluminium) ..... ≤ 0.00005 %

B (Boron) ..... ≤ 0.000002 %  
 Ba (Barium) ..... ≤ 0.00001 %  
 Ca (Calcium) ..... ≤ 0.00005 %  
 Cd (Cadmium) ..... ≤ 0.000005 %  
 Co (Cobalt) ..... ≤ 0.000002 %  
 Cr (Chromium) ..... ≤ 0.000002 %  
 Cu (Copper) ..... ≤ 0.000002 %  
 Fe (Iron) ..... ≤ 0.00001 %  
 Mg (Magnesium) ..... ≤ 0.00001 %  
 Mn (Manganese) ..... ≤ 0.000002 %  
 Ni (Nickel) ..... ≤ 0.000002 %  
 Pb (Lead) ..... ≤ 0.00001 %  
 Sn (Tin) ..... ≤ 0.00001 %  
 Zn (Zinc) ..... ≤ 0.00001 %  
 Evaporation residue ..... ≤ 5 ppm  
 Water ..... ≤ 0.005 %  
 Ph Eur-reagent

Ord.No.	Packaging	Quantity	Price
1.08440.1000	Glass bottle	1 l	inquire
1.08440.2500	Glass bottle	2.5 l	inquire



## 108239 1,1,2-Trichlorotrifluoroethane for IR spectroscopy Uvasol®



$C_2Cl_3F_3$   
 $ClCF_2CCl_2F$   
 1,1,2-Trifluorotrchloroethane  
 ■ CAS-No. 76-13-1 ■ EC-No. 200-936-1  
 ■ Vapour pressure 360 hPa (20 °C)  
 ■ Spec. density 1.58 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.4 (20 °C) ■ Flash point 195 °C ■ Solub. in H<sub>2</sub>O 0.17 g/l (20 °C) ■ M = 187.37 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) neutral  
 ■ Saturation conc. 2754 g/m<sup>3</sup> (20 °C) Air  
 ■ Melting point -35 °C ■ Boiling point 47.6 °C

(1013 hPa) ■ Ignition temp. 680 °C  
 ■ WGK 2  
 ■ GHS: Warning, Chronic aquatic toxicity, Category 2, H411; Hazardous to the ozone layer, Category 1, H420, P273  
 ■ LC50 rat 299.33 mg/l  
 ■ LD50 oral rat 43000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2903 77 30 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1,1,2-TRICHLORTRIFLUORETHAN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,1,2-TRICHLOROTRIFLUOROETHANE), 9, III, Marine Pollutant: P

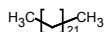
■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,1,2-TRICHLOROTRIFLUOROETHANE), 9, III  
**Specification**  
 Purity (GC)..... ≥ 99.9 %  
 Evaporation residue..... ≤ 5.0 mg/l  
 Water..... ≤ 0.005 %  
 Colour..... ≤ 10 Hazen  
 Hydrocarbons (related to squalane/squalene (3050-2900 cm<sup>-1</sup>))..... ≤ 2 ppm

Ord.No.	Packaging	Quantity	Price
1.08239.2500	Glass bottle	2.5 l	inquire

Tricine → N-[Tris(hydroxymethyl)methyl]glycine  
 page 1616

Triclosan → 5-Chloro-2-(2,4-dichlorophenoxy)  
 phenol page 606

## 841364 n-Tricosane for synthesis



$C_{23}H_{48}$   
 ■ CAS-No. 638-67-5 ■ EC-No. 211-347-4  
 ■ Spec. density 0.778 g/cm<sup>3</sup> (48 °C)  
 ■ Flash point 113 °C ■ M = 324.63 g/mol  
 ■ Melting point 48 - 49 °C

■ Boiling point 199 - 200 °C (4 hPa)  
 ■ Ignition temp. 524 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2901 10 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 47 °C

Melting range (upper value)..... ≤ 49 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41364.0005	Glass bottle	5 g	inquire

Tricyclo[3.3.1.1.3,7]decane → Adamantane page 354

Tricyclophane → [2,2,2]-Paracyclophane page 1260

1,1,1,2,2,3,3,4,4,4,5,5,6,6-Tridecafluoro-6-iodohexane → Perfluorohexyl iodide page 1277

## n-Tridecane



$C_{13}H_{28}$   
 $CH_3(CH_2)_{11}CH_3$   
 ■ CAS-No. 629-50-5 ■ EC-No. 211-093-4  
 ■ Vapour pressure < 0.5 hPa (20 °C)

■ Spec. density 0.757 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.6 - 6.5 % (V) ■ Flash point 79 °C  
 ■ Kin. viscosity 4.28 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (25 °C) practically insoluble ■ M = 184.36 g/mol  
 ■ Melting point -5 °C ■ Boiling point 235 °C (1013 hPa) ■ Ignition temp. >204 °C  
 ■ WGK 1

■ GHS: Danger, Aspiration hazard, Category 1, H304, P301 + P310, P331  
 ■ LD50 oral rat > 5000 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2901 10 00 ■ Disposal 3

## 814631 n-Tridecane for synthesis

**Specification**  
 Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/4 °C)..... 0,756 - 0,759

Identity (IR)..... passes test

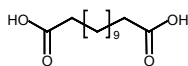
Ord.No.	Packaging	Quantity	Price
8.14631.0025	Glass bottle	25 ml	inquire

## 109609 n-Tridecane reference substance for gas chromatography

**Specification**  
 Assay (GC)..... ≥ 99.5 %  
 Identity (IR-spectrum)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09609.0005	Glass bottle	5 ml	inquire

## 814475 Tridecanedioic acid for synthesis



$C_{13}H_{24}O_4$   
 $HOOC(CH_2)_{11}COOH$   
*Brassylic acid, Undecane-1,11-dicarboxylic acid*  
 ■ CAS-No. 505-52-2 ■ EC-No. 208-011-4  
 ■ Refractive index 1.15 (18 °C, 589 nm) ■ Vapour

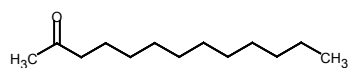
pressure 27.9 hPa (222 °C) ■ Spec. density 1.15 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ M = 244.33 g/mol ■ Melting point 108 - 113 °C  
 ■ Boiling point 250 °C (63.9 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 dermal rabbit > 6000 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2917 19 90 ■ Disposal 3  
**Specification**  
 Assay (GC, area%)..... ≥ 96.0 Area %  
 Melting range (lower value)..... ≥ 108 °C  
 Melting range (upper value)..... ≤ 113 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14475.0050	Plastic bottle	50 g	inquire

Tridecanoic acid ethyl ester → Ethyl tridecanoate page 886

## 808633 2-Tridecanone for synthesis



$C_{13}H_{26}O$   
 $CH_3-C(O)-(CH_2)_{10}-CH_3$   
 ■ CAS-No. 593-08-8 ■ EC-No. 209-784-0

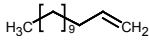
■ Spec. density 0.82 g/cm<sup>3</sup> ■ Flash point 122 °C  
 ■ M = 198.35 g/mol ■ Melting point 29 - 31 °C  
 ■ Boiling point 263 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 19 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 98.0 Area %  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08633.0050	Plastic bottle	50 g	inquire
8.08633.0250	Plastic bottle	250 g	inquire



## 841449 1-Tridecene for synthesis

C<sub>13</sub>H<sub>26</sub>

- CAS-No. 2437-56-1 ■ EC-No. 219-443-8
- Vapour pressure 11 hPa (100 °C)
- Spec. density 0.766 g/cm<sup>3</sup> (20 °C)
- Flash point 79 °C ■ M = 182.34 g/mol

- Melting point -13 °C
- Boiling point 232 - 233 °C
- WGK 1
- GHS: Danger, Aspiration hazard, Category 1, H304; Skin irritation, Category 2, H315, P262, P301 + P310, P302 + P352, P331
- LGK 10 - 13
- HS-No. 2901 29 00 ■ Disposal 3

## Specification

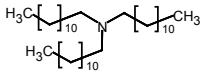
Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.764 - 0.770  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41449.0010	Glass bottle	10 ml	inquire

Trideuteroacetonitrile → page 294

Trideuteronitromethane → Nitromethane-D3 page 295

## 821160 Tridodecylamine for synthesis

C<sub>36</sub>H<sub>75</sub>N(C<sub>12</sub>H<sub>25</sub>)<sub>3</sub>N

Trilaurylamine

- CAS-No. 102-87-4 ■ EC-No. 203-063-4
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 190 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 522.01 g/mol
- Melting point 16 °C ■ Boiling point 450 °C

- Ignition temp. 245 °C
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 5600 mg/kg
- LGK 10 - 13
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(TRIDODECYLAMIN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS

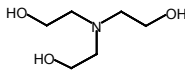
SUBSTANCE, LIQUID, N.O.S.(TRIDODECYLAMINE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(TRIDODECYLAMINE), 9, III

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 95.0 % (m)  
 Density (d 20 °C/ 4 °C) ..... 0,823 - 0,825  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21160.0250	Glass bottle	250 ml	inquire

## Triethanolamine

C<sub>6</sub>H<sub>15</sub>NO<sub>3</sub>N(CH<sub>2</sub>CH<sub>2</sub>OH)<sub>3</sub>

Tris(2-hydroxyethyl)amine, 2,2',2''-

Trihydroxytriethylamine, TEA

- CAS-No. 102-71-6 ■ EC-No. 203-049-8
- Refractive index 1.4852 (20 °C, 589 nm)

- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 1.12 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 3.6 - 7.2 % (V) ■ Flash point 190 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 149.19 g/mol
- pH value 10.5 (15 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 21 °C ■ Boiling point 360 °C (1013 hPa) (decomposition)
- Ignition temp. 325 °C DIN 51794
- WGK 1
- LD50 oral rat > 5000 mg/kg

- LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13 ■ Store at +15°C to +25°C.
- HS-No. 2922 13 10 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good
- pK<sub>α</sub> = 7.76 (25°C) ΔpH/Δt: -0.020 pH units per °C. Easily soluble in water, ethanol, glycerol, chloroform, acetone; hardly soluble in ether and benzene.

## 822341 Triethanolamine EMPLURA®

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,122 - 1,125  
 Water (K. F.)..... ≤ 0,30 %

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22341.5000	Plastic container	5 l	inquire
	Plastic container	4 x 5 l	inquire
8.22341.9026	Plastic container	25 l	inquire

## 108379 Triethanolamine GR for analysis

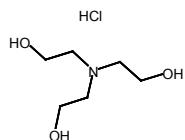
## Specification

Purity (GC)..... ≥ 99%  
 Identity (IR-spectrum)..... conforms  
 Appearance..... colorless to slightly yellow viscose liquid  
 Chloride (Cl)..... ≤ 0.0001 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.002 %

Heavy metals (as Pb)..... ≤ 0.0001 %  
 Fe (Iron)..... ≤ 0.0001 %  
 Ethanolamine (GC)..... ≤ 0.1 %  
 Diethanolamine (GC)..... ≤ 0.5 %  
 Sulfated ash (600 °C)..... ≤ 0.005 %  
 Water (according to Karl Fischer)..... ≤ 0.2 %

Ord.No.	Packaging	Quantity	Price
1.08379.0250	Glass bottle	250 ml	inquire
1.08379.1000	Glass bottle	1 l	inquire

## 108357 Triethanolamine hydrochloride GR for analysis

C<sub>6</sub>H<sub>16</sub>ClNO<sub>3</sub>C<sub>6</sub>H<sub>15</sub>NO<sub>3</sub>·HCl

2,2',2''-Nitriltriethanol hydrochloride

- CAS-No. 637-39-8 ■ EC-No. 211-284-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 185.65 g/

mol ■ pH value 4.0 - 5.5 (50 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 176 - 178 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2922 13 90 ■ Disposal 3
- Buffer substance, pK<sub>α</sub> = 7.76 (25°C) ΔpH/Δt: -0.020 pH units per °C. Easily soluble in water, hardly soluble in ethanol.

Melting range..... 176 - 180 °C

Cu (Copper)..... ≤ 0.0005 %  
 Fe (Iron)..... ≤ 0.0005 %  
 Pb (Lead)..... ≤ 0.0005 %  
 Zn (Zinc)..... ≤ 0.0005 %  
 Sulfated ash..... ≤ 0.01 %

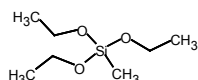
## Specification

Assay (perchloric acid titration)..... ≥ 99 %  
 Identity (IR-spectrum)..... passes test  
 pH-value (5 %; water)..... 4.0 - 5.5

Ord.No.	Packaging	Quantity	Price
1.08357.0100	Glass bottle	100 g	inquire
1.08357.1000	Glass bottle	1 kg	inquire

1,1,1-Triethoxyethane → Triethyl orthoacetate page 1587

## 818819 Triethoxymethylsilane for synthesis



$C_7H_{18}O_3Si$   
 $(C_2H_5O)_3SiCH_3$   
 Methyltriethoxysilane, MTES  
 ■ CAS-No. 2031-67-6 ■ EC-No. 217-983-9  
 ■ Refractive index 1.3868 (20 °C, 589 nm)  
 ■ Vapour pressure 13.3 hPa (20 °C)  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C)

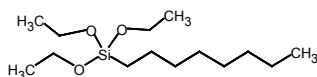
■ Flash point 33 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 178.30 g/mol  
 ■ Melting point < -40 °C ■ Boiling point 142 °C (1013 hPa) ■ Ignition temp. 220 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226, P210, P260  
 ■ LD50 oral rat 15700 mg/kg  
 ■ LGK 3 ■ Store below +15 °C.  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TRIETHOXYMETHYLSILAN), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIETHOXY METHYLSILANE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIETHOXY METHYLSILANE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,894 - 0,896  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18819.0250	Glass bottle	250 ml	inquire

## 814414 Triethoxyoctylsilane for synthesis



$C_{14}H_{32}O_3Si$   
*n-Octyltriethoxysilane*  
 ■ CAS-No. 2943-75-1 ■ EC-No. 220-941-2  
 ■ Refractive index 1.415 (25 °C, 589 nm) ■ Vapour pressure 0.1 hPa (20 °C) ■ Spec. density 0.87 g/

cm<sup>3</sup> (20 °C) ■ Flash point 109 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 276.49 g/mol  
 ■ Boiling point 98 - 99 °C (2.7 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Skin irritation, Category 2, H315, P302 + P352  
 ■ LD50 oral rat 5110 mg/kg ■ LD50 dermal rabbit 5142 mg/kg  
 ■ LGK 10 - 13

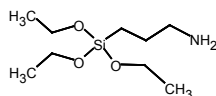
■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,877 - 0,879  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14414.0100	Glass bottle	100 ml	inquire

1,1,1-Triethoxypropane → Triethyl orthopropionate page 1587

## 821619 3-(Triethoxysilyl)propylamine for synthesis



$C_9H_{23}NO_3Si$   
 ■ CAS-No. 919-30-2 ■ EC-No. 213-048-4  
 ■ Spec. density 0.95 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 4.5 % (V) ■ Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 221.37 g/mol  
 ■ pH value 11 (20 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point < -70 °C ■ Boiling point 217 °C (1013 hPa) ■ Ignition temp. 300 °C  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral,

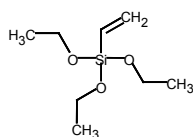
H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1780 mg/kg ■ LD50 dermal rabbit 3800 mg/kg  
 ■ EC-Index-No. 612-108-00-0 ■ LGK 8A  
 ■ HS-No. 2931 90 90  
 ■ ADR-RID UN 3267 Ätzender basischer organischer flüssiger Stoff, n.a.g.(3-(TRIETHOXSILYL)-PROPYLAMIN), 8, II ■ IMDG-Code UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(3-(TRIETHOXSILYL)-PROPYLAMINE), 8, II, Segregation Group: 18 (Alkalis)  
 ■ IATA-DGR UN 3267 CORROSIVE LIQUID, BASIC,

ORGANIC, N.O.S.(3-(TRIETHOXSILYL)-PROPYLAMINE), 8, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0,947 - 0,950  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21619.0050	Glass bottle	50 ml	inquire
8.21619.0100	Glass bottle	100 ml	inquire
	Glass bottle	6 x 100 ml	inquire
8.21619.0500	Glass bottle	500 ml	inquire

## 808276 Triethoxyvinylsilane for synthesis



$C_8H_{18}O_3Si$   
 $(C_2H_5O)_3SiCH=CH_2$   
*O,O',O''-Triethylvinylsilanetriol, Vinyltriethoxysilane*  
 ■ CAS-No. 78-08-0 ■ EC-No. 201-081-7  
 ■ Refractive index 1.3966 (25 °C, 589 nm)  
 ■ Vapour pressure 7 hPa (20 °C)  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.53 - 15 % (V) ■ Flash point 38 °C ■ Solub.

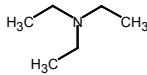
in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 190.31 g/mol ■ Boiling point 156 °C (1013 hPa)  
 ■ Ignition temp. 265 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P210, P262, P304 + P340, P305 + P351 + P338  
 ■ LD50 oral rat 7280 mg/kg ■ LD50 dermal rabbit 9100 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TRIETHOXYVINYLSILAN), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIETHOXYVINYLSILANE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIETHOXYVINYLSILANE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,908 - 0,910  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08276.0100	Glass bottle	100 ml	inquire
8.08276.0500	Glass bottle	500 ml	inquire

## Triethylamine

C<sub>6</sub>H<sub>15</sub>N(C<sub>2</sub>H<sub>5</sub>)<sub>3</sub>N*N,N*-Diethylethanamine, TEA

- CAS-No. 121-44-8 ■ EC-No. 204-469-4
- Vapour pressure 69 hPa (20 °C)
- Spec. density 0.73 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 9.3 % (V) ■ Flash point -11 °C ■ Solub. in H<sub>2</sub>O 133 g/l (20 °C) ■ M = 101.19 g/mol

- pH value 12.7 (100 g/l, H<sub>2</sub>O, 15 °C) (IUCRID)
- Saturation conc. (20 °C) Air, no data available
- Melting point -115 °C ■ Boiling point 90 °C (1013 hPa) ■ Ignition temp. 215 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Oral, H302; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1A, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P233, P240, P280, P301 + P330 + P331,

- P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310
- LC50 rat 4.2 - 8.4 mg/l
- LD50 oral rat 730 mg/kg ■ LD50 dermal rabbit 580 mg/kg
- EC-Index-No. 612-004-00-5 ■ LGK 3
- HS-No. 2921 19 99
- ADR-RID UN 1296 Triethylamin, 3 (8), II
- IMDG-Code UN 1296 TRIETHYLAMINE, 3 (8), II
- IATA-DGR UN 1296 TRIETHYLAMINE, 3 (8), II



## 808352 Triethylamine for synthesis

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.726 - 0.728  
 Water (K. F.) ..... ≤ 0.20 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.08352.0100	Glass bottle	100 ml	inquire
8.08352.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.08352.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.08352.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
8.08352.9040	Steel barrel	40 kg	inquire

## 845061 Triethylamine for pharma synthesis, non-GMP

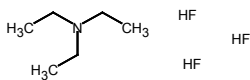
## Specification

Appearance of substance (visual) ..... clear  
 Colour number ..... ≤ 20  
 Assay (GC, area%) ..... ≥ 99.5 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,726 - 0,728  
 Water (K. F.) ..... ≤ 0,20 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45061.0100	Glass bottle	100 ml	inquire
8.45061.1000	Glass bottle	1 l	inquire

Triethylamine hydrochloride → Triethylammonium chloride page 1585

## 814371 Triethylamine trishydrofluoride for synthesis

C<sub>6</sub>H<sub>15</sub>N\*3HF(C<sub>2</sub>H<sub>5</sub>)<sub>3</sub>N \* 3 HF

- CAS-No. 73602-61-6 ■ EC-No. 277-550-5
- Spec. density 1.00 g/cm<sup>3</sup> (20 °C)
- Flash point 88 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 161.21 g/mol ■ pH value 3 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution)
- Boiling point 70 °C (19.9 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 2,

- Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Skin corrosion, Category 1A, H314, P280, P304 + P340, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309, P310
- LGK 6.1A
- HS-No. 2921 19 99 ■ Disposal 9
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(TRIETHYLAMINTRISHYDROFLUORID), 8 (6.1), II ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(TRIETHYLAMINE-TRISHYDROFLUORIDE), 8 (6.1), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC,

N.O.S.(TRIETHYLAMINE-TRISHYDROFLUORIDE), 8 (6.1), II

## Specification

Assay (HClO<sub>4</sub>) ..... ≥ 98.0 %  
 Colour (visual) ..... colourless, almost colourless  
 Density (d 20 °C/ 4 °C) ..... 0.995 - 1.000  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14371.0002	Glass bottle	2 ml	inquire
8.14371.0010	Plastic bottle	10 ml	inquire

## 108208 Triethylammonium acetate buffer solution for the purification of chemically synthesized oligonucleotides (1 mol/l) pH 7,0

- Vapour pressure 23 hPa (20 °C)
- Spec. density 1 g/cm<sup>3</sup> (20 °C) ■ pH value 7.0 (H<sub>2</sub>O, 20 °C) ■ Boiling point 100 °C
- WGK 1
- LGK 10 - 13

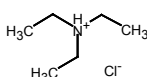
- HS-No. 2921 19 99

## Specification

Evaporation residue ..... ≤ 0.01 %  
 pH-value (1 mol/l) ..... 6.9 - 7.1

Ord.No.	Packaging	Quantity	Price
1.08208.1000	Glass bottle	1 l	inquire

## 821135 Triethylammonium chloride for synthesis

C<sub>6</sub>H<sub>16</sub>ClN(C<sub>2</sub>H<sub>5</sub>)<sub>3</sub>N \* HCl

Triethylamine hydrochloride

- CAS-No. 554-68-7 ■ EC-No. 209-067-2
- Spec. density 1.07 g/cm<sup>3</sup> (21 °C) ■ Solub. in H<sub>2</sub>O 1440 g/l (20 °C) ■ M = 137.65 g/mol
- pH value 5 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 255 - 258 °C

- Bulk density 220 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2921 19 99 ■ Disposal 3
- ADR-RID UN 1759 Ätzender fester Stoff, n.a.g.(TRIETHYLAMMONIUMCHLORID), 8, III ■ IMDG-Code UN 1759 CORROSIVE SOLID, N.O.S.(TRIETHYLAMMONIUM CHLORIDE), 8, III
- IATA-DGR UN 1759 CORROSIVE SOLID,

N.O.S.(TRIETHYLAMMONIUM CHLORIDE), 8, III

## Specification

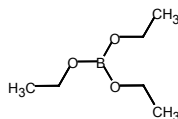
Assay (argentometric) ..... ≥ 99.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21135.0005	Glass bottle	5 g	inquire
8.21135.0250	Glass bottle	250 g	inquire
8.21135.1000	Glass bottle	1 kg	inquire

Triethylbenzylammonium chloride → page 456

# Trieth

## 814772 Triethyl borate for synthesis



$C_6H_{15}BO_3$   
 $(CH_3CH_2O)_3B$   
 ■ CAS-No. 150-46-9 ■ EC-No. 205-760-9  
 ■ Spec. density 0.858 g/cm<sup>3</sup> ■ Flash point 11 °C

- Kin. viscosity 0.503 mm<sup>2</sup>/s (40 °C)
- M = 145.99 g/mol ■ pH value (H<sub>2</sub>O) not applicable
- Melting point -84.8 °C
- Boiling point 117 - 118 °C (1013 hPa)
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P260
- LGK 3
- HS-No. 2920 90 85 ■ Disposal 3
- ADR-RID UN 1176 Triethylborat, 3, II ■ IMDG-

Code UN 1176 ETHYL BORATE, 3, II  
 ■ IATA-DGR UN 1176 ETHYL BORATE, 3, II

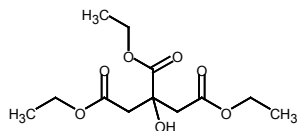
### Specification

Assay (GC, area%) ..... ≥ 98.5 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.862 - 0.866  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14772.0100	Glass bottle	100 ml	inquire
8.14772.0500	Glass bottle	500 ml	inquire

Triethylchlorosilane → Chlorotriethylsilane page 637

## 800251 Triethyl citrate for synthesis



$C_{12}H_{20}O_7$   
 $HOC(COOC_2H_5)(CH_2COOC_2H_5)_2$   
*Citric acid triethyl ester*  
 ■ CAS-No. 77-93-0 ■ EC-No. 201-070-7  
 ■ Vapour pressure 0.0025 hPa (25 °C)

- Spec. density 1.135 g/cm<sup>3</sup> (25 °C)
- Flash point 150 °C ■ Solub. in H<sub>2</sub>O 65 g/l (25 °C)
- M = 276.28 g/mol ■ Melting point -55 °C
- Boiling point 294 °C (1013 hPa)
- WGK 1
- LC50 rat 14.9 mg/l
- LD50 oral rat > 3200 mg/kg
- LD50 dermal rabbit > 5000 mg/kg
- LGK 10
- HS-No. 2918 15 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

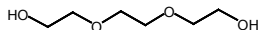
### Specification

Assay (GC, area%) ..... ≥ 98 %  
 Density (d 20 °C/ 4 °C) ..... 1.138 - 1.141  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00251.0100	Glass bottle	100 ml	inquire
8.00251.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire

Triethylenediamine → 1,4-Diazabicyclo[2.2.2]octane page 699

## 808245 Triethylene glycol for synthesis



$C_6H_{14}O_4$   
 $HO(CH_2CH_2O)_3H$   
*Triglycol*  
 ■ CAS-No. 112-27-6 ■ EC-No. 203-953-2  
 ■ Refractive index 1.4559 (20 °C, 589 nm)  
 ■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Spec. density 1.123 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 24 (20 °C) ■ Explosive limit 0.9 - 9.2 % (V) ■ Flash point 165 °C ■ Solub.

- in H<sub>2</sub>O (20 °C) soluble ■ M = 150.17 g/mol
- pH value 6.5 - 7.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -7 °C ■ Boiling point 285 - 295 °C (1013 hPa) ■ Ignition temp. 370 °C
- WGK 1
- GHS: P262
- LD50 oral rat 17000 mg/kg ■ LD50 dermal rat > 5000 mg/kg
- LGK 10
- HS-No. 2909 49 80 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %

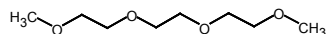
Density (d 20 °C/ 4 °C) ..... 1,123 - 1,124  
 Water (K. F.) ..... ≤ 0,30 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08245.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.08245.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

Triethyleneglycoldiamine → 1,8-Diamino-3,6-dioxaoctane page 694

Triethyleneglycol dichloride → 1,2-Bis-(2-chloroethoxy) ethane page 464

## 808249 Triethylene glycol dimethyl ether (stabilised) for synthesis



$C_8H_{18}O_4$   
 $CH_3O(CH_2CH_2O)_3CH_3$   
*Dimethyl triglycol, Triglyme*  
 ■ CAS-No. 112-49-2 ■ EC-No. 203-977-3  
 ■ Refractive index 1.4233 (20 °C, 589 nm)  
 ■ Vapour pressure 1.2 hPa (20 °C)  
 ■ Spec. density 0.99 g/cm<sup>3</sup> (20 °C) ■ Explosive

- limit 0.7 % (V) ■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 178.23 g/mol
- pH value (H<sub>2</sub>O) neutral ■ Melting point -40 °C
- Boiling point 210 - 230 °C (1013 mbar)
- Ignition temp. 195 °C
- WGK 1
- GHS: Danger, Reproductive toxicity, Category 1B, H360Df, P201, P308 + P313
- LD50 oral rat 5390 mg/kg
- EC-Index-No. 603-176-00-2 ■ LGK 6.1C

■ HS-No. 2909 19 90 ■ Disposal 9

### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,984 - 0,986  
 Peroxide (as H<sub>2</sub>O<sub>2</sub>) ..... ≤ 0,005 % (m)  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08249.0250	Glass bottle	250 ml	inquire

## 814587 Triethylene glycol monomethyl ether for synthesis



$C_7H_{16}O_4$   
*Methyltriglycol*  
 ■ CAS-No. 112-35-6 ■ EC-No. 203-962-1  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 133 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 164.2 g/mol

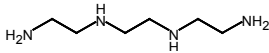
- pH value 5 - 7 (H<sub>2</sub>O, 20 °C)
- Boiling point 245 - 255 °C (1013 hPa)
- Ignition temp. 210 °C
- WGK 1
- GHS: P262
- LD50 oral rat 11850 mg/kg
- LD50 dermal rabbit 7448 mg/kg
- LGK 10 - 13
- HS-No. 2909 49 80 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,047 - 1,049  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14587.0250	Glass bottle	250 ml	inquire
8.14587.1000	Glass bottle	1 l	inquire

## 814392 Triethylenetetramine (mixture of isomers) for synthesis

C<sub>6</sub>H<sub>18</sub>N<sub>4</sub>(H<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NHCH<sub>2</sub>)<sub>2</sub>*N,N'*-Bis(2-aminoethyl)-1,2-ethanediamine

- CAS-No. 112-24-3 ■ EC-No. 203-950-6
- Refractive index 1.4971 (20 °C, 589 nm)
- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 0.98 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 - 7.2 % (V) ■ Flash point 129 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 146.23 g/mol
- pH value 10 - 11 (10 g/l, H<sub>2</sub>O, 20 °C)

- Melting point 12 °C ■ Boiling point 270 - 300 °C (1013 hPa) ■ Ignition temp. 335 °C
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P280, P273, P302 + P352, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- EC-Index-No. 612-059-00-5 ■ LGK 8A
- HS-No. 2921 29 00 ■ Disposal 3
- ADR-RID UN 2259 Triethylenetetramin, 8, II
- IMDG-Code UN 2259 TRIETHYLENETETRAMINE,

- 8, II, Segregation Group: 18 (Alkalis)
- IATA-DGR UN 2259 TRIETHYLENETETRAMINE, 8, II

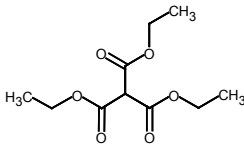
## Specification

Assay isomers (GC, area%) ..... ≥ 95,0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,977 - 0,982  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14392.0100	Glass bottle	100 ml	inquire
8.14392.0500	Glass bottle	500 ml	inquire

Triethyl 2-hydroxy-1,2,3-propanetricarboxylate → Triethyl citrate page 1586

## 810216 Triethyl methanetricarboxylate for synthesis

C<sub>10</sub>H<sub>16</sub>O<sub>6</sub>CH(COOCH<sub>2</sub>H<sub>5</sub>)<sub>3</sub>

Methanetricarboxylic acid triethyl ester

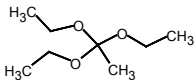
- CAS-No. 6279-86-3 ■ EC-No. 228-477-2
- Refractive index 1.4243 (20 °C, 589 nm)
- Spec. density 1.1 g/cm<sup>3</sup> (20 °C)
- Flash point > 110 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 232.23 g/mol
- Melting point 25 - 28 °C ■ Boiling point 253 °C (1013 hPa)
- WGK 3
- LGK 10
- HS-No. 2917 19 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 25 °C  
 Melting range (upper value) ..... ≤ 28 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.10216.0025	Glass bottle	25 ml	inquire

## 820934 Triethyl orthoacetate for synthesis

C<sub>8</sub>H<sub>18</sub>O<sub>3</sub>CH<sub>3</sub>C(OC<sub>2</sub>H<sub>5</sub>)<sub>3</sub>

Orthoacetic acid triethyl ester, 1,1,1-Triethoxyethane

- CAS-No. 78-39-7 ■ EC-No. 201-112-4
- Refractive index 1.3958 (20 °C, 589 nm)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.9 - 7.0 % (V) ■ Flash point 32 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) (decomposition) ■ M = 162.22 g/mol
- Boiling point 142 °C (1013 hPa)
- Ignition temp. 455 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315, P210, P302 + P352
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(ORTHOESSIGSAEURETRIETHYLESTER), 3, III
- IMDG-Code UN 3272 ESTERS, N.O.S.(TRIETHYL ORTHOACETATE), 3, III

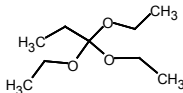
- IATA-DGR UN 3272 ESTERS, N.O.S.(TRIETHYL ORTHOACETATE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 96,0 Area %  
 Density (d 20 °C / 4 °C) ..... 0,888 - 0,892  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.20934.0050	Glass bottle	50 ml	inquire
8.20934.0100	Glass bottle	100 ml	inquire
8.20934.0500	Glass bottle	500 ml	inquire

## 820935 Triethyl orthopropionate for synthesis

C<sub>9</sub>H<sub>20</sub>O<sub>3</sub>CH<sub>3</sub>CH<sub>2</sub>C(OC<sub>2</sub>H<sub>5</sub>)<sub>3</sub>

1,1,1-Triethoxypropane, Orthopropionic acid triethyl ester

- CAS-No. 115-80-0 ■ EC-No. 204-108-0
- Refractive index 1.3955 (20 °C, 589 nm)
- Vapour pressure 1.8 hPa (20 °C)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C)
- Flash point 45 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) practically insoluble, (slow decomposition) ■ M = 176.25 g/mol
- Boiling point 155 - 160 °C (1013 hPa)
- Ignition temp. 308 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P305 + P351 + P338
- LD50 oral rat > 4440 mg/kg
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(TRIETHYLORHOPROPIONAT), 3, III ■ IMDG-

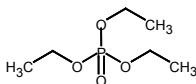
- Code UN 3272 ESTERS, N.O.S.(TRIETHYLORHOPROPIONATE), 3, III
- IATA-DGR UN 3272 ESTERS, N.O.S.(TRIETHYLORHOPROPIONATE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 96,0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 0,885 - 0,887  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20935.0050	Glass bottle	50 ml	inquire
8.20935.0250	Glass bottle	250 ml	inquire

## 821141 Triethyl phosphate for synthesis

C<sub>6</sub>H<sub>15</sub>O<sub>4</sub>P(C<sub>2</sub>H<sub>5</sub>O)<sub>3</sub>PO

Phosphoric acid triethyl ester, TEP

- CAS-No. 78-40-0 ■ EC-No. 201-114-5
- Refractive index 1.4053 (20 °C, 589 nm)
- Vapour pressure 0.1 hPa (20 °C)

- Spec. density 1.069 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.2 - 10 % (V) ■ Flash point 130 °C ■ Solub. in H<sub>2</sub>O 500 g/l (25 °C) (slow decomposition)
- M = 182.16 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C)
- Melting point -57 °C ■ Boiling point 215 °C (1013 hPa) ■ Ignition temp. 480 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1165 mg/kg
- EC-Index-No. 015-013-00-7 ■ LGK 10 - 13

- HS-No. 2919 90 00 ■ Disposal 3

## Specification

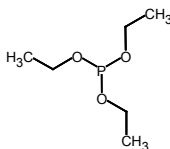
Assay (GC, area%) ..... ≥ 99,0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 1,068 - 1,069  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21141.0100	Glass bottle	100 ml	inquire
8.21141.1000	Glass bottle	1 l	inquire



# Trieth

## 800549 Triethylphosphite for synthesis



C<sub>6</sub>H<sub>15</sub>O<sub>3</sub>P  
 ■ CAS-No. 122-52-1 ■ EC-No. 204-552-5  
 ■ Refractive index 1.4133 (20 °C, 589 nm)  
 ■ Vapour pressure < 6 hPa (20 °C)  
 ■ Spec. density 0.956 g/cm<sup>3</sup> (20 °C) ■ Explosive

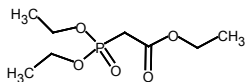
limit 3.75 - 42.5 % (V) ■ Flash point 52 °C  
 ■ M = 166.16 g/mol ■ pH value (H<sub>2</sub>O) not applicable  
 ■ Melting point -112 °C  
 ■ Boiling point 156 - 158 °C (1013 hPa)  
 ■ Ignition temp. 250 °C  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P210, P262, P273, P280, P302 + P352  
 ■ LD50 dermal rabbit 2800 mg/kg  
 ■ LGK 3

■ HS-No. 2920 90 40 ■ Disposal 1  
 ■ ADR-RID UN 2323 Triethylphosphit, 3, III  
 ■ IMDG-Code UN 2323 TRIETHYL PHOSPHITE, 3, III  
 ■ IATA-DGR UN 2323 TRIETHYL PHOSPHITE, 3, III  
**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.955 - 0.957  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.00549.0100	Glass bottle	100 ml	inquire
8.00549.0500	Glass bottle	500 ml	inquire

Triethyl phosphonoacetate → page 1588

## 810557 Triethyl phosphonoacetate for synthesis



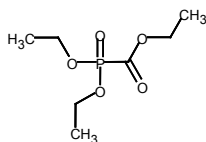
C<sub>8</sub>H<sub>17</sub>O<sub>5</sub>P  
 C<sub>2</sub>H<sub>5</sub>OCOCH<sub>2</sub>PO(OCH<sub>2</sub>CH<sub>3</sub>)<sub>2</sub>  
 Triethyl phosphonoacetate, Ethoxycarbonylmethanephosphonic acid diethyl ester  
 ■ CAS-No. 867-13-0 ■ EC-No. 212-757-6

■ Refractive index 1.433 (20 °C, 589 nm)  
 ■ Spec. density 1.12 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 105 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 224.19 g/mol  
 ■ Melting point -24 °C  
 ■ Boiling point 260 - 262 °C (1013 hPa)  
 ■ Ignition temp. 445 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 1,121 - 1,122  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.10557.0100	Glass bottle	100 ml	inquire

## 843410 Triethyl phosphonoforate for synthesis

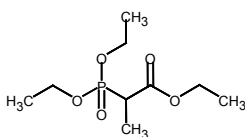


C<sub>7</sub>H<sub>15</sub>O<sub>5</sub>P  
 ■ CAS-No. 1474-78-8 ■ EC-No. 216-016-8  
 ■ Spec. density 1.123 g/cm<sup>3</sup> ■ M = 210.17 g/mol  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.121 - 1.125  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43410.0010	Glass bottle	10 ml	inquire
8.43410.0100	Glass bottle	100 ml	inquire

## 841189 Triethyl 2-phosphonopropionate for synthesis



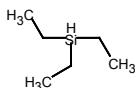
C<sub>9</sub>H<sub>19</sub>O<sub>5</sub>P  
 2-Phosphonopropionic acid triethyl ester, 2-

Diethoxyphosphoryl propionic acid ethyl ester  
 ■ CAS-No. 3699-66-9 ■ EC-No. 223-033-4  
 ■ Spec. density 1.111 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 88 °C ■ M = 238.22 g/mol  
 ■ Boiling point 143 - 144 °C (16 hPa)  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2931 90 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.091 - 1.097  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41189.0010	Glass bottle	10 ml	inquire
8.41189.0050	Glass bottle	50 ml	inquire

## Triethylsilane



C<sub>6</sub>H<sub>16</sub>Si  
 (C<sub>2</sub>H<sub>5</sub>)<sub>3</sub>SiH  
 ■ CAS-No. 617-86-7 ■ EC-No. 210-535-3  
 ■ Refractive index 1.4117 (20 °C, 589 nm)  
 ■ Vapour pressure >1 hPa (20 °C)

■ Spec. density 0.73 g/cm<sup>3</sup> (20 °C) ■ Flash point - 6 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 116.28 g/mol ■ Boiling point 107 - 109 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P233, P302 + P352, P305 + P351 + P338

■ LGK 3  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TRIETHYLSILAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIETHYLSILANE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIETHYLSILANE), 3, II

## 818806 Triethylsilane for synthesis

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.730 - 0.732  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18806.0010	Glass bottle	10 ml	inquire
8.18806.0050	Glass bottle	50 ml	inquire

## 845145 Triethylsilane for pharma synthesis, non-GMP

**Specification**  
 Colour (visual) ..... colourless  
 Appearance of substance (visual) ..... liquid  
 Assay (GC, area%) ..... ≥ 99.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,730 - 0,732

Identity (IR) ..... passes test  
 Tetrahydrofuran ..... lot specific result

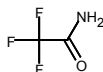
Ord.No.	Packaging	Quantity	Price
8.45145.0010	Glass bottle	10 ml	inquire
8.45145.0050	Glass bottle	50 ml	inquire

Triethylsilyl chloride → Chlorotriethylsilane page 637

Triflic anhydride → Trifluoromethanesulfonic anhydride page 1592

Trifluoroacetamid → 2,2,2-Trifluoroacetamide page 1589

## 814690 2,2,2-Trifluoroacetamide for synthesis

C<sub>2</sub>H<sub>2</sub>F<sub>3</sub>NOF<sub>3</sub>C-CO-NH<sub>2</sub>

■ CAS-No. 354-38-1 ■ EC-No. 206-559-9  
 ■ Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 460 g/l (23 °C) ■ M = 113.03 g/mol ■ pH value 3.6

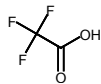
(460 g/l, H<sub>2</sub>O, 23 °C) ■ Melting point 73 - 75 °C  
 ■ Bulk density 960 kg/m<sup>3</sup> ■ Boiling point 162.5 °C  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315;  
 Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2924 19 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Melting range (lower value)..... ≥ 71 °C  
 Melting range (upper value)..... ≤ 75 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14690.0010	Plastic bottle	10 g	inquire
8.14690.0050	Plastic bottle	50 g	inquire

## Trifluoroacetic acid

C<sub>2</sub>HF<sub>3</sub>O<sub>2</sub>CF<sub>3</sub>COOH

TFA

■ CAS-No. 76-05-1 ■ EC-No. 200-929-3  
 ■ Vapour pressure 141 hPa (20 °C)  
 ■ Spec. density 1.48 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 42.1 (25 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) soluble ■ M = 114.02 g/mol  
 ■ pH value 1 (10 g/l, H<sub>2</sub>O) ■ Melting point -15 °C  
 ■ Boiling point 72 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4,  
 Inhalation, H332; Skin corrosion, Category 1A,  
 H314; Chronic aquatic toxicity, Category 3, H412,  
 P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 10 mg/l  
 ■ EC-Index-No. 607-091-00-1 ■ LGK 8B  
 ■ HS-No. 2915 90 70 ■ Disposal 4

■ ADR-RID UN 2699 Trifluoressigsäure, 8, I  
 ■ IMDG-Code UN 2699 TRIFLUOROACETIC ACID, 8, I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2699 TRIFLUOROACETIC ACID, 8, I  
 Highly purified special reagent for high sensitive microsequencing of proteins. Anhydrous acid to cleave the PTC-residue from the PTC-protein derivative under release of the terminal amino acid as a thiazoline that can be separated from the residual peptide and converted to the more stable phenylthiohydantoin.

## 808260 Trifluoroacetic acid for synthesis

## Specification

Assay (acidimetric)..... ≥ 99.0 %  
 Density (d 20 °C/ 4 °C)..... 1.487 - 1.490  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.08260.0025	Glass bottle	25 ml	inquire
8.08260.0100	Glass bottle	100 ml	inquire
	Glass bottle	6 x 100 ml	inquire
8.08260.0500	Glass bottle	500 ml	inquire
	Glass bottle	6 x 500 ml	inquire
8.08260.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
8.08260.2500	Glass bottle	2.5 l	inquire

## 108262 Trifluoroacetic acid for spectroscopy Uvasol®

## Specification

Assay (acidimetric)..... ≥ 99.8 %  
 Water (K. F.)..... ≤ 0.10 %  
 Colour number (Alpha)..... ≤ 10  
 Evaporation residue..... ≤ 0.005 %  
 UV-transmission (at 265 nm)..... ≥ 10.0 %  
 UV-transmission (at 305 nm)..... ≥ 50.0 %  
 UV-transmission (at 320 nm)..... ≥ 80.0 %  
 UV-transmission (from 325 nm)..... ≥ 90.0 %

Ord.No.	Packaging	Quantity	Price
1.08262.0025	Glass bottle	25 ml	inquire
1.08262.0100	Glass bottle	100 ml	inquire
1.08262.1000	Glass bottle	1 l	inquire
1.08262.2500	Glass bottle	2.5 l	inquire

## 108178 Trifluoroacetic acid for protein sequence analysis

## Specification

Assay (acidimetric)..... ≥ 99.7 %  
 Identity (IR-spectrum)..... passes test  
 Density (d 20 °C/20 °C)..... about 1.53  
 Boiling point..... about 72 °C  
 Water (according to Karl Fischer)..... ≤ 0.02 %

Ord.No.	Packaging	Quantity	Price
1.08178.0050	Glass bottle	50 ml	inquire
	Glass bottle	12 x 50 ml	inquire

## 108218 Trifluoroacetic acid (25% solution in water) for protein sequencing

## Specification

Assay (alkalimetric)..... 24.5 - 25.5 %  
 Identity (UV/VIS-Spectrum)..... passes test  
 Density (d 20 °C/ 4 °C)..... 1.1283 - 1.1293  
 Fluorescence (at 254 nm)..... ≤ 2 ppb  
 Fluorescence (at 365 nm)..... ≤ 2 ppb  
 Water (according to Karl Fischer)..... 74.5 - 75.5 %

Ord.No.	Packaging	Quantity	Price
1.08218.0050	Glass bottle	50 ml	inquire
	Glass bottle	12 x 50 ml	inquire

## 113363 Trifluoroacetic acid-D1 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™

C<sub>2</sub>DF<sub>3</sub>O<sub>2</sub>

■ CAS-No. 599-00-8 ■ EC-No. 209-961-2  
 ■ Vapour pressure 11 hPa (20 °C)  
 ■ Spec. density 1.49 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 115.03 g/mol  
 ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid  
 ■ Melting point -15 °C ■ Boiling point 71 °C

(1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Acute toxicity, Category 4,  
 Inhalation, H332; Skin corrosion, Category 1A,  
 H314; Chronic aquatic toxicity, Category 3, H412,  
 P271, P273, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 10 mg/l  
 ■ LGK 8B  
 ■ HS-No. 2845 90 10 ■ Disposal 4  
 ■ ADR-RID UN 2699 Trifluoressigsäure, 8, I  
 ■ IMDG-Code UN 2699 TRIFLUOROACETIC ACID, 8, I, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2699 TRIFLUOROACETIC ACID, 8, I

Specification  
 Deuteration degree..... ≥ 99.5 %  
 Water (K. Fischer, H<sub>2</sub>O + D<sub>2</sub>O)..... ≤ 0.05 %  
 Performance test (NMR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.13363.0010	Glass ampoule	10 ml	inquire

Trifluoroacetic acid ethyl ester → Ethyl trifluoroacetate page 886

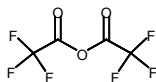
Trifluoroacetic acid mercury(II) salt → Mercury(II) trifluoroacetate page 1107

Trifluoroacetic acid methyl ester → Methyl trifluoroacetate page 1184

Trifluoroacetic acid silver salt → Silver trifluoroacetate page 1423

Trifluoroacetic acid sodium salt → Sodium trifluoroacetate page 1456

## Trifluoroacetic anhydride



C<sub>4</sub>F<sub>6</sub>O<sub>3</sub>  
(CF<sub>3</sub>CO)<sub>2</sub>O  
Bis(trifluoroacetic) anhydride, TFAA  
■ CAS-No. 407-25-0 ■ EC-No. 206-982-9  
■ Vapour pressure 405 hPa (20 °C)  
■ Spec. density 1.51 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O (20 °C) (rigorous decomposition), Hydrolysis  
■ M = 210.03 g/mol ■ Melting point -65 °C  
■ Boiling point 40 °C (1013 hPa)  
■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Skin corrosion, Category 1A, H314; Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
■ LGK 8B  
■ HS-No. 2915 90 70 ■ Disposal 11

■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(TRIFLUORESSIGSAEUREANHYDRID), 8, I  
■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(TRIFLUOROACETIC ANHYDRIDE), 8, I, Segregation Group: 1 (Acids)  
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(TRIFLUOROACETIC ANHYDRIDE), 8, I



## 808261 Trifluoroacetic anhydride for synthesis

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
Density (d 20 °C/ 4 °C)..... 1,508 - 1,511  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08261.0025	Glass bottle	25 ml	inquire
8.08261.0100	Glass bottle	100 ml	inquire
8.08261.0500	Glass bottle	500 ml	inquire

## 112513 Trifluoroacetic anhydride for gas chromatography

## Specification

Assay (GC, area%)..... ≥ 99,5 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
1.12513.0010	Glass bottle	10 ml	inquire

## 845060 Trifluoroacetic anhydride for pharma synthesis, non-GMP

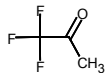
## Specification

Colour (visual)..... colourless  
Appearance of substance (visual)..... clear  
Assay (GC, area%)..... ≥ 99,5 Area %  
Density (d 20 °C/ 4 °C)..... 1,508 - 1,511  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45060.0100	Glass bottle	100 ml	inquire
8.45060.0500	Glass bottle	500 ml	inquire

4,4,4-Trifluoroacetoacetic acid ethyl ester → Ethyl 4,4,4-trifluoroacetoacetate page 886

## 814521 1,1,1-Trifluoroacetone for synthesis



C<sub>3</sub>H<sub>3</sub>F<sub>3</sub>O  
CF<sub>3</sub>CCH<sub>3</sub>  
■ CAS-No. 421-50-1 ■ EC-No. 207-005-9  
■ Vapour pressure >1.75 hPa (50 °C)  
■ Spec. density 1.18 g/cm<sup>3</sup> (20 °C) ■ Flash point -30 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
■ M = 112.05 g/mol ■ pH value (H<sub>2</sub>O) not

applicable ■ Melting point <-78 °C  
■ Boiling point 22 °C (1013 hPa)  
■ WGK 3  
■ GHS: Danger, Flammable liquid, Category 1, H224; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315, P210, P240, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 3 ■ Store at +2°C to +8°C.  
■ HS-No. 2914 70 00 ■ Disposal 3

■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(1,1,1-TRIFLUOROACETON), 3, I ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,1,1-TRIFLUORO ACETONE), 3, I  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,1,1-TRIFLUORO ACETONE), 3, I

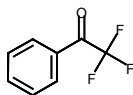
## Specification

Assay (GC, area%)..... ≥ 98,0 Area %

Ord.No.	Packaging	Quantity	Price
8.14521.0010	Glass bottle	10 ml	inquire



## 818371 α,α,α-Trifluoroacetophenone for synthesis



C<sub>8</sub>H<sub>5</sub>F<sub>3</sub>O  
C<sub>6</sub>H<sub>5</sub>-C(O)-CF<sub>3</sub>  
Trifluoroacetylbenzene  
■ CAS-No. 434-45-7 ■ EC-No. 207-103-1  
■ Refractive index 1.4583 (20 °C, 589 nm)  
■ Spec. density 1.28 g/cm<sup>3</sup> (20 °C)  
■ Flash point 41 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 174.12 g/mol

■ Melting point -40 °C ■ Boiling point 165 °C (1013 hPa)  
■ WGK 3  
■ GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338  
■ LGK 3  
■ HS-No. 2914 70 00 ■ Disposal 3  
■ ADR-RID UN 1224 Ketone, flüssig, n.a.g.(A,A,A-TRIFLUORACETOPHENON), 3, III ■ IMDG-Code UN

1224 KETONES, LIQUID, N.O.S.(A,A,A-TRIFLUOROACETOPHENONE), 3, III  
■ IATA-DGR UN 1224 KETONES, LIQUID, N.O.S.(A,A,A-TRIFLUOROACETOPHENONE), 3, III

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1.278 - 1.279  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18371.0005	Glass bottle	5 ml	inquire

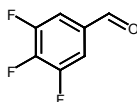


1,1,1-Trifluoroacetylacetone → 1,1,1-Trifluoro-2,4-pentanedione page 1595

Trifluoroacetylbenzene → α,α,α-Trifluoroacetophenone page 1590

α,α,α-Trifluoro-p-anisidine → 4-(Trifluoromethoxy)-aniline page 1592

## 814968 3,4,5-Trifluorobenzaldehyde for synthesis



C<sub>7</sub>H<sub>3</sub>F<sub>3</sub>O  
■ CAS-No. 132123-54-7  
■ Vapour pressure 2.8 hPa (20 °C) (calculated)  
■ Spec. density 1.42 g/cm<sup>3</sup> (20 °C)  
■ Flash point 65 °C ■ Solub. in H<sub>2</sub>O 2.2 g/l (20 °C)  
■ M = 160.09 g/mol ■ Melting point 25.3 °C  
■ Boiling point 176 - 183 °C (1013 hPa)

■ WGK 2  
■ GHS: Danger, Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Skin sensitisation, Category 1, H317, P262, P273, P280, P302 + P352, P309 + P310  
■ LD50 oral rat 200 - 2000 mg/kg  
■ LGK 6.1C  
■ HS-No. 2913 00 00 ■ Disposal 3  
■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(3,4,5-TRIFLUORBENZALDEHYD), 6.1, III  
■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3,4,5-TRIFLUORBENZALDEHYDE), 6.1, III

■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3,4,5-TRIFLUORBENZALDEHYDE), 6.1, III

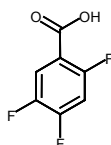
## Specification

Assay (GC, area%)..... ≥ 97,0 % (a/a)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14968.0005	Glass bottle	5 g	inquire
8.14968.0025	Glass bottle	25 g	inquire



## 841632 2,4,5-Trifluorobenzoic acid for synthesis



C<sub>7</sub>H<sub>3</sub>F<sub>3</sub>O<sub>2</sub>  
 ■ CAS-No. 446-17-3

- M = 176.09 g/mol ■ Melting point 99 - 101 °C
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 97,0 % (m)

Melting range (lower value)..... ≥ 97 °C  
 Melting range (upper value)..... ≤ 101 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41632.0001	Plastic bottle	1 g	inquire
8.41632.0005	Plastic bottle	5 g	inquire

α,α,α-Trifluoro-p-cresol → 4-Hydroxybenzotrifluoride page 978

## 808259 2,2,2-Trifluoroethanol for synthesis



C<sub>2</sub>H<sub>3</sub>F<sub>3</sub>O  
 CF<sub>3</sub>CH<sub>2</sub>OH  
 ■ CAS-No. 75-89-8 ■ EC-No. 200-913-6  
 ■ Vapour pressure 52 hPa (20 °C)  
 ■ Spec. density 1.38 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 8.4 - 28.8 % (V) ■ Flash point 33 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 100.04 g/mol  
 ■ pH value (H<sub>2</sub>O) neutral ■ Melting point -43.5 °C  
 ■ Boiling point 73.6 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation,

H331; Serious eye damage, Category 1, H318; Skin irritation, Category 2, H315; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 3, Oral, H301, P210, P280, P302 + P352, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LC50 rat 2.9 mg/l  
 ■ LD50 oral rat 240 mg/kg ■ LD50 dermal rat 1680 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2905 59 98 ■ Disposal 2  
 ■ ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(2,2,2-TRIFLUORETHANOL), 3 (6.1), III  
 ■ IMDG-Code UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(2,2,2-TRIFLUOROETHANOL), 3 (6.1),

III  
 ■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(2,2,2-TRIFLUOROETHANOL), 3 (6.1), III

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.389 - 1.391  
 Water (K. F.)..... ≤ 0.20 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.08259.0100	Glass bottle	100 ml	inquire
8.08259.0250	Glass bottle	250 ml	inquire
8.08259.1000	Glass bottle	1 l	inquire

β,β,β-Trifluoroethyl alcohol → 2,2,2-Trifluoroethanol page 309

2,2,2-Trifluoroethyl iodide → 2-Iodo-1,1,1-trifluoroethane page 1014

## Trifluoromethanesulfonic acid



CHF<sub>3</sub>O<sub>3</sub>S  
 CF<sub>3</sub>SO<sub>3</sub>H  
 Triflic acid, TFMS  
 ■ CAS-No. 1493-13-6 ■ EC-No. 216-087-5  
 ■ Vapour pressure 10 hPa (55 °C)  
 ■ Spec. density 1.71 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 40 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble, (caution ! development of

heat) ■ M = 150.08 g/mol ■ pH value < 1 (H<sub>2</sub>O)  
 ■ Boiling point 162 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1605 mg/kg ■ LD50 dermal rat > 2000 mg/kg  
 ■ LGK 8B

■ HS-No. 2904 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(TRIFLUORMETHANSULFONSÄURE), 8, II  
 ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(TRIFLUORO METHANE SULFONIC ACID), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(TRIFLUORO METHANE SULFONIC ACID), 8, II

## 821166 Trifluoromethanesulfonic acid for synthesis

**Specification**

Assay (acidimetric)..... ≥ 98,0 %  
 Density (d 20 °C/ 4 °C)..... 1,706 - 1,709

Ord.No.	Packaging	Quantity	Price
8.21166.0005	Glass bottle	5 ml	inquire
8.21166.0025	Glass bottle	25 ml	inquire
8.21166.0100	Glass bottle	100 ml	inquire

108450 Trifluoromethanesulfonic acid in anhydrous acetic acid c (CF<sub>3</sub>SO<sub>3</sub>H) = 0.1 mol/l Titripur®**Specification**

Amount-of-substance concentration 0.1000 mol/l  
 The concentration of this volumetric solution was determined with volumetric standard Tris(hydroxymethyl)aminomethane (Merck article number 1.02408). The determined titer at 20 °C was 1.000 with an expanded measurement

uncertainty of +/-0.004 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 723e (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard Tris(hydroxymethyl)aminomethane, measured in the accredited calibration laboratory of Merck KGaA

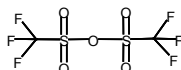
in accordance to DIN EN ISO/IEC 17025.

Ord.No.	Packaging	Quantity	Price
1.08450.1000	Glass bottle	1 l	inquire

Trifluoromethanesulfonic acid methyl ester → Methyl trifluoromethanesulfonate page 1185  
 Trifluoromethanesulfonic acid silver salt → Silver trifluoromethanesulfonate page 1424

Trifluoromethanesulfonic acid tert-butyl dimethylsilyl ester → tert-Butyl dimethylsilyl trifluoromethanesulfonate page 546  
 Trifluoromethanesulfonic acid trimethylsilyl ester → Trimethylsilyl trifluoromethanesulfonate page 1608

## 818043 Trifluoromethanesulfonic anhydride for synthesis



$C_2F_6O_5S_2$   
 $(CF_3SO_2)_2O$   
 ■ CAS-No. 358-23-6 ■ EC-No. 206-616-8  
 ■ Refractive index 1.3210 - 1.3212 (20 °C, 589 nm) ■ Spec. density 1.71 g/cm<sup>3</sup> (20 °C)  
 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
 ■ M = 282.12 g/mol  
 ■ Saturation conc. (20 °C) Air, no data available  
 ■ Boiling point 82 - 83 °C  
 ■ WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1A, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1012 mg/kg  
 ■ LGK 8B  
 ■ HS-No. 2904 90 95 ■ Disposal 12  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(TRIFLUORMETHANSULFONSÄUREANHYDRID), 8, I ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(TRIFLUORO METHANE SULFONIC ANHYDRIDE), 8, I, Segregation Group: 1 (Acids)

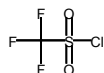
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(TRIFLUORO METHANE SULFONIC ANHYDRIDE), 8, I

**Specification**

Assay (acidimetric)..... ≥ 99.0 %  
 Density (d 20 °C/ 4 °C) ..... 1.715 - 1.720  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18043.0002	Glass bottle	2 ml	inquire
8.18043.0050	Glass bottle	50 ml	inquire

## 818292 Trifluoromethanesulfonyl chloride for synthesis



$CClF_3O_2S$   
 $CF_3SO_2Cl$   
 ■ CAS-No. 421-83-0 ■ EC-No. 207-009-0  
 ■ Refractive index 1.3315 (25 °C, 589 nm)  
 ■ Spec. density 1.59 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 168.52 g/mol  
 ■ Boiling point 32 °C  
 ■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8B ■ Store at +2°C to +8°C.  
 ■ HS-No. 2904 90 95 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(TRIFLUORMETHANSULFONSÄURECHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(TRIFLUORO METHANE SULFONYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)

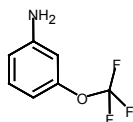
■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(TRIFLUORO METHANE SULFONYL CHLORIDE), 8, II

**Specification**

Assay (argentometric)..... ≥ 98.0 %  
 Density (d 20 °C/ 4 °C) ..... 1.590 - 1.599  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18292.0005	Glass bottle	5 ml	inquire
8.18292.0025	Glass bottle	25 ml	inquire

## 841343 3-(Trifluoromethoxy)-aniline for synthesis



$C_7H_6F_3NO$   
 ■ CAS-No. 1535-73-5 ■ EC-No. 216-256-3  
 ■ Spec. density 1.325 g/cm<sup>3</sup> (20 °C)

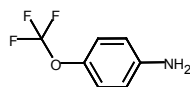
■ Flash point 85 °C ■ M = 177.12 g/mol  
 ■ Boiling point 72 - 75 °C (10.7 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.322 - 1.327  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41343.0001	Glass bottle	1 ml	inquire
8.41343.0005	Glass bottle	5 ml	inquire

## 841431 4-(Trifluoromethoxy)-aniline for synthesis



$C_7H_6F_3NO$   
*α,α-Trifluoro-p-anisidine*  
 ■ CAS-No. 461-82-5 ■ EC-No. 207-317-5  
 ■ Spec. density 1.31 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 80 °C ■ M = 177.12 g/mol

■ Boiling point 73 - 75 °C (13.3 hPa)  
 ■ WGK 2  
 ■ LGK 10  
 ■ HS-No. 2922 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(4-(TRIFLUORMETHOXY)-ANILIN), 6.1, III ■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(4-(TRIFLUORMETHOXY)-ANILINE), 6.1, III  
 ■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC,

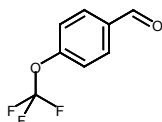
N.O.S.(4-(TRIFLUORMETHOXY)-ANILINE), 6.1, III

**Specification**

Assay (GC, area%)..... ≥ 97.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.321 - 1.327  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41431.0005	Glass bottle	5 ml	inquire

## 814960 4-(Trifluoromethoxy)benzaldehyde for synthesis



$C_8H_5F_3O_2$   
 ■ CAS-No. 659-28-9 ■ EC-No. 211-531-4  
 ■ Vapour pressure 3 hPa (20 °C)  
 ■ Spec. density 1.33 g/cm<sup>3</sup> (20 °C)

■ Flash point 70.5 °C ■ Kin. viscosity 1.7 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble  
 ■ M = 190.12 g/mol ■ Boiling point 80 °C (20 hPa) ■ Ignition temp. 220 °C DIN 51794  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13

■ HS-No. 2913 00 00

**Specification**

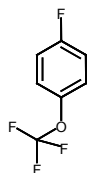
Assay (GC, area%)..... ≥ 96.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.330 - 1.335  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14960.0010	Glass bottle	10 ml	inquire
8.14960.0050	Glass bottle	50 ml	inquire

p-Trifluoromethoxy bromo benzene → 1-Bromo-4-(trifluoromethoxy)benzene page 517



## 841175 4-(Trifluoromethoxy)-1-fluorobenzene for synthesis



C<sub>7</sub>H<sub>4</sub>F<sub>4</sub>O  
(C<sub>6</sub>H<sub>3</sub>F)<sub>2</sub>O  
1-Fluoro-4-trifluoromethoxybenzene, (4-Fluorophenyl)trifluoromethyl ether

- CAS-No. 352-67-0 ■ EC-No. 206-523-2
- Spec. density 1.323 g/cm<sup>3</sup> ■ Flash point 15 °C
- M = 180.1 g/mol ■ Boiling point 104 - 105 °C (1013 hPa)
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P262
- LGK 3
- HS-No. 2909 30 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(4-(TRIFLUORMETHOXY-FLUORBENZOL), 3, II
- IMDG-Code UN 1993 FLAMMABLE LIQUID,

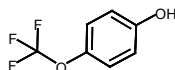
N.O.S.(4-(TRIFLUOROMETHOXY)-FLUOROBENZENE), 3, II  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(4-(TRIFLUOROMETHOXY)-FLUOROBENZENE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41175.0001	Glass bottle	1 ml	inquire

## 814967 4-Trifluoromethoxyphenol for synthesis



C<sub>7</sub>H<sub>5</sub>F<sub>3</sub>O<sub>2</sub>  
■ CAS-No. 828-27-3 ■ EC-No. 212-583-0

- Spec. density 1.39 g/cm<sup>3</sup> (16 °C)
- Flash point 86 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 178.11 g/mol ■ Boiling point 180 °C (1013 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Oral,

H301; Skin corrosion, Category 1B, H314; Chronic aquatic toxicity, Category 3, H412, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

- LD50 oral rat 207 mg/kg ■ LD50 dermal rat 2271 mg/kg
- LGK 6.1 C
- HS-No. 2909 50 00
- ADR-RID UN 2922 Ätzender flüssiger Stoff, giftig, n.a.g.(4-TRIFLUORMETHOXYPHENOL), 8 (6.1), III ■ IMDG-Code UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(4-TRIFLUORO

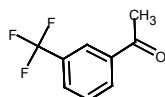
METHOXYPHENOL), 8 (6.1), III  
■ IATA-DGR UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S.(4-TRIFLUORO METHOXYPHENOL), 8 (6.1), III

## Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1,380 - 1,384  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14967.0001	Glass bottle	1 ml	inquire
8.14967.0010	Glass bottle	10 ml	inquire

## 841157 3'-(Trifluoromethyl)-acetophenone for synthesis



C<sub>9</sub>H<sub>7</sub>F<sub>3</sub>O  
3-Acetylbenzotrifluoride  
■ CAS-No. 349-76-8 ■ EC-No. 206-490-4

- Spec. density 1.26 g/cm<sup>3</sup> (20 °C)

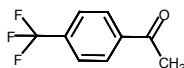
- Flash point 83 °C ■ M = 188.14 g/mol
- Boiling point 198 - 200 °C
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 97.0 % (a/a)  
Density (d 20 °C/ 4 °C) ..... 1.260 - 1.266  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41157.0005	Glass bottle	5 ml	inquire

## 841487 4'-(Trifluoromethyl)-acetophenone for synthesis



C<sub>9</sub>H<sub>7</sub>F<sub>3</sub>O  
4-Acetylbenzotrifluoride  
■ CAS-No. 709-63-7 ■ EC-No. 211-913-0

- Spec. density 0.92 g/cm<sup>3</sup> (20 °C)
- Flash point 84 °C ■ M = 188.14 g/mol

- Melting point 30 - 35 °C
- Boiling point 83 - 85 °C (12 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2914 70 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Melting range (lower value) ..... ≥ 30 °C  
Melting range (upper value) ..... ≤ 35 °C  
Identity (IR) ..... conforms

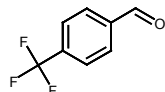
Ord.No.	Packaging	Quantity	Price
8.41487.0005	Glass bottle	5 ml	inquire
8.41487.0025	Glass bottle	25 ml	inquire

2-(Trifluoromethyl)aniline → 2-Aminobenzotrifluoride page 380

3-(Trifluoromethyl)aniline → 3-Aminobenzotrifluoride page 380

4-(Trifluoromethyl)aniline → 4-Aminobenzotrifluoride page 380

## 814045 4-(Trifluoromethyl)-benzaldehyde for synthesis



C<sub>8</sub>H<sub>5</sub>F<sub>3</sub>O  
■ CAS-No. 455-19-6 ■ EC-No. 207-240-7

- Refractive index 1.463 (20 °C, 589 nm)
- Spec. density 1.30 g/cm<sup>3</sup> (20 °C)

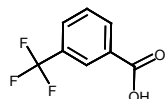
- Flash point 79 °C ■ Solub. in H<sub>2</sub>O 1.5 g/l (20 °C)
- M = 174.12 g/mol ■ Melting point 1 °C
- Boiling point 66 - 67 °C (17 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 662 mg/kg
- LGK 10 - 13
- HS-No. 2913 00 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,300 - 1,305  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14045.0010	Glass bottle	10 ml	inquire
8.14045.0050	Glass bottle	50 ml	inquire

## 814806 3-(Trifluoromethyl)-benzoic acid for synthesis



C<sub>8</sub>H<sub>5</sub>F<sub>3</sub>O<sub>2</sub>  
alpha,alpha,alpha-Trifluoro-m-toluic acid, 3-Carboxybenzotrifluoride  
■ CAS-No. 454-92-2 ■ EC-No. 207-230-2

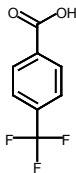
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 190.12 g/mol ■ Melting point 103 - 104 °C
- Boiling point 238 - 239 °C (1033 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 98,0 %  
Melting range (lower value) ..... ≥ 103 °C  
Melting range (upper value) ..... ≤ 105 °C  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14806.0005	Glass bottle	5 g	inquire

## 841184 4-(Trifluoromethyl)-benzoic acid for synthesis

C<sub>8</sub>H<sub>5</sub>F<sub>3</sub>O<sub>2</sub>

*alpha,alpha,alpha*-Trifluoro-*p*-toluic acid, 4-Carboxybenzotrifluoride  
 ■ CAS-No. 455-24-3 ■ EC-No. 207-242-8  
 ■ M = 190.12 g/mol ■ Melting point 219 - 220 °C  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13

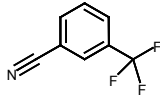
■ HS-No. 2916 39 90 ■ Disposal 3

**Specification**

Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 218 °C  
 Melting range (upper value)..... ≤ 222 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41184.0001	Glass bottle	1 g	inquire

## 818588 3-(Trifluoromethyl)-benzonitrile for synthesis

C<sub>8</sub>H<sub>4</sub>F<sub>3</sub>N3(CF<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>CN

■ CAS-No. 368-77-4 ■ EC-No. 206-711-4  
 ■ Refractive index 1.4575 (20 °C, 589 nm)  
 ■ Spec. density 1.28 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 72 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 171.12 g/mol

■ Boiling point 188 - 190 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340  
 ■ LGK 10  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3276 Nitrile, flüssig, giftig, n.a.g.(3-TRIFLUORMETHYLBENZONITRIL), 6.1, II  
 ■ IMDG-Code UN 3276 NITRILES, TOXIC, LIQUID,

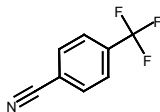
N.O.S.(3-TRIFLUOROMETHYLBENZONITRILE), 6.1, II  
 ■ IATA-DGR UN 3276 NITRILES, LIQUID, TOXIC, N.O.S.(3-TRIFLUOROMETHYLBENZONITRILE), 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 19 °C  
 Melting range (upper value)..... ≤ 22 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18588.0025	Glass bottle	25 ml	inquire

## 818680 4-(Trifluoromethyl)-benzonitrile for synthesis

C<sub>8</sub>H<sub>4</sub>F<sub>3</sub>N4-(CF<sub>3</sub>)C<sub>6</sub>H<sub>4</sub>CN

■ CAS-No. 455-18-5 ■ EC-No. 207-239-1  
 ■ Refractive index 1.4583 (20 °C, 589 nm)  
 ■ Spec. density 1.278 g/cm<sup>3</sup> ■ Flash point 72 °C  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 171.12 g/mol

mol ■ Melting point 35 - 38 °C  
 ■ Boiling point 183 - 185 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P302 + P352  
 ■ LGK 10 - 13  
 ■ HS-No. 2926 90 95 ■ Disposal 3  
 ■ ADR-RID UN 3439 Nitrile, fest, giftig, n.a.g.(4-TRIFLUORMETHYLBENZONITRIL), 6.1, II ■ IMDG-Code UN 3439 NITRILES, TOXIC, SOLID, N.O.S.(4-TRIFLUOROMETHYLBENZONITRILE), 6.1, II

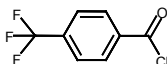
■ IATA-DGR UN 3439 NITRILES, SOLID, TOXIC, N.O.S.(4-TRIFLUOROMETHYLBENZONITRILE), 6.1, II

**Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 35 °C  
 Melting range (upper value)..... ≤ 38 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18680.0025	Plastic bottle	25 g	inquire

## 841805 4-(Trifluoromethyl)benzoyl chloride for synthesis

C<sub>8</sub>H<sub>4</sub>ClF<sub>3</sub>O

■ CAS-No. 329-15-7 ■ EC-No. 206-342-9

■ Spec. density 1.401 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 78 °C ■ M = 208.57 g/mol  
 ■ Boiling point 188 - 190 °C  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314,

P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2916 39 90 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(4-(TRIFLUORMETHYL)-BENZOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(4-(TRIFLUOROMETHYL)BENZOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC,

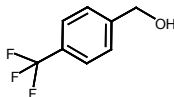
ORGANIC, N.O.S.(4-(TRIFLUOROMETHYL)BENZOYL CHLORIDE), 8, II

**Specification**

Assay (morpholine method)..... ≥ 97.0 %  
 Density (d 20 °C/ 4 °C)..... 1,400 - 1,405  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41805.0001	Glass bottle	1 ml	inquire
8.41805.0005	Glass bottle	5 ml	inquire

## 841721 4-(Trifluoromethyl)-benzyl alcohol for synthesis

C<sub>8</sub>H<sub>7</sub>F<sub>3</sub>O

■ CAS-No. 349-95-1 ■ EC-No. 206-494-6

■ Spec. density 1.297 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 100 °C ■ M = 176.13 g/mol

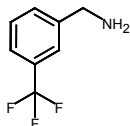
■ Melting point 22 - 25 °C  
 ■ Boiling point 78 - 80 °C (5.33 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,295 - 1,299  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41721.0005	Glass bottle	5 ml	inquire

## 814850 3-(Trifluoromethyl)-benzylamine for synthesis

C<sub>8</sub>H<sub>8</sub>F<sub>3</sub>N

■ CAS-No. 2740-83-2 ■ EC-No. 220-367-2

■ Spec. density 1.222 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 71 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 175.15 g/mol

■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2921 49 00 ■ Disposal 3  
 ■ ADR-RID UN 2735 Amine, flüssig, ätzend, n.a.g.(3-(TRIFLUORMETHYL)-BENZYLAMIN), 8, III  
 ■ IMDG-Code UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-(TRIFLUOROMETHYL)-BENZYLAMINE), 8, III, Segregation Group: 18

(Alkalis)

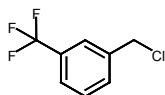
■ IATA-DGR UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S.(3-(TRIFLUOROMETHYL)-BENZYLAMINE), 8, III

**Specification**

Assay (GC, area%)..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1,232 - 1,235  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14850.0005	Glass bottle	5 ml	inquire

## 814876 3-(Trifluoromethyl)-benzyl chloride for synthesis

C<sub>8</sub>H<sub>6</sub>ClF<sub>3</sub>

3-Chloromethylbenzotrifluoride

- CAS-No. 705-29-3 ■ EC-No. 211-884-4
- Spec. density 1.254 g/cm<sup>3</sup> ■ Flash point 48 °C
- M = 194.58 g/mol ■ Boiling point 95 - 97 °C (80 hPa)

- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2903 99 90 ■ Disposal 3
- ADR-RID UN 2924 Entzündbarer flüssiger Stoff, ätzend, n.a.g.(3-(TRIFLUORMETHYL)-BENZYLCHLORID), 3 (8), III ■ IMDG-Code UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(3-

(TRIFLUOROMETHYL)-BENZYLCHLORIDE), 3 (8), III  
 ■ IATA-DGR UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.(3-(TRIFLUOROMETHYL)-BENZYLCHLORIDE), 3 (8), III

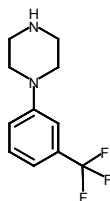
## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14876.0010	Glass bottle	10 ml	inquire

4-Trifluoromethylphenol → 4-Hydroxybenzotrifluoride page 978

## 814832 3-(Trifluoromethyl)-N-phenylpiperazine for synthesis

C<sub>11</sub>H<sub>13</sub>F<sub>3</sub>N<sub>2</sub>

- CAS-No. 15532-75-9 ■ EC-No. 239-574-4
- Spec. density 1.226 g/cm<sup>3</sup> (20 °C)
- Flash point >112 °C ■ M = 230.23 g/mol
- Boiling point 65 - 71 °C (20 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

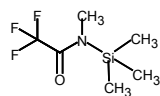
- HS-No. 2933 59 95 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 1,244 - 1,247  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14832.0005	Glass bottle	5 ml	inquire

## 111805 2,2,2-Trifluoro-N-methyl-N-(trimethylsilyl)acetamide for gas chromatography

C<sub>6</sub>H<sub>12</sub>F<sub>3</sub>NOSi

MSTFA

- CAS-No. 24589-78-4 ■ EC-No. 246-331-6
- Spec. density 1.085 g/cm<sup>3</sup> ■ Flash point 25 °C
- M = 199.25 g/mol ■ Boiling point 130 - 132 °C (1013 hPa)
- WGK 3

- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(N-METHYL-N-(TRIMETHYLSILYL)-2,2,2-TRIFLUOROACETAMID), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(N-METHYL-N-

(TRIMETHYLSILYL)-2,2,2-TRIFLUOROACETAMIDE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(N-METHYL-N-(TRIMETHYLSILYL)-2,2,2-TRIFLUOROACETAMIDE), 3, III

## Specification

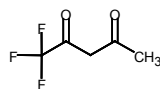
Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
1.11805.0005	Glass bottle	5 ml	inquire

(Trifluoromethyl)undecafluorocyclohexane → Perfluoromethylcyclohexane page 1277

2,2,2-Trifluoro-N,O-bis(trimethylsilyl)acetamide → Bis(trimethylsilyl)trifluoroacetamide page 44

## 821167 1,1,1-Trifluoro-2,4-pentanedione for synthesis

C<sub>5</sub>H<sub>5</sub>F<sub>3</sub>O<sub>2</sub>

1,1,1-Trifluoroacetylacetone

- CAS-No. 367-57-7 ■ EC-No. 206-698-5
- Refractive index 1.3893 (21 °C, 589 nm)
- Spec. density 1.28 g/cm<sup>3</sup> (20 °C)

- Flash point 40 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 154.09 g/mol
- Boiling point 105 - 107 °C (1013 hPa)
- WGK 3
- GHS: Warning, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P210, P302 + P352, P304 + P340, P305 + P351 + P338

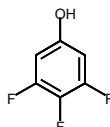
- LGK 3
- HS-No. 2914 70 00 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 1.276 - 1.279  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21167.0010	Glass bottle	10 ml	inquire

## 814969 3,4,5-Trifluorophenol for synthesis

C<sub>6</sub>H<sub>3</sub>F<sub>3</sub>O

- CAS-No. 99627-05-1 ■ EC-No. 436-120-9
- Spec. density 1.629 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O 104 g/l (20 °C) OECD Test Guideline 105
- M = 148.09 g/mol ■ Melting point 48 °C
- Boiling point 188 °C (calculated)
- Ignition temp. >402 °C

- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Inhalation, H332; Chronic aquatic toxicity, Category 2, H411; Acute toxicity, Category 3, Oral, H301; Acute toxicity, Category 4, Dermal, H312; Skin corrosion, Category 1B, H314, P273, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 200 - 2000 mg/kg
- LGK 6.1B
- HS-No. 2908 19 00 ■ Disposal 3
- ADR-RID UN 2923 Ätzender fester Stoff, giftig, n.a.g.(3,4,5-TRIFLUOROPHENOL), 8 (6.1), II ■ IMDG-Code UN 2923 CORROSIVE SOLID, TOXIC,

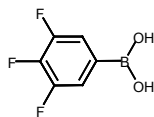
N.O.S.(3,4,5-TRIFLUOROPHENOL), 8 (6.1), II  
 ■ IATA-DGR UN 2923 CORROSIVE SOLID, TOXIC, N.O.S.(3,4,5-TRIFLUOROPHENOL), 8 (6.1), II

## Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value) ..... ≥ 45 °C  
 Melting range (upper value) ..... ≤ 49 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14969.0001	Glass bottle	1 g	inquire
8.14969.0010	Glass bottle	10 g	inquire

## 814939 3,4,5-Trifluorophenylboronic acid for synthesis



$C_6H_4BF_3O_2$   
 ■ CAS-No. 143418-49-9  
 ■ Vapour pressure < 0.01 hPa (20 °C) ■ Solub. in  $H_2O$  18.43 g/l (20 °C) ■ M = 175.9 g/mol  
 ■ Melting point 286 °C  
 ■ Boiling point 433 - 435 °C (1013 hPa)

■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P273, P305 + P351 + P338  
 ■ LD50 oral rat > 300 - 2000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(3,4,5-TRIFLUORPHENYLBORONSÄURE), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(3,4,5-

TRIFLUOROPHENYLBORONIC ACID), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(3,4,5-TRIFLUOROPHENYLBORONIC ACID), 9, III

## Specification

Assay (HPLC, area%) ..... ≥ 96,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14939.0005	Glass bottle	5 g	inquire
8.14939.0025	Glass bottle	25 g	inquire

Trifluorothioacetic acid S-ethyl ester → S-Ethyl trifluorothioacetate page 887

$\alpha,\alpha,\alpha$ -Trifluoro-m-toluic acid → 3-(Trifluoromethyl)-benzoic acid page 1593

$\alpha,\alpha,\alpha$ -Trifluoro-p-toluic acid → 4-(Trifluoromethyl)-benzoic acid page 1594

$\alpha,\alpha,\alpha$ -Trifluoro-m-toluidine → 3-Aminobenzotrifluoride page 380

$\alpha,\alpha,\alpha$ -Trifluoro-o-toluidine → 2-Aminobenzotrifluoride page 380

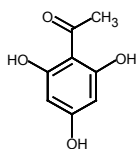
$\alpha,\alpha,\alpha$ -Trifluoro-p-toluidine → 4-Aminobenzotrifluoride page 380

1,1,2-Trifluorotrichloroethane → 1,1,2-Trichlorotrifluoroethane page 293

Triglycol → Triethylene glycol page 309

Triglyme → Triethylene glycol dimethyl ether page 309

## 841389 2',4',6'-Trihydroxyacetophenone monohydrate for synthesis



$C_8H_8O_4 \cdot H_2O$   
 2-Acetylphloroglucinol, Phloracetophenone

■ CAS-No. 480-66-0 ■ EC-No. 207-556-5  
 ■ M = 186.17 g/mol ■ Melting point 221 - 222 °C  
 ■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13

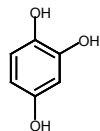
■ HS-No. 2914 50 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41389.0005	Plastic bottle	5 g	inquire

## 843791 1,2,4-Trihydroxybenzene for synthesis



$C_6H_6O_3$   
 ■ CAS-No. 533-73-3 ■ EC-No. 208-575-1  
 ■ Spec. density 1.45 g/cm<sup>3</sup> (20 °C) ■ Solub. in

$H_2O$  (20 °C) soluble ■ M = 126.11 g/mol

■ Melting point 137 - 140 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2907 29 00 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,2,4-TRIHYDROXYBENZOL), 6,1, II  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,2,4-TRIHYDROXYBENZOL), 6,1, II  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

N.O.S.(1,2,4-TRIHYDROXYBENZOL), 6,1, II

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 137 °C  
 Melting range (upper value) ..... ≤ 140 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43791.0005	Glass bottle	5 g	inquire
8.43791.0025	Glass bottle	25 g	inquire

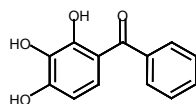
1,2,3-Trihydroxybenzene → page 1392

1,3,5-Trihydroxybenzene → page 1320

3,4,5-Trihydroxybenzoic acid ethyl ester → Ethyl 3,4,5-trihydroxybenzoate page 887

3,4,5-Trihydroxybenzoic acid propyl ester → Propyl 3,4,5-trihydroxybenzoate page 1377

## 842292 2,3,4-Trihydroxy benzophenone for synthesis



$C_{13}H_{10}O_4$   
 ■ CAS-No. 1143-72-2 ■ EC-No. 214-540-1  
 ■ M = 230.22 g/mol ■ Melting point 141 - 144 °C  
 ■ WGK 1

■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 50 00 ■ Disposal 3

## Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 141 °C

Melting range (upper value) ..... ≤ 144 °C  
 Identity (IR) ..... passes test

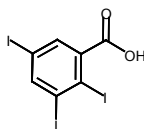
Ord.No.	Packaging	Quantity	Price
8.42292.0025	Glass bottle	25 g	inquire
8.42292.0100	Glass bottle	100 g	inquire

(3R,4S,5R)-3,4,5-Trihydroxy-1-cyclohexenecarboxylic acid → (-)-Shikimic acid page 1417

Trihydroxypropane → page 188

2,4,6-Trihydroxypyrimidine → page 430

## 841852 2,3,5-Triiodobenzoic acid for synthesis



$C_7H_3I_3O_2$

TIBA

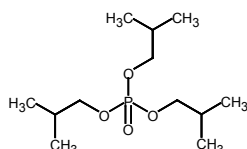
■ CAS-No. 88-82-4 ■ EC-No. 201-859-6  
 ■ M = 499.81 g/mol ■ Melting point 226 °C  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 813 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2916 39 90 ■ Disposal 3

## Specification

Assay (acidimetric) ..... ≥ 98,0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41852.0005	Plastic bottle	5 g	inquire

**818606 Triisobutyl phosphate for synthesis**C<sub>12</sub>H<sub>27</sub>O<sub>4</sub>P((CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>)<sub>3</sub>PO

- CAS-No. 126-71-6 ■ EC-No. 204-798-3
- Vapour pressure 2 hPa (103 °C)
- Spec. density 0.965 g/cm<sup>3</sup> (20 °C)

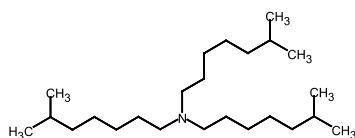
- Flash point 133 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 0.26 g/l (20 °C) ■ M = 266.32 g/mol
- pH value 8.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point < -60 °C ■ Boiling point 272 °C (1013 hPa) decomposes
- Ignition temp. 430 °C DIN 51794
- WGK 1
- GHS: Warning, Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412, P262, P273, P280, P302 + P352
- LC50 rat > 5.140 mg/l
- LD50 oral rat > 5000 mg/kg

- LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2919 90 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.963 - 0.967  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18606.0100	Glass bottle	100 ml	inquire
8.18606.0500	Glass bottle	500 ml	inquire
8.18606.1000	Glass bottle	1 l	inquire

**843805 Triisooctylamine for synthesis**C<sub>24</sub>H<sub>51</sub>N(C<sub>8</sub>H<sub>17</sub>)<sub>3</sub>N

- CAS-No. 25549-16-0 ■ EC-No. 247-092-0
- Spec. density 0.800 g/cm<sup>3</sup> (20 °C)
- Flash point 110 °C DIN 51758 ■ Solub. in

- H<sub>2</sub>O < 1 g/l (20 °C) ■ M = 353.68 g/mol
- Boiling point >204 °C
- WGK 2
- GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P273
- LGK 10 - 13
- HS-No. 2921 19 99
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(TRIIISOCTYLAMIN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(TRIIISOCTYLAMINE),

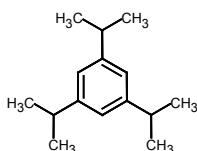
9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(TRIIISOCTYLAMINE), 9, III

**Specification**

Assay (acidimetric) ..... ≥ 95.0 %  
 Density (d 20 °C/ 4 °C) ..... 0.814 - 0.818  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43805.0100	Glass bottle	100 ml	inquire
8.43805.0500	Glass bottle	500 ml	inquire

Triisopropanolamine → 1,1',1''-Nitrilotri-2-propanol page 1214

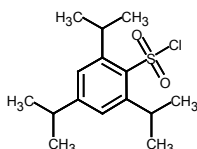
**841587 1,3,5-Triisopropylbenzene for synthesis**C<sub>15</sub>H<sub>24</sub>

- CAS-No. 717-74-8 ■ EC-No. 211-941-3
- Spec. density 0.85 g/cm<sup>3</sup> (20 °C)
- Flash point 86 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 204.35 g/mol
- Melting point -7 °C ■ Boiling point 235 - 237 °C
- WGK 2
- LGK 10
- HS-No. 2902 90 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41587.0050	Glass bottle	50 ml	inquire

**810591 2,4,6-Triisopropylbenzenesulfonyl chloride for synthesis**C<sub>15</sub>H<sub>23</sub>ClO<sub>2</sub>S2,4,6-[(CH<sub>3</sub>)<sub>2</sub>CH]C<sub>6</sub>H<sub>2</sub>SO<sub>2</sub>Cl  
TPSCI

- CAS-No. 6553-96-4 ■ EC-No. 229-479-6
- Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C) (slow decomposition) ■ M = 302.85 g/mol

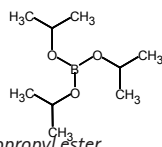
- Melting point 93 - 96 °C
- WGK 3
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8A
- HS-No. 2904 90 95 ■ Disposal 11
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2,4,6-TRIISOPROPYLBENZOLSULFONYLCHLORID), 8, III
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2,4,6-TRIISOPROPYLBENZENESULFONYL CHLORIDE), 8,

III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2,4,6-TRIISOPROPYLBENZENESULFONYL CHLORIDE), 8, III

**Specification**

Assay (argentometric) ..... ≥ 98.0 % (m)  
 Melting range (lower value) ..... ≥ 93 °C  
 Melting range (upper value) ..... ≤ 96 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.10591.0025	Glass bottle	25 g	inquire

**845150 Triisopropyl borate for pharma synthesis, non-GMP**C<sub>9</sub>H<sub>21</sub>BO<sub>3</sub>

Boric acid triisopropyl ester

- CAS-No. 5419-55-6 ■ EC-No. 226-529-9
- Vapour pressure 75 hPa (100 °C)
- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 25.5 °C ■ M = 188.07 g/mol
- Melting point -59 °C

- Boiling point 139 - 141 °C (1013 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P262
- LGK 3
- HS-No. 2920 90 85 ■ Disposal 8
- ADR-RID UN 2616 Triisopropylborat, 3, II
- IMDG-Code UN 2616 TRIISOPROPYL BORATE, 3, II
- IATA-DGR UN 2616 TRIISOPROPYL BORATE, 3, II

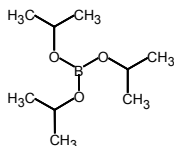
**Specification**

Appearance of substance (visual) ..... clear liquid  
 Colour number (Hazen) ..... ≤ 30  
 Assay (GC, area%) ..... ≥ 99.0 Area %  
 2-Propanol (GC, weight%) ..... lot specific result  
 Cyclohexane (GC, weight%) ..... lot specific result  
 Density (d 20 °C/ 4 °C) ..... 0.817 - 0.821  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45150.0100	Plastic bottle	100 ml	inquire
8.45150.0500	Plastic bottle	500 ml	inquire



## 841264 Triisopropyl borate for synthesis

C<sub>9</sub>H<sub>21</sub>BO<sub>3</sub>

Boric acid triisopropyl ester

■ CAS-No. 5419-55-6 ■ EC-No. 226-529-9  
 ■ Vapour pressure 75 hPa (100 °C)

- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 25.5 °C ■ M = 188.07 g/mol
- Melting point -59 °C
- Boiling point 139 - 141 °C (1013 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210, P262
- LGK 3
- HS-No. 2920 90 85 ■ Disposal 3
- ADR-RID UN 2616 Triisopropylborat, 3, II
- IMDG-Code UN 2616 TRIISOPROPYL BORATE,

3, II

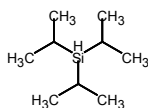
■ IATA-DGR UN 2616 TRIISOPROPYL BORATE, 3, II

## Specification

Assay (GC, area%)..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,817 - 0,821  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41264.0050	Glass bottle	50 ml	inquire
8.41264.0100	Glass bottle	100 ml	inquire
8.41264.0500	Glass bottle	500 ml	inquire

## 841359 Triisopropylsilane for synthesis

C<sub>9</sub>H<sub>22</sub>Si((CH<sub>3</sub>)<sub>2</sub>CH)<sub>3</sub>SiH

■ CAS-No. 6485-79-6

■ Spec. density 0.77 g/cm<sup>3</sup> (20 °C)

- Flash point 35 °C ■ M = 158.35 g/mol
- Boiling point 84 - 85 °C (46.7 hPa)
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2931 90 90
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TRIISOPROPYLSILAN), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID,

N.O.S.(TRIISOPROPYLSILANE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,  
 N.O.S.(TRIISOPROPYLSILANE), 3, III

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C)..... 0,765 - 0,772  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.41359.0010	Glass bottle	10 ml	inquire

Triketohydrindene hydrate → Ninhydrin page 1208

Trilaurylamine → Tridodecylamine page 1583

Trimellitic acid → 1,2,4-Benzenetricarboxylic acid page 438

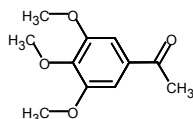
Trimellitic acid anhydride → 1,2,4-

Benzenetricarboxylic 1,2-anhydride page 439

Trimesic acid → 1,3,5-Benzenetricarboxylic acid page 438

Trimesoylchloride → 1,3,5-Benzenetricarbonyl chloride page 438

## 821172 3',4',5'-Trimethoxyacetophenone for synthesis

C<sub>11</sub>H<sub>14</sub>O<sub>4</sub>3,4,5-(CH<sub>3</sub>O)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>COCH<sub>3</sub>

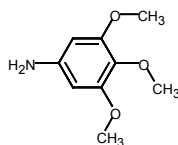
- CAS-No. 1136-86-3 ■ EC-No. 214-501-9
- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 210.23 g/mol ■ Melting point 77 - 80 °C
- Boiling point 173 - 174 °C (13 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2914 50 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 78 °C  
 Melting range (upper value)..... ≤ 81 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21172.0010	Glass bottle	10 g	inquire

## 841091 3,4,5-Trimethoxyaniline for synthesis

C<sub>9</sub>H<sub>13</sub>NO<sub>3</sub>

3,4,5-Trimethoxyphenylamine

■ CAS-No. 24313-88-0 ■ EC-No. 246-154-4

■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble

■ M = 183.2 g/mol ■ Melting point 110 - 113 °C

- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2922 29 00 ■ Disposal 3
- ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(3,4,5-TRIMETHOXYANILIN), 6.1, III
- IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(3,4,5-TRIMETHOXYANILINE), 6.1, III
- IATA-DGR UN 2811 TOXIC SOLID, ORGANIC,

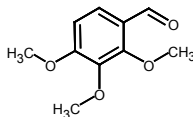
N.O.S.(3,4,5-TRIMETHOXYANILINE), 6.1, III

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 111 °C  
 Melting range (upper value)..... ≤ 114 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41091.0005	Plastic bottle	5 g	inquire

## 814027 2,3,4-Trimethoxybenzaldehyde for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>4</sub>2,3,4-(CH<sub>3</sub>O)<sub>3</sub>-C<sub>6</sub>H<sub>2</sub>-CHO

■ CAS-No. 2103-57-3 ■ EC-No. 218-271-0

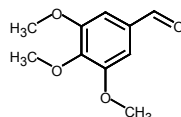
- Refractive index 1.5547 (20 °C, 589 nm)
- Flash point >112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 196.2 g/mol
- Melting point 38 - 41 °C
- Boiling point 168 - 170 °C (16 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 38 °C  
 Melting range (upper value)..... ≤ 41 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14027.0010	Glass bottle	10 g	inquire
8.14027.0050	Glass bottle	50 g	inquire

## 821173 3,4,5-Trimethoxybenzaldehyde for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>4</sub>3,4,5-(CH<sub>3</sub>O)<sub>3</sub>-C<sub>6</sub>H<sub>2</sub>-CHO

■ CAS-No. 86-81-7 ■ EC-No. 201-701-6

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 196.2 g/mol ■ Melting point 72 - 75 °C
- Bulk density 590 kg/m<sup>3</sup>
- Boiling point 163 - 165 °C
- WGK 1
- LGK 10 - 13
- HS-No. 2912 49 00 ■ Disposal 3

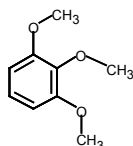
## Specification

Assay (GC, area%)..... ≥ 98,0 % (a/a)

Melting range (lower value)..... ≥ 72 °C  
 Melting range (upper value)..... ≤ 75 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21173.0025	Plastic bottle	25 g	inquire
8.21173.0100	Plastic bottle	100 g	inquire

## 814125 1,2,3-Trimethoxybenzene for synthesis

C<sub>9</sub>H<sub>12</sub>O<sub>3</sub>

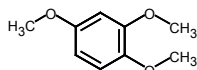
- 1,2,3-(CH<sub>3</sub>O)<sub>3</sub>-C<sub>6</sub>H<sub>3</sub>  
 ■ CAS-No. 634-36-6 ■ EC-No. 211-207-2  
 ■ Flash point 112 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 168.19 g/mol  
 ■ Melting point 43 - 45 °C ■ Boiling point 241 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 30 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 43 °C  
 Melting range (upper value) ..... ≤ 45 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14125.0025	Glass bottle	25 g	inquire

## 821174 1,2,4-Trimethoxybenzene for synthesis

C<sub>9</sub>H<sub>12</sub>O<sub>3</sub>

C<sub>6</sub>H<sub>3</sub>-1,2,4-(OCH<sub>3</sub>)<sub>3</sub>  
 ■ CAS-No. 135-77-3 ■ EC-No. 205-219-7

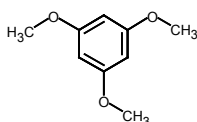
- Refractive index 1.533 (20 °C, 589 nm)  
 ■ Spec. density 1.13 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >112 °C ■ M = 168.19 g/mol  
 ■ Boiling point 247 °C  
 ■ WGK 3  
 ■ LGK 10  
 ■ HS-No. 2909 30 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.129 - 1.131  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21174.0025	Glass bottle	25 ml	inquire

## 841357 1,3,5-Trimethoxybenzene for synthesis

C<sub>9</sub>H<sub>12</sub>O<sub>3</sub>

*Phloroglucinol trimethyl ether*  
 ■ CAS-No. 621-23-8 ■ EC-No. 210-673-4  
 ■ Flash point 85 °C ■ M = 168.19 g/mol

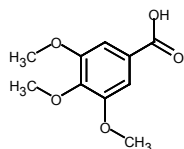
- Melting point 52 - 54 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 30 90 ■ Disposal 3  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(1,3,5-TRIMETHOXYBENZOL), 6.1, III  
 ■ IMDG-Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,3,5-TRIMETHOXYBENZENE), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(1,3,5-TRIMETHOXYBENZENE), 6.1, III

## Specification

Assay (HPLC, area%) ..... ≥ 99,0 % (a/a)  
 Melting range (lower value) ..... ≥ 51 °C  
 Melting range (upper value) ..... ≤ 53 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41357.0010	Glass bottle	10 g	inquire
8.41357.0050	Plastic bottle	50 g	inquire

## 808638 3,4,5-Trimethoxybenzoic acid for synthesis

C<sub>10</sub>H<sub>12</sub>O<sub>5</sub>3,4,5-(CH<sub>3</sub>O)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>COOH

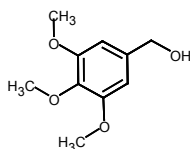
- Gallic acid trimethyl ether*  
 ■ CAS-No. 118-41-2 ■ EC-No. 204-248-2  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 212.20 g/mol  
 ■ Melting point 169 - 171 °C  
 ■ Bulk density 270 kg/m<sup>3</sup>  
 ■ Boiling point 225 - 227 °C (13 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 99 90 ■ Disposal 4

## Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 167 °C  
 Melting range (upper value) ..... ≤ 170 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08638.0100	Plastic bottle	100 g	inquire
8.08638.0250	Plastic bottle	250 g	inquire

## 814835 3,4,5-Trimethoxybenzyl alcohol for synthesis

C<sub>10</sub>H<sub>14</sub>O<sub>4</sub>

- CAS-No. 3840-31-1 ■ EC-No. 223-331-4  
 ■ Spec. density 1.199 g/cm<sup>3</sup> (20 °C)  
 ■ M = 198.22 g/mol ■ Boiling point 228 °C (33.3 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2909 49 80 ■ Disposal 3

## Specification

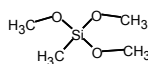
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1,195 - 1,200  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14835.0005	Glass bottle	5 ml	inquire

Trimethoxyborane → Trimethyl borate page 1603

1,1,1-Trimethoxyethane → Trimethyl orthoacetate page 1604

## 814178 Trimethoxymethylsilane for synthesis

C<sub>4</sub>H<sub>12</sub>O<sub>5</sub>SiCH<sub>3</sub>Si(OCH<sub>3</sub>)<sub>3</sub>*Methyltrimethoxysilane*

■ CAS-No. 1185-55-3 ■ EC-No. 214-685-0  
 ■ Refractive index 1.3646 (20 °C, 589 nm)  
 ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 9 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) (decomposition) ■ M = 136.22 g/mol  
 ■ Boiling point 102 - 103 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225, P210, P262  
 ■ LD50 oral rat 11808 mg/kg  
 ■ LD50 dermal rabbit > 9600 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TRIMETHOXYMETHYLSILAN), 3, II ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID,  
 N.O.S.(TRIMETHOXY METHYLSILANE), 3, II  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID,  
 N.O.S.(TRIMETHOXY METHYLSILANE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,954 - 0,956  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14178.0250	Glass bottle	250 ml	inquire



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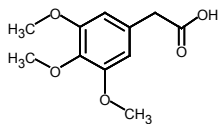
X

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# Trimet

## 814336 3,4,5-Trimethoxyphenyl acetic acid for synthesis



- CAS-No. 951-82-6 ■ EC-No. 213-456-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 226.22 g/mol
- Melting point 117 - 120 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2918 99 90 ■ Disposal 4

Melting range (lower value)..... ≥ 117 °C  
 Melting range (upper value)..... ≤ 120 °C  
 Identity (IR)..... conforms

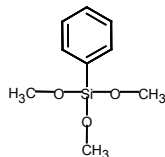
C<sub>11</sub>H<sub>14</sub>O<sub>5</sub>  
 3,4,5-(CH<sub>3</sub>O)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>CH<sub>2</sub>COOH

**Specification**  
 Assay (acidimetric)..... ≥ 99,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.14336.0005	Glass bottle	5 g	inquire

3,4,5-Trimethoxyphenylamine → 3,4,5-Trimethoxyaniline page 1598

## 843658 Trimethoxyphenylsilane for synthesis

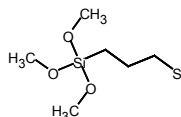


- C<sub>9</sub>H<sub>14</sub>O<sub>3</sub>Si  
 (CH<sub>3</sub>O)<sub>3</sub>SiC<sub>6</sub>H<sub>5</sub>
- CAS-No. 2996-92-1 ■ EC-No. 221-066-9
  - Spec. density 1.064 g/cm<sup>3</sup> ■ Flash point 83 °C
  - M = 198.3 g/mol ■ Boiling point 233 °C
  - WGK 3
  - LGK 10
  - HS-No. 2931 90 90 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 96,5 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 1.062 - 1.066  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.43658.0050	Glass bottle	50 ml	inquire

## 818818 3-(Trimethoxysilyl)-1-propanethiol for synthesis



- Melting point < -50 °C
- Boiling point 213 - 215 °C (1013 hPa)
- Ignition temp. 235 °C
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 2, H411, P262, P273, P280, P302 + P352
- LD50 oral rat 774 mg/kg ■ LD50 dermal rabbit 2268 mg/kg
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 6
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(3-(TRIMETHOXSILYL)-PROPAN-1-

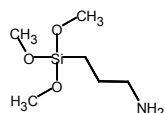
THIOL), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3-(TRIMETHOXSILYL)-1-PROPANETHIOL), 9, III, Marine Pollutant: P ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(3-(TRIMETHOXSILYL)-1-PROPANETHIOL), 9, III

**Specification**  
 Assay (GC, area%)..... ≥ 95,0 Area %  
 Density (d 20 °C/ 4 °C)..... 1,055 - 1,057  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.18818.0100	Glass bottle	100 ml	inquire

C<sub>6</sub>H<sub>16</sub>O<sub>3</sub>SSi  
 (3-Mercaptopropyl)trimethoxysilane  
 ■ CAS-No. 4420-74-0 ■ EC-No. 224-588-5  
 ■ Refractive index 1.4402 (25 °C, 589 nm)  
 ■ Vapour pressure 0.2 hPa (20 °C)  
 ■ Spec. density 1.05 g/cm<sup>3</sup> (25 °C)  
 ■ Flash point 85 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 196.34 g/mol

## 818550 3-(Trimethoxysilyl)-propylamine for synthesis



- Flash point 90 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 179.29 g/mol
- pH value >9 (20 g/l, H<sub>2</sub>O, 20 °C)
- Boiling point 194 °C (1013 hPa)
- Ignition temp. 295 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338

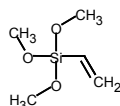
- LGK 10 - 13
- HS-No. 2931 90 90

**Specification**  
 Assay (HClO<sub>4</sub>)..... ≥ 98,0 %  
 Density (d 20 °C/ 4 °C)..... 1.013 - 1.016  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18550.0250	Glass bottle	250 ml	inquire

C<sub>6</sub>H<sub>17</sub>NO<sub>3</sub>Si  
 ■ CAS-No. 13822-56-5 ■ EC-No. 237-511-5  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C)

## 841268 Trimethoxyvinylsilane for synthesis



- mol ■ Boiling point 122 - 124 °C
- Ignition temp. 235 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332, P210, P262
- LC50 rat 16.3 mg/l
- LD50 oral rat 7120 mg/kg ■ LD50 dermal rabbit 3259 mg/kg
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

n.a.g.(TRIMETHOXYVINYLILAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIMETHOXYVINYLILAN), 3, II ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIMETHOXYVINYLILAN), 3, II

**Specification**  
 Assay (GC, area%)..... ≥ 97,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.968 - 0.973  
 Identity (IR)..... passes test

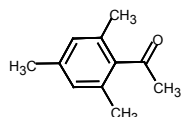
Ord.No.	Packaging	Quantity	Price
8.41268.0100	Glass bottle	100 ml	inquire

C<sub>5</sub>H<sub>12</sub>O<sub>3</sub>Si  
 Vinyltrimethoxysilane  
 ■ CAS-No. 2768-02-7 ■ EC-No. 220-449-8  
 ■ Vapour pressure 88 hPa (55 °C)  
 ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 %(V) ■ Flash point 22 °C ■ M = 148.23 g/

Trimethylacetic acid → Pivalic acid page 1333  
 Trimethylacetic acid anhydride → Pivalic anhydride page 1333

Trimethylacetic acid ethyl ester → Ethyl pivalate page 882  
 1,1,1-Trimethylacetone → 3,3-Dimethyl-2-butanone page 784

## 841063 2',4',6'-Trimethylacetophenone for synthesis



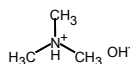
- CAS-No. 1667-01-2 ■ EC-No. 216-783-9
- Spec. density 0.975 g/cm<sup>3</sup> (20 °C)
- Flash point >110 °C ■ M = 162.23 g/mol
- Boiling point 235 - 236 °C
- WGK 3
- LGK 10
- HS-No. 2914 39 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.973 - 0.977  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41063.0025	Glass bottle	25 ml	inquire

C<sub>11</sub>H<sub>14</sub>O  
 2-Acetylmesitylene

Trimethylacetyl chloride → Pivaloyl chloride page 1333

**821177 Trimethylamine (40% solution in water) for synthesis**

- Vapour pressure 600 hPa (20 °C)
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2 - 11.6 % (V) (anhydrous substance)
- Flash point -45 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 13 (H<sub>2</sub>O, 20 °C)
- Melting point -2 °C ■ Boiling point 30 - 100 °C
- Ignition temp. 250 °C
- WGK 2

- GHS: Danger, Flammable liquid, Category 1, H224; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P233, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 500 mg/kg
- LGK 3
- HS-No. 2921 11 00 ■ Disposal 3
- ADR-RID UN 1297 Trimethylamin, wässrige Lösung, 3 (8), I ■ IMDG-Code UN 1297 TRIMETHYLAMINE, AQUEOUS SOLUTION, 3 (8), I

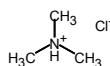
■ IATA-DGR UN 1297 TRIMETHYLAMINE, AQUEOUS SOLUTION, 3 (8), I

**Specification**

Assay (acidimetric)..... 38,0 - 41,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.21177.0100	Glass bottle	100 ml	inquire
8.21177.1000	Glass bottle	1 l	inquire
8.21177.2500	Glass bottle	2.5 l	inquire

Trimethylamine hydrochloride → Trimethylammonium chloride page 1601

**821178 Trimethylammonium chloride for synthesis**C<sub>3</sub>H<sub>10</sub>ClN(CH<sub>3</sub>)<sub>3</sub>N<sup>+</sup> \* HCl

Trimethylamine hydrochloride

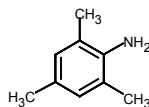
- CAS-No. 593-81-7 ■ EC-No. 209-810-0
- Spec. density 1 g/cm<sup>3</sup> ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 95.57 g/mol

- pH value 5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 273 - 278 °C
- WGK 1
- LD50 oral rat 3090 mg/kg
- LGK 10 - 13
- HS-No. 2921 11 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (argentometric)..... ≥ 98,0 % (m)  
Melting range (lower value)..... ≥ 273 °C  
Melting range (upper value)..... ≤ 278 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21178.0005	Glass bottle	5 g	inquire
8.21178.0250	Glass bottle	250 g	inquire

**808606 2,4,6-Trimethylaniline for synthesis**C<sub>9</sub>H<sub>13</sub>N2,4,6-(CH<sub>3</sub>)<sub>3</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>

2-Aminomesitylene, Mesidine

- CAS-No. 88-05-1 ■ EC-No. 201-794-3

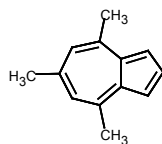
- Refractive index 1.5516 (20 °C, 589 nm)
- Spec. density 0.96 g/cm<sup>3</sup> (20 °C)
- Flash point 96 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 135.21 g/mol
- Melting point -5 °C ■ Boiling point 232 - 234 °C (1013 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Eye irritation, Category 2, H319, P262, P305 + P351 + P338

- LD50 oral rat 743 mg/kg
- LGK 10 - 13
- HS-No. 2921 49 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,962 - 0,964  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08606.0100	Glass bottle	100 ml	inquire

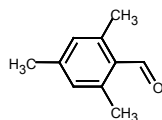
**814544 4,6,8-Trimethylazulene for synthesis**C<sub>13</sub>H<sub>14</sub>

- CAS-No. 941-81-1 ■ EC-No. 213-383-6
- M = 170.25 g/mol ■ Melting point 80 - 82 °C
- WGK 2
- LGK 10 - 13 ■ Store at +2 °C to +8 °C.
- HS-No. 2902 19 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (GC, area%)..... ≥ 99,0 Area %  
Melting range (lower value)..... ≥ 80 °C  
Melting range (upper value)..... ≤ 82 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14544.0001	Glass bottle	1 g	inquire

**822175 2,4,6-Trimethylbenzaldehyde for synthesis**C<sub>10</sub>H<sub>12</sub>O2,4,6-(CH<sub>3</sub>)<sub>3</sub>C<sub>6</sub>H<sub>3</sub>CHO

Mesitaldehyde, Mesitylene-2-carbaldehyde

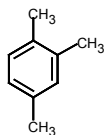
- CAS-No. 487-68-3 ■ EC-No. 207-662-1
- Refractive index 1.5503 (25 °C, 589 nm)
- Spec. density 1.02 g/cm<sup>3</sup> (20 °C)
- Flash point 105 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 148.21 g/mol
- Melting point 14 °C ■ Boiling point 237 °C
- WGK 2
- LGK 10
- HS-No. 2912 29 00 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 1,018 - 1,019  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22175.0010	Glass bottle	10 ml	inquire

## 814505 1,2,4-Trimethylbenzene for synthesis



C<sub>9</sub>H<sub>12</sub>  
*Pseudocumol*  
 ■ CAS-No. 95-63-6 ■ EC-No. 202-436-9  
 ■ Refractive index 1.5047 (20 °C, 589 nm)  
 ■ Vapour pressure 2.8 hPa (25 °C)  
 ■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.8 - 7 % (V) ■ Flash point 48 °C ■ Solub. in H<sub>2</sub>O 0.057 g/l (20 °C) ■ M = 120.19 g/mol

■ Melting point -44 °C ■ Boiling point 168 °C (1013 hPa) ■ Ignition temp. 485 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 2, H411, P210, P273, P302 + P352, P305 + P351 + P338  
 ■ LC50 rat 18 mg/l  
 ■ LD50 oral rat 5000 mg/kg  
 ■ EC-Index-No. 601-043-00-3 ■ LGK 3  
 ■ HS-No. 2902 90 00 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,

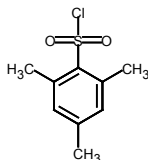
n.a.g.(1,2,4-TRIMETHYLBENZOL), 3, III ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(1,2,4-TRIMETHYLBENZENE), 3, III  
 ■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(1,2,4-TRIMETHYLBENZENE), 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,874 - 0,876  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14505.0100	Glass bottle	100 ml	inquire
8.14505.0500	Glass bottle	500 ml	inquire

1,3,5-Trimethylbenzene → page 305

## 814055 2,4,6-Trimethylbenzenesulfonyl chloride for synthesis



C<sub>9</sub>H<sub>11</sub>ClO<sub>2</sub>S  
 2,4,6-(CH<sub>3</sub>)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>SO<sub>2</sub>Cl  
*Mesitylene-2-sulfonic acid chloride*  
 ■ CAS-No. 773-64-8 ■ EC-No. 212-257-8  
 ■ Flash point 113 °C (External MSDS) ■ Solub. in

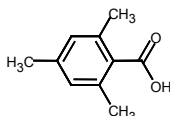
H<sub>2</sub>O (20 °C) (decomposition) ■ M = 218.70 g/mol  
 ■ Melting point 53 - 56 °C  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2904 90 95 ■ Disposal 11  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(2,4,6-TRIMETHYLBENZOLSULFONSAEURE), 8, II ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2,4,6-TRIMETHYLBENZENE

SULFONYLCHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(2,4,6-TRIMETHYLBENZENE SULFONYLCHLORIDE), 8, II

**Specification**  
 Assay (ex Cl) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 53 °C  
 Melting range (upper value) ..... ≤ 56 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14055.0025	Glass bottle	25 g	inquire

## 821179 2,4,6-Trimethylbenzoic acid for synthesis



C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>  
 2,4,6-(CH<sub>3</sub>)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>COOH

*Mesitylene-2-carboxylic acid*  
 ■ CAS-No. 480-63-7 ■ EC-No. 207-553-9  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 164.21 g/mol ■ Melting point 151 - 154 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2916 39 90 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
 Melting range (lower value) ..... ≥ 151 °C  
 Melting range (upper value) ..... ≤ 154 °C  
 Identity (IR) ..... passes test

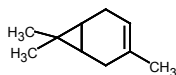
Ord.No.	Packaging	Quantity	Price
8.21179.0010	Glass bottle	10 g	inquire

Trimethylbenzylammonium bromide →  
 Benzyltrimethylammonium bromide page 456

Trimethylbenzylammonium chloride →  
 Benzyltrimethylammonium chloride page 457

Trimethylbenzylammonium hydroxide →  
 Benzyltrimethylammonium hydroxide page 457

## 843853 3,7,7-Trimethylbicyclo(4.1.0)hept-3-ene for synthesis



C<sub>10</sub>H<sub>16</sub>  
 ■ CAS-No. 13466-78-9 ■ EC-No. 236-719-3  
 ■ Vapour pressure 2.7 hPa (20 °C)  
 ■ Spec. density 0.864 g/ml (20 °C)  
 ■ Flash point 43 °C ■ Kin. viscosity < 7 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (25 °C) practically insoluble ■ M = 136.24 g/mol  
 ■ Boiling point 166 - 170 °C (1013 hPa)  
 ■ WGK 2

■ GHS: Danger, Flammable liquid, Category 3, H226; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 3, H412; Skin irritation, Category 2, H315; Aspiration hazard, Category 1, H304, P210, P262, P273, P280, P301 + P310, P302 + P352, P331  
 ■ LC50 rat 49 mg/l  
 ■ LD50 oral rat 4800 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2902 19 00 ■ Disposal 3  
 ■ ADR-RID UN 2319 Terpenkohlenwasserstoffe, n.a.g., 3, III ■ IMDG-Code UN 2319 TERPENE HYDROCARBONS, N.O.S., 3, III

■ IATA-DGR UN 2319 TERPENE HYDROCARBONS, N.O.S., 3, III

**Specification**  
 Assay (GC, area%) ..... ≥ 94,5 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.860 - 0.870  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43853.0025	Glass bottle	25 ml	inquire
8.43853.1000	Glass bottle	1 l	inquire

2,6,6-Trimethylbicyclo[3.1.1]heptane → Pinane  
 page 1328

(1R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene →  
 (1R)-(+)-α-Pinene page 1328

exo-(1R)-1,7,7-Trimethylbicyclo[2.2.1]hept-2-yl acetate → Isobornyl acetate page 1042

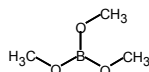
1,7,7-Trimethylbicyclo[2.2.1]heptane-2-one →  
 DL-Camphor page 566

(1S)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene →  
 (1S)-(-)-α-Pinene page 1328

endo-(1S)-1,7,7-Trimethylbicyclo[2.2.1]hept-2-yl acetate → L-Bornyl acetate page 481



## 821180 Trimethyl borate for synthesis



C<sub>3</sub>H<sub>9</sub>BO<sub>3</sub>  
(CH<sub>3</sub>O)<sub>3</sub>B

- CAS-No. 121-43-7 ■ EC-No. 204-468-9
- Refractive index 1.3568 (20 °C) ■ Vapour pressure 182 hPa (25 °C) ■ Spec. density 0.932 g/cm<sup>3</sup> (20 °C) ■ Flash point -11 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 103.91 g/mol
- pH value (H<sub>2</sub>O) not applicable ■ Melting point -

- 34 - -29 °C ■ Boiling point 67 - 69 °C (1013 hPa)
- Ignition temp. 305 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Dermal, H312, P210, P302 + P352
- LD50 oral rat 6140 mg/kg ■ LD50 dermal rabbit 1845 mg/kg
- EC-Index-No. 005-005-00-1 ■ LGK 3 ■ Store below +15°C.
- HS-No. 2920 90 85 ■ Disposal 3
- ADR-RID UN 2416 Trimethylborat, 3, II ■ IMDG-

Code UN 2416 TRIMETHYL BORATE, 3, II  
■ IATA-DGR UN 2416 TRIMETHYL BORATE, 3, II

## Specification

Assay (acidimetric)..... ≥ 99,0 % (m)  
Density (d 20 °C/ 4 °C) ..... 0,931 - 0,933  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.21180.0250	Glass bottle	250 ml	inquire
8.21180.1000	Glass bottle	1 l	inquire

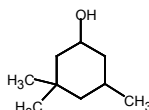
Trimethylbromosilane → Bromotrimethylsilane page 518

Trimethylchlorosilane → page 44

Trimethylchlorotin → Trimethyltin chloride page 1609

Trimethylcarbinol → page 316

## 814442 3,3,5-Trimethylcyclohexanol (mixture of cis- and trans- isomers) for synthesis



C<sub>9</sub>H<sub>18</sub>O

Homomenthol, Dihydroisophorol

- CAS-No. 116-02-9 ■ EC-No. 204-122-7
- Refractive index 1.439 (60 °C, 589 nm) ■ Vapour pressure 1 hPa (50 °C) ■ Spec. density 0.86 g/cm<sup>3</sup> (60 °C) ■ Explosive limit 1.5 % (V)

- Flash point 81 °C DIN 51758 ■ Solub. in H<sub>2</sub>O 1.8 g/l (20 °C) ■ M = 142.24 g/mol
- pH value 7 (1.8 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 30 - 32 °C
- Boiling point 193 - 196 °C (1013 hPa)
- Ignition temp. 375 °C DIN 51794
- WGK 1
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319, P262, P304 + P340, P305 + P351 + P338
- LD50 oral rat 3250 mg/kg ■ LD50 dermal rabbit

2430 mg/kg

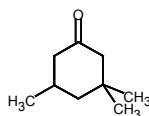
- LGK 10
- HS-No. 2906 19 00 ■ Disposal 1

## Specification

Assay isomers (GC, area%)..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 28 °C  
Melting range (upper value)..... ≤ 33 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.14442.0005	Glass bottle	5 ml	inquire
8.14442.0250	Plastic bottle	250 ml	inquire

## 814298 3,3,5-Trimethylcyclohexanone for synthesis



C<sub>9</sub>H<sub>16</sub>O

- CAS-No. 873-94-9 ■ EC-No. 212-855-9
- Vapour pressure 0.7 hPa (20 °C)
- Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.1 % (V) ■ Flash point 64 °C ■ Solub. in

- H<sub>2</sub>O 30 g/l (20 °C) ■ M = 140.22 g/mol
- Melting point -10 °C
- Boiling point 188 - 190 °C (1013 hPa)
- Ignition temp. 430 °C
- WGK 1
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Specific target organ toxicity - single exposure, Category 3, H335, P304 + P340
- LC50 rat 14.2 mg/l
- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg

■ LGK 10 - 13

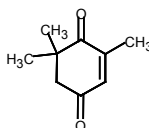
- HS-No. 2914 22 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 0,889 - 0,892  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14298.0005	Glass bottle	5 ml	inquire
8.14298.0250	Glass bottle	250 ml	inquire

## 814493 2,6,6-Trimethyl-2-cyclohexene-1,4-dione for synthesis



C<sub>9</sub>H<sub>12</sub>O<sub>2</sub>

4-Oxoisophorone

- CAS-No. 1125-21-9 ■ EC-No. 214-406-2
- Spec. density 1.03 g/cm<sup>3</sup> (20 °C)
- Flash point 94 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 152.19 g/mol
- Melting point 15 °C ■ Boiling point 222 °C
- Ignition temp. 460 °C
- WGK 3
- LGK 10
- HS-No. 2914 29 00 ■ Disposal 3

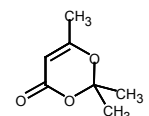
## Specification

Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,031 - 1,034  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14493.0025	Glass bottle	25 ml	inquire

3,5,5-Trimethyl-2-cyclohexen-1-one → Isophorone page 1050

## 814170 2,2,6-Trimethyl-1,3-dioxine-4-one for synthesis



C<sub>7</sub>H<sub>10</sub>O<sub>3</sub>

Diketene-acetone adduct

- CAS-No. 5394-63-8 ■ EC-No. 226-403-3
- Refractive index 1.4636 (20 °C, 589 nm)
- Spec. density 1.08 g/cm<sup>3</sup> (20 °C)
- Flash point 82 °C ■ Solub. in H<sub>2</sub>O (20 °C) slightly

- soluble ■ M = 142.15 g/mol
- Melting point 12 - 13 °C ■ Boiling point 77 °C (5 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13 ■ Store at +2°C to +8°C.
- HS-No. 2932 99 00 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good

## Specification

Assay (GC, area%)..... ≥ 95,0 Area %  
Density (d 20 °C/ 4 °C) ..... 1,081 - 1,084  
Acetone (GC, area%)..... ≤ 5,0 Area %  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14170.0100	Glass bottle	100 ml	inquire

# Trimet

3,7,11-Trimethyl-1,6,10-dodecatrien-3-ol → Nerolidol page 1204  
 3,7,11-Trimethyl-2,6,10-dodecatrien-1-ol → Farnesol page 892  
 Trimethylene bromide → 1,3-Dibromopropane page 705  
 Trimethylene bromohydrin → 3-Bromo-1-propanol page 512

Trimethylenecarboxylic acid → Cyclopropanecarboxylic acid page 679  
 Trimethylene chlorohydrin → 3-Chloro-1-propanol page 630  
 Trimethylenediamine → 1,3-Diaminopropane page 697  
 Trimethylene diiodide → 1,3-Diiodopropane page 764

Trimethylene dimercaptan → 1,3-Propanedithiol page 1367  
 Trimethylene glycol → 1,3-Propanediol page 308  
 Trimethylene imine → Azetidine page 427

## 820937 1,3-Trimethylene oxide for synthesis



C<sub>3</sub>H<sub>6</sub>O  
 1,3-Propylene oxide, Oxetane  
 ■ CAS-No. 503-30-0 ■ EC-No. 207-964-3  
 ■ Refractive index 1.3915 (20 °C, 589 nm)  
 ■ Vapour pressure 350 hPa (20 °C)  
 ■ Spec. density 0.90 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.4 % (V) ■ Flash point -28 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (20 °C) ■ M = 58.07 g/mol

■ Melting point -97 °C ■ Boiling point 49 - 50 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Acute toxicity, Category 4, Oral, H302, P210, P233, P302 + P352  
 ■ EC-Index-No. 603-058-00-0 ■ LGK 3 ■ Store at +2°C to +8°C.  
 ■ HS-No. 2932 99 00 ■ Disposal 3

■ ADR-RID UN 1280 Propylenoxid, 3, I ■ IMDG-Code UN 1280 PROPYLENE OXIDE, 3, I  
 ■ IATA-DGR UN 1280 PROPYLENE OXIDE, 3, I

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.895 - 0.899  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20937.0005	Glass bottle	5 ml	inquire

Trimethylethoxysilane → Ethoxytrimethylsilane page 847  
 Trimethylethylene → 2-Methyl-2-butene page 1139

Trimethylhexadecylammonium bromide → Hexadecyltrimethylammonium bromide page 947  
 Trimethylhexadecylammonium chloride → Hexadecyltrimethylammonium chloride page 947

Trimethylidosisilane → Iodotrimethylsilane page 1014

## 843844 Trimethyl(methylcyclopentadienyl) platinum(IV) for synthesis

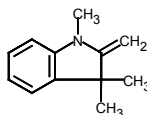
C<sub>9</sub>H<sub>16</sub>Pt  
 C<sub>5</sub>H<sub>4</sub>CH<sub>3</sub>Pt(CH<sub>3</sub>)<sub>3</sub>  
 ■ CAS-No. 94442-22-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 319.32 g/mol

■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2843 90 90 ■ Disposal 27

**Specification**  
 Assay (NMR) ..... ≥ 98.0 %

Ord.No.	Packaging	Quantity	Price
8.43844.0001	Glass bottle	1 g	inquire

## 821182 1,3,3-Trimethyl-2-methyleneindoline for synthesis



C<sub>12</sub>H<sub>15</sub>N  
 Fischer's base, 2-Methylene-1,3,3-trimethylindoline  
 ■ CAS-No. 118-12-7 ■ EC-No. 204-235-1  
 ■ Spec. density 0.98 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 130 °C ■ Solub. in H<sub>2</sub>O 0.5 g/l (20 °C) ■ M = 173.26 g/mol ■ Melting point -10 °C ■ Boiling point 106 - 110 °C (4 hPa)

■ Ignition temp. 220 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400, P273  
 ■ LD50 oral rat 1578 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2933 99 80 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(1,3,3-TRIMETHYL-2-METHYLENINDOLIN), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,3,3-TRIMETHYL-2-

METHYLENINDOLINE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,3,3-TRIMETHYL-2-METHYLENINDOLINE), 9, III

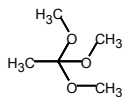
**Specification**  
 Assay (GC, area%) ..... ≥ 97.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.980 - 0.983  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21182.0250	Glass bottle	250 ml	inquire

1,1,1-Trimethylolethane → 2-Hydroxymethyl-2-methyl-1,3-propanediol page 988

1,1,1-Trimethylolpropane → 2-Ethyl-2-(hydroxymethyl)-1,3-propanediol page 871

## 818804 Trimethyl orthoacetate for synthesis



C<sub>5</sub>H<sub>12</sub>O<sub>3</sub>  
 CH<sub>3</sub>C(OCH<sub>3</sub>)<sub>3</sub>  
 1,1,1-Trimethoxyethane, Orthoacetic acid trimethyl ester  
 ■ CAS-No. 1445-45-0 ■ EC-No. 215-892-9  
 ■ Refractive index 1.3859 (25 °C, 589 nm)  
 ■ Vapour pressure 20 hPa (20 °C)  
 ■ Spec. density 0.96 g/cm<sup>3</sup> (20 °C)

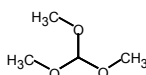
■ Flash point 15 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 120.14 g/mol  
 ■ Boiling point 108 °C (1013 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Flammable liquid, Category 2, H225; Skin irritation, Category 2, H315; Skin sensitisation, Category 1, H317, P210, P233, P262, P280, P302 + P352  
 ■ LD50 oral rat > 2000 mg/kg  
 ■ LGK 3  
 ■ HS-No. 2915 90 70 ■ Disposal 3  
 ■ ADR-RID UN 3272 Ester, n.a.g.(TRIMETHYLORTHOACETAT), 3, II ■ IMDG-

Code UN 3272 ESTERS, N.O.S.(TRIMETHYL ORTHOACETATE), 3, II  
 ■ IATA-DGR UN 3272 ESTERS, N.O.S.(TRIMETHYL ORTHOACETATE), 3, II

**Specification**  
 Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.956 - 0.958  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.18804.0100	Glass bottle	100 ml	inquire
8.18804.0500	Glass bottle	500 ml	inquire

## 800885 Trimethyl orthoformate for synthesis

C<sub>4</sub>H<sub>10</sub>O<sub>3</sub>CH(OCH<sub>3</sub>)<sub>3</sub>

Methyl orthoformate, Orthoformic acid trimethyl ester

- CAS-No. 149-73-5 ■ EC-No. 205-745-7
- Refractive index 1.379 (20 °C, 589 nm) ■ Vapour pressure 10 hPa (7 °C) ■ Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 44.6 % (V)
- Flash point 13 °C ■ Solub. in H<sub>2</sub>O 10 g/l

- (20 °C) Hydrolysis ■ M = 106.12 g/mol
- Melting point -53 °C ■ Boiling point 102 °C (1013 hPa) ■ Ignition temp. 255 °C
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319, P210, P233, P260, P262, P305 + P351 + P338
- LC50 rat 40 mg/l
- LD50 oral rat 3130 mg/kg
- LGK 3
- HS-No. 2915 90 70 ■ Disposal 3
- ADR-RID UN 3272 Ester, n.a.g.(TRIMETHYLORTHOFORMIAT), 3, II ■ IMDG-

Code UN 3272 ESTERS, N.O.S.(TRIMETHYL ORTHOFORMATE), 3, II

■ IATA-DGR UN 3272 ESTERS, N.O.S.(TRIMETHYL ORTHOFORMATE), 3, II

## Specification

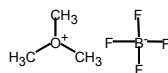
Assay (GC, area%) ..... ≥ 98,0 Area %

Density (d 20 °C/ 4 °C) ..... 0,968 - 0,970

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00885.0250	Glass bottle	250 ml	inquire
8.00885.1000	Glass bottle	1 l	inquire

## 841638 Trimethyloxonium tetrafluoroborate for synthesis

C<sub>3</sub>H<sub>9</sub>BF<sub>4</sub>O

- CAS-No. 420-37-1 ■ EC-No. 206-994-4
- Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 147.9 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) strongly acid
- Melting point 202 - 203 °C (sublimed)
- WGK 3
- GHS: Danger, Substances and mixtures, which in contact with water, emit flammable gases,

- Category 1, H260; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 4.3 ■ Store at +2°C to +8°C.
- HS-No. 2942 00 00 ■ Disposal 22
- ADR-RID UN 3131 Mit Wasser reagierender fester Stoff, ätzend, n.a.g.(TRIMETHYLOXONIUM-TETRAFLUOROBORAT), 4.3 (8), I ■ IMDG-Code UN 3131 WATER-REACTIVE SOLID, CORROSIVE, N.O.S.(TRIMETHYLOXONIUM TETRAFLUOROBORATE), 4.3 (8), I, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3131 WATER-REACTIVE SOLID, CORROSIVE, N.O.S.(TRIMETHYLOXONIUM TETRAFLUOROBORATE), 4.3 (8), I

## Specification

Assay (acidimetric) ..... ≥ 95,0 % (m)

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.41638.0010	Glass bottle	10 g	inquire

2,2,4-Trimethylpentane → page 298

## 814734 2,4,4-Trimethylpentene (mixture of isomers) for synthesis

C<sub>8</sub>H<sub>16</sub>

Diisobutylene

- CAS-No. 25167-70-8 ■ EC-No. 246-690-9
- Refractive index 1.411 ■ Vapour pressure 41 hPa (20 °C) ■ Spec. density 0.72 g/cm<sup>3</sup> (20 °C)
- Explosive limit 0.7 - 5.8 % (V)
- Flash point -12 °C ■ Kin. viscosity 0.76 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O < 0.1 g/l (20 °C)
- M = 112.21 g/mol ■ pH value 7 (H<sub>2</sub>O)
- Melting point -106 °C
- Boiling point 98 - 105 °C (1013 hPa)
- Ignition temp. 380 °C DIN 51794

- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225; Chronic aquatic toxicity, Category 2, H411; Aspiration hazard, Category 1, H304, P210, P262, P301 + P310, P331
- LC50 rat 31.5 mg/l
- LD50 oral rat > 2500 mg/kg
- LGK 3
- HS-No. 2901 29 00 ■ Disposal 3
- ADR-RID UN 2050 Diisobutylene, isomere Verbindungen, 3, II ■ IMDG-Code UN 2050

DIISOBUTYLENE, ISOMERIC COMPOUNDS, 3, II

■ IATA-DGR UN 2050 DIISOBUTYLENE, ISOMERIC COMPOUNDS, 3, II

## Specification

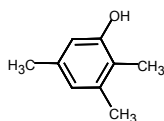
Assay (GC, area%) ..... ≥ 90,0 % (a/a)

Density (d 20 °C/ 4 °C) ..... 0.716 - 0.720

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14734.0100	Glass bottle	100 ml	inquire
8.14734.1000	Glass bottle	1 l	inquire

## 841575 2,3,5-Trimethylphenol for synthesis

C<sub>9</sub>H<sub>12</sub>O

Isopseudocumol

- CAS-No. 697-82-5 ■ EC-No. 211-806-9
- Solub. in H<sub>2</sub>O 0.763 g/l (25 °C) ■ M = 136.19 g/mol

- Melting point 93 - 95 °C
- Boiling point 230 - 231 °C (1013 hPa)
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

■ HS-No. 2907 19 90 ■ Disposal 3

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)

Melting range (lower value) ..... ≥ 93 °C

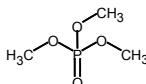
Melting range (upper value) ..... ≤ 95 °C

Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41575.0050	Plastic bottle	50 g	inquire

Trimethylphenylammonium chloride → Phenyltrimethylammonium chloride page 1316

## 821184 Trimethyl phosphate for synthesis

C<sub>3</sub>H<sub>9</sub>O<sub>4</sub>P(CH<sub>3</sub>)<sub>3</sub>PO<sub>4</sub>

- CAS-No. 512-56-1 ■ EC-No. 208-144-8
- Refractive index 1.3967 (20 °C) ■ Vapour pressure 1.133 hPa (25 °C) ■ Spec. density 1.21 g/cm<sup>3</sup> (20 °C) ■ Flash point >150 °C ■ Solub. in H<sub>2</sub>O 1000 g/l (25 °C) ■ M = 140.08 g/mol

- pH value (H<sub>2</sub>O) no data available
- Melting point -46 °C ■ Boiling point 197 °C (1013 hPa) ■ Water absorption 1000 g/kg (25 °C)
- WGK 3
- GHS: Danger, Carcinogenicity, Category 2, H351; Germ cell mutagenicity, Category 1B, H340; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P201, P280, P302 + P352, P305 + P351 + P338, P309 + P310
- LD50 oral rat 840 mg/kg ■ LD50 dermal rabbit 3388 mg/kg

■ LGK 6.1A

■ HS-No. 2919 90 00 ■ Disposal 9

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %

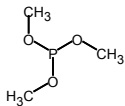
Density (d 20 °C/ 4 °C) ..... 1,210 - 1,213

Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21184.0100	Glass bottle	100 ml	inquire
8.21184.0500	Glass bottle	500 ml	inquire
8.21184.2500	Glass bottle	2.5 l	inquire

# Trimet

## 800553 Trimethyl phosphite for synthesis



C<sub>3</sub>H<sub>9</sub>O<sub>3</sub>P

- CAS-No. 121-45-9 ■ EC-No. 204-471-5
- Refractive index 1.408 (20 °C, 589 nm) ■ Vapour pressure 28 hPa (20 °C) ■ Spec. density 1.05 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 5.2 - 61.2 % (V)
- Flash point 28 °C ■ M = 124.08 g/mol

- Melting point -78 °C ■ Boiling point 112 °C (1013 hPa) ■ Ignition temp. 250 °C
- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315, P210, P302 + P352
- LD50 oral rat 1600 mg/kg ■ LD50 dermal rabbit 2600 mg/kg
- LGK 3
- HS-No. 2920 90 30 ■ Disposal 1
- ADR-RID UN 2329 Trimethylphosphit, 3, III
- IMDG-Code UN 2329 TRIMETHYL PHOSPHITE,

3, III

- IATA-DGR UN 2329 TRIMETHYL PHOSPHITE, 3, III

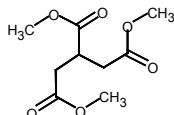
### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C / 4 °C) ..... 1,051 - 1,053  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00553.0100	Glass bottle	100 ml	inquire
8.00553.0500	Glass bottle	500 ml	inquire

Trimethyl phosphonoacetate → Dimethyl methoxycarbonylmethanephosphonate page 794

## 818253 Trimethyl 1,2,3-propanetricarboxylate for synthesis



C<sub>9</sub>H<sub>14</sub>O<sub>6</sub>

CH<sub>3</sub>OOCCH<sub>2</sub>CH(COOCH<sub>3</sub>)CH<sub>2</sub>COOCH<sub>3</sub>  
1,2,3-Propanetricarboxylic acid trimethyl

ester, Tricarballic acid trimethyl ester

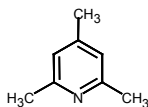
- CAS-No. 6138-26-7
- Refractive index 1.4398 (20 °C, 589 nm)
- Spec. density 1.18 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 218.2 g/mol
- Boiling point 130 - 135 °C (13 hPa)
- WGK 3
- LGK 10 - 13
- HS-No. 2917 19 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 97,0 % (a/a)  
Density (d 20 °C / 4 °C) ..... 1.182 - 1.184  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18253.0010	Glass bottle	10 ml	inquire

## 822267 2,4,6-Trimethylpyridine for synthesis



C<sub>8</sub>H<sub>11</sub>N

(CH<sub>3</sub>)<sub>3</sub>C<sub>5</sub>H<sub>3</sub>N

sym.-Collidine

- CAS-No. 108-75-8 ■ EC-No. 203-613-3
- Refractive index 1.50 (20 °C) ■ Vapour pressure 4 hPa (20 °C) ■ Spec. density 0.914 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 6.6 (20 °C)
- Flash point 55 °C ■ Solub. in H<sub>2</sub>O 35 g/l (20 °C)

- M = 121.18 g/mol ■ pH value (H<sub>2</sub>O) strongly alkaline ■ Melting point -43 °C
- Boiling point 170 - 172 °C (1013 hPa)
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P260, P302 + P352, P305 + P351 + P338
- LD50 oral rat 400 mg/kg
- LGK 3
- HS-No. 2933 39 99 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2,4,6-TRIMETHYLPYRIDIN), 3, III ■ IMDG-

Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2,4,6-TRIMETHYLPYRIDINE), 3, III  
■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(2,4,6-TRIMETHYLPYRIDINE), 3, III

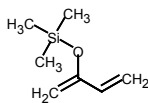
### Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
Density (d 20 °C / 4 °C) ..... 0,913 - 0,915  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.22267.0050	Glass bottle	50 ml	inquire
8.22267.0250	Glass bottle	250 ml	inquire
8.22267.1000	Glass bottle	1 l	inquire

Trimethylsilanecarbonitrile → Trimethylsilyl cyanide page 1607

## 814551 2-(Trimethylsiloxy)-1,3-butadiene for synthesis



C<sub>7</sub>H<sub>14</sub>OSi

(CH<sub>3</sub>)<sub>3</sub>SiOC<sub>4</sub>H<sub>5</sub>

CAS-No. 38053-91-7

- Spec. density 0.82 g/cm<sup>3</sup> (20 °C)
- Flash point 12 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 142.27 g/mol
- Boiling point 124 °C (1013 hPa)

- Ignition temp. 350 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P262
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-(TRIMETHYLSILOXY)1,3-BUTADIEN), 3, II
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-(TRIMETHYLSILOXY)-1,3-BUTADIENE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

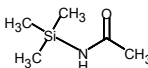
N.O.S.(2-(TRIMETHYLSILOXY)-1,3-BUTADIENE), 3, II

### Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
Density (d 20 °C / 4 °C) ..... 0,816 - 0,823  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14551.0010	Glass bottle	10 ml	inquire
8.14551.0050	Glass bottle	50 ml	inquire

## 818403 N-(Trimethylsilyl)acetamide for synthesis



C<sub>5</sub>H<sub>13</sub>NOSi

CH<sub>3</sub>CONHSi(CH<sub>3</sub>)<sub>3</sub>

TMS-acetamide

- CAS-No. 13435-12-6 ■ EC-No. 236-565-7
- Flash point 70 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) (decomposition) ■ M = 131.24 g/mol
- Melting point 40 - 45 °C
- Boiling point 184 - 186 °C
- Ignition temp. 400 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13

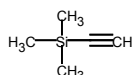
- HS-No. 2931 90 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 95,0 % (a/a)  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18403.0025	Glass bottle	25 g	inquire
8.18403.0100	Glass bottle	100 g	inquire

## 814226 Trimethylsilylacetylene for synthesis

C<sub>5</sub>H<sub>10</sub>Si

Ethinyltrimethylsilane

- CAS-No. 1066-54-2 ■ EC-No. 213-919-9
- Refractive index 1.3892 (20 °C, 589 nm)
- Spec. density 0.71 g/cm<sup>3</sup> (20 °C) ■ Flash point - 34 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 98.21 g/mol ■ Boiling point 52 - 53 °C

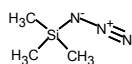
- WGK 1
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233, P240
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TRIMETHYLSILYLACETYLEN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIMETHYL SILYLACETYLENE), 3, II
- IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIMETHYL SILYLACETYLENE), 3, II

## Specification

Assay (GC, area%) ..... ≥ 98,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,709 - 0,711  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.14226.0005	Glass bottle	5 ml	inquire
8.14226.0025	Glass bottle	25 ml	inquire

## 818026 Trimethylsilyl azide for synthesis

C<sub>3</sub>H<sub>9</sub>N<sub>3</sub>Si(CH<sub>3</sub>)<sub>3</sub>SiN<sub>3</sub>

Azidotrimethylsilane

- CAS-No. 4648-54-8 ■ EC-No. 225-078-5
- Refractive index 1.4142 (20 °C, 589 nm)
- Spec. density 0.88 g/cm<sup>3</sup> (20 °C)
- Flash point 6 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 115.21 g/mol

- Boiling point 92 - 95 °C ■ Ignition temp. 300 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301, P210, P280, P302 + P352, P309 + P310
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 6
- ADR-RID UN 1992 Entzündbarer flüssiger Stoff, giftig, n.a.g.(TRIMETHYLSILYLAZID), 3 (6.1), II
- IMDG-Code UN 1992 FLAMMABLE LIQUID,

TOXIC, N.O.S.(TRIMETHYLSILAZIDE), 3 (6.1), II  
 ■ IATA-DGR UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.(TRIMETHYLSILAZIDE), 3 (6.1), II

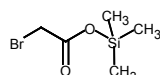
## Specification

Assay (GC, area%) ..... ≥ 97,0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0,874 - 0,876  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18026.0025	Glass bottle	25 ml	inquire

Trimethylsilyl bromide → Bromotrimethylsilane page 518

## 841341 Trimethylsilyl bromoacetate for synthesis

C<sub>5</sub>H<sub>11</sub>BrO<sub>2</sub>Si

Bromoacetic acid trimethylsilyl ester

- CAS-No. 18291-80-0 ■ EC-No. 242-165-3
- Spec. density 1.291 g/cm<sup>3</sup> (20 °C)
- Flash point 28 °C ■ M = 211.13 g/mol
- Boiling point 68 - 69 °C (22.7 hPa)
- WGK 3

- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(TRIMETHYLSILYL-BROMOACETAT), 8 (3), II ■ IMDG-Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(TRIMETHYLSILYL BROMOACETATE), 8 (3), II

■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(TRIMETHYLSILYL BROMOACETATE), 8 (3), II

## Specification

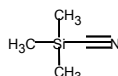
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.300 - 1.305  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41341.0025	Glass bottle	25 ml	inquire

Trimethylsilyl chloride → page 44

Trimethylsilylchloromethane → (Chloromethyl) trimethylsilane page 621

## 818171 Trimethylsilyl cyanide for synthesis

C<sub>4</sub>H<sub>9</sub>NSi(CH<sub>3</sub>)<sub>3</sub>Si-CN

Trimethylsilyl cyanide, TMS-CN, Cyanotrimethylsilane

- CAS-No. 7677-24-9 ■ EC-No. 231-657-3
- Refractive index 1.3916 (20 °C, 589 nm)
- Vapour pressure 51 hPa (20 °C)
- Spec. density 0.79 g/cm<sup>3</sup> (20 °C)
- Flash point 1 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 99.21 g/mol
- Melting point 11 °C ■ Boiling point 114 - 117 °C

- (1013 hPa) ■ Ignition temp. 410 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 2, H225; Chronic aquatic toxicity, Category 1, H410; Acute aquatic toxicity, Category 1, H400; Acute toxicity, Category 2, Oral, H300; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 2, Dermal, H310, P210, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LGK 3 ■ Store at +2°C to +8°C.
- HS-No. 2931 90 90 ■ Disposal 6
- ADR-RID UN 3383 Beim Einatmen giftiger flüssiger Stoff, entzündbar, n.a.g.(TRIMETHYLSILYL-CYANID), 6.1 (3), I ■ IMDG-Code UN 3383 TOXIC BY INHALATION LIQUID,

FLAMMABLE, N.O.S.(TRIMETHYLSILYL-CYANIDE), 6.1 (3), I  
 ■ IATA-DGR UN 3383 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.(TRIMETHYLSILYL-CYANIDE), 6.1 (3),

## Specification

Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (20/4 °C) ..... 0.792 - 0.794  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18171.0010	Glass btl. pl.coat.	10 ml	inquire
8.18171.0050	Glass btl. pl.coat.	50 ml	inquire

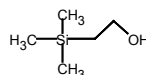
N-Trimethylsilyldiethylamine →

Diethylaminotrimethylsilane page 739

N-Trimethylsilyldimethylamine →

Dimethylaminotrimethylsilane page 780

## 841221 2-(Trimethylsilyl)-ethanol for synthesis

C<sub>5</sub>H<sub>14</sub>OSi

2-Hydroxyethyltrimethyl silane

- CAS-No. 2916-68-9 ■ EC-No. 220-844-5
- Spec. density 0.825 g/cm<sup>3</sup> (20 °C)
- Flash point 50 °C ■ M = 118.25 g/mol
- Boiling point 71 - 72 °C (46.7 hPa)

- WGK 1
- GHS: Warning, Flammable liquid, Category 3, H226, P210
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(2-(TRIMETHYLSILYL)-ETHANOL), 3, III
- IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(2-(TRIMETHYLSILYL)-ETHANOL), 3, III
- IATA-DGR UN 1993 FLAMMABLE LIQUID,

N.O.S.(2-(TRIMETHYLSILYL)-ETHANOL), 3, III

## Specification

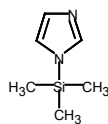
Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.828 - 0.832  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41221.0005	Glass bottle	5 ml	inquire



# Trimet

## N-(Trimethylsilyl)imidazole



C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>Si

### TSIM

- CAS-No. 18156-74-6 ■ EC-No. 242-040-3
- Spec. density 0.95 g/cm<sup>3</sup> (25 °C)
- Flash point 66 °C DIN 51755 Part 1
- Kin. viscosity 2.5 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) Risk of violent reaction.
- M = 140.25 g/mol ■ Melting point -42 °C

- Boiling point 212 °C (decomposition)
- Ignition temp. 540 °C DIN 51794
- WGK 1
- LGK 10
- HS-No. 2933 29 90 ■ Disposal 3

### 818204 N-(Trimethylsilyl)imidazole for synthesis

#### Specification

Assay (HClO<sub>4</sub>)..... ≥ 97.0 %  
Density (d 20 °C/ 4 °C)..... 0.955 - 0.957  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18204.0025	Glass bottle	25 ml	inquire
8.18204.0100	Glass bottle	100 ml	inquire

### 109771 N-(Trimethylsilyl)imidazole for gas chromatography

#### Specification

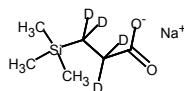
Purity (GC)..... ≥ 95.0% (a/a)  
Identity (IR-spectrum)..... conforms

Ord.No.	Packaging	Quantity	Price
1.09771.0005	Glass bottle	5 ml	inquire

Trimethylsilyl iodide → Iodotrimethylsilane page 1014

3-Trimethylsilyl-1-propene → Allyltrimethylsilane page 367

## 108652 3-(Trimethylsilyl)propionic acid-D<sub>4</sub> sodium salt deuteration degree min. 98% for NMR spectroscopy MagniSolv™



C<sub>6</sub>H<sub>9</sub>D<sub>4</sub>NaO<sub>2</sub>Si

2,2,3,3-Tetradeutero-3(trimethylsilyl)propionic acid sodium salt, 3-(Trimethylsilyl)tetradeutero

### propionic acid sodium salt

- CAS-No. 24493-21-8 ■ EC-No. 246-286-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 172.27 g/mol ■ Melting point >300 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2845 90 10 ■ Disposal 4

### Specification

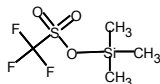
Deuteration degree..... ≥ 98.0 %  
Performance test (NMR-spectrum)..... passes test

Ord.No.	Packaging	Quantity	Price
1.08652.0001	Metal can	1 g	inquire

3-(Trimethylsilyl)tetradeutero propionic acid sodium salt → 3-(Trimethylsilyl)propionic acid-D<sub>4</sub> sodium salt page 296

Trimethylsilyl triflate → Trimethylsilyl trifluoromethanesulfonate page 1608

## 818129 Trimethylsilyl trifluoromethanesulfonate for synthesis



C<sub>4</sub>H<sub>9</sub>F<sub>3</sub>O<sub>3</sub>SSi

F<sub>3</sub>CSO<sub>2</sub>OSi(CH<sub>3</sub>)<sub>3</sub>

Trimethylsilyl triflate, Trifluoromethanesulfonic acid trimethylsilyl ester

- CAS-No. 27607-77-8 ■ EC-No. 248-565-4
- Vapour pressure 4.7 hPa (20 °C)
- Spec. density 1.23 g/cm<sup>3</sup> (20 °C)
- Flash point 38 °C DIN 51755 Part 1 ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 222.26 g/mol

- Boiling point 35 - 37 °C (13 hPa)
- Ignition temp. 405 °C DIN 51794
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P210, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 2920 Ätzender flüssiger Stoff, entzündbar, n.a.g.(TRIMETHYLSILYL-TRIFLUORMETHANSULFONAT), 8 (3), II ■ IMDG-

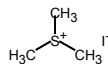
Code UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(TRIMETHYLSILYL-TRIFLUORMETHANSULFONATE), 8 (3), II  
■ IATA-DGR UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S.(TRIMETHYLSILYL-TRIFLUORMETHANSULFONATE), 8 (3), II

### Specification

Assay (acidimetric)..... ≥ 98,0 % (m)  
Density (d 20 °C/ 4 °C)..... 1,226 - 1,231  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18129.0010	Glass bottle	10 ml	inquire
8.18129.0100	Glass bottle	100 ml	inquire

## 818119 Trimethylsulfonium iodide for synthesis



C<sub>3</sub>H<sub>9</sub>IS

(CH<sub>3</sub>)<sub>3</sub>SI

- CAS-No. 2181-42-2 ■ EC-No. 218-555-4
- Solub. in H<sub>2</sub>O 400 g/l (20 °C) ■ M = 204.06 g/mol

- mol ■ Bulk density 630 kg/m<sup>3</sup>
- Ignition temp. 250 °C
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13

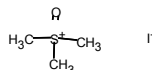
- HS-No. 2930 90 99 ■ Disposal 3

### Specification

Assay (argentometric)..... ≥ 98,0 % (m)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18119.0025	Glass bottle	25 g	inquire

## 810165 Trimethylsulfoxonium iodide for synthesis



C<sub>3</sub>H<sub>9</sub>IOS

(CH<sub>3</sub>)<sub>3</sub>SOI

- CAS-No. 1774-47-6 ■ EC-No. 217-204-2

- Solub. in H<sub>2</sub>O 15 g/l (20 °C) ■ M = 220.07 g/mol
- Melting point 165 - 175 °C decomposes
- Ignition temp. 200 °C
- WGK 2
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 2930 90 99 ■ Disposal 3

### Specification

Assay (argentometric)..... ≥ 98,0 % (m)  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.10165.0100	Glass bottle	100 g	inquire

N,N,N-Trimethyl-1-tetradecan ammonium bromide → Tetradecyltrimethylammonium bromide page 1529

**808729 Trimethyltin chloride for synthesis**



C<sub>3</sub>H<sub>9</sub>ClSn  
(CH<sub>3</sub>)<sub>3</sub>SnCl  
*Trimethylchlorotin, Chlorotrimethylstannane, Chlorotrimethyltin*  
■ CAS-No. 1066-45-1 ■ EC-No. 213-917-8  
■ Flash point 97 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition) ■ M = 199.24 g/mol  
■ Melting point 36 - 39 °C  
■ WGK 3

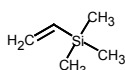
■ GHS: Danger, Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 1, Dermal, H310; Acute toxicity, Category 2, Oral, H300; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P309 + P310, P302 + P352, P304 + P340  
■ LD50 oral rat 12.6 mg/kg  
■ EC-Index-No. 050-005-00-7 ■ LGK 6.1A  
■ HS-No. 2931 90 90 ■ Disposal 15  
■ ADR-RID UN 3146 Organische Zinnverbindung, fest, n.a.g.(TRIMETHYLZINNCHLORID), 6.1, II  
■ IMDG-Code UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(TRIMETHYL TIN CHLORIDE), 6.1, II

Marine Pollutant: P  
■ IATA-DGR UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(TRIMETHYL TIN CHLORIDE), 6.1, II  
**Specification**  
Assay (GC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 36 °C  
Melting range (upper value)..... ≤ 39 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08729.0005	Glass bottle	5 g	inquire

2,4,6-Trimethyl-1,3,5-trioxane → Paraldehyde page 1262

**814510 Trimethylvinylsilane for synthesis**



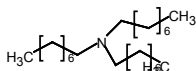
C<sub>5</sub>H<sub>12</sub>Si  
*Vinyltrimethyl silane*  
■ CAS-No. 754-05-2 ■ EC-No. 212-042-9  
■ Spec. density 0.69 g/cm<sup>3</sup> (20 °C) ■ Flash point - 24 °C ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition)  
■ M = 100.24 g/mol ■ Boiling point 55 - 56 °C (1013 hPa)

■ WGK 3  
■ GHS: Danger, Flammable liquid, Category 2, H225; Eye irritation, Category 2, H319; Skin irritation, Category 2, H315, P210, P302 + P352, P305 + P351 + P338  
■ LGK 3  
■ HS-No. 2931 90 90 ■ Disposal 3  
■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff, n.a.g.(TRIMETHYLVINYL SILAN), 3, II ■ IMDG-Code UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIMETHYL VINYL SILANE), 3, II

■ IATA-DGR UN 1993 FLAMMABLE LIQUID, N.O.S.(TRIMETHYL VINYL SILANE), 3, II  
**Specification**  
Assay (GC, area%)..... ≥ 98,0 Area %  
Density (d 20 °C/ 4 °C)..... 0,692 - 0,696  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14510.0010	Glass bottle	10 ml	inquire

**Trioctylamine**



C<sub>24</sub>H<sub>51</sub>N  
*N,N-Dioctyl-1-octanamine*  
■ CAS-No. 1116-76-3 ■ EC-No. 214-242-1  
■ Refractive index 1.4485 (20 °C, 589 nm)

■ Vapour pressure < 0.01 hPa (20 °C)  
■ Spec. density 0.81 g/cm<sup>3</sup> (20 °C)  
■ Flash point 168 °C ■ Solub. in H<sub>2</sub>O < 0.0001 g/l (25 °C) ■ M = 353.68 g/mol ■ pH value 7 (0.4 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -39 °C  
■ Boiling point 365 - 367 °C (1013 hPa)  
■ Ignition temp. 315 °C  
■ WGK 2

■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338  
■ LGK 10 - 13  
■ HS-No. 2921 19 99 ■ Disposal 3

**808649 Trioctylamine for synthesis**

**Specification**  
Assay (GC, area%)..... ≥ 93 %  
Density (d 20 °C/ 4 °C)..... 0.808 - 0.813  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.08649.0010	Glass bottle	10 ml	inquire
8.08649.0100	Glass bottle	100 ml	inquire
8.08649.0500	Glass bottle	500 ml	inquire

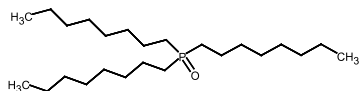
**845064 Trioctylamine for pharma synthesis, non-GMP**

**Specification**  
Appearance of substance (visual)..... liquid  
Colour number (Apha)..... ≤ 100  
Assay (GC, area%)..... ≥ 93.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.808 - 0.813  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45064.0100	Glass bottle	100 ml	inquire
8.45064.0500	Glass bottle	500 ml	inquire

Trioctylmethylammonium chloride → Methyltrialkylammonium chloride page 1184

**814868 Trioctylphosphin oxide for synthesis**



C<sub>24</sub>H<sub>51</sub>OP  
(C<sub>8</sub>H<sub>17</sub>)<sub>3</sub>PO  
■ CAS-No. 78-50-2 ■ EC-No. 201-121-3  
■ Spec. density 0.88 g/cm<sup>3</sup> (25 °C)  
■ Flash point 252 °C ■ Solub. in H<sub>2</sub>O < 1 g/l (20 °C) ■ M = 386.64 g/mol  
■ Melting point 50 - 54 °C  
■ Boiling point 201 - 202 °C (3.60 hPa)  
■ Ignition temp. 320 °C

■ WGK 2  
■ GHS: Warning, Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 2, H411, P262, P273, P305 + P351 + P338  
■ LD50 oral rat > 10000 mg/kg ■ LD50 dermal rat 2830 mg/kg  
■ LGK 10 - 13  
■ HS-No. 2931 90 90 ■ Disposal 3  
■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(TRIOCTYLPHOSPHINOXID), 9, III  
■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TRIOCTYLPHOSPHINE OXIDE), 9, III, Marine Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TRIOCTYLPHOSPHINE OXIDE), 9, III  
**Specification**  
Assay (GC, area%)..... ≥ 98,0 Area %  
Melting range (lower value)..... ≥ 50 °C  
Melting range (upper value)..... ≤ 55 °C  
Water (K. F.)..... ≤ 0,50 % (m)  
Acid value..... ≤ 3  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14868.0025	Glass bottle	25 g	inquire
8.14868.0100	Glass bottle	100 g	inquire

1,4,10-Trioxa-7,13-diazacyclopentadecane → Kryptofix® 21 page 1068

821189 1,3,5-Trioxane for synthesis



C<sub>3</sub>H<sub>6</sub>O<sub>3</sub>  
 ■ CAS-No. 110-88-3 ■ EC-No. 203-812-5  
 ■ Vapour pressure 7.5 hPa (20 °C)  
 ■ Spec. density 1.17 g/cm<sup>3</sup> (65 °C) ■ Explosive limit 3.6 - 28.7 % (V) ■ Flash point 45 °C ■ Solub. in H<sub>2</sub>O 221 g/l (25 °C) ■ M = 90.08 g/mol  
 ■ pH value (H<sub>2</sub>O) neutral  
 ■ Melting point 60 - 62 °C  
 ■ Boiling point 114 - 115 °C (1013 hPa)  
 ■ Ignition temp. 410 °C

■ WGK 1  
 ■ GHS: Danger, Flammable solid, Category 1, H228; Reproductive toxicity, Category 2, H361d; Specific target organ toxicity - single exposure, Category 3, H335, P280, P304 + P340, P308 + P313  
 ■ LC50 rat > 37.4 mg/l  
 ■ LD50 oral rat 8190 mg/kg ■ LD50 dermal rabbit > 3980 mg/kg  
 ■ EC-Index-No. 605-002-00-0 ■ LGK 4.1B  
 ■ HS-No. 2912 50 00 ■ Disposal 3  
 ■ ADR-RID UN 1325 Entzündbarer organischer fester Stoff, n.a.g.(1,3,5-TRIOXAN), 4.1, II ■ IMDG-Code UN 1325 FLAMMABLE SOLID, ORGANIC,

N.O.S.(1,3,5-TRIOXANE), 4.1, II  
 ■ IATA-DGR UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S.(1,3,5-TRIOXANE), 4.1, II

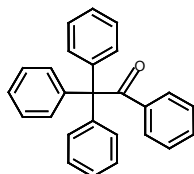
**Specification**  
 Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 60 °C  
 Melting range (upper value)..... ≤ 63 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21189.0100	Plastic bottle	100 g	inquire
8.21189.1000	Plastic bottle	1 kg	inquire

Trioxans → Heterocycles

Trioxymethylene → 1,3,5-Trioxane page 1610

821190 2,2,2-Triphenylacetophenone for synthesis

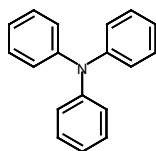


C<sub>26</sub>H<sub>20</sub>O  
 (C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>CCOC<sub>6</sub>H<sub>5</sub>  
 ■ CAS-No. 466-37-5 ■ EC-No. 207-375-1  
 ■ M = 348.45 g/mol ■ Melting point 182 - 184 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 39 00

**Specification**  
 Assay (GC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 182 °C  
 Melting range (upper value)..... ≤ 184 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21190.0005	Glass bottle	5 g	inquire
8.21190.0025	Glass bottle	25 g	inquire

818386 Triphenylamine for synthesis



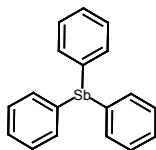
*N,N*-Diphenylaniline  
 ■ CAS-No. 603-34-9 ■ EC-No. 210-035-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 245.32 g/mol ■ Melting point 123 - 128 °C  
 ■ Boiling point 365 °C  
 ■ WGK 3  
 ■ LD50 oral rat 3200 mg/kg  
 ■ HS-No. 2921 49 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 123 °C  
 Melting range (upper value)..... ≤ 126 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18386.0010	Glass bottle	10 g	inquire

C<sub>18</sub>H<sub>15</sub>N  
 (C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>N

821199 Triphenylantimony for synthesis



■ Melting point 52 - 54 °C  
 ■ Bulk density 1490 kg/m<sup>3</sup> ■ Boiling point 377 °C (1013 hPa)  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P260, P273, P309 + P310  
 ■ LD50 oral rat 183 mg/kg  
 ■ EC-Index-No. 051-003-00-9 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 15  
 ■ ADR-RID UN 2811 Giftiger organischer fester Stoff, n.a.g.(TRIPHENYLANTIMON), 6.1, III ■ IMDG-

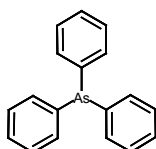
Code UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TRIPHENYL ANTIMONY), 6.1, III  
 ■ IATA-DGR UN 2811 TOXIC SOLID, ORGANIC, N.O.S.(TRIPHENYL ANTIMONY), 6.1, III

**Specification**  
 Assay (HPLC, area%)..... ≥ 98,0 % (a/a)  
 Melting range (lower value)..... ≥ 52 °C  
 Melting range (upper value)..... ≤ 54 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.21199.0100	Plastic bottle	100 g	inquire

C<sub>18</sub>H<sub>15</sub>Sb  
 (C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>Sb  
*Triphenylstibine, Antimony triphenyl*  
 ■ CAS-No. 603-36-1 ■ EC-No. 210-037-6  
 ■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O < 0.001 g/l (20 °C) ■ M = 353.07 g/mol

808653 Triphenylarsine for synthesis



■ Melting point 59 - 61 °C  
 ■ Boiling point >360 °C (1013 hPa) (decomposition)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P309 + P310  
 ■ EC-Index-No. 033-002-00-5 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 9  
 ■ ADR-RID UN 3465 Organische Arsenverbindung, fest, n.a.g.(TRIPHENYLARSIN), 6.1, II ■ IMDG-Code UN 3465 ORGANOARSENIC COMPOUND,

SOLID, N.O.S.(TRIPHENYLARSIN), 6.1, II  
 ■ IATA-DGR UN 3465 ORGANOARSENIC COMPOUND, SOLID, N.O.S.(TRIPHENYLARSIN), 6.1, II

**Specification**  
 Assay (HPLC, area%)..... ≥ 98,0 Area %  
 Melting range (lower value)..... ≥ 57 °C  
 Melting range (upper value)..... ≤ 61 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08653.0005	Glass bottle	5 g	inquire
8.08653.0025	Glass bottle	25 g	inquire

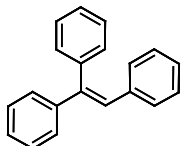
C<sub>18</sub>H<sub>15</sub>As  
 (C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>As  
*Arsenic triphenyl*  
 ■ CAS-No. 603-32-7 ■ EC-No. 210-032-9  
 ■ Spec. density 1.22 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 265 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 306.24 g/mol

Triphenylbenzylphosphonium chloride →  
Benzyltriphenylphosphonium chloride page 457  
Triphenylbutylphosphonium chloride →  
Butyltriphenylphosphonium chloride page 555  
Triphenylcarbenium tetrafluoroborate → Tritylium  
tetrafluoroborate page 1618  
Triphenyl carbinol → Triphenylmethanol page 1611

Triphenylchloromethane → Chlorotriphenylmethane  
page 638  
Triphenylchlorotin → Triphenyltin chloride page  
1614  
Triphenyl-4-cyanobenzylphosphonium chloride →  
4-Cyanobenzyltriphenylphosphonium chloride  
page 665  
Triphenyl-1,3-dioxolan-2-ylmethylphosphonium  
bromide → (1,3-Dioxolan-2-yl)-  
methyltriphenylphosphonium bromide page 812

(S)-(-)-1,1,2,-Triphenyl-1,2-ethanediol-2-  
acetate → (S)-(-)-2-Hydroxy-1,2,2-triphenylethyl  
acetate page 996  
Triphenyl-4-ethoxybenzylphosphonium bromide →  
4-Ethoxybenzyltriphenylphosphonium bromide  
page 845

### 818690 Triphenylethylene for synthesis



C<sub>20</sub>H<sub>16</sub>

(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>C=CHC<sub>6</sub>H<sub>5</sub>  
 ■ CAS-No. 58-72-0 ■ EC-No. 200-395-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 256.34 g/  
 mol ■ Melting point 67 - 70 °C  
 ■ Boiling point 219 - 221 °C (19 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3

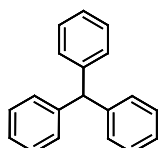
**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 67 °C  
 Melting range (upper value) ..... ≤ 70 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18690.0025	Glass bottle	25 g	inquire

Triphenylethylphosphonium bromide →  
Ethyltriphenylphosphonium bromide page 887

Triphenylformylmethylphosphonium chloride →  
Formylmethyltriphenylphosphonium chloride page  
915

### 821195 Triphenylmethane for synthesis



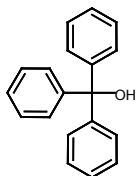
C<sub>19</sub>H<sub>16</sub>  
(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>CH

*Tritan*  
 ■ CAS-No. 519-73-3 ■ EC-No. 208-275-0  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 244.33 g/  
 mol ■ Melting point 90 - 92 °C  
 ■ Boiling point 190 - 215 °C (13 hPa)  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2902 90 00 ■ Disposal 3

**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 90 °C  
 Melting range (upper value) ..... ≤ 92 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21195.0050	Plastic bottle	50 g	inquire
8.21195.0250	Plastic bottle	250 g	inquire

### 821196 Triphenylmethanol for synthesis



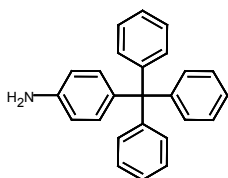
C<sub>19</sub>H<sub>16</sub>O

(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>COH  
*Triphenyl carbinol*  
 ■ CAS-No. 76-84-6 ■ EC-No. 200-988-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 260.34 g/  
 mol ■ Melting point 160 - 163 °C  
 ■ Boiling point 360 °C  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2906 29 00 ■ Disposal 3

**Specification**  
 Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.21196.0050	Plastic bottle	50 g	inquire
8.21196.0250	Plastic bottle	250 g	inquire

### 818045 4-(Triphenylmethyl)aniline for synthesis



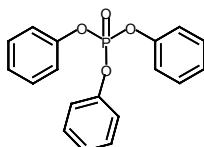
C<sub>25</sub>H<sub>21</sub>N  
 4-[(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>C]C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>  
*4-Tritylaniline, 4-Aminophenyltriphenylmethane*  
 ■ CAS-No. 22948-06-7 ■ EC-No. 245-346-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 335.44 g/  
 mol ■ Melting point 252 - 256 °C  
 ■ WGK 3  
 ■ HS-No. 2921 49 00 ■ Disposal 3

**Specification**  
 Assay (HClO<sub>4</sub>) ..... ≥ 96,0 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18045.0010	Glass bottle	10 g	inquire

Triphenylmethyl chloride → Chlorotriphenylmethane page 638

### 821197 Triphenyl phosphate for synthesis



C<sub>18</sub>H<sub>15</sub>O<sub>4</sub>P  
(C<sub>6</sub>H<sub>5</sub>O)<sub>3</sub>PO  
*Phosphoric acid triphenyl ester*  
 ■ CAS-No. 115-86-6 ■ EC-No. 204-112-2

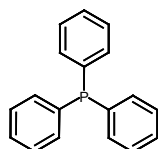
■ Vapour pressure < 0.01 hPa (20 °C)  
 ■ Spec. density 1.206 g/cm<sup>3</sup> (50 °C)  
 ■ Flash point >230 °C ■ Solub. in H<sub>2</sub>O 0.0019 g/l  
 (25 °C) ■ M = 326.28 g/mol  
 ■ Melting point 48 - 50 °C ■ Bulk density 650 g/  
 m<sup>3</sup> ■ Boiling point 220 °C (5 hPa)  
 ■ Ignition temp. >500 °C  
 ■ WGK 2  
 ■ LD50 oral rat 3500 mg/kg ■ LD50 dermal rabbit  
 > 7900 mg/kg  
 ■ LGK 10 - 13

■ HS-No. 2919 90 00 ■ Disposal 3  
**Specification**  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Melting range (lower value) ..... ≥ 48 °C  
 Melting range (upper value) ..... ≤ 50 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21197.0100	Plastic bottle	100 g	inquire
8.21197.1000	Plastic bottle	1 kg	inquire

# Triphe

## 808270 Triphenylphosphine for synthesis



C<sub>18</sub>H<sub>15</sub>P  
(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P  
Phosphorus triphenyl  
 ■ CAS-No. 603-35-0 ■ EC-No. 210-036-0  
 ■ Vapour pressure 0.01 hPa (88 °C)  
 ■ Spec. density 1.194 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 182 °C ■ Solub. in H<sub>2</sub>O < 0.0001 g/l

(25 °C) ■ M = 262.29 g/mol  
 ■ Melting point 78.5 - 81.5 °C  
 ■ Bulk density 500 - 600 kg/m<sup>3</sup>  
 ■ Boiling point 195 - 205 °C (7 hPa)  
 ■ Ignition temp. 425 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin sensitisation, Category 1, H317; Chronic aquatic toxicity, Category 4, H413, P262, P273, P280, P302 + P352  
 ■ LC50 rat 12 mg/l  
 ■ LD50 oral rat 700 mg/kg ■ LD50 dermal rabbit > 4000 mg/kg  
 ■ LGK 10 - 13

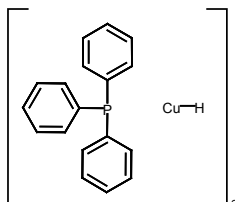
■ HS-No. 2931 90 90 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 99,0 Area %  
 Melting range (lower value) ..... ≥ 79 °C  
 Melting range (upper value) ..... ≤ 82 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08270.0005	Glass bottle	5 g	inquire
8.08270.0250	Plastic bottle	250 g	inquire
	Plastic bottle	6 x 250 g	inquire
8.08270.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire

## 843838 Triphenylphosphine copper(I) hydride hexamer for synthesis



C<sub>108</sub>H<sub>96</sub>Cu<sub>6</sub>P<sub>6</sub>

[(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>PCuH]<sub>6</sub>  
 ■ CAS-No. 33636-93-0  
 ■ M = 1961.08 g/mol  
 ■ WGK 3  
 ■ GHS: Warning, Flammable solid, Category 2, H228  
 ■ LGK 4.1B  
 ■ HS-No. 2931 90 90 ■ Disposal 26  
 ■ ADR-RID UN 3182 Entzündbare Metallhydride, n.a.g.(TRIPHENYLPHOSPHINKUPFER(I)HYDRID HEXAMER), 4.1, III ■ IMDG-Code UN 3182 METAL HYDRIDES, FLAMMABLE,

N.O.S.(TRIPHENYLPHOSPHINE COPPER(I) <349>HYDRIDE HEXAMER), 4.1, III  
 ■ IATA-DGR UN 3182 METAL HYDRIDES, FLAMMABLE, N.O.S.(TRIPHENYLPHOSPHINE COPPER(I)<349>HYDRIDE HEXAMER), 4.1, III

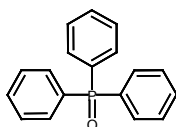
### Specification

Assay (Cu) ..... ≥ 97.0 %

Ord.No.	Packaging	Quantity	Price
8.43838.0001	Glass bottle	1 g	inquire
8.43838.0005	Glass bottle	5 g	inquire

Triphenylphosphine hydrobromide → Triphenylphosphonium bromide page 1613

## 821198 Triphenylphosphine oxide for synthesis



C<sub>18</sub>H<sub>15</sub>OP  
 ■ CAS-No. 791-28-6 ■ EC-No. 212-338-8  
 ■ Vapour pressure < 1 hPa (50 °C)  
 ■ Spec. density 1.2 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 180 °C ■ Solub. in

H<sub>2</sub>O (20 °C) slightly soluble ■ M = 278.29 g/mol  
 ■ Melting point 155 - 158 °C  
 ■ Bulk density 400 - 450 kg/m<sup>3</sup>  
 ■ Boiling point >360 °C ■ Ignition temp. 590 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 3, H412, P273  
 ■ LD50 oral rat 685 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3

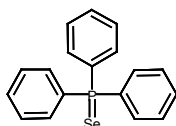
### Specification

Assay (HPLC, area%) ..... ≥ 98.0 % (a/a)  
 Melting range (lower value) ..... ≥ 155 °C  
 Melting range (upper value) ..... ≤ 158 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21198.0050	Plastic bottle	50 g	inquire
8.21198.0250	Plastic bottle	250 g	inquire

Triphenylphosphine polystyrene → page 283

## 818054 Triphenylphosphine selenide for synthesis



C<sub>18</sub>H<sub>15</sub>PSe  
(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>PSe  
 ■ CAS-No. 3878-44-2 ■ EC-No. 223-406-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 341.25 g/mol  
 ■ Melting point 186 - 189 °C  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 3,

Inhalation, H331; Acute toxicity, Category 3, Oral, H301; Specific target organ toxicity - repeated exposure, Category 2, H373; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P304 + P340, P309 + P310  
 ■ EC-Index-No. 034-002-00-8 ■ LGK 6.1A  
 ■ HS-No. 2931 90 90 ■ Disposal 17  
 ■ ADR-RID UN 3467 Metallorganische Verbindung, fest, giftig, n.a.g.(TRIPHENYLPHOSPHINSELENID), 6.1, II  
 ■ IMDG-Code UN 3467 ORGANOMETALLIC COMPOUND, TOXIC, SOLID,

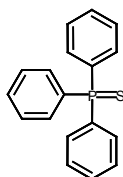
N.O.S.(TRIPHENYLPHOSPHINE SELENIDE), 6.1, II  
 ■ IATA-DGR UN 3467 ORGANOMETALLIC COMPOUND, SOLID, TOXIC, N.O.S.(TRIPHENYLPHOSPHINE SELENIDE), 6.1, II

### Specification

Purity (HPLC) ..... ≥ 99% (a/a)  
 Identity (IR-spectrum) ..... passes test  
 Melting range ..... 186 - 189 °C

Ord.No.	Packaging	Quantity	Price
8.18054.0050	Glass bottle	50 g	inquire

## 841711 Triphenylphosphine sulfide for synthesis



C<sub>18</sub>H<sub>15</sub>PS  
(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>PS  
 ■ CAS-No. 3878-45-3 ■ EC-No. 223-407-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble  
 ■ M = 294.35 g/mol ■ Melting point 160 - 164 °C

■ WGK 3  
 ■ GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 3278 Organische Phosphorverbindung, flüssig, giftig, n.a.g.(TRIPHENYLPHOSPHINSULFID), 6.1, III  
 ■ IMDG-Code UN 3278 ORGANOPHOSPHORUS COMPOUND, TOXIC, LIQUID, N.O.S.(TRIPHENYLPHOSPHINE SULPHIDE), 6.1, III

■ IATA-DGR UN 3278 ORGANOPHOSPHORUS COMPOUND, LIQUID, TOXIC, N.O.S.(TRIPHENYLPHOSPHINE SULPHIDE), 6.1, III

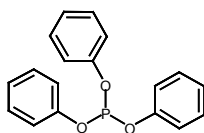
### Specification

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 160 °C  
 Melting range (upper value) ..... ≤ 164 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41711.0025	Glass bottle	25 g	inquire



**800551 Triphenyl phosphite for synthesis**



C<sub>18</sub>H<sub>15</sub>O<sub>3</sub>P  
(C<sub>6</sub>H<sub>5</sub>O)<sub>3</sub>P

Phosphorous acid triphenyl ester

- CAS-No. 101-02-0 ■ EC-No. 202-908-4
- Refractive index 1.5903 (20 °C, 589 nm)
- Vapour pressure < 1 hPa (20 °C)
- Spec. density 1.19 g/cm<sup>3</sup> (20 °C)
- Flash point 188 °C ■ Solub. in H<sub>2</sub>O (20 °C) (slow decomposition) ■ M = 310.29 g/mol ■ pH value 1

- (200 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 22 – 25 °C
- Boiling point 360 °C (1013 hPa) decomposes
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 444 mg/kg
- EC-Index-No. 015-105-00-7 ■ LGK 10 – 13
- HS-No. 2920 90 85 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(TRIPHENYLPHOSPHIT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TRIPHENYLPHOSPHITE),

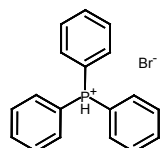
9, III, Marine Pollutant: P  
■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(TRIPHENYLPHOSPHITE), 9, III

**Specification**

Assay (GC, area%)..... ≥ 97,0 Area %  
Melting range (lower value)..... ≥ 21 °C  
Melting range (upper value)..... ≤ 24 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.00551.0100	Glass bottle	100 ml	inquire
8.00551.1000	Glass bottle	1 l	inquire

**814386 Triphenylphosphonium bromide for synthesis**



C<sub>18</sub>H<sub>16</sub>BrP  
(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P<sup>+</sup>HBr

- CAS-No. 6399-81-1 ■ EC-No. 229-012-6
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 343.2 g/mol
- Melting point 196 – 199 °C
- WGK 3
- LGK 10 – 13
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Assay (acidimetric)..... ≥ 98,0 % (m)  
Melting range (lower value)..... ≥ 195 °C  
Melting range (upper value)..... ≤ 200 °C  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14386.0025	Plastic bottle	25 g	inquire

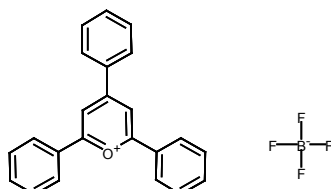
(Triphenylphosphoranyliden)acetic acid methyl ester → Methoxycarbonylmethylene-triphenylphosphorane page 1119

(Triphenylphosphoranyliden)acetic acid ethyl ester → Ethoxycarbonylmethylene-triphenylphosphorane page 845

(Triphenylphosphoranyliden)acetaldehyde → Formylmethylentriphenylphosphorane page 915

1-(Triphenylphosphoranyliden)-2-propanone → Acetylmethylentriphenylphosphorane page 348

**818238 2,4,6-Triphenylpyrylium tetrafluoroborate for synthesis**



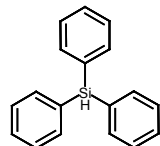
- C<sub>23</sub>H<sub>17</sub>BF<sub>4</sub>O
- CAS-No. 448-61-3 ■ EC-No. 207-186-4
  - M = 396.2 g/mol ■ Melting point 252 – 255 °C
  - WGK 3
  - LGK 10 – 13
  - HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 % (a/a)  
Melting range (lower value)..... ≥ 252 °C  
Melting range (upper value)..... ≤ 255 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18238.0005	Glass bottle	5 g	inquire

**818458 Triphenylsilane for synthesis**



C<sub>18</sub>H<sub>16</sub>Si  
(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>SiH  
■ CAS-No. 789-25-3 ■ EC-No. 212-333-0

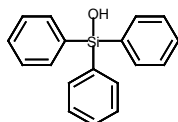
- Flash point 76 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble, Hydrolysis ■ M = 260.41 g/mol
- Melting point 43 – 45 °C
- Boiling point 151 – 153 °C (3 hPa)
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 – 13 ■ Store below +15 °C.
- HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
Melting range (lower value)..... ≥ 43 °C  
Melting range (upper value)..... ≤ 45 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18458.0025	Glass bottle	25 g	inquire

**818406 Triphenylsilanol for synthesis**



C<sub>18</sub>H<sub>16</sub>O<sub>2</sub>Si  
(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>SiOH  
Hydroxytriphenylsilane  
■ CAS-No. 791-31-1 ■ EC-No. 212-339-3

- Vapour pressure 1 hPa (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 276.4 g/mol
- Melting point 150 – 153 °C
- Bulk density 600 kg/m<sup>3</sup> ■ Ignition temp. 535 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 – 13
- HS-No. 2931 90 90 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 95,0 % (a/a)  
Melting range (lower value)..... ≥ 150 °C  
Melting range (upper value)..... ≤ 153 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18406.0025	Glass bottle	25 g	inquire

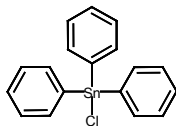
Triphenylstannane → Triphenyltin hydride page 1614

Triphenylstibine → Triphenylantimony page 1610

2,3,5-Triphenyltetrazolium chloride (TT) → page 112

# Triphe

## 808395 Triphenyltin chloride for synthesis



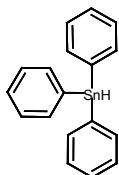
$C_{18}H_{15}ClSn$   
 $(C_6H_5)_3SnCl$   
*Chlorotriphenylstannane, Chlorotriphenyltin, Triphenylchlorotin*  
 ■ CAS-No. 639-58-7 ■ EC-No. 211-358-4  
 ■ Vapour pressure < 0.02 hPa (20 °C)  
 ■ Spec. density 1.49 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point > 150 °C ■ Solub. in H<sub>2</sub>O 0.04 g/l (20 °C) ■ M = 385.45 g/mol

- Melting point 102 - 105 °C
- Boiling point 240 °C (18 hPa) (decomposition)
- Ignition temp. > 250 °C
- WGK 3
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P280, P273, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 135 mg/kg ■ LD50 dermal rabbit > 1000 mg/kg
- EC-Index-No. 050-011-00-X ■ LGK 6.1A
- HS-No. 2931 90 90 ■ Disposal 15
- ADR-RID UN 3146 Organische Zinnverbindung,

fest, n.a.g.(TRIPHENYLZINNCHLORID), 6.1, III  
 ■ IMDG-Code UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(TRIPHENYL TIN CHLORIDE), 6.1, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S.(TRIPHENYL TIN CHLORIDE), 6.1, III  
**Specification**  
 Assay (ex Sn) ..... ≥ 98,0 % (m)  
 Melting range (lower value) ..... ≥ 102 °C  
 Melting range (upper value) ..... ≤ 105 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08395.0100	Plastic bottle	100 g	inquire

## 841536 Triphenyltin hydride for synthesis



$C_{18}H_{16}Sn$   
 $(C_6H_5)_3SnH$   
*Triphenylstannane*  
 ■ CAS-No. 892-20-6 ■ EC-No. 212-967-8  
 ■ Spec. density 1.374 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 110 °C ■ M = 351.03 g/mol

- Melting point 27 - 28 °C
- Boiling point 162 - 168 °C (0.67 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P302 + P352, P304 + P340, P309 + P310
- LD50 oral rat 491 mg/kg
- EC-Index-No. 050-011-00-X ■ LGK 6.1A ■ Store at -20°C to 0°C.
- HS-No. 2931 90 90 ■ Disposal 26
- ADR-RID UN 2788 Organische Zinnverbindung,

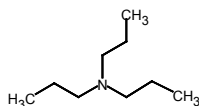
flüssig, n.a.g.(TRIPHENYLZINNHYDRID), 6.1, III  
 ■ IMDG-Code UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(TRIPHENYL TIN HYDRIDE), 6.1, III, Marine Pollutant: P  
 ■ IATA-DGR UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(TRIPHENYL TIN HYDRIDE), 6.1, III  
**Specification**  
 Assay (ex Sn) ..... ≥ 98,0 %  
 Melting range (lower value) ..... ≥ 22 °C  
 Melting range (upper value) ..... ≤ 27 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41536.0005	Glass bottle	5 ml	inquire

Triphosgene → Bis(trichloromethyl) carbonate page 475

Triple sugar iron agar → page 105

## 821201 Tripropylamine for synthesis



$C_9H_{21}N$   
 $(CH_3CH_2CH_2)_3N$   
 ■ CAS-No. 102-69-2 ■ EC-No. 203-047-7  
 ■ Refractive index 1.416 (20 °C, 589 nm) ■ Vapour pressure 4.3 hPa (20 °C) ■ Spec. density 0.76 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.6 - 5.5 % (V)  
 ■ Flash point 32.5 °C ■ Solub. in H<sub>2</sub>O 2.6 g/l (20 °C) ■ M = 143.27 g/mol ■ pH value 11.4

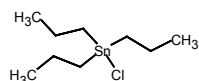
- (2.6 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -94 °C
- Boiling point 156 °C (1013 hPa)
  - Ignition temp. 180 °C
  - WGK 2
  - GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 2, Inhalation, H330; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P302 + P352, P305 + P351 + P338, P304 + P340, P309 + P310
  - LC50 rat 1.5 mg/l
  - LD50 oral rat 200 - 2000 mg/kg
  - LD50 dermal rabbit 433 mg/kg

■ LGK 3  
 ■ HS-No. 2921 19 99 ■ Disposal 3  
 ■ ADR-RID UN 2260 Tripropylamin, 3 (8), III  
 ■ IMDG-Code UN 2260 TRIPROPYLAMINE, 3 (8), III  
 ■ IATA-DGR UN 2260 TRIPROPYLAMINE, 3 (8), III  
**Specification**  
 Assay (GC, area%) ..... ≥ 98,0 % (a/a)  
 Density (d 20 °C / 4 °C) ..... 0.755 - 0.757  
 Water (K. F.) ..... ≤ 0.20 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21201.0250	Glass bottle	250 ml	inquire
8.21201.1000	Glass bottle	1 l	inquire

Tripropylchlorotin → Tripropyltin chloride page 1614

## 808735 Tripropyltin chloride for synthesis



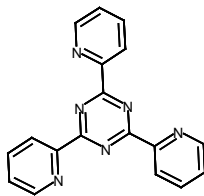
$C_9H_{21}ClSn$   
 $(CH_3CH_2CH_2)_3SnCl$   
*Chlorotripropyltin, Tripropylchlorotin, Chlorotripropylstannane*  
 ■ CAS-No. 2279-76-7 ■ EC-No. 218-910-3  
 ■ Spec. density 1.29 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 95 °C ■ M = 283.43 g/mol  
 ■ Melting point -23 °C ■ Boiling point 123 °C

- (17.3 hPa)
- WGK 3
  - GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P280, P302 + P352, P304 + P340, P309 + P310
  - EC-Index-No. 050-007-00-8 ■ LGK 6.1A
  - HS-No. 2931 90 90 ■ Disposal 15
  - ADR-RID UN 2788 Organische Zinnverbindung, flüssig, n.a.g.(TRIPROPYLZINNCHLORID), 6.1, II
  - IMDG-Code UN 2788 ORGANOTIN COMPOUND,

LIQUID, N.O.S.(TRIPROPYL TIN CHLORIDE), 6.1, II, Marine Pollutant: P  
 ■ IATA-DGR UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S.(TRIPROPYL TIN CHLORIDE), 6.1, II  
**Specification**  
 Assay (ex Sn) ..... ≥ 98,0 % (m)  
 Density (d 20 °C / 4 °C) ..... 1,290 - 1,294  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08735.0005	Glass bottle	5 ml	inquire

## 110238 2,4,6-Tri(2-pyridyl)-1,3,5-triazine for analysis

C<sub>18</sub>H<sub>12</sub>N<sub>6</sub>

- CAS-No. 3682-35-7 ■ EC-No. 222-965-9
- Solub. in H<sub>2</sub>O (20 °C) practically insoluble
- M = 312.34 g/mol ■ Melting point 248 - 253 °C
- Bulk density 200 kg/m<sup>3</sup>
- WGK 3
- LGK 10 - 13
- HS-No. 2933 69 80 ■ Disposal 3

**Specification**

Assay (Perchloric acid titration, calc. on anhydrous substance) ..... ≥ 99%

Identity (IR-spectrum) ..... passes test  
 Melting range ..... 248 - 253 °C  
 TLC-Test ..... passes test  
 Fe (Iron) ..... ≤ 0.001 %  
 2-Pyridinecarbonitrile (TLC) ..... ≤ 0.25 %  
 Sulfated ash ..... ≤ 0.1 %  
 Water (according to Karl Fischer) ..... ≤ 5 %

Ord.No.	Packaging	Quantity	Price
1.10238.0005	Glass bottle	5 g	inquire

Tris(acetylacetonato)aluminium → Aluminium acetylacetonate page 368

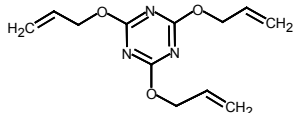
Tris(acetylacetonato)cobalt(III) → Cobalt(III) acetylacetonate page 648

Tris(acetylacetonato)ruthenium(III) → Ruthenium(III) acetylacetonate page 1408

Tris(acetylacetonato)chromium(III) → Chromium(III) acetylacetonate page 640

Tris(acetylacetonato)iron(III) → Iron(III) acetylacetonate page 1037

## 820359 2,4,6-Tris(allyloxy)-1,3,5-triazine (stabilised) for synthesis

C<sub>12</sub>H<sub>15</sub>N<sub>3</sub>O<sub>3</sub>

Cyanuric acid triallyl ester, Triallyl cyanurate

- CAS-No. 101-37-1 ■ EC-No. 202-936-7
- Vapour pressure 1.3 hPa (100 °C)
- Spec. density 1.11 g/cm<sup>3</sup> (30 °C)
- Flash point 165 - 170 °C ■ Solub. in H<sub>2</sub>O 0.3 g/l (20 °C) ■ M = 249.27 g/mol
- Melting point 26 - 27 °C

- Boiling point 149 - 150 °C (3 hPa) decomposes
- WGK 2
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Chronic aquatic toxicity, Category 2, H411, P273
- LD50 oral rat 753 mg/kg ■ LD50 dermal rabbit > 2000 mg/kg
- LGK 10 - 13 ■ Store below +15 °C.
- HS-No. 2933 69 80 ■ Disposal 3
- ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(2,4,6-(ALLOXY)1,3,5-TRIAZIN), 9, III
- IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,4,6-(ALLOXY)1,3,5-TRIAZINE), 9, III, Marine

Pollutant: P

■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(2,4,6-(ALLOXY)1,3,5-TRIAZINE), 9, III

**Specification**

Assay (HClO<sub>4</sub>) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 25 °C  
 Melting range (upper value) ..... ≤ 28 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.20359.0006	Glass bottle	5 g	inquire
8.20359.0250	Plastic bottle	250 g	inquire

Tris-(2-aminoethyl)-amine polystyrene HL → page 282

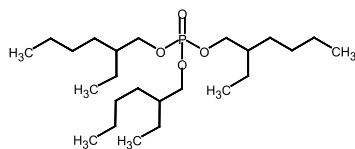
Tris(diethylamino)phosphine → Hexaethyltriaminophosphine page 948

Tris(3,6-dioxahexyl)amine → Tris[2-(2-methoxyethoxy)ethyl]amine page 1617

TRIS buffer → page 168

Tris(dimethylamino)phosphine → Hexamethyltriaminophosphine page 951

## 821202 Tris(2-ethylhexyl) phosphate for synthesis

C<sub>24</sub>H<sub>51</sub>O<sub>4</sub>P[CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH(C<sub>2</sub>H<sub>5</sub>)CH<sub>2</sub>O]<sub>3</sub>PO

Phosphoric acid tris(2-ethylhexyl ester)

- CAS-No. 78-42-2 ■ EC-No. 201-116-6

- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 0.92 g/cm<sup>3</sup> (20 °C)
- Flash point 170 °C ■ Solub. in H<sub>2</sub>O < 0.001 g/l (20 °C) ■ M = 434.63 g/mol ■ pH value 7 (H<sub>2</sub>O, 20 °C) ■ Melting point < -70 °C
- Boiling point 210 °C (5 hPa) decomposes
- Ignition temp. 370 °C
- WGK 2
- GHS: Warning, Skin irritation, Category 2, H315, P302 + P352
- LD50 oral rat 37000 mg/kg

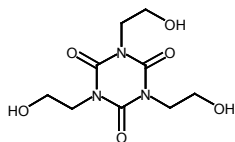
- LD50 dermal rabbit 20000 mg/kg
- LGK 10 - 13
- HS-No. 2919 90 00 ■ Disposal 3

**Specification**

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.923 - 0.924  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.21202.0100	Glass bottle	100 ml	inquire
8.21202.1000	Glass bottle	1 l	inquire

## 808608 1,3,5-Tris(2-hydroxyethyl)cyanuric acid for synthesis

C<sub>9</sub>H<sub>15</sub>N<sub>3</sub>O<sub>6</sub>

1,3,5-Tris(2-hydroxyethyl)hexahydro-s-triazine-

2,4,6-trione

- CAS-No. 839-90-7 ■ EC-No. 212-660-9
- Flash point 270 °C ■ Solub. in H<sub>2</sub>O 1150 g/l (20 °C) ■ M = 261.23 g/mol ■ pH value 7 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 133 - 136 °C
- Bulk density 580 kg/m<sup>3</sup> ■ Ignition temp. 430 °C
- WGK 1
- LD50 oral rat > 10000 mg/kg
- LGK 10 - 13

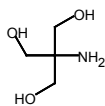
- HS-No. 2933 69 80 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 Area %  
 Melting range (lower value) ..... ≥ 133 °C  
 Melting range (upper value) ..... ≤ 136 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08608.0250	Glass bottle	250 g	inquire

## Tris(hydroxymethyl)aminomethane



$C_4H_{11}NO_3$   
 $H_2NC(CH_2OH)_3$   
 Trometamol, Aminomethylidine trimethanol, 2-Amino-2-hydroxymethyl-1,3-propanediol, TRIS-

buffer  
 ■ CAS-No. 77-86-1 ■ EC-No. 201-064-4  
 ■ Vapour pressure 0.000267 Pa (20 °C)  
 ■ Spec. density 1.353 g/cm<sup>3</sup> (23 °C) ■ Solub. in H<sub>2</sub>O 800 g/l (20 °C) ■ M = 121.14 g/mol  
 ■ pH value 10.2 - 10.6 (6 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 171.2 °C ■ Bulk density 840 kg/m<sup>3</sup>  
 ■ Boiling point 219 - 220 °C (13.3 hPa)  
 ■ WGK 2

■ LD50 oral rat > 5000 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 Biological buffer. pK<sub>a</sub> (20 °C) = 8,30. Does not precipitate calcium salts and maintains solubility of manganese salts. Especially low in cationic and anionic impurities that might have an inhibitory effect on enzyme activity in biochemical experiments.

## 108382 Tris(hydroxymethyl)aminomethane GR for analysis buffer substance ACS,Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.08382.0100	Plastic bottle	100 g	inquire
1.08382.0500	Plastic bottle	500 g	inquire
1.08382.1000	Plastic bottle	1 kg	inquire
1.08382.2500	Plastic bottle	2.5 kg	inquire
1.08382.9025	Fibre carton	25 kg	inquire

## 102408 Tris(hydroxymethyl)aminomethane volumetric standard, secondary reference material for acidimetry, traceable to NIST Standard Reference Material (SRM) Certipur®

Ord.No.	Packaging	Quantity	Price
1.02408.0080	Glass bottle	80 g	inquire

## 108387 Tris(hydroxymethyl)aminomethane TRIS LAB

Specification  
 Assay (acidimetric, calc. on anhydrous substance) ... 99.8 - 100.1 %  
 Identity (IR-spectrum) ..... conforms  
 In water insoluble matter ..... ≤ 0.005 %  
 Absorbance (290 nm; 40 %; 1 cm; water) ≤ 0.2

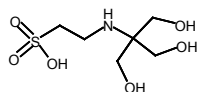
Chloride (Cl) ..... ≤ 0.001 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 Sulfated ash ..... ≤ 0.05 %

Water (according to Karl Fischer) ..... ≤ 0.5 %

Ord.No.	Packaging	Quantity	Price
1.08387.0500	Plastic bottle	500 g	inquire
1.08387.2500	Plastic bottle	2.5 kg	inquire

1,1,1-Tris(hydroxymethyl)ethane → 2-Hydroxymethyl-2-methyl-1,3-propanediol page 988

## 110695 N-[Tris(hydroxymethyl)-methyl]-2-aminoethanesulfonic acid Buffer substance TES



$C_6H_{15}NO_6S$   
 TES  
 ■ CAS-No. 7365-44-8 ■ EC-No. 230-906-3  
 ■ M = 229.24 g/mol ■ Melting point 220 °C  
 ■ WGK 1

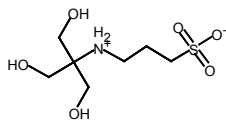
■ HS-No. 2922 19 85 ■ Disposal 3  
 Properties: pK<sub>a</sub> (20 °C) = 7,50.

Specification  
 Assay (alkalimetric) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... passes test  
 UV-Absorption (250 nm, 50 g/l, 1 cm, water) ..... ≤ 0.05  
 Chloride (Cl) ..... ≤ 0.005 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %

Na (Sodium) ..... ≤ 0.005 %  
 Loss on drying (105 °C) ..... ≤ 0.2 %  
 Biological buffer, pK<sub>a</sub> at 20 °C ..... 7.50

Ord.No.	Packaging	Quantity	Price
1.10695.0025	Glass bottle	25 g	inquire
1.10695.0250	Plastic bottle	250 g	inquire
1.10695.9010	Plastic drum	10 kg	inquire

## 108320 N-[Tris(hydroxymethyl)methyl]-3-aminopropanesulfonic acid buffer substance TAPS



$C_7H_{17}NO_6S$   
 TAPS  
 ■ CAS-No. 29915-38-6 ■ EC-No. 249-954-1  
 ■ M = 243.27 g/mol ■ Melting point 226 °C

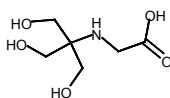
■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 19 85 ■ Disposal 3  
 Properties: zwitterionic buffer pK<sub>a</sub> (20 °C) = 8.40.

Specification  
 Assay (alkalimetric) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... passes test  
 UV-Absorption (250 nm, 20 g/l, 1 cm, water) ..... ≤ 0.05  
 Chloride (Cl) ..... ≤ 0.005 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %  
 Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.005 %  
 Loss on drying (105 °C) ..... ≤ 0.2 %  
 Biological buffer, pK<sub>a</sub> at 20 °C ..... 8.40

Ord.No.	Packaging	Quantity	Price
1.08320.0025	Plastic bottle	25 g	inquire
1.08320.0250	Plastic bottle	250 g	inquire

## 108602 N-[Tris(hydroxymethyl)methyl]glycine buffer substance TRICIN



$C_6H_{13}NO_5$   
 Tricine, N-Tris(hydroxymethyl)methylglycine  
 ■ CAS-No. 5704-04-1 ■ EC-No. 227-193-6  
 ■ Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ M = 179.17 g/mol  
 ■ pH value 4.5 - 5.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 187 °C ■ Bulk density 500 kg/m<sup>3</sup>

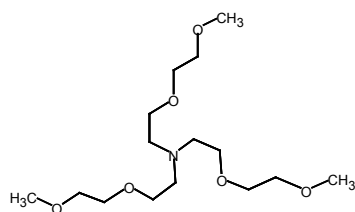
■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2922 50 00 ■ Disposal 3  
 Properties: pK<sub>a</sub> (20 °C)/1/ = 8.15.  
 Specification  
 Assay (perchloric acid titration) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... passes test  
 UV-Absorption (250 nm, 50 g/l, 1 cm, water) ..... ≤ 0.075  
 Chloride (Cl) ..... ≤ 0.05 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %

Heavy metals (as Pb) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.005 %  
 Loss on drying (105 °C) ..... ≤ 0.2 %  
 Biological buffer, pK<sub>a</sub> at 20 °C ..... 8.15

Ord.No.	Packaging	Quantity	Price
1.08602.0025	Plastic bottle	25 g	inquire
1.08602.0250	Plastic bottle	250 g	inquire
1.08602.9010	Plastic drum	10 kg	inquire

1,1,1-Tris(hydroxymethyl)propane → 2-Ethyl-2-(hydroxymethyl)-1,3-propanediol page 871

## 818373 Tris[2-(2-methoxyethoxy)ethyl]amine for synthesis

C<sub>15</sub>H<sub>33</sub>NO<sub>6</sub>

N(CH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>)<sub>3</sub>  
 ■ CAS-No. 70384-51-9 ■ EC-No. 274-590-5  
 ■ Spec. density 1.01 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 163 °C ■ Solub. in  
 H<sub>2</sub>O (20 °C) soluble ■ M = 323.42 g/mol  
 ■ pH value (H<sub>2</sub>O) not applicable  
 ■ Melting point < -100 °C  
 ■ Boiling point 329 - 331 °C (1013 hPa)  
 ■ Ignition temp. 240 °C  
 ■ WGK 2  
 ■ LGK 10  
 ■ HS-No. 2922 19 85

## Specification

Assay (GC, area%) ..... ≥ 94.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 1.008 - 1.012  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18373.0025	Glass bottle	25 ml	inquire
8.18373.0100	Glass bottle	100 ml	inquire

Tris(2,4-pentanedionato)aluminium → Aluminium  
 acetylacetonate page 368

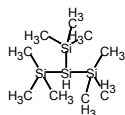
Tris(2,4-pentanedionato)chromium(III) →  
 Chromium(III) acetylacetonate page 640

Tris(2,4-pentanedionato)cobalt(III) → Cobalt(III)  
 acetylacetonate page 648

Tris(2,4-pentanedionato)iron(III) → Iron(III)  
 acetylacetonate page 1037

Tris(pentane-2,4-dionato)ruthenium(III) →  
 Ruthenium(III) acetylacetonate page 1408

## 843779 Tris(trimethylsilyl)silane for synthesis

C<sub>9</sub>H<sub>29</sub>Si<sub>4</sub>

■ CAS-No. 1873-77-4  
 ■ Spec. density 0.806 g/cm<sup>3</sup> ■ Flash point 55 °C  
 ■ M = 248.67 g/mol ■ Boiling point 82 - 84 °C

(16 hPa)  
 ■ WGK 1  
 ■ GHS: Warning, Flammable liquid, Category 3,  
 H226, P210  
 ■ LGK 3  
 ■ HS-No. 2931 90 90 ■ Disposal 3  
 ■ ADR-RID UN 1993 Entzündbarer flüssiger Stoff,  
 n.a.g.(TRIS(TRIMETHYLSILYL)SILAN), 3, III ■ IMDG-  
 Code UN 1993 FLAMMABLE LIQUID,  
 N.O.S.(TRIS(TRIMETHYLSILYL)SILANE), 3, III

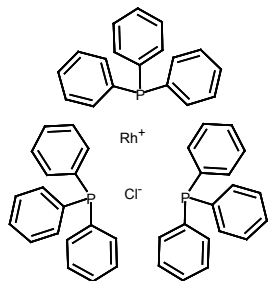
■ IATA-DGR UN 1993 FLAMMABLE LIQUID,  
 N.O.S.(TRIS(TRIMETHYLSILYL)SILANE), 3, III

## Specification

Assay (GC, area%) ..... ≥ 96.0 % (a/a)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.43779.0005	Glass bottle	5 ml	inquire

## 808265 Tris(triphenylphosphine)rhodium(I) chloride (11% Rh) for synthesis



C<sub>54</sub>H<sub>45</sub>ClP<sub>3</sub>Rh  
 [(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P]<sub>3</sub>RhCl  
*Chlorotris(triphenylphosphine)rhodium(I)*  
*, Wilkinsoncatalyst*  
 ■ CAS-No. 14694-95-2 ■ EC-No. 238-744-5  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 925.23 g/  
 mol ■ Melting point 157 °C  
 ■ WGK 1  
 ■ LD50 oral rat > 5110 mg/kg  
 ■ LGK 8 A  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID UN 1759 Ätzender fester Stoff,  
 n.a.g.(TRIS(TRIPHENYLPHOSPHIN)-RHODIUM(I)-  
 CHLORID(11%RH)), 8, III ■ IMDG-Code UN 1759

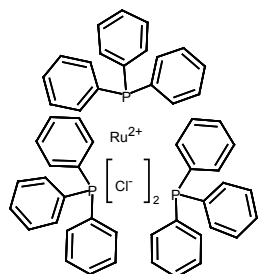
CORROSIVE SOLID, N.O.S.(TRIS(TRIPHENYL  
 PHOSPHINE)-RHODIUM(I)-CHLORIDE), 8, III  
 ■ IATA-DGR UN 1759 CORROSIVE SOLID,  
 N.O.S.(TRIS(TRIPHENYL PHOSPHINE)-RHODIUM(I)-  
 CHLORIDE), 8, III

## Specification

Assay (to C, H) ..... ≥ 97,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.08265.0001	Glass bottle	1 g	inquire

## 818120 Tris(triphenylphosphine)ruthenium(II) chloride (10.5% Ru) for synthesis



C<sub>54</sub>H<sub>45</sub>Cl<sub>2</sub>P<sub>3</sub>Ru  
 [(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>P]<sub>3</sub>RuCl<sub>2</sub>  
*Dichlorotris(triphenylphosphine)ruthenium(II)*  
 ■ CAS-No. 15529-49-4 ■ EC-No. 239-569-7  
 ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 958.85 g/  
 mol ■ Bulk density 515 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2843 90 90 ■ Disposal 27  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

## Specification

Assay (to C, H) ..... ≥ 95,0 % (m)  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18120.0001	Glass bottle	1 g	inquire
8.18120.0005	Glass bottle	5 g	inquire

1,3,5-Tris(2-hydroxyethyl)hexahydro-s-triazine-  
 2,4,6-trione → 1,3,5-Tris(2-hydroxyethyl)  
 cyanuric acid page 1615

Tritan → Triphenylmethane page 1611

Tritirachium alkaline proteinase → Proteinase K  
 page 1379

## 814811 Tritolyl phosphate for synthesis

C<sub>21</sub>H<sub>21</sub>O<sub>4</sub>P

Phosphoric acid tritolyl ester

■ CAS-No. 78-32-0 ■ EC-No. 201-105-6  
 ■ Vapour pressure 0.044 hPa (150 °C)  
 ■ Spec. density 1.17 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point >220 °C ■ Kin. viscosity 70 mm<sup>2</sup>/s  
 (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble  
 ■ M = 368.37 g/mol ■ Boiling point >300 °C  
 ■ WGK 2  
 ■ GHS: Warning, Acute toxicity, Category 4,  
 Dermal, H312; Acute toxicity, Category 4, Oral,

H302; Chronic aquatic toxicity, Category 2, H411,  
 P273, P302 + P352  
 ■ LGK 10 - 13  
 ■ HS-No. 2919 90 00 ■ Disposal 3  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff,  
 flüssig, n.a.g.(TRITOLYLPHOSPHAT), 9, III ■ IMDG-  
 Code UN 3082 ENVIRONMENTALLY HAZARDOUS  
 SUBSTANCE, LIQUID, N.O.S.(TRITOLYLPHOSPHATE),  
 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY  
 HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.(TRITOLYLPHOSPHATE), 9, III

## Specification

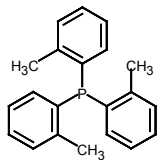
Density (d 20 °C/ 4 °C) ..... 1,165 - 1,185  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14811.0250	Glass bottle	250 ml	inquire
8.14811.1000	Glass bottle	1 l	inquire



# Tritol

## 841817 Tri(o-tolyl)-phosphine for synthesis



- CAS-No. 6163-58-2 ■ EC-No. 228-193-9
- M = 304.38 g/mol ■ Melting point 124 - 127 °C
- Boiling point 238 °C (15 hPa)
- WGK 3
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3

### Specification

Assay (HPLC, area%) ..... ≥ 97,0 % (a/a)  
 Melting range (lower value)..... ≥ 124 °C  
 Melting range (upper value) ..... ≤ 127 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41817.0001	Glass bottle	1 g	inquire
8.41817.0010	Glass bottle	10 g	inquire

C<sub>21</sub>H<sub>21</sub>P

Triton B → Benzyltrimethylammonium hydroxide page 457

## Triton® X-100

C<sub>14</sub>H<sub>21</sub>(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>OH  
 C<sub>8</sub>H<sub>17</sub>C<sub>6</sub>H<sub>4</sub>(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>OH  
*Octoxynol, (p-tert-Octylphenoxy) polyethoxyethanol, O-[4-(1,1,3,3-Tetramethylbutyl)phenoxy] polyethoxyethanol, Polyethyleneglycol-[4-(1,1,3,3-tetramethylbutyl)phenyl]-ether*  
 ■ CAS-No. 9036-19-5

- Vapour pressure < 0.01 hPa (20 °C)
- Spec. density 1.07 g/cm<sup>3</sup> (20 °C)
- Flash point 251 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5.0 - 8.0 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -4 °C
- Boiling point >200 °C (1013 hPa)
- WGK 2
- GHS: Danger, Acute toxicity, Category 4, Oral,

H302; Serious eye damage, Category 1, H318, P280, P305 + P351 + P338, P313  
 ■ LD50 oral rat 1900 - 5000 mg/kg  
 ■ LD50 dermal rabbit > 3000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 3402 13 00 ■ Disposal 3

## 108603 Triton® X-100 for analysis

**Specification**  
 Identity (IR-spectrum) ..... passes test  
 pH-value (10 g/l)..... 6.0 - 8.0  
 Density (d 20/4)..... 1.064 - 1.067  
 Cloud point ..... 63 - 69 °C  
 Ethylene oxide (GC) ..... ≤ 30 ppm

Dioxane (GC)..... ≤ 20 ppm  
 Sulfated ash (600 °C)..... ≤ 0.2 %  
 Water (according to Karl Fischer)..... ≤ 0.2 %  
 Suitability for scintillation measurements ..... passes test

Ord.No.	Packaging	Quantity	Price
1.08603.1000	Glass bottle	1 l	inquire
1.08603.2500	Glass bottle	2.5 l	inquire

## 112298 Triton® X-100 for gas chromatography

**Specification**  
 Identity (IR-spectrum) ..... passes test  
 McReynolds constant (Benzene)..... 190 - 250  
 McReynolds constant (Butanol)..... 370 - 420  
 McReynolds constant (Nitropropane)..... 365 - 405

Temperature stability: loss in weight between 270 and 290 °C (thermogravimetry) ..... ≤ 2 %  
 Water (according to Karl Fischer)..... ≤ 0.2 %

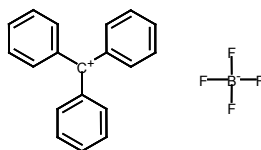
Ord.No.	Packaging	Quantity	Price
1.12298.0101	Glass bottle	100 ml	inquire
1.12298.1001	Glass bottle	1 l	inquire

4-Tritylaniline → 4-(Triphenylmethyl)aniline page 1611

Trityl chloride → Chlorotriphenylmethane page 638

Trityl chloride resin → page 267

## 841391 Tritylium tetrafluoroborate for synthesis



C<sub>19</sub>H<sub>15</sub>BF<sub>4</sub>  
 (C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>C<sup>+</sup>BF<sub>4</sub><sup>-</sup>  
*Triphenylcarbenium tetrafluoroborate*  
 ■ CAS-No. 341-02-6 ■ EC-No. 206-433-3  
 ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 330.13 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) acidic, Aqueous

solution  
 ■ Melting point 208 - 212 °C (decomposition)  
 ■ WGK 3  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A ■ Store below +15°C.  
 ■ HS-No. 2942 00 00 ■ Disposal 3  
 ■ ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(TRITYLIUMTETRAFLUOROBROMAT), 8, II  
 ■ IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(TRITYL TETRAFLUOROBORATE), 8,

II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(TRITYL TETRAFLUOROBORATE), 8, II  
**Specification**  
 Assay (ex C)..... ≥ 98,0 %  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41391.0010	Glass bottle	10 g	inquire

3-[4-(Tritylmercapto)phenyl]propionyl AM resin → page 282

Tropaeolin D → Methyl orange (C.I. 13025) page 1166

3-Tropanone → Tropinone page 1619

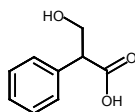
Trometamol → page 168

Tropan-3α-ol → Tropine page 1619

Tromethamine → page 1616

3-Tropanol → Tropine page 1619

## 808384 DL-Tropic acid for synthesis



C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>  
 HOCH<sub>2</sub>CH(C<sub>6</sub>H<sub>5</sub>)COOH

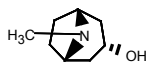
3-Hydroxy-2-phenylpropionic acid, α-Phenylhydracrylic acid  
 ■ CAS-No. 529-64-6 ■ EC-No. 208-465-3  
 ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 166.17 g/mol  
 ■ Melting point 115 - 118 °C  
 ■ WGK 2  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 19 98 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 97,0 % (m)  
 Melting range (lower value)..... ≥ 115 °C  
 Melting range (upper value) ..... ≤ 118 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08384.0025	Plastic bottle	25 g	inquire

## 808385 Tropine for synthesis

C<sub>8</sub>H<sub>15</sub>NOTropin-3 $\alpha$ -ol, 8-Aza-N-methylbicyclo[3.2.1]octan-3-ol, 3-Tropanol

■ CAS-No. 120-29-6 ■ EC-No. 204-384-2  
 ■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 100 g/l (20 °C) ■ M = 141.21 g/mol

- pH value 12 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 63 °C ■ Bulk density 350 kg/m<sup>3</sup>
- Boiling point 232 - 234 °C (1013 hPa)
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Oral, H302
- LD50 oral rat 1050 mg/kg
- LGK 10 - 13
- HS-No. 2939 99 00 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 % (m)  
 Melting range (lower value)..... ≥ 58 °C  
 Melting range (upper value)..... ≤ 61 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08385.0025	Glass bottle	25 g	inquire

## 841284 Tropinone for synthesis

C<sub>8</sub>H<sub>13</sub>NO

3-Tropanone, 8-Methyl-8-azabicyclo[3.2.1]octan-3-one

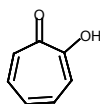
- CAS-No. 532-24-1 ■ EC-No. 208-530-6
- Flash point 90 °C ■ M = 139.2 g/mol
- pH value 8 (18 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 41 - 44 °C ■ Boiling point 227 °C (1013 hPa)
- WGK 3
- LGK 10 - 13 ■ Store below +15 °C.
- HS-No. 2939 99 00 ■ Disposal 3

## Specification

Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 42 °C  
 Melting range (upper value)..... ≤ 45 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41284.0005	Glass bottle	5 g	inquire

## Tropolone

C<sub>7</sub>H<sub>6</sub>O<sub>2</sub>

- 2-Hydroxy-2,4,6-cycloheptatrien-1-one
- CAS-No. 533-75-5 ■ EC-No. 208-577-2
- Flash point 112 °C ■ Solub. in H<sub>2</sub>O 40.9 g/l (25 °C) (experimental) ■ M = 122.12 g/mol
- Melting point 49 - 52 °C
- Boiling point 80 - 84 °C (1.5 hPa)
- WGK 3

- LGK 10 - 13 ■ Store at +2 °C to +8 °C.
- HS-No. 2914 40 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

## 814378 Tropolone for synthesis

## Specification

Assay (GC, area%)..... ≥ 99,0 Area %  
 Melting range (lower value)..... ≥ 49 °C  
 Melting range (upper value)..... ≤ 52 °C

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.14378.0001	Glass bottle	1 g	inquire
8.14378.0005	Glass bottle	5 g	inquire

## 845130 Tropolone for pharma synthesis, non-GMP

## Specification

Colour (visual)..... light yellow to light grey  
 Appearance of substance (visual)..... powder  
 Assay (GC, area%)..... ≥ 99,0 % (a/a)  
 Melting range (lower value)..... ≥ 49 °C

Melting range (upper value)..... ≤ 53 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.45130.0005	Glass bottle	5 g	inquire
8.45130.0025	Glass bottle	25 g	inquire

Trt-Dpr(Fmoc)-OH → page 249

Trt-NH-(PEG)<sub>2</sub>-NH<sub>2</sub> (15 atoms) → page 259

Trypan blue (C.I. 23850) → page 192

## 108444 Trypsin (from porcine pancreas) lyophilized, purified by affinity chromatography for protein sequence analysis, 1 package contains 5 x 50 µg EC 3.4.21.4

## Parenzyme

- CAS-No. 9002-07-7 ■ EC-No. 232-650-8
- Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ pH value 5 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Bulk density 200 kg/m<sup>3</sup>
- WGK 1
- GHS: Danger, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Respiratory sensitisation, Category 1, H334; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P304 + P340, P304 + P341, P305 + P351 + P338
- LD50 oral rat > 5000 mg/kg
- EC-Index-No. 647-010-00-7 ■ LGK 10 - 13

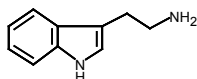
- Store at +2 °C to +8 °C.
- HS-No. 3507 90 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good
- Special grade for protein sequence analysis: cleaves peptide bonds at pH 7.5-9.0 C-terminally and specifically at lysine and arginine. A solution is stable at -20° for at least 4 weeks without alteration of the specificity. Each package contains a detailed data sheet.

## Specification

Appearance (colour)..... white  
 Appearance (description)..... lyophilisate  
 Cleavage specificity (HPLC)..... passes test  
 50 µg lyophilisate contains about 2.5 units trypsin (Insulin B(ox) 25 °C; 1 h; pH 8.5). Absence of chymotrypsin and other foreign protease activities tested by RP-HPLC with insulin B(ox).

Ord.No.	Packaging	Quantity	Price
1.08444.0001	Alu can	5 x 50 myg	inquire

## 818445 Tryptamine for synthesis

C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>

3-(2-Aminoethyl)indole, 2-(3-Indolyl)ethylamine

■ CAS-No. 61-54-1 ■ EC-No. 200-510-5  
 ■ Flash point 185 °C ■ Solub. in

- H<sub>2</sub>O (20 °C) insoluble ■ M = 160.22 g/mol
- pH value 9.7 (1 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 111 - 114 °C
- Boiling point 136 - 138 °C (0.20 hPa)
- Ignition temp. 491 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

## Specification

Assay (HClO<sub>4</sub>)..... ≥ 98,0 %  
 Melting range (lower value)..... ≥ 113 °C  
 Melting range (upper value)..... ≤ 116 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18445.0010	Glass bottle	10 g	inquire

Tryptic-Soy agar / broth → page 107

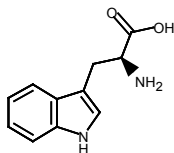
Tryptone sulfite neomycin agar → page 105

Tryptone glucose extract agar → page 105

Tryptone water → page 105

# Trypto

## 108374 L-Tryptophan for biochemistry



C<sub>11</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>

Trp

- CAS-No. 73-22-3 ■ EC-No. 200-795-6
- Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 204.23 g/mol
- pH value 5.5 - 7.0 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 290 °C (decomposition)
- Bulk density 400 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat 16000 mg/kg
- LGK 10 - 13

- HS-No. 2933 99 80 ■ Disposal 3
- Soluble in mineral acids; insoluble in organic solvents. Absorption maximum at 278 nm in 0.1 mol/l HCl. Store protected from light.

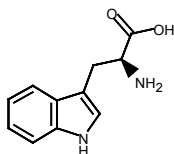
### Specification

- Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %
- Identity (IR-spectrum) ..... passes test
- Spec. rotation
- (α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... +1.5 to +2.5°
- Appearance .... white to almost white, crystalline or amorphous powder
- Chloride (Cl) ..... ≤ 0.02 %
- Sulfate (SO<sub>4</sub>) ..... ≤ 0.01 %
- Heavy metals (as Pb) ..... ≤ 0.001 %
- As (Arsenic) ..... ≤ 0.0005 %
- Ca (Calcium) ..... ≤ 0.001 %

- Co (Cobalt) ..... ≤ 0.0005 %
- Fe (Iron) ..... ≤ 0.0005 %
- K (Potassium) ..... ≤ 0.0005 %
- Mg (Magnesium) ..... ≤ 0.0005 %
- Na (Sodium) ..... ≤ 0.01 %
- Zn (Zinc) ..... ≤ 0.0005 %
- NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %
- Foreign amino acids ..... ≤ 0.3 %
- Other ninhydrine positive substances ..... ≤ 0.1 %
- Loss on drying (105 °C; 3 h) ..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.08374.0010	Plastic bottle	10 g	inquire
1.08374.0100	Plastic bottle	100 g	inquire
1.08374.0500	Plastic bottle	500 g	inquire
1.08374.9010	Plastic drum	10 kg	inquire

## 816017 (S)-(-)-Tryptophan for synthesis



C<sub>11</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>

Trp

- CAS-No. 73-22-3 ■ EC-No. 200-795-6
- Solub. in H<sub>2</sub>O 10 g/l (20 °C) ■ M = 204.23 g/mol
- pH value 5.5 - 7.0 (10 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 290 °C (decomposition)
- Bulk density 400 kg/m<sup>3</sup>
- WGK 1
- LD50 oral rat 16000 mg/kg
- LGK 10 - 13
- HS-No. 2933 99 80 ■ Disposal 3

### Specification

- Assay (HClO<sub>4</sub>) ..... ≥ 99.0 % (m)
- Spec. rotation [α<sub>20</sub>/D (c=1 in water) ..... -32,5 - -30,5 °
- Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16017.0025	Plastic bottle	25 g	inquire
8.16017.0100	Plastic bottle	100 g	inquire

- L-Tryptophan → (S)-(-)-Tryptophan page 1620
- Tryptose → page 113
- Tryptose broth → page 105
- Tryptose sulfite cycloserine agar → page 105
- TSI agar → page 105

- TSA / TSB medium → page 107
- TSC-agar → page 105
- TSIM → page 1608
- TSN agar → page 105
- TSPP → tetra-Sodium diphosphate decahydrate page 1433

- TSTU → page 280
- TT → page 112
- TTC → page 112

## Tungsten, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
995	107098	8-Hydroxyquinoline	191	107599	Rhodamine B (C.I. 45170)			

## 112406 Tungsten fine powder 99+

W

- CAS-No. 7440-33-7 ■ EC-No. 231-143-9
- Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 183.85 g/mol
- Melting point 3370 °C
- Bulk density 4000 kg/m<sup>3</sup> ■ Boiling point 5930 °C
- WGK nwg
- LC50 rat > 5.4 mg/l

- LD50 oral rat > 2000 mg/kg ■ LD50 dermal rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 8101 10 00 ■ Disposal 27

### Specification

- Identity (elemental analysis) ..... passes test

- Assay (gravimetrically) ..... ≥ 99.0 %
- Particle size (< 20 μm) ..... ≥ 80 %

Ord.No.	Packaging	Quantity	Price
1.12406.0100	Glass bottle	100 g	inquire

Tungsten carbonyl → Hexacarbonyltungsten page 945

## Tungstophosphoric acid hydrate

H<sub>3</sub>O<sub>40</sub>PW<sub>12</sub> \* x H<sub>2</sub>O

H<sub>3</sub>[P(W<sub>3</sub>O<sub>10</sub>)<sub>4</sub>] \* x H<sub>2</sub>O

Phosphotungstic acid

- CAS-No. 12501-23-4 ■ EC-No. 215-682-7
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 2880.17 g/mol (anhydrous) ■ pH value 1.3 (20 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 107 °C
- Bulk density 960 kg/m<sup>3</sup>

- WGK 2
- GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LD50 oral rat 3300 mg/kg
- LGK 8 B
- HS-No. 2811 19 80 ■ Disposal 14
- ADR-RID UN 3260 Ätzender saurer

anorganischer fester Stoff, n.a.g.(WOLFRAMATOPHOSPHORSAEURE), 8, III  
 ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(TUNGSTOPHOSPHORIC ACID), 8, III, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(TUNGSTOPHOSPHORIC ACID), 8, III

## 100582 Tungstophosphoric acid hydrate cryst. extra pure

### Specification

- In water insoluble matter ..... ≤ 0.01 %
- Chloride (Cl) ..... ≤ 0.01 %
- Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %
- Total nitrogen (N) ..... ≤ 0.005 %
- Cu (Copper) ..... ≤ 0.001 %

- Fe (Iron) ..... ≤ 0.002 %
- Pb (Lead) ..... ≤ 0.005 %
- Loss on ignition (750 °C) ..... ≤ 17 %

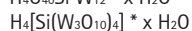
Ord.No.	Packaging	Quantity	Price
1.00582.0100	Plastic bottle	100 g	inquire
1.00582.1000	Plastic bottle	1 kg	inquire
1.00582.9025	Fibre carton	25 kg	inquire

**100583 Tungstophosphoric acid hydrate for analysis EMSURE®****Specification**

Chloride (Cl).....	≤ 50 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 100 ppm
Total nitrogen (N).....	≤ 20 ppm
Cu (Copper).....	≤ 10 ppm
Fe (Iron).....	≤ 20 ppm

K (Potassium).....	≤ 200 ppm
Na (Sodium).....	≤ 200 ppm
Pb (Lead).....	≤ 20 ppm
Loss on ignition (750 °C).....	≤ 17 %

Ord.No.	Packaging	Quantity	Price
1.00583.0100	Plastic bottle	100 g	inquire
1.00583.0250	Plastic bottle	250 g	inquire

**100659 Tungstosilicic acid hydrate for analysis EMSURE®***Silicotungstic acid, Wolframasilicic acid*

- CAS-No. 12027-43-9 ■ EC-No. 234-719-8
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 2878.17 g/mol ■ Bulk density 200 - 500 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2811 19 80 ■ Disposal 14

**Specification**

Identity.....	passes test
Chloride (Cl).....	≤ 20 ppm
Sulphate (SO <sub>4</sub> ).....	≤ 50 ppm
Total nitrogen (N).....	≤ 20 ppm
Heavy metals (as Pb).....	≤ 20 ppm
Fe (Iron).....	≤ 10 ppm
K (Potassium).....	≤ 200 ppm
Na (Sodium).....	≤ 200 ppm

Loss on ignition (750 °C)..... ≤ 16 %

Ord.No.	Packaging	Quantity	Price
1.00659.0025	Glass bottle	25 g	inquire
1.00659.0100	Plastic bottle	100 g	inquire

**Turbidimeter**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
94	118330	Turbidimeter	94	118332	Turbidimeter	94	118324	Turbidimeter
94	118331	Turbidimeter	94	118333	Turbidimeter	94	118325	Turbidimeter

Turbidimeter → page 94

Turmeric yellow → Curcumin page 663

**822184 Tween® 20 for synthesis**

- CAS-No. 9005-64-5 ■ EC-No. 500-018-3
- Vapour pressure < 1.4 hPa (20 °C)
- Spec. density 1.1 g/cm<sup>3</sup> (25 °C)
- Flash point >149 °C ■ Solub. in H<sub>2</sub>O (25 °C) soluble ■ M = 1228 g/mol
- pH value 6 - 8 (50 g/l, H<sub>2</sub>O, 20 °C)
- Boiling point >100 °C
- WGK 1

- LD50 oral rat 38900 mg/kg
- LGK 10 - 13
- HS-No. 3402 13 00 ■ Disposal 3

**Specification**

Density (d 20 °C/ 4 °C).....	1,095 - 1,105
Hydroxyl value.....	96 - 108
Saponification value.....	40 - 50
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
8.22184.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
8.22184.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.22184.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

**822185 Tween® 40 for synthesis***Polyoxyethylene sorbitan monopalmitate*

- CAS-No. 9005-66-7
- Spec. density 1.09 g/cm<sup>3</sup> (20 °C)
- Flash point >149 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ Boiling point >100 °C
- WGK 1
- LD50 oral rat > 38400 mg/kg
- LGK 10

- HS-No. 3402 13 00 ■ Disposal 3

**Specification**

Hydroxyl value.....	89 - 105
Saponification value.....	43 - 49
Acid value.....	≤ 3
Density (d 20 °C/ 4 °C).....	1.080 - 1.095
Identity (IR).....	passes test

Ord.No.	Packaging	Quantity	Price
8.22185.0500	Plastic bottle	500 ml	inquire
8.22185.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire

**822186 Tween® 60 for synthesis***Polyoxyethylene sorbitan monostearate*

- CAS-No. 9005-67-8 ■ EC-No. 500-020-4
- Vapour pressure < 10 hPa (20 °C)
- Spec. density 1.1 g/cm<sup>3</sup> (20 °C)
- Flash point >149 °C
- Kin. viscosity 170 - 320 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (25 °C) soluble ■ pH value 5.5 - 7.7 (50 g/l, H<sub>2</sub>O, 25 °C)

- WGK 1
- LD50 oral rat > 38000 mg/kg
- LGK 10
- HS-No. 3402 13 00 ■ Disposal 3

**Specification**

Hydroxyl value.....	81 - 96
Saponification value.....	45 - 55

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22186.0500	Glass bottle	500 ml	inquire
8.22186.1000	Plastic bottle	1 l	inquire

**822187 Tween® 80 for synthesis**

- CAS-No. 9005-65-6 ■ EC-No. 500-019-9
- Vapour pressure < 1.33 hPa
- Spec. density 1.07 g/cm<sup>3</sup> (25 °C)
- Flash point >149 °C
- Kin. viscosity 300 - 500 mm<sup>2</sup>/s (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 5 - 7 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Boiling point >100 °C (1013 hPa)
- Ignition temp. >180 °C
- WGK 1
- LD50 oral rat 42200 mg/kg

- LGK 10
- HS-No. 3402 13 00
- ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good
- IATA-DGR No Dangerous Good

**Specification**

Density (d 20 °C/ 4 °C).....	1,060 - 1,090
Saponification value.....	45 - 55
Hydroxyl value.....	65 - 80

Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22187.0500	Plastic bottle	500 ml	inquire
	Plastic bottle	6 x 500 ml	inquire
8.22187.1000	Plastic bottle	1 l	inquire
	Plastic bottle	6 x 1 l	inquire
8.22187.2500	Plastic bottle	2.5 l	inquire
	Plastic bottle	4 x 2.5 l	inquire

**822188 Tween® 85 for synthesis***Polyoxyethylene sorbitan trioleate*

- CAS-No. 9005-70-3
- Vapour pressure 1.4 hPa (20 °C)
- Spec. density 1.03 g/cm<sup>3</sup> (20 °C)
- Flash point >149 °C ■ Boiling point >100 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble
- WGK 1

- LD50 oral rat > 36000 mg/kg
- LGK 10
- HS-No. 3402 13 00 ■ Disposal 3

**Specification**

Density (d 20 °C/ 4 °C).....	1,028 - 1,033
Hydroxyl value.....	39 - 52

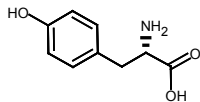
Saponification value..... 80 - 95  
Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.22188.0500	Plastic bottle	500 ml	inquire

# Tyrami

Tyramine hydrochloride → 2-(4-Hydroxyphenyl)ethylammonium chloride page 992

## 108371 L-Tyrosine for biochemistry



C<sub>9</sub>H<sub>11</sub>NO<sub>3</sub>

4-Hydroxyphenylalanine, Tyr

- CAS-No. 60-18-4 ■ EC-No. 200-460-4
  - Spec. density 1.46 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 0.38 g/l (20 °C) ■ M = 181.19 g/mol
  - pH value 6.5 (0.1 g/l, H<sub>2</sub>O)
  - Melting point 297 - 298 °C (decomposition)
  - Bulk density 300 kg/m<sup>3</sup>
  - LD50 oral rat > 5110 mg/kg
  - LGK 10 - 13
  - HS-No. 2922 50 00 ■ Disposal 3
- Soluble in mineral acids; insoluble in organic

solvents. Absorption maximum at 274.5 nm in 0.1 mol/l HCl.

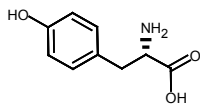
### Specification

Assay (perchloric acid titration, calculated on dried substance) ..... ≥ 99.0 %  
 Identity (IR-spectrum) ..... passes test  
 Appearance...white, crystalline powder or colorless crystals  
 Spec. rotation  
 (α 20/D, 50 g/l, hydrochloric acid 1 mol/l, calc. on dried substance) ..... -11.0 to -12.3°  
 Chloride (Cl) ..... ≤ 0.02 %  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.01 %  
 Heavy metals (as Pb) ..... ≤ 0.001 %  
 As (Arsenic) ..... ≤ 0.0005 %  
 Ca (Calcium) ..... ≤ 0.001 %  
 Co (Cobalt) ..... ≤ 0.0005 %

Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.0005 %  
 Mg (Magnesium) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.01 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.01 %  
 Zn (Zinc) ..... ≤ 0.0005 %  
 L-Phenylalanine ..... ≤ 0.5 %  
 other foreign amino acids ..... ≤ 0.2 %  
 Other ninhydrine positive substances ..... ≤ 0.1 %  
 Loss on drying (105 °C; 3 h) ..... ≤ 0.3 %

Ord.No.	Packaging	Quantity	Price
1.08371.0025	Plastic bottle	25 g	inquire
1.08371.0100	Plastic bottle	100 g	inquire
1.08371.1000	Plastic bottle	1 kg	inquire
1.08371.9010	Plastic drum	10 kg	inquire

## 816021 (S)-(-)-Tyrosine for synthesis



C<sub>9</sub>H<sub>11</sub>NO<sub>3</sub>

4-Hydroxyphenylalanine, Tyr

- CAS-No. 60-18-4 ■ EC-No. 200-460-4
- Spec. density 1.46 g/cm<sup>3</sup> (20 °C) ■ Solub. in

H<sub>2</sub>O 0.38 g/l (20 °C) ■ M = 181.19 g/mol

- pH value 6.5 (0.1 g/l, H<sub>2</sub>O)
- Melting point 297 - 298 °C (decomposition)
- Bulk density 300 kg/m<sup>3</sup>
- LD50 oral rat > 5110 mg/kg
- LGK 10 - 13
- HS-No. 2922 50 00 ■ Disposal 3

### Specification

Assay (HClO<sub>4</sub>) ..... ≥ 99,0 % (m)

Spec. rotation [α<sup>20</sup>/D (c=5 in HCl 1 mol/l) .....  
 ..... -12,5 - -11,0 °  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.16021.0025	Plastic bottle	25 g	inquire
8.16021.0100	Plastic bottle	100 g	inquire

L-Tyrosine → (S)-(-)-Tyrosine page 1622

L-Tyrosine methyl ester hydrochloride → L-Methyltyrosinate hydrochloride page 1185

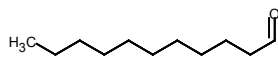
Türk's solution → page 200



### Ultrapur Reagents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
164	101514	Hydrochloric acid 30%	164	106097	Hydrogen peroxide solution 31%	164	101516	Sulfuric acid 96%
164	101513	Hydrofluoric acid 48%	164	101518	Nitric acid 60%	164	101262	Water

### 841015 Undecanal (stabilised) for synthesis



C<sub>11</sub>H<sub>22</sub>O  
*Undecyl aldehyde, Hendecanal*  
 ■ CAS-No. 112-44-7 ■ EC-No. 203-972-6  
 ■ Vapour pressure 0.05 hPa (20 °C)

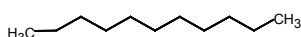
■ Spec. density 0.827 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 0.7 % (V) ■ Flash point 96 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 170.29 g/mol ■ Melting point -2 °C  
 ■ Boiling point 110 - 113 °C (16 hPa)  
 ■ WGK 1  
 ■ LGK 10  
 ■ HS-No. 2912 19 00 ■ Disposal 3

#### Specification

Assay (GC, area%) ..... ≥ 95.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.825 - 0.835  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.41015.0025	Glass bottle	25 ml	inquire

### n-Undecane



C<sub>11</sub>H<sub>24</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>9</sub>CH<sub>3</sub>  
 ■ CAS-No. 1120-21-4 ■ EC-No. 214-300-6  
 ■ Vapour pressure 0.6 hPa (20 °C)  
 ■ Spec. density 0.74 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 0.6 - 6.5 % (V) ■ Flash point 60 °C  
 ■ Kin. viscosity < 7 mm<sup>2</sup>/s (40 °C) ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 156.31 g/mol ■ Melting point -26 °C ■ Boiling point 195 °C (1013 hPa) ■ Ignition temp. 220 °C  
 ■ WGK 3  
 ■ GHS: Danger, Flammable liquid, Category 3, H226; Aspiration hazard, Category 1, H304, P260,

P262, P301 + P330 + P331  
 ■ LC50 rat > 5.7 mg/l  
 ■ LGK 3  
 ■ HS-No. 2901 10 00 ■ Disposal 3  
 ■ ADR-RID UN 2330 Undecane, 3, III ■ IMDG-Code UN 2330 UNDECANE, 3, III  
 ■ IATA-DGR UN 2330 UNDECANE, 3, III



### 818629 n-Undecane for synthesis

#### Specification

Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.739 - 0.741  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18629.0050	Glass bottle	50 ml	inquire
8.18629.0100	Glass bottle	100 ml	inquire
8.18629.0500	Glass bottle	500 ml	inquire

### 109795 n-Undecane for analysis EMSURE®

#### Specification

Assay (GC) ..... ≥ 99 %  
 Identity (IR-spectrum) ..... conforms  
 Acidity ..... ≤ 0.00008 meq/g  
 Sulfated ash ..... ≤ 0.005 %  
 Water ..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.09795.0100	Glass bottle	100 ml	inquire

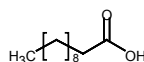
### 109794 n-Undecane reference substance for gas chromatography

#### Specification

Assay (GC) ..... ≥ 99.5 %  
 Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09794.0005	Glass bottle	5 ml	inquire

### 818568 Undecanoic acid for synthesis



C<sub>11</sub>H<sub>22</sub>O<sub>2</sub>  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>9</sub>COOH  
*1-Decanecarboxylic acid*  
 ■ CAS-No. 112-37-8 ■ EC-No. 203-964-2  
 ■ Spec. density 0.89 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 0.6 % (V) ■ Flash point > 112 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 186.29 g/mol  
 ■ Melting point 26 - 29 °C ■ Boiling point 284 °C (1013 hPa)  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2915 90 70 ■ Disposal 3

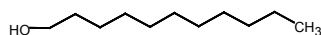
Melting range (lower value) ..... ≥ 26 °C  
 Melting range (upper value) ..... ≤ 29 °C  
 Identity (IR) ..... passes test

#### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)

Ord.No.	Packaging	Quantity	Price
8.18568.0101	Glass bottle	100 ml	inquire
8.18568.1000	Glass bottle	1 kg	inquire

### 808468 1-Undecanol for synthesis



C<sub>11</sub>H<sub>24</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>10</sub>OH  
*Undecyl alcohol*  
 ■ CAS-No. 112-42-5 ■ EC-No. 203-970-5  
 ■ Refractive index 1.44 (20 °C, 589 nm)  
 ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C)

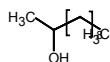
■ Flash point 113 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 172.31 g/mol  
 ■ pH value 7 (H<sub>2</sub>O, 20 °C)  
 ■ Melting point 13 - 15 °C  
 ■ Boiling point 129 - 131 °C (16 hPa)  
 ■ LD50 oral rat 3000 mg/kg  
 ■ LGK 10  
 ■ HS-No. 2905 19 00 ■ Disposal 3

#### Specification

Assay (GC, area%) ..... ≥ 98.0 Area %  
 Density (d 20 °C/ 4 °C) ..... 0.832 - 0.833  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.08468.0100	Glass bottle	100 ml	inquire

## 818575 2-Undecanol for synthesis



C<sub>11</sub>H<sub>24</sub>O  
 CH<sub>3</sub>CH(OH)(CH<sub>2</sub>)<sub>8</sub>CH<sub>3</sub>  
 2-Undecanol  
 ■ CAS-No. 1653-30-1 ■ EC-No. 216-722-6  
 ■ Refractive index 1.4358 (25 °C, 589 nm)

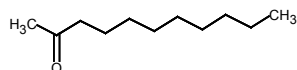
- Spec. density 0.83 g/cm<sup>3</sup> (20 °C)
- Flash point 107 °C ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 172.31 g/mol
- Melting point 1 - 3 °C
- Boiling point 228 - 229 °C (1013 hPa)
- WGK 1
- LGK 10
- HS-No. 2905 19 00 ■ Disposal 1

### Specification

Assay (GC, area%) ..... ≥ 98.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.826 - 0.828  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.18575.0010	Glass bottle	10 ml	inquire
8.18575.0050	Glass bottle	50 ml	inquire

## 808469 2-Undecanone for synthesis



C<sub>11</sub>H<sub>22</sub>O  
 CH<sub>3</sub>(CH<sub>2</sub>)<sub>8</sub>COCH<sub>3</sub>  
 Methyl nonyl ketone  
 ■ CAS-No. 112-12-9 ■ EC-No. 203-937-5  
 ■ Refractive index 1.428 (20 °C, 589 nm) ■ Vapour pressure 0.01 hPa (20 °C) ■ Spec. density 0.83 g/cm<sup>3</sup> (20 °C) ■ Flash point 96 °C ■ Solub. in H<sub>2</sub>O (20 °C) practically insoluble ■ M = 170.29 g/mol ■ Melting point 11 - 13 °C

- Boiling point 228 °C (1013 mbar)
- WGK 2
- GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273
- LD50 oral rat 5000 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2914 19 90 ■ Disposal 1
- ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(METHYLNONYLKETON), 9, III
- IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(METHYL

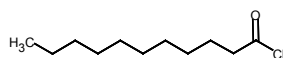
NONYL KETONE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(METHYL NONYL KETONE), 9, III

### Specification

Assay (GC, area%) ..... ≥ 98 %  
 Density (d 20 °C/ 4 °C) ..... 0.825 - 0.830  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.08469.0100	Glass bottle	100 ml	inquire
8.08469.0500	Glass bottle	500 ml	inquire

## 845139 Undecanoyl chloride for pharma synthesis, non-GMP



C<sub>11</sub>H<sub>21</sub>ClO  
 ■ CAS-No. 17746-05-3 ■ EC-No. 241-741-1  
 ■ Spec. density 0.927 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 112 °C ■ M = 204.74 g/mol  
 ■ Boiling point 136 °C (20 mbar)  
 ■ WGK 1  
 ■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338,

- P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2915 90 70 ■ Disposal 11  
 ■ ADR-RID UN 3264 Ätzender saurer anorganischer flüssiger Stoff, n.a.g.(UNDECANOYLCHLORID), 8, II ■ IMDG-Code UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(UNDECANOYL CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(UNDECANOYL CHLORIDE), 8, II

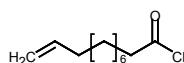
### Specification

Colour (visual) ..... colourless to almost colourless  
 Appearance (visual) ..... clear  
 Assay (GC, area%) ..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C) ..... 0.925 - 0.930  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.45139.0010	Glass bottle	10 ml	inquire
8.45139.0025	Glass bottle	25 ml	inquire

10-Undecenoic acid → Undecylenic-10 acid page 1624	10-Undecenoic acid chloride → 10-Undecenoyl chloride page 1624	10-Undecenoic acid methyl ester → Methyl-10-undecenoate page 1185
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## 814914 10-Undecenoyl chloride for synthesis



C<sub>11</sub>H<sub>19</sub>ClO  
 10-Undecylenic acid chloride, 10-Undecenoic acid chloride  
 ■ CAS-No. 38460-95-6 ■ EC-No. 253-951-0  
 ■ Spec. density 0.94 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 93 °C ■ Solub. in H<sub>2</sub>O (20 °C) Hydrolysis ■ M = 202.72 g/mol  
 ■ pH value (H<sub>2</sub>O) acidic ■ Boiling point 119 °C

- (13 hPa)  
 ■ WGK 1  
 ■ GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310  
 ■ LGK 8A  
 ■ HS-No. 2916 19 95 ■ Disposal 11  
 ■ ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(10-UNDECENOYLCHLORID), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(10-UNDECENOYL

CHLORIDE), 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(10-UNDECENOYL CHLORIDE), 8, II

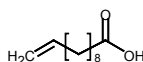
### Specification

Assay (argentometric) ..... ≥ 98.0 %  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.14914.0100	Glass bottle	100 ml	inquire
8.14914.0500	Glass bottle	500 ml	inquire

Undecyl alcohol → 1-Undecanol page 1623	Undecyl bromide → 1-Bromoundecane page 518
Undecyl aldehyde → Undecanal page 1623	Undecyl cyanide → Lauronitrile page 1072

## 800813 Undecylenic-10 acid for synthesis



C<sub>11</sub>H<sub>20</sub>O<sub>2</sub>  
 CH<sub>2</sub>=CH(CH<sub>2</sub>)<sub>8</sub>COOH  
 10-Undecenoic acid  
 ■ CAS-No. 112-38-9 ■ EC-No. 203-965-8  
 ■ Spec. density 0.91 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 149 °C ■ Solub. in H<sub>2</sub>O 73.7 mg/l (30 °C) ■ M = 184.27 g/mol ■ Melting point 24 °C

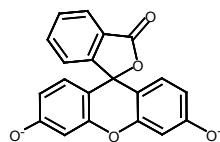
- Bulk density 910 kg/m<sup>3</sup> ■ Boiling point 275 °C (1013 mbar) ■ Ignition temp. 275 °C
- WGK 1
- GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338
- LD50 oral rat 2500 mg/kg ■ LD50 dermal rabbit > 5000 mg/kg
- LGK 10 - 13
- HS-No. 2916 19 10 ■ Disposal 3

### Specification

Assay (GC, area%) ..... ≥ 97.0 Area %  
 Melting range (lower value) ..... ≥ 21 °C  
 Melting range (upper value) ..... ≤ 25 °C  
 Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
8.00813.0500	Plastic bottle	500 ml	inquire
8.00813.5000	Plastic container	5 l	inquire

10-Undecylenic acid chloride → 10-Undecenoyl chloride page 1624	Universal NovaTag™ resin → page 260	Unsubstituted monohydric alcohols → Alcohols
Universal indicator papers → page 76	Universal PEG NovaTag™ resin → page 260	Unsubstituted polyhydric alcohols → Alcohols
Universal indicator solution → page 77	Universal peptone M 66 → page 113	
Universal indicator strips → page 78	Unsaturated alcohols → Alcohols	

**108462 Uranine AP (C.I. 45350)** concentrated for the examination of subterranean watersC<sub>20</sub>H<sub>10</sub>Na<sub>2</sub>O<sub>5</sub>

■ CAS-No. 518-47-8 ■ EC-No. 208-253-0  
 ■ Solub. in H<sub>2</sub>O 500 g/l (20 °C) ■ M = 376.27 g/

mol ■ pH value 8.3 (10 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point >300 °C ■ Bulk density 600 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LD50 oral rat 6720 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 3204 12 00 ■ Disposal 3

**Specification**

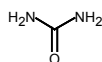
Identity (UV/VIS-Spectrum)..... passes test  
 Appearance..... Reddish-brown powder, eventually  
 with granular and bright parts.

Absorption maximum λ<sub>max</sub>. (buffer pH 8.0)..... 489 -  
 491 nm  
 Spec. Absorptivity A 1%/1cm (λ<sub>max</sub>; 0.005 g/l;  
 buffer pH 8.0; calc. on dried substance)..... ≥ 1800  
 Loss on drying (110 °C)..... ≤ 7 %

Ord.No.	Packaging	Quantity	Price
1.08462.0100	Glass bottle	100 g	inquire
1.08462.1000	Metal can	1 kg	inquire

**Uranium, determination**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
171	110107	Arsenazo III	995	107098	8-Hydroxyquinoline	1551	100700	Thioglycolic acid
426	100128	Aurin tricarboxylic acid ammonium salt	172	107531	1-(2-Pyridylazo)-2-naphthol (PAN)	1555	108294	Thorin
663	105227	Cupferron	191	107599	Rhodamine B (C.I. 45170)			
930	104191	Glyoxalbis(2-hydroxyanil)	1432	106689	Sodium diethyldithiocarbamate trihydrate			

**Urea**CH<sub>4</sub>N<sub>2</sub>OCO(NH<sub>2</sub>)<sub>2</sub>

Carbamide, Carbonyl  
 diamide, Diaminomethanone, Carbonyldiamine

■ CAS-No. 57-13-6 ■ EC-No. 200-315-5  
 ■ Vapour pressure < 0.1 hPa (20 °C)  
 ■ Spec. density 1.34 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O 590 g/l (20 °C) ■ M = 60.06 g/mol  
 ■ pH value 9 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 133 °C  
 ■ Bulk density 720 - 760 kg/m<sup>3</sup>  
 ■ WGK 1

■ LD50 oral rat 8471 mg/kg ■ LD50 dermal rat  
 8200 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 3105 10 00 ■ Disposal 3  
 Agent for (reversible) denaturation of proteins.  
 Solubility: In water: 1 g/ml; ethanol 0.08 g/ml; in  
 hot ethanol (90%) 0,65 g/ml; nearly insoluble in  
 ether and chloroform.

**818710 Urea for synthesis****Specification**

Assay (ex N)..... ≥ 99.0 %  
 Melting range (lower value)..... ≥ 132 °C  
 Melting range (upper value)..... ≤ 135 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18710.1000	Plastic bottle	1 kg	inquire
	Plastic bottle	6 x 1 kg	inquire
8.18710.5000	Plastic bottle	5 kg	inquire
	Plastic bottle	4 x 5 kg	inquire

**108487 Urea GR for analysis ACS, Reag. Ph Eur****Specification**

Assay (ex N)..... 99.0 - 100.5 %  
 Assay (ex N, calc. on dried substance)..... 99.0 -  
 101.5 %  
 Purity (DSC (differential scanning calorimetry)).....  
 ..... ≥ 99.5 %  
 Identity (IR-spectrum)..... passes test  
 Appearance of solution (10 %; Wasser; colour).....  
 ..... colourless  
 Appearance of solution (10 %; Wasser; clarity).....  
 ..... clear

In water insoluble matter..... ≤ 0.003 %  
 Acidity, Alkalinity..... ≤ 0.0005 meq/g  
 Melting point (DSC)..... 132 - 135 °C  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.0500 %  
 Chloride (Cl)..... ≤ 0.0005 %  
 Sulfate (SO<sub>4</sub>)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.0004 %  
 Biuret..... ≤ 0.05 %  
 Sulfated ash (600 °C)..... ≤ 0.005 %  
 Cu (Copper)..... ≤ 0.0001 %

Fe (Iron)..... ≤ 0.0001 %  
 Pb (Lead)..... ≤ 0.0002 %  
 Loss on drying (105 °C)..... ≤ 1.0 %  
 Corresponds to ACS, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.08487.0500	Plastic bottle	500 g	inquire
1.08487.1000	Plastic bottle	1 kg	inquire
1.08487.5000	Plastic bottle	5 kg	inquire
1.08487.9025	Fibre carton	25 kg	inquire

**108488 Urea for biochemistry****Specification**

Purity (DSC (differential scanning calorimetry)).....  
 ..... ≥ 99.5 %  
 Identity (IR-spectrum)..... passes test  
 Appearance... Colorless crystals or white crystalline  
 powder.  
 Appearance of solution (100 g/l, water) ..Clear and  
 colorless.  
 Melting point (DSC (differential scanning  
 calorimetry))..... 132 - 135 °C

UV-Absorption (260 nm; 8 mol/l; 1 cm; water).....  
 ..... ≤ 0.1  
 UV-Absorption (280 nm; 8 mol/l; 1 cm; water).....  
 ..... ≤ 0.1  
 Cyanide (CN)..... ≤ 0.000001 %  
 Chloride (Cl)..... ≤ 0.0005 %  
 Sulfate (SO<sub>4</sub>)..... ≤ 0.001 %  
 Heavy metals (as Pb)..... ≤ 0.0004 %  
 Fe (Iron)..... ≤ 0.00002 %  
 NH<sub>4</sub> (Ammonium)..... ≤ 0.00001 %

Biuret..... ≤ 0.05 %  
 Sulfated ash (800 °C)..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.08488.0250	Plastic bottle	250 g	inquire
1.08488.1000	Plastic bottle	1 kg	inquire
1.08488.5000	Plastic bottle	5 kg	inquire
1.08488.9010	Plastic drum	10 kg	inquire

Urea agar (base) acc. to CHRISTENSEN → page 105

Urea, determination → page 88

Urea broth → page 105

Urea hydrogen peroxide → Hydrogen peroxide urea  
 page 974

# Urease

## Urease

■ CAS-No. 9002-13-5 ■ EC-No. 232-656-0  
 ■ Spec. density 1.10 - 1.30 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.0 - 7.0 (H<sub>2</sub>O, 20 °C) ■ Bulk density 410 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ LGK 10 - 13 ■ Store at +2°C to +8°C.

■ HS-No. 3507 90 90 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good  
 ■ IATA-DGR No Dangerous Good  
 Catalysed reaction: Urea + H<sub>2</sub>O → 2NH<sub>3</sub> + CO<sub>2</sub>.  
 This completely soluble quality is especially

suitable for the determination of urea via ammonia by the GIDH method, but it is also suitable for the determination of urea by the Berthelot reaction, e.g. in research or food analysis.

### 116493 Urease (from jack beans) solution in 50% glycerol, 1000 U/ml for biochemistry EC 3.5.1.5

**Specification** ..... about 500 U/mg  
 Activity (Urea; pH 8.0; 25 °C)..... ≥ 1000 U/ml  
 Spec. activity (Urea; pH 8.0; 25 °C).....

Ord.No.	Packaging	Quantity	Price
1.16493.0010	Glass bottle	10 ml	inquire

### 108489 Urease lyophilized 5 U/mg EC 3.5.1.5

**Specification** ..... ≥ 5 U/mg  
 Activity.....  
 Suitability for determination of urea ..... passes test

Ord.No.	Packaging	Quantity	Price
1.08489.0005	Glass bottle	5 g	inquire
1.08489.0025	Glass bottle	25 g	inquire

Urea Test for swimming pools → page 88	Urocaninic acid → Imidazole-4-acrylic acid page 998	Urotropin® → Methenamine page 1113
Urea Test in swimming pool Refill pack → page 88	Urotropin → Methenamine page 1113	

## UV/VIS Standards

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1493	108160	UV-VIS Standard 1: Potassium dichromate solution	1493	108164	UV-VIS Standard 4: Potassium chloride solution	1493	104660	UV-VIS Standard 1a: Potassium dichromate solution (600 mg/l)
1493	108161	UV-VIS Standard 2: Sodium nitrite solution	1493	108165	UV-VIS Standard 5: Toluene solution in n-hexane			
1493	108163	UV-VIS Standard 3: Sodium iodide solution	1493	108166	UV-VIS Standard 6: holmium oxide solution			

UV/VIS standards → Standards Uvasol → page 293

## Uvasol® Solvents for spectroscopy

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
292	100022	Acetone	293	102937	N,N-Dimethylformamide	293	107179	n-Pentane
292	100016	Acetonitrile	293	102950	Dimethyl sulfoxide	293	104907	POTASSIUM BROMIDE UVASOL
292	101989	1-Butanol	293	100980	Ethanol	293	100993	2-Propanol
292	101984	tert-Butyl methyl ether	293	100863	Ethyl acetate	293	100965	Tetrachloroethylene
292	102210	Carbon disulfide	293	104366	n-Heptane	293	108110	Tetrahydrofuran
292	102447	Chloroform	293	104372	n-Hexane	293	108331	Toluene
293	102822	Cyclohexane	293	104718	Isooctane	293	108239	1,1,2-Trichlorotrifluoroethane
293	106048	Dichloromethane	293	106002	Methanol	293	108262	Trifluoroacetic acid
293	100930	Diethyl ether	293	106056	2-Methylbutane			

UV filters for cosmetics → page 1437 UV lamp 254 nm → page 15  
 UV lamp → page 15 UV-VIS Spectrophotometer → page 92

## UV/VIS Spectrophotometers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
92	100706	Spectrophotometer	92	100707	UV-VIS Spectrophotometer			

Vacuum manifold → page 6

Valeraldehyde → Pentanal page 1267

Valeric acid → Pentanoic acid page 1270

Valeric acid chloride → Pentanoyl chloride page 1271

Valeric acid ethyl ester → Ethyl pentanoate page 880

Valeric acid methyl ester → Methyl valerate page 1186

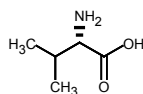
Valeric anhydride → Pentanoic anhydride page 1270

δ-Valerolactam → 2-Piperidinone page 1332

γ-Valerolactone → γ-Pentanolactone page 1271

Valeronitrile → Pentanonitrile page 1271

Valeroyl chloride → Pentanoyl chloride page 1271

**108495 L-Valine for biochemistry**C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>

Val

- CAS-No. 72-18-4 ■ EC-No. 200-773-6
- Spec. density 1.23 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 85 g/l (20 °C) ■ M = 117.15 g/mol
- pH value 5.5 - 6.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 315 °C ■ Bulk density 400 kg/m<sup>3</sup>
- WGK 1

- LGK 10 - 13
  - HS-No. 2922 49 85 ■ Disposal 3
- Soluble in water and mineral acids; insoluble in organic solvents.
- Specification**
- Assay (perchloric acid titration)..... ≥ 99.0 %
- Identity (IR-spectrum)..... passes test
- Appearance...white, crystalline powder or colorless crystals
- Appearance of solution (50 g/l; water)..... clear and colorless
- Spec. rotation (α 20/D, 50 g/l, hydrochloric acid 1 mol/l) ..... +23.8 to +24.8°

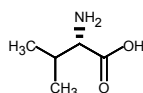
Heavy metals (as Pb)..... ≤ 0.001 %

NH<sub>4</sub> (Ammonium)..... ≤ 0.01 %

Foreign amino acids..... ≤ 0.3 %

Other ninhydrine positive substances..... ≤ 0.1 %

Ord.No.	Packaging	Quantity	Price
1.08495.0025	Plastic bottle	25 g	inquire
1.08495.0100	Plastic bottle	100 g	inquire
1.08495.1000	Plastic bottle	1 kg	inquire
1.08495.9010	Plastic drum	10 kg	inquire

**816006 (S)-(+)-Valine for synthesis**C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>

Val

- CAS-No. 72-18-4 ■ EC-No. 200-773-6
- Spec. density 1.23 g/cm<sup>3</sup> (20 °C) ■ Solub. in

- H<sub>2</sub>O 85 g/l (20 °C) ■ M = 117.15 g/mol
- pH value 5.5 - 6.5 (100 g/l, H<sub>2</sub>O, 20 °C)
  - Melting point 315 °C ■ Bulk density 400 kg/m<sup>3</sup>
  - WGK 1
  - LGK 10 - 13
  - HS-No. 2922 49 85 ■ Disposal 3

**Specification**

Assay (HClO<sub>4</sub>)..... ≥ 99.0 % (m)

Spec. rotation [α<sup>20</sup>/D (c=8 in HCl 6 mol/l).....

.....27.5 - 29.0 °

Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.16006.0025	Plastic bottle	25 g	inquire
8.16006.0100	Plastic bottle	100 g	inquire

L-Valine → (S)-(+)-Valine page 1627

L-Valine methyl ester hydrochloride → L-Methyl valinate hydrochloride page 1186

D-Valinol → (R)-(-)-2-Amino-3-methylbutanol page 392

L-Valinol → (S)-(+)-2-Amino-3-methyl-1-butanol page 392

Valproic acid → 2-Propylvaleric acid page 1377

**108498 Vanadate-molybdate reagent for determination of phosphate**

- Vapour pressure < 20 hPa (20 °C)
- Spec. density 1.15 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value < 1 (50 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point < -4 °C
- Boiling point > 100 °C (1013 hPa)
- WGK 1
- GHS: Danger, Corrosive to metals, Category 1, H290; Skin corrosion, Category 1A, H314, P280,

- P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8B
  - HS-No. 3822 00 00 ■ Disposal 12
  - ADR-RID UN 2796 Schwefelsäure, 8, II ■ IMDG-Code UN 2796 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)
  - IATA-DGR UN 2796 SULPHURIC ACID, 8, II

**Specification**

Sulfuric acid (alkalimetric)..... 18.0 - 20.5 %

Application test..... conforms

Ord.No.	Packaging	Quantity	Price
1.08498.0500	Plastic bottle	500 ml	inquire

Vanadic anhydride → Vanadium(V) oxide page 1628

**Vanadium, determination**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
663	105227	Cupferron	172	103122	3,3'-Dimethylnaphthidine	172	107531	1-(2-Pyridylazo)-2-naphthol (PAN)
791	103062	Dimethylglyoxime	995	107098	8-Hydroxyquinoline	1405	107593	Resorcinol
791	103061	Dimethylglyoxime disodium salt octahydrate	1287	107223	1,10-Phenanthroline chloride monohydrate			

**112392 Vanadium powder 99+**

V

- CAS-No. 7440-62-2 ■ EC-No. 231-171-1
- Spec. density 6.11 g/cm<sup>3</sup> (18.7 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 50.94 g/mol
- Melting point 1710 °C ■ Bulk density 4000 kg/m<sup>3</sup> ■ Boiling point 3000 °C

- WGK nwg
- LD50 oral rat > 2000 mg/kg
- LGK 10 - 13
- HS-No. 8112 92 91 ■ Disposal 27

**Specification**

Identity (elemental analysis)..... conform

Purity (metal base)..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
1.12392.0010	Glass bottle	10 g	inquire

**112393 Vanadium(III) chloride 99+**Cl<sub>3</sub>VVCl<sub>3</sub>

Vanadium trichloride

- CAS-No. 7718-98-1 ■ EC-No. 231-744-6
- Spec. density 3.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 157.3 g/mol
- Bulk density 1000 kg/m<sup>3</sup>
- WGK 3
- GHS: Warning, Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye

- irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335, P302 + P352, P305 + P351 + P338
- LD50 oral rat 350 mg/kg
  - LGK 8 B
  - HS-No. 2827 39 85 ■ Disposal 14
  - ADR-RID UN 2475 Vanadiumtrichlorid, 8, III
  - IMDG-Code UN 2475 VANADIUM TRICHLORIDE, 8, III, Segregation Group: 1 (Acids)
  - IATA-DGR UN 2475 VANADIUM TRICHLORIDE,

8, III

**Specification**

Identity (elemental analysis)..... conforms

Assay (complexometric)..... ≥ 99.0 % (m)

Ord.No.	Packaging	Quantity	Price
1.12393.0025	Glass bottle	25 g	inquire



# Vanadi

## 100824 Vanadium(V) oxide extra pure



$V_2O_5$   
 $V_2O_5$   
*Vanadic anhydride, Vanadium pentoxide*  
 ■ CAS-No. 1314-62-1 ■ EC-No. 215-239-8  
 ■ Spec. density 3.36 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble ■ M = 181.88 g/mol  
 ■ pH value 4 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Melting point 690 °C  
 ■ Bulk density 400 - 600 kg/m<sup>3</sup>  
 ■ Boiling point 1750 °C (decomposition)  
 ■ WGK 3  
 ■ GHS: Danger, Germ cell mutagenicity, Category 2, H341; Reproductive toxicity, Category 2, H361d; Acute toxicity, Category 4, Inhalation,

H332; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 1, H372; Specific target organ toxicity - single exposure, Category 3, H335; Chronic aquatic toxicity, Category 2, H411, P273, P281, P304 + P340, P308 + P313  
 ■ LC50 rat 4.3 - 11.1 mg/l  
 ■ LD50 oral rat 400 - 500 mg/kg  
 ■ LD50 dermal rat > 2000 mg/kg  
 ■ EC-Index-No. 023-001-00-8 ■ LGK 6.1B  
 ■ HS-No. 2825 30 00 ■ Disposal 15  
 ■ ADR-RID UN 2862 Vanadiumpentoxid, 6.1, III  
 ■ IMDG-Code UN 2862 VANADIUM PENTOXIDE, 6.1, III

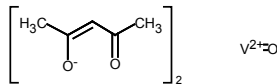
■ IATA-DGR UN 2862 VANADIUM PENTOXIDE, 6.1, III

### Specification

Assay..... ≥ 99.0 %  
 Chloride (Cl)..... ≤ 0.002 %  
 Phosphate (PO<sub>4</sub>)..... ≤ 0.01 %  
 Sulphate (SO<sub>4</sub>)..... ≤ 0.01 %  
 Total nitrogen (N)..... ≤ 0.01 %  
 Fe (Iron)..... ≤ 0.01 %

Ord.No.	Packaging	Quantity	Price
1.00824.0250	Plastic bottle	250 g	inquire
1.00824.1000	Plastic bottle	1 kg	inquire

## 808505 Vanadium(IV) oxide acetylacetonate for synthesis



$C_{10}H_{14}O_5V$   
*Bis(acetylacetonato)vanadium(IV) oxide, Bis(2,4-pentanedionato)vanadium(IV) oxide*  
 ■ CAS-No. 3153-26-2 ■ EC-No. 221-590-8  
 ■ Solub. in H<sub>2</sub>O 10 g/l (25 °C) ■ M = 265.16 g/mol  
 ■ Melting point 243 - 246 °C

■ Bulk density 450 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 19 90 ■ Disposal 3  
 ■ ADR-RID UN 3285 Vanadiumverbindung, n.a.g.(VANADIN(IV)-OXIDACETYLACETONAT), 6.1, II  
 ■ IMDG-Code UN 3285 VANADIUM COMPOUND, N.O.S.(VANADIUM(IV)-OXIDE ACETYLACETONATE), 6.1, II

■ IATA-DGR UN 3285 VANADIUM COMPOUND, N.O.S.(VANADIUM(IV)-OXIDE ACETYLACETONATE), 6.1, II

### Specification

Assay (ex V)..... ≥ 98.0 % (m)  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08505.0100	Plastic bottle	100 g	inquire

Vanadium pentoxide → Vanadium(V) oxide page 1628

## 109994 Vanadium standard 1000 mg V, (VOSO<sub>4</sub> in 8.6% H<sub>2</sub>SO<sub>4</sub>) Titrisol®



■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 0.5 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Warning, Corrosive to metals, Category 1, H290; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P305 + P351 + P338  
 ■ LGK 8 B

■ HS-No. 3822 00 00 ■ Disposal 12  
 ■ ADR-RID UN 2796 Schwefelsäure, 8, II ■ IMDG-Code UN 2796 SULPHURIC ACID, 8, II, Segregation Group: 1 (Acids)  
 ■ IATA-DGR UN 2796 SULPHURIC ACID, 8, II

Determination method: Oxidimetric titration. (traceable of NIST - SRM 136e) Accuracy of the method: +/- 2 mg

### Specification

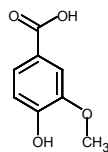
content (V)..... 1000 mg/Ampoule

Ord.No.	Packaging	Quantity	Price
1.09994.0001	Plastic ampoule	1 amp	inquire

Vanadium standard for aqueous matrices → Vanadium standard page 1628

Vanadium trichloride → Vanadium(III) chloride page 1627

## 841025 Vanillic acid for synthesis



$C_8H_8O_4$

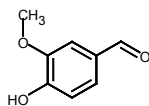
*4-Hydroxy-3-methoxybenzoic acid*  
 ■ CAS-No. 121-34-6 ■ EC-No. 204-466-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 168.14 g/mol ■ Melting point 208 - 210 °C  
 ■ WGK 1  
 ■ LGK 10 - 13  
 ■ HS-No. 2918 99 90 ■ Disposal 3

### Specification

Assay (acidimetric)..... ≥ 98.0 %  
 Melting range (lower value)..... ≥ 208 °C  
 Melting range (upper value)..... ≤ 212 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41025.0050	Glass bottle	50 g	inquire

## 818718 Vanillin for synthesis



$C_8H_8O_3$

$(CH_3O)(OH)C_6H_3CHO$   
*4-Hydroxy-3-methoxybenzaldehyde*  
 ■ CAS-No. 121-33-5 ■ EC-No. 204-465-2  
 ■ Vapour pressure 0.0029 hPa (25 °C)  
 ■ Spec. density 1.06 g/cm<sup>3</sup> (20 °C)  
 ■ Flash point 153 °C ■ Solub. in H<sub>2</sub>O 10 g/l (25 °C)

■ M = 152.14 g/mol ■ pH value 4.3 (10 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 82 °C  
 ■ Bulk density 600 kg/m<sup>3</sup> ■ Boiling point 154 °C (13 hPa) ■ Ignition temp. >400 °C  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338  
 ■ LD50 oral rat ≥ 4200 mg/kg  
 ■ LD50 dermal rabbit > 5010 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2912 41 00 ■ Disposal 3  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

### Specification

Assay (HPLC, area%)..... ≥ 99.0 % (a/a)  
 Melting range (lower value)..... ≥ 81 °C  
 Melting range (upper value)..... ≤ 83 °C  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18718.0100	Plastic bottle	100 g	inquire
8.18718.0500	Plastic bottle	500 g	inquire

o-Vanillin → 2-Hydroxy-3-methoxybenzaldehyde page 986

Veratraldehyde → 3,4-Dimethoxybenzaldehyde page 770

Vanillyl alcohol → 4-Hydroxy-3-methoxybenzyl alcohol page 986

Veratric acid → page 771

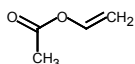
Vanillylamine hydrochloride → 4-Hydroxy-3-methoxybenzylamine hydrochloride page 986

Veratrole → Pyrocatechol dimethyl ether page 1391

Verification Standard → page 92

Vibrio selective agar → page 105

## 803184 Vinyl acetate (stabilised) for synthesis

C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>

Acetic acid vinyl ester

- CAS-No. 108-05-4 ■ EC-No. 203-545-4
- Refractive index 1.3954 (20 °C, 589 nm)
- Vapour pressure 120 hPa (20 °C)
- Spec. density 0.93 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 2.6 - 13.4 % (V) ■ Flash point -8 °C ■ Solub. in H<sub>2</sub>O 20 g/l (20 °C) ■ M = 86.09 g/mol
- pH value 7 (20 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point -

- 93 °C ■ Boiling point 71 - 73 °C (1013 hPa)
- Ignition temp. 385 °C
- WGK 2
- GHS: Danger, Flammable liquid, Category 2, H225, P210, P233
- LC50 rat 13.1 mg/l
- LD50 oral rat 2900 mg/kg ■ LD50 dermal rabbit 2335 mg/kg
- EC-Index-No. 607-023-00-0 ■ LGK 3
- HS-No. 2915 32 00 ■ Disposal 3
- ADR-RID UN 1301 Vinylacetat, stabilisiert, 3, II
- IMDG-Code UN 1301 VINYL ACETATE, STABILIZED, 3, II

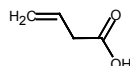
- IATA-DGR UN 1301 VINYL ACETATE, STABILIZED, 3, II

## Specification

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
Density (d 20 °C/ 4 °C)..... 0.931 - 0.932  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.03184.0010	Glass bottle	10 ml	inquire
8.03184.0100	Glass bottle	100 ml	inquire
8.03184.1000	Glass bottle	1 l	inquire

## 841387 Vinylacetic acid (stabilised) for synthesis

C<sub>4</sub>H<sub>6</sub>O<sub>2</sub>

3-Butenoic acid

- CAS-No. 625-38-7 ■ EC-No. 210-892-5
- Spec. density 1.012 g/cm<sup>3</sup> (20 °C)
- Flash point 65 °C ■ M = 86.09 g/mol
- Melting point -35 °C
- Boiling point 162 - 163 °C

- WGK 3
- GHS: Danger, Specific target organ toxicity - single exposure, Category 3, H335; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P304 + P340, P305 + P351 + P338, P309 + P310
- LGK 8A ■ Store below +15°C.
- HS-No. 2916 19 95 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer flüssiger Stoff, n.a.g.(VINYLESSIGSAEURE), 8, II
- IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(VINYLACETIC ACID), 8, II,

Segregation Group: 1 (Acids)

- IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(VINYLACETIC ACID), 8, II

## Specification

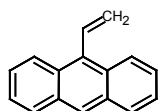
Assay (acidimetric)..... ≥ 96.0 %  
Density (d 20 °C/ 4 °C)..... 1.007 - 1.012  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41387.0010	Glass bottle	10 ml	inquire

Vinyl acetonitrile → Allyl cyanide page 365

4-Vinylanisole → 4-Methoxystyrene page 1127

## 824593 9-Vinylanthracene for synthesis

C<sub>16</sub>H<sub>12</sub>

9-Ethenylanthracene

- CAS-No. 2444-68-0 ■ EC-No. 219-486-2
- M = 204.27 g/mol ■ Melting point 61 - 64 °C
- WGK 2
- LGK 10 - 13
- HS-No. 2902 90 00 ■ Disposal 3

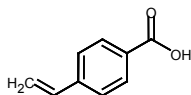
## Specification

Assay (GC, area%)..... ≥ 95.0 % (a/a)  
Melting range (lower value)..... ≥ 61 °C  
Melting range (upper value)..... ≤ 64 °C  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.24593.0500	Glass bottle	0.5 g	inquire

Vinylbenzene → Styrene page 1503

## 841019 4-Vinylbenzoic acid for synthesis

C<sub>9</sub>H<sub>8</sub>O<sub>2</sub>

Styrene-4-carboxylic acid

- CAS-No. 1075-49-6 ■ EC-No. 214-053-4
- Spec. density 1.30 g/cm<sup>3</sup> (20 °C)

- M = 148.16 g/mol
- WGK 3
- GHS: Warning, Specific target organ toxicity - single exposure, Category 3, H335; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319, P302 + P352, P304 + P340, P305 + P351 + P338
- LGK 10 - 13 ■ Store below +15°C.
- HS-No. 2916 39 90 ■ Disposal 3

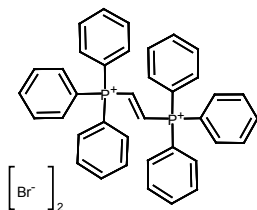
## Specification

Assay (acidimetric)..... ≥ 97.0 %  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.41019.0001	Glass bottle	1 g	inquire

Vinyl cyanide → Acrylonitrile page 353

## 818122 1,2-Vinylenebis(triphenylphosphonium) dibromide for synthesis

C<sub>38</sub>H<sub>32</sub>Br<sub>2</sub>P<sub>2</sub>

- CAS-No. 54770-27-3 ■ EC-No. 259-334-2
- Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 710.42 g/mol ■ Melting point 278 - 282 °C
- WGK 3
- LGK 10 - 13
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

- IATA-DGR No Dangerous Good

## Specification

Assay (argentometric)..... ≥ 98.0 % (m)  
Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.18122.0010	Glass bottle	10 g	inquire

Vinyl ethyl ether → Ethyl vinyl ether page 888

Vinylidene chloride → page 301

Vinyl methyl ketone → Methyl vinyl ketone page 1186

4-Vinylloxy-1-butanol → 1,4-

Butanediolmonovinylether page 534

Vinyl pentyl carbinol → 1-Octen-3-ol page 1243

# Vinylp

## 843915 Vinylphosphonic acid (80% solution) for synthesis

- Spec. density 1.37 g/cm<sup>3</sup> (30 °C) ■ pH value 1.5 (50 g/l, H<sub>2</sub>O, 30 °C) ■ Melting point < 20 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 8 A
- HS-No. 2931 90 90 ■ Disposal 4
- ADR-RID UN 3265 Ätzender saurer organischer

flüssiger Stoff, n.a.g.(VINYLPHOSPHONSAEURE), 8, II ■ IMDG-Code UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(VINYLPHOSPHONIC ACID), 8, II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(VINYLPHOSPHONIC ACID), 8, II

### Specification

Colour (visual).....colourless to pale yellow  
Appearance of substance (visual).....liquid

Assay (NMR).....≥ 80,0 %(m)  
Phosphoric acid (NMR).....≤ 5,0 %(m)  
other org. and inorg. Phosphor compounds (NMR).....  
.....≤ 5,0 %(m)  
Water (K. F.).....≤ 12,0 %(m)

Ord.No.	Packaging	Quantity	Price
8.43915.0250	Glass bottle	250 ml	inquire
8.43915.1000	Glass bottle	1 l	inquire

## 843914 Vinylphosphonic acid, 90% for synthesis



C<sub>2</sub>H<sub>5</sub>O<sub>3</sub>P

- CAS-No. 1746-03-8 ■ EC-No. 217-123-2
- Spec. density 1.37 g/cm<sup>3</sup> (30 °C)
- Flash point 113 °C ■ M = 108.03 g/mol
- pH value 1.5 (50 g/l, H<sub>2</sub>O, 30 °C)
- Melting point 36 °C
- WGK 1
- GHS: Danger, Skin corrosion, Category 1B, H314; Corrosive to metals, Category 1, H290, P280, P301

+ P330 + P331, P305 + P351 + P338, P309 + P310

- LD50 oral rat > 2000 mg/kg
- LGK 8A
- HS-No. 2931 90 90 ■ Disposal 3
- ADR-RID UN 3261 Ätzender saurer organischer fester Stoff, n.a.g.(VINYLPHOSPHONSAEURE), 8, II
- IMDG-Code UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(VINYLPHOSPHONIC ACID), 8, II, Segregation Group: 1 (Acids)
- IATA-DGR UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.(VINYLPHOSPHONIC ACID), 8, II

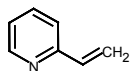
### Specification

Colour (visual).....colourless to pale yellow  
Appearance of substance (visual).....liquid  
Assay (NMR).....≥ 91,0 %(m)  
Phosphoric acid (NMR).....≤ 5,0 %(m)  
other org. and inorg. Phosphor compounds (NMR).....  
.....≤ 4,0 %(m)  
Water (K. F.).....≤ 0,50 %(m)

Ord.No.	Packaging	Quantity	Price
8.43914.0250	Plastic bottle	250 ml	inquire
8.43914.1000	Plastic bottle	1 l	inquire

3-Vinylpropionic acid → 4-Pentenoic acid page 1272

## 822189 2-Vinylpyridine (stabilized with 4-tert-butylpyrocatechol) for synthesis



C<sub>7</sub>H<sub>7</sub>N

2-Ethenyl-pyridine

- CAS-No. 100-69-6 ■ EC-No. 202-879-8
- Refractive index 1.5495 (20 °C, 589 nm)
- Vapour pressure 2.5 hPa (20 °C)
- Spec. density 0.97 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.3 - 10.7 %(V) ■ Flash point 51 °C ■ Solub. in H<sub>2</sub>O 27 g/l (20 °C) ■ M = 105.14 g/mol
- pH value 8 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point -50 °C
- Boiling point 158 - 160 °C (1013 hPa)

- Ignition temp. 440 °C
- WGK 3
- GHS: Danger, Flammable liquid, Category 3, H226; Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Acute toxicity, Category 3, Oral, H301; Skin corrosion, Category 1B, H314; Specific target organ toxicity - single exposure, Category 3, H335, P210, P280, P302 + P352, P305 + P351 + P338, P301 + P330 + P331, P309 + P310
- LC50 rat 24.04 mg/l
- LD50 oral rat 100 mg/kg
- LGK 3 ■ Store at -20°C to 0°C.
- HS-No. 2933 39 99 ■ Disposal 9
- ADR-RID UN 3073 Vinylpyridine, stabilisiert, 6.1

(3, 8), II ■ IMDG-Code UN 3073 VINYLPIRIDINES, STABILIZED, 6.1 (3, 8), II, Segregation Group: 18 (Alkalis)

■ IATA-DGR UN 3073 VINYLPIRIDINES, STABILIZED, 6.1 (3, 8), II

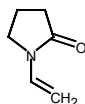
### Specification

Assay (GC, area%).....≥ 98,0 % (a/a)  
Density (d 20 °C/ 4 °C).....0.974 - 0.975  
Identity (IR).....passes test

Ord.No.	Packaging	Quantity	Price
8.22189.0005	Glass bottle	5 ml	inquire
8.22189.0250	Glass bottle	250 ml	inquire

1-Vinyl-2-pyrrolidinone → 1-Vinyl-2-pyrrolidone page 1630

## 808518 1-Vinyl-2-pyrrolidone (stabilized with N,N'-di-sec-butyl-1,4-phenylenediamine) for synthesis



C<sub>6</sub>H<sub>9</sub>NO

1-Vinyl-2-pyrrolidinone

- CAS-No. 88-12-0 ■ EC-No. 201-800-4
- Refractive index 1.512 (20 °C, 589 nm) ■ Vapour pressure 0.12 hPa (20 °C) ■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Explosive limit 1.4 - 10 %(V)
- Flash point 95 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble
- M = 111.14 g/mol ■ pH value 9 - 10 (100 g/l, H<sub>2</sub>O, 20 °C) ■ Melting point 13 - 14 °C
- Boiling point 147 - 149 °C (113 hPa)
- Ignition temp. 240 °C

- WGK 1
- GHS: Danger, Acute toxicity, Category 3, Inhalation, H331; Acute toxicity, Category 3, Dermal, H311; Carcinogenicity, Category 2, H351; Acute toxicity, Category 4, Oral, H302; Specific target organ toxicity - repeated exposure, Category 2, H373; Specific target organ toxicity - single exposure, Category 3, H335; Serious eye damage, Category 1, H318, P280, P281, P302 + P352, P304 + P340, P305 + P351 + P338, P308 + P313
- LC50 rat 3.07 mg/l
- LD50 oral rat 1022 mg/kg ■ LD50 dermal rabbit 560 mg/kg
- EC-Index-No. 613-168-00-0 ■ LGK 6.1 C
- HS-No. 2933 79 00 ■ Disposal 3

ADR-RID UN 2810 Giftiger organischer flüssiger Stoff, n.a.g.(1-VINYL-2-PYRROLIDON), 6.1, III

■ IMDG-Code UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1-VINYL-2-PYRROLIDONE), 6.1, III

■ IATA-DGR UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.(1-VINYL-2-PYRROLIDONE), 6.1, III

### Specification

Assay (GC, area%).....≥ 98,0 Area %  
Density (d 20 °C/ 4 °C).....1,043 - 1,044  
Identity (IR).....conforms

Ord.No.	Packaging	Quantity	Price
8.08518.0005	Glass bottle	5 ml	inquire
8.08518.0250	Glass bottle	250 ml	inquire

Vinyl sulfone → Divinyl sulfone page 826

Vinylsulfonylmethyl polystyrene → page 267

Vinyltoluene → Methylstyrene page 1180

4-Vinyltoluene → 4-Methylstyrene page 1179

Vinyltriethoxysilane → Triethoxyvinylsilane page 1584

Vinyltrimethoxysilane → Trimethoxyvinylsilane page 1600

Vinyltrimethyl silane → Trimethylvinylsilane page 1609

Violet red bile medium → page 105

Viscosity determination → Formic acid

## VIS Photometers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
91	173630	Colorimeter	92	109752	Photometer			
92	109748	Photometer	92	109751	Photometer			

## VIS Spectrophotometers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
92	100706	Spectrophotometer	92	100707	UV-VIS Spectrophotometer			

Vitamin B → L-Carnitine page 582

124592 Vitamin B<sub>12</sub> for biochemistryC<sub>63</sub>H<sub>88</sub>CoN<sub>14</sub>O<sub>14</sub>P

Cyanocobalamin

■ CAS-No. 68-19-9 ■ EC-No. 200-680-0

■ Solub. in H<sub>2</sub>O 12 g/l (25 °C) ■ M = 1355.37 g/mol■ pH value 6.0 (1 g/l, H<sub>2</sub>O, 20 °C)

■ Melting point &gt;300 °C

■ Bulk density 450 - 600 kg/m<sup>3</sup>

■ WGK 1

■ LGK 10 - 13 ■ Store at +15°C to +25°C.

■ HS-No. 2936 26 00

■ ADR-RID Kein Gefahrgut ■ IMDG-Code No

Dangerous Good

■ IATA-DGR No Dangerous Good

## Specification

Assay (photometric, calculated on dried substance).....97.0 - 100.0 %

Identity (IR-spectrum).....conforms

Relative absorption

- (A 361 nm/278 nm).....1.70 - 1.88

- (A 361 nm/550 nm).....3.15 - 3.40

- (A 351 nm/361 nm).....0.57 - 0.65

Residual solvents (Ph.Eur./ICH) class 3..... ≤ 0.5 %

Other residual solvents (Ph Eur/ICH).....excluded by production process

Related substances (HPLC)..... ≤ 3.0 %

Loss on drying (105 °C)..... ≤ 4.0 %

Ord.No.	Packaging	Quantity	Price
1.24592.0100	Glass bottle	100 mg	inquire
1.24592.1000	Glass bottle	1 g	inquire

Vitamin B12 test broth → page 107

## Vitamins, nicotinic acid / nicotinamide

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
1208	818714	Nicotinic acid						

Volatile oil of mustard → Allyl isothiocyanate page 366

## Volumetric solutions ready-to-use in 1-l bottles

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
168	102277	Ammonium cerium(IV) nitrate solution	169	109112	Potassium hydroxide solution	170	109137	Sodium hydroxide solution
			169	109108	Potassium hydroxide solution	170	109136	Sodium hydroxide solution
168	109079	Ammonium thiocyanate solution	169	109107	Potassium hydroxide solution	171	109147	Sodium thiosulfate solution
			169	109115	Potassium hydroxide solution in ethanol	171	109074	Sulfuric acid
168	109086	Barium perchlorate solution				171	109073	Sulfuric acid
168	109092	Cerium(IV) sulfate solution	169	109114	Potassium hydroxide solution in ethanol	171	109072	Sulfuric acid
168	102784	Copper sulfate solution				171	109162	Tetra-n-butylammonium hydroxide solution
168	109164	Hanus solution	169	105544	Potassium hydroxide solution in isopropanol	171	108124	Tetramethylammonium hydroxide solution
168	109060	Hydrochloric acid						
168	109058	Hydrochloric acid	170	109351	Potassium hydroxide solution in methanol	171	108431	Titriplex® III solution
169	109057	Hydrochloric acid				171	108447	Titriplex® IV solution
169	109063	Hydrochloric acid	170	109122	Potassium permanganate solution	1563	108419	Titriplex® solution A
169	100326	Hydrochloric acid in 2-propanol	170	109121	Potassium permanganate solution	1563	108420	Titriplex® solution B
169	109099	Iodine solution				171	108450	Trifluoromethanesulfonic acid
169	109098	Iodine solution	170	109081	Silver nitrate solution	171	109163	Wijs solution
169	109143	Mercury(II) nitrate solution	170	109080	Silver nitrate solution	171	108879	Zinc sulfate solution
169	109065	Perchloric acid	170	106277	Sodium arsenite solution			
169	109118	Potassium dichromate solution	170	109142	Sodium hydroxide solution			
169	109119	Potassium dichromate solution	170	109141	Sodium hydroxide solution			
			170	109140	Sodium hydroxide solution			
			170	109139	Sodium hydroxide solution			
			170	109138	Sodium hydroxide solution			

## Volumetric solutions ready-to-use in 25-l containers

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
168	109060	Hydrochloric acid	170	109141	Sodium hydroxide solution	171	109072	Sulfuric acid
168	109058	Hydrochloric acid	170	109137	Sodium hydroxide solution			
169	109057	Hydrochloric acid	171	109074	Sulfuric acid			

## Volumetric standards, secondary reference material

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
168	102401	Benzoic acid	168	102400	Potassium hydrogen phthalate	168	102407	di-Sodium oxalate
168	102410	Calcium carbonate	168	102404	Potassium iodate	168	102408	Tris(hydroxymethyl)aminomethane
168	102402	Iron(II) ethylenediammonium sulfate	168	102405	Sodium carbonate	168	102409	Zinc
168	102403	Potassium dichromate	168	102406	Sodium chloride			

Volumetric standards → Standards

VRB-agar (Crystal-violet neutral-red bile agar) → page 105

VRBD-agar (Crystal-violet neutral-red bile dextrose agar) acc. to MOSSEL → page 105

# Walbor

Walborsky reagent → 1,1,3,3-Tetramethylbutyl

isocyanide page 1540

Wang resin (100-200 mesh) → page 264

Wang resin co. (100-200 mesh) → page 270

Wang resin LL (100-200 mesh) → page 264

Wang resin VHL (100-200 mesh) → page 270

Warthin-Starry silver plating kit modified → page 203

## Water

H<sub>2</sub>O  
*Distilled water*  
 ■ CAS-No. 7732-18-5  
 ■ Vapour pressure 23 hPa (20 °C)  
 ■ Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 80.2 (20 °C) ■ El. dipole moment 1.85 (20 °C) ■ M = 18.02 g/mol ■ pH value (H<sub>2</sub>O), 20 °C) neutral ■ Boiling point 100 °C (1013 hPa)

■ WGK nwg  
 ■ LGK 10 - 13  
 ■ HS-No. 2853 00 10 ■ Disposal 28  
 ■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good

■ IATA-DGR No Dangerous Good  
 High purity water for multiple applications in trace analysis. Each package includes a certificate of analysis.

### 116754 Water for analysis EMSURE®

#### Specification

Spec. conductance at 25 °C (at the time of manufacturing) ..... ≤ 1 µS/cm  
 Evaporation residue ..... ≤ 1 mg/l  
 Residue on ignition ..... ≤ 1 mg/l  
 Chloride (Cl) ..... ≤ 0.05 mg/l  
 Fluoride (F) ..... ≤ 0.05 mg/l  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.01 mg/l  
 Phosphate (PO<sub>4</sub>) ..... ≤ 0.01 mg/l  
 Sulphate (SO<sub>4</sub>) ..... ≤ 0.1 mg/l  
 Silicate (SiO<sub>2</sub>) ..... ≤ 0.01 mg/l  
 Ammonium (NH<sub>4</sub>) ..... ≤ 0.01 mg/l  
 Ag (Silver) ..... ≤ 0.0004 mg/l  
 As (Arsenic) ..... ≤ 0.0020 mg/l  
 Al (Aluminium) ..... ≤ 0.0020 mg/l  
 Au (Gold) ..... ≤ 0.0010 mg/l  
 B (Boron) ..... ≤ 0.0050 mg/l  
 Ba (Barium) ..... ≤ 0.0010 mg/l  
 Be (Beryllium) ..... ≤ 0.0020 mg/l

Bi (Bismuth) ..... ≤ 0.0010 mg/l  
 Ca (Calcium) ..... ≤ 0.0050 mg/l  
 Cd (Cadmium) ..... ≤ 0.0010 mg/l  
 Co (Cobalt) ..... ≤ 0.0010 mg/l  
 Cr (Chromium) ..... ≤ 0.0004 mg/l  
 Cu (Copper) ..... ≤ 0.0004 mg/l  
 Fe (Iron) ..... ≤ 0.0010 mg/l  
 Ga (Gallium) ..... ≤ 0.0040 mg/l  
 Ge (Germanium) ..... ≤ 0.0010 mg/l  
 In (Indium) ..... ≤ 0.0010 mg/l  
 K (Potassium) ..... ≤ 0.0050 mg/l  
 Li (Lithium) ..... ≤ 0.0020 mg/l  
 Mg (Magnesium) ..... ≤ 0.0050 mg/l  
 Mn (Manganese) ..... ≤ 0.0004 mg/l  
 Mo (Molybdenum) ..... ≤ 0.0020 mg/l  
 Na (Sodium) ..... ≤ 0.0100 mg/l  
 Ni (Nickel) ..... ≤ 0.0004 mg/l  
 Pb (Lead) ..... ≤ 0.0010 mg/l

Pd (Palladium) ..... ≤ 0.0080 mg/l  
 Pt (Platinum) ..... ≤ 0.0010 mg/l  
 Sb (Antimony) ..... ≤ 0.0010 mg/l  
 Sn (Tin) ..... ≤ 0.0010 mg/l  
 Sr (Strontium) ..... ≤ 0.0004 mg/l  
 Ti (Titanium) ..... ≤ 0.0010 mg/l  
 V (Vanadium) ..... ≤ 0.0010 mg/l  
 Zn (Zinc) ..... ≤ 0.0040 mg/l  
 Zr (Zirconium) ..... ≤ 0.0010 mg/l  
 Substances reducing potassium permanganate (O) ..... ≤ 0.08 mg/l

Ord.No.	Packaging	Quantity	Price
1.16754.4000	Titripac PE/Alu	4 l	inquire
1.16754.5000	Plastic bottle	5 l	inquire
	Plastic bottle	4 x 5 l	inquire
1.16754.9010	Titripac PE/Alu	10 l	inquire

### 115333 Water for chromatography LiChrosolv®

#### Specification

Spec. conductance at 25 °C (at the time of manufacturing) ..... ≤ 1 µS/cm  
 Colony forming units ..... ≤ 25 CFU/g  
 TOC ..... ≤ 30 ppb  
 Evaporation residue ..... ≤ 5 mg/l  
 Fluorescence (as quinine at 254 nm) ..... ≤ 1 ppb  
 Fluorescence (as quinine at 365 nm) ..... ≤ 0.5 ppb  
 Gradient grade (at 210 nm) ..... ≤ 5 mAU  
 Gradient grade (at 254 nm) ..... ≤ 0.5 mAU  
 Gradient grade (basic absorption (210 nm)) ..... ≤ 20 mAU

Suitable for LC-MS (Bruker esquire 3000 plus);  
 Intensity of background mass peak based on reserpine (APCI/ESI positive) ..... ≤ 1 ppb  
 Suitable for LC-MS (Bruker esquire 3000 plus);  
 Intensity of background mass peak based on reserpine (APCI/ESI negative) ..... ≤ 20 ppb  
 Filtered by 0.2µm filter Suitable for UPLC/UHPLC/ Ultra HPLC-instruments

Ord.No.	Packaging	Quantity	Price
1.15333.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire
1.15333.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire
1.15333.4000	Glass bottle	4 l	inquire
1.15333.9010	Barrel stainl. st.	10 l	inquire
1.15333.9030	Barrel stainl. st.	30 l	inquire
1.15333.9185		185 l	inquire

### 101262 Water Ultrapur

#### Specification

Ag (Silver) ..... ≤ 50 ppt  
 Al (Aluminium) ..... ≤ 200 ppt  
 As (Arsenic) ..... ≤ 50 ppt  
 Au (Gold) ..... ≤ 50 ppt  
 B (Boron) ..... ≤ 500 ppt  
 Ba (Barium) ..... ≤ 50 ppt  
 Be (Beryllium) ..... ≤ 50 ppt  
 Bi (Bismuth) ..... ≤ 50 ppt  
 Ca (Calcium) ..... ≤ 500 ppt  
 Cd (Cadmium) ..... ≤ 50 ppt  
 Ce (Cerium) ..... ≤ 20.0 ppt  
 Co (Cobalt) ..... ≤ 50 ppt  
 Cr (Chromium) ..... ≤ 50 ppt  
 Cu (Copper) ..... ≤ 100 ppt  
 Dy (Dysprosium) ..... ≤ 20.0 ppt  
 Er (Erbium) ..... ≤ 20.0 ppt  
 Eu (Europium) ..... ≤ 20.0 ppt  
 Fe (Iron) ..... ≤ 300 ppt  
 Ga (Gallium) ..... ≤ 50.0 ppt  
 Gd (Gadolinium) ..... ≤ 20.0 ppt  
 Ge (Germanium) ..... ≤ 50 ppt  
 Hf (Hafnium) ..... ≤ 10.0 ppt  
 Ho (Holmium) ..... ≤ 20.0 ppt

In (Indium) ..... ≤ 50.0 ppt  
 K (Potassium) ..... ≤ 300 ppt  
 La (Lanthanum) ..... ≤ 20.0 ppt  
 Li (Lithium) ..... ≤ 50.0 ppt  
 Lu (Lutetium) ..... ≤ 20.0 ppt  
 Mg (Magnesium) ..... ≤ 100 ppt  
 Mn (Manganese) ..... ≤ 50 ppt  
 Mo (Molybdenum) ..... ≤ 50 ppt  
 Na (Sodium) ..... ≤ 500 ppt  
 Nb (Niobium) ..... ≤ 20.0 ppt  
 Nd (Neodymium) ..... ≤ 20.0 ppt  
 Ni (Nickel) ..... ≤ 50 ppt  
 Pb (Lead) ..... ≤ 50 ppt  
 Pd (Palladium) ..... ≤ 50 ppt  
 Pr (Praseodym) ..... ≤ 20.0 ppt  
 Pt (Platinum) ..... ≤ 50 ppt  
 Rb (Rubidium) ..... ≤ 20.0 ppt  
 Sb (Antimony) ..... ≤ 50 ppt  
 Sc (Scandium) ..... ≤ 20 ppt  
 Si (Silicon) ..... ≤ 500 ppt  
 Sm (Samarium) ..... ≤ 20.0 ppt  
 Sn (Tin) ..... ≤ 50 ppt  
 Sr (Strontium) ..... ≤ 50.0 ppt

Ta (Tantalum) ..... ≤ 50.0 ppt  
 Tb (Terbium) ..... ≤ 20.0 ppt  
 Te (Tellur) ..... ≤ 50 ppt  
 Th (Thorium) ..... ≤ 10.00 ppt  
 Ti (Titanium) ..... ≤ 50 ppt  
 Tl (Thallium) ..... ≤ 50.0 ppt  
 Tm (Thulium) ..... ≤ 20.0 ppt  
 U (Uranium) ..... ≤ 10.00 ppt  
 V (Vanadium) ..... ≤ 50 ppt  
 W (Wolfram) ..... ≤ 100 ppt  
 Y (Yttrium) ..... ≤ 10.0 ppt  
 Yb (Ytterbium) ..... ≤ 20.0 ppt  
 Zn (Zinc) ..... ≤ 500 ppt  
 Zr (Zirconium) ..... ≤ 50.0 ppt  
 ICP-MS: Determination after evaporation to dryness with ICP-MS GFAAS: Determination after preconcentration with graphite furnace AAS  
 Actual analysis values are subject to unavoidable systematic variations in this concentration range.

Ord.No.	Packaging	Quantity	Price
1.01262.0500	Plastic bottle	500 ml	inquire
1.01262.1000	Plastic bottle	1 l	inquire



### 100473 Water for inorganic trace analysis Tracepur®

**Specification**

Ag (Silver).....	≤ 1.0 ppb
Al (Aluminium).....	≤ 1.0 ppb
As (Arsenic).....	≤ 1.0 ppb
Au (Gold).....	≤ 1.0 ppb
B (Boron).....	≤ 1.0 ppb
Ba (Barium).....	≤ 1.0 ppb
Be (Beryllium).....	≤ 1.0 ppb
Bi (Bismuth).....	≤ 1.0 ppb
Ca (Calcium).....	≤ 1.0 ppb
Cd (Cadmium).....	≤ 1.0 ppb
Co (Cobalt).....	≤ 1.0 ppb
Cr (Chromium).....	≤ 1.0 ppb
Cu (Copper).....	≤ 1.0 ppb
Fe (Iron).....	≤ 1.0 ppb

Ga (Gallium).....	≤ 1.0 ppb
Ge (Germanium).....	≤ 1.0 ppb
Hg (Mercury).....	≤ 1.0 ppb
In (Indium).....	≤ 1.0 ppb
K (Potassium).....	≤ 1.0 ppb
Li (Lithium).....	≤ 1.0 ppb
Mg (Magnesium).....	≤ 1.0 ppb
Mn (Manganese).....	≤ 1.0 ppb
Mo (Molybdenum).....	≤ 1.0 ppb
Na (Sodium).....	≤ 1.0 ppb
Ni (Nickel).....	≤ 1.0 ppb
Pb (Lead).....	≤ 1.0 ppb
Pd (Palladium).....	≤ 1.0 ppb
Pt (Platinum).....	≤ 1.0 ppb

Sb (Antimony).....	≤ 1.0 ppb
Sn (Tin).....	≤ 1.0 ppb
Sr (Strontium).....	≤ 1.0 ppb
Ti (Titanium).....	≤ 1.0 ppb
Tl (Thallium).....	≤ 1.0 ppb
V (Vanadium).....	≤ 1.0 ppb
Zn (Zinc).....	≤ 1.0 ppb
Zr (Zirconium).....	≤ 1.0 ppb

Actual analysis values are subject to unavoidable systematic variations in this concentration range.

Ord.No.	Packaging	Quantity	Price
1.00473.5000	Plastic bottle	5 l	inquire

### 100577 Water for headspace gas chromatography SupraSolv®

- H<sub>2</sub>O
- CAS-No. 7732-18-5
- Vapour pressure 23 hPa (20 °C)
- Spec. density 1.00 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 80.2 (20 °C) ■ El. dipole moment 1.85 (20 °C) ■ M = 18.02 g/mol ■ pH value (H<sub>2</sub>O, 20 °C) neutral ■ Boiling point 100 °C (1013 hPa)
- WGK nwg
- LGK 10 - 13
- HS-No. 2853 00 10 ■ Disposal 28
- ADR-RID Kein Gefahrgut ■ IMDG-Code No

- Dangerous Good
  - IATA-DGR No Dangerous Good
- Specification**
- residue on evaporation..... ≤ 5 mg/l GC/HS
- Every residual solvent of class 1 acc. to ICH..... ≤ 1 µg/g
- Every residual solvent of class 2 acc. to ICH..... ≤ 10 µg/g
- Every residual solvent of class 3 acc. to ICH.....

..... ≤ 50 µg/g

Suitable as solvent for the analysis of residual solvents of ICH classes 1, 2 and 3 according to Ph Eur and USP. Formic acid, acetic acid, N,N-dimethylacetamide, N,N-dimethylformamide and dimethyl sulfoxide are not detected.

Ord.No.	Packaging	Quantity	Price
1.00577.1000	Glass bottle	1 l	inquire
1.00577.2500	Glass bottle	2.5 l	inquire

Water-blue metachrome-yellow lactose agar acc. to GASSNER → page 101

Water colour → Colour

### 108641 Water detection paste N

- Spec. density 1.6 g/cm<sup>3</sup> (20 °C) ■ pH value 11 (H<sub>2</sub>O) suspension
- WGK 3
- LGK 10 - 13

- HS-No. 3822 00 00 ■ Disposal 28
- Specification**
- Suitability for water detection..... conforms

Ord.No.	Packaging	Quantity	Price
1.08641.0001	Alu tube	150 g	inquire

Water-glass → Sodium silicate solution page 1451

Water hardness (carbonate hardness), determination → page 54

Water hardness (Permanent hardness), determination → page 81

### 480170 Water with 0.05% (v:v) trifluoroacetic acid for liquid chromatography LiChrosolv®

- Spec. density 1.000 g/cm<sup>3</sup> (20 °C)
- WGK nwg
- LGK 10 - 13
- HS-No. 2915 90 70

- Specification**
- Assay (trifluoroacetic acid) ....0.045 - 0.055 % (v/v)

Ord.No.	Packaging	Quantity	Price
4.80170.2500	Glass bottle	2.5 l	inquire
4.80170.4000		4 l	inquire

### 159013 Water with 0.1% (v/v) Formic acid hypergrade for LC-MS LiChrosolv®

- Disposal 28

Ord.No.	Packaging	Quantity	Price
1.59013.4000		4 l	inquire

### 480112 Water with 0.1% (v:v) trifluoroacetic acid for liquid chromatography LiChrosolv®

- Spec. density 1.000 g/cm<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 2915 90 70 ■ Disposal 28

- Assay (trifluoroacetic acid) ....0.095 - 0.105 % (v/v)

Ord.No.	Packaging	Quantity	Price
4.80112.2500	Glass bottle	2.5 l	inquire
4.80112.4000		4 l	inquire
4.80112.9030	Barrel stainl. st.	30 l	inquire

**Specification**

Weigert's iron hematoxylin kit → page 203  
Weinreb AM resin → page 266

Weise's Buffer solution → page 177  
Wide-pore adsorbents Fractogel® TSK / Fractogel® EMD → page 45

Wide-pore adsorbents LiChrospher® → page 18  
Wieninger's reagent → Selenium reagent mixture page 1415

### 109163 Wijs solution for determination of the iodine number c(ICI) = 0.1 mol/l Titripur®

Iodine solution acc. to Wijs

- Spec. density 1.06 g/cm<sup>3</sup> (20 °C)
- Flash point 40 °C ■ Solub. in H<sub>2</sub>O (20 °C) soluble,(decomposition)
- pH value < 1 (H<sub>2</sub>O, 20 °C)
- WGK 1
- GHS: Danger, Flammable liquid, Category 3, H226; Skin corrosion, Category 1A, H314, P210, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310
- LGK 3
- HS-No. 3822 00 00 ■ Disposal 12
- ADR-RID UN 2789 Essigsäure, Lösung, 8 (3), II
- IMDG-Code UN 2789 ACETIC ACID SOLUTION, 8

- (3), II, Segregation Group: 1 (Acids)
- IATA-DGR UN 2789 ACETIC ACID SOLUTION, 8 (3), II

**Specification**

Amount-of-substance concentration . 0.1000 mol/l

The concentration of this volumetric solution was determined with sodium thiosulfate standard solution (Merck article number 1.09147) standardized against volumetric standard potassium iodate (Merck article number 1.02404). The determined titer at 20°C was 1.000 with an expanded measurement uncertainty of +/-0.004 (k=2 coverage factor for 95% coverage probability).

The certified value is traceable to primary standard NIST SRM 136f (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard potassium iodate, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.09163.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire/1 l
1.09163.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire/2.5 l

# Wilkin

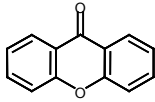
Wilkinsoncatalyst → Tris(triphenylphosphine) rhodium(I) chloride (11% Rh) page 1617	Withdrawal aids → page 327 Withdrawal system → page 326	Withdrawal system for stainless steel barrels and drums → page 326
WILSON-BLAIR medium → page 99	Withdrawal system for solvents → page 326	Withdrawal taps → Laboratory equipment, auxiliaries
Wire carrier → page 328		

## Wittig reagents

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
342	841028	Acetyltriphenylphosphonium chloride	812	818094	(1,3-Dioxolan-2-yl)-methyltriphenylphosphonium bromide	1287	807564	9,10-Phenanthrenequinone
348	818086	Acetylmethylenetriphenylphosphorane	887	801019	Ethyltriphenylphosphonium bromide	1372	841338	2-Propinyl-triphenylphosphonium bromide
457	821685	Benzyltriphenylphosphonium chloride	915	818177	Formylmethyltriphenylphosphonium chloride	1588	810557	Triethyl phosphonoacetate
572	818330	4-Carboxybutyltriphenylphosphonium bromide	1119	841314	Methoxycarbonylmethylene-triphenylphosphorane	1588	841189	Triethyl 2-phosphonopropionate
741	818176	Diethyl cyanomethylphosphonate	1121	818580	Methoxymethyl-triphenylphosphonium chloride			
748	841004	Diethyl methoxycarbonylmethanephosphonate	1185	806116	Methyltriphenylphosphonium bromide			

WL nutrient agar → page 105	Wort agar → page 105	WSC · HCl → page 279
Wolframosilicic acid → Tungstosilicic acid hydrate page 1621	Wort broth → page 105	Wurster-reagent → N,N,N',N'-Tetramethyl-1,4-phenylenediammonium dichloride page 1542
Wood alcohol → page 319	Wright's eosine methylene blue → page 192	
Wood's metal → Alloy acc. to Wood page 363	Wright's eosin methylene blue solution → page 199	

9-Xanthenone → Xanthonone page 1635

**808669 Xanthonone for synthesis**C<sub>13</sub>H<sub>8</sub>O<sub>2</sub>

9-Xanthenone

■ CAS-No. 90-47-1 ■ EC-No. 201-997-7

- Solub. in H<sub>2</sub>O (20 °C) slightly soluble
- M = 196.21 g/mol ■ Melting point 173 - 176 °C
- Boiling point 349 - 350 °C (971 hPa)
- WGK 2
- LGK 10 - 13
- HS-No. 2932 99 00 ■ Disposal 3

**Specification**

Assay (HPLC, area%) ..... ≥ 98,0 Area %

Melting range (lower value)..... ≥ 173 °C  
 Melting range (upper value)..... ≤ 176 °C  
 Identity (IR)..... conforms

Ord.No.	Packaging	Quantity	Price
8.08669.0025	Plastic bottle	25 g	inquire
8.08669.0100	Plastic bottle	100 g	inquire

Xanthurenic acid → 4,8-Dihydroxy-2-quinolinecarboxylic acid page 763

**818888 Xenon difluoride for synthesis**F<sub>2</sub>XeXeF<sub>2</sub>

- CAS-No. 13709-36-9 ■ EC-No. 237-251-2
- Vapour pressure 3.8 hPa (25 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 169.29 g/mol
- Melting point 130 - 135 °C (sublimed)
- WGK 1
- GHS: Danger, Oxidising solid, Category 2, H272; Skin corrosion, Category 1B, H314, P280, P301 +

P330 + P331, P305 + P351 + P338, P309 + P310

- LGK 5.1 B ■ Store at +2°C to +8°C.
- HS-No. 2812 90 00 ■ Disposal 23
- ADR-RID UN 3085 Entzündend (oxidierend) wirkender fester Stoff, ätzend, n.a.g.(XENONDIFLUORID), 5.1 (8), II ■ IMDG-Code UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.(XENON DIFLUORIDE), 5.1 (8), II
- IATA-DGR UN 3085 OXIDIZING SOLID,

CORROSIVE, N.O.S.(XENON DIFLUORIDE), 5.1 (8), II

**Specification**

Assay (iodometric) ..... ≥ 98,0 % (m)

Ord.No.	Packaging	Quantity	Price
8.18888.0001	Glass bottle	1 g	inquire
8.18888.0005	Glass bottle	5 g	inquire

XLD-agar → page 105

X-ray fluorescence analysis, digestion agents →

Spectromelt® A 10 page 167

**X-ray fluorescence analysis**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
167	110783	Spectromelt® A 10	167	112996	Spectromelt® A 20	167	106304	Spectromelt® B 10
167	111802	Spectromelt® A 12	167	112630	Spectromelt® A 100	167	113934	Spectromelt® C 20
167	111724	Spectromelt® A 14	167	113175	Spectromelt® A 1000			

X-ray fluorescence analysis → Spectromelt®

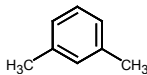
**108661 Xylene for analysis EMSURE® ACS,ISO,Reag.Ph Eur**

- Vapour pressure 10 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.4 (25 °C) ■ Explosive limit 1.0 % (V)
- Flash point 25 °C ■ Kin. viscosity 0.85 mm<sup>2</sup>/s (20 °C) ■ Solub. in H<sub>2</sub>O 0.2 g/l (20 °C)
- pH value (H<sub>2</sub>O) not applicable
- Saturation conc. 35 g/m<sup>3</sup> (20 °C) Air
- Melting point >-34 °C
- Boiling point 137 - 143 °C (1013 hPa)
- Evaporation number 13.5
- Ignition temp. 465 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315, P210, P302 + P352, P304 + P340
- LGK 3
- HS-No. 2902 44 00 ■ Disposal 1
- ADR-RID UN 1307 Xylene, 3, III ■ IMDG-Code UN 1307 XYLENES, 3, III
- IATA-DGR UN 1307 XYLENES, 3, III

Total assay of C<sub>8</sub>H<sub>10</sub> isomeris (GC)..... ≥ 99.8 %  
 Identity (IR)..... conforms  
 Appearance..... clear  
 Colour..... ≤ 10 Hazen  
 Acidity..... ≤ 0.00025 meq/g  
 Alkalinity..... ≤ 0.00025 meq/g  
 Density (d 20 °C/20 °C)..... 0.862 - 0.869  
 Refractive index (n 20/D)..... 1.495 - 1.499  
 Boiling range (137-142°C)..... ≥ 95 % (v/v)  
 Benzene (GC)..... ≤ 0.01 %  
 Ethylbenzene (GC)..... ≤ 3 %  
 Toluene (GC)..... ≤ 0.1 %  
 Sulfur compounds (as S)..... ≤ 0.003 %  
 Readily carbonizable substances..... conforms  
 Thiophene..... conforms  
 Al (Aluminium)..... ≤ 0.00005 %  
 B (Boron)..... ≤ 0.000002 %  
 Ba (Barium)..... ≤ 0.00001 %  
 Ca (Calcium)..... ≤ 0.00005 %  
 Cd (Cadmium)..... ≤ 0.000005 %  
 Co (Cobalt)..... ≤ 0.000002 %  
 Cr (Chromium)..... ≤ 0.000002 %  
 Cu (Copper)..... ≤ 0.000002 %

Fe (Iron)..... ≤ 0.00001 %  
 Mg (Magnesium)..... ≤ 0.00001 %  
 Mn (Manganese)..... ≤ 0.000002 %  
 Ni (Nickel)..... ≤ 0.000002 %  
 Pb (Lead)..... ≤ 0.00001 %  
 Sn (Tin)..... ≤ 0.00001 %  
 Zn (Zinc)..... ≤ 0.00001 %  
 Evaporation residue..... ≤ 0.001 %  
 Water..... ≤ 0.03 %  
 Conforms to ACS, ISO, Reag Ph Eur

Ord.No.	Packaging	Quantity	Price
1.08661.1000	Glass bottle	1 l	inquire
1.08661.2500	Glass bottle	2.5 l	inquire
1.08661.2511	Plastic bottle	2.5 l	inquire
1.08661.4000	Glass bottle	4 l	inquire
	Glass bottle	4 x 4 l	inquire/4 l
1.08661.6010	Drum stainl. st.	10 l	inquire
1.08661.6025	Drum stainl. st.	25 l	inquire
1.08661.9025	Steel barrel	25 l	inquire
1.08661.9190	Steel barrel	190 l	inquire

**m-Xylene**C<sub>8</sub>H<sub>10</sub>C<sub>8</sub>H<sub>4</sub>(CH<sub>3</sub>)<sub>2</sub>

1,3-Dimethylbenzene

- CAS-No. 108-38-3 ■ EC-No. 203-576-3
- Vapour pressure 8 hPa (20 °C)
- Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Dielectricity

constant 2.3 (20 °C) ■ Explosive limit 1.1 - 7 % (V)  
 ■ Flash point 25 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (20 °C)  
 ■ M = 106.16 g/mol ■ Saturation conc. 35 g/m<sup>3</sup> (20 °C) Air ■ Melting point -48 °C  
 ■ Boiling point 139 °C (1013 hPa)  
 ■ Evaporation number 13.5  
 ■ Ignition temp. 525 °C  
 ■ WGK 2  
 ■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation,

H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315, P210, P302 + P352, P304 + P340  
 ■ LD50 oral rat 5000 mg/kg ■ LD50 dermal rabbit 12126 mg/kg  
 ■ EC-Index-No. 601-022-00-9 ■ LGK 3  
 ■ HS-No. 2902 42 00 ■ Disposal 1  
 ■ ADR-RID UN 1307 Xylene, 3, III ■ IMDG-Code UN 1307 XYLENES, 3, III  
 ■ IATA-DGR UN 1307 XYLENES, 3, III

**822337 m-Xylene for synthesis****Specification**

Assay (GC, area%)..... ≥ 99.0 % (a/a)  
 Density (d 20 °C/ 4 °C)..... 0.863 - 0.864  
 Identity (IR)..... passes test

Ord.No.	Packaging	Quantity	Price
8.22337.1000	Glass bottle	1 l	inquire
8.22337.2500	Glass bottle	2.5 l	inquire

# Xylene

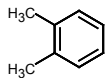
## 109797 m-Xylene reference substance for gas chromatography

### Specification

Assay (GC) ..... ≥ 99.3 %  
Identity (IR) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09797.0005	Glass bottle	5 ml	inquire

### o-Xylene



C<sub>8</sub>H<sub>10</sub>  
C<sub>6</sub>H<sub>4</sub>(CH<sub>3</sub>)<sub>2</sub>  
1,2-Dimethylbenzene  
■ CAS-No. 95-47-6 ■ EC-No. 202-422-2  
■ Vapour pressure 7 hPa (20 °C)  
■ Spec. density 0.88 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.5 (30 °C) ■ El. dipole moment 0.45

(20 °C) ■ Explosive limit 1.0 - 7.6 % (V)  
■ Flash point 30 °C ■ Solub. in H<sub>2</sub>O 0.18 g/l (20 °C) ■ M = 106.17 g/mol  
■ Saturation conc. 29 g/m<sup>3</sup> (20 °C) Air  
■ Melting point -25 °C ■ Boiling point 144.4 °C (1013 hPa) ■ Evaporation number 13.5  
■ Ignition temp. 465 °C  
■ WGK 2  
■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312;

Skin irritation, Category 2, H315, P210, P302 + P352, P304 + P340  
■ LC50 rat 27.4 mg/l  
■ LD50 oral rat 3567 mg/kg  
■ EC-Index-No. 601-022-00-9 ■ LGK 3  
■ HS-No. 2902 41 00 ■ Disposal 1  
■ ADR-RID UN 1307 Xylene, 3, III ■ IMDG-Code UN 1307 XYLENES, 3, III  
■ IATA-DGR UN 1307 XYLENES, 3, III



## 808697 o-Xylene for synthesis

### Specification

Assay (GC, area%) ..... ≥ 98 %  
Density (d 20 °C/ 4 °C) ..... 0.878 - 0.881  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.08697.1000	Glass bottle	1 l	inquire
	Glass bottle	4 x 1 l	inquire/1 l
8.08697.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire/2.5 l
8.08697.6010	Drum stainl. st.	10 l	inquire

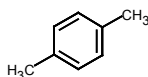
## 109798 o-Xylene reference substance for gas chromatography

### Specification

Assay (GC) ..... ≥ 99.0 %  
Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09798.0005	Glass bottle	5 ml	inquire

### p-Xylene



C<sub>8</sub>H<sub>10</sub>  
C<sub>6</sub>H<sub>4</sub>-1,4-(CH<sub>3</sub>)<sub>2</sub>  
1,4-Dimethylbenzene  
■ CAS-No. 106-42-3 ■ EC-No. 203-396-5  
■ Vapour pressure 8.7 hPa (20 °C)  
■ Spec. density 0.86 g/cm<sup>3</sup> (20 °C) ■ Dielectricity constant 2.2 (20 °C) ■ Explosive limit 1.1 - 7 % (V)

■ Flash point 24 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (25 °C)  
■ M = 106.17 g/mol ■ Saturation conc. 38 g/m<sup>3</sup> (20 °C) Air ■ Melting point 13.3 °C  
■ Boiling point 138.4 °C (1013 hPa)  
■ Evaporation number 13.5  
■ Ignition temp. 540 °C  
■ WGK 2  
■ GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315, P210, P302 +

P352  
■ LC50 rat 20.09 mg/l  
■ LD50 oral rat 3910 mg/kg  
■ EC-Index-No. 601-022-00-9 ■ LGK 3 ■ Store at +15°C to +25°C.  
■ HS-No. 2902 43 00 ■ Disposal 1  
■ ADR-RID UN 1307 Xylene, 3, III ■ IMDG-Code UN 1307 XYLENES, 3, III  
■ IATA-DGR UN 1307 XYLENES, 3, III



## 808691 p-Xylene for synthesis

### Specification

Assay (GC, area%) ..... ≥ 99 %  
Density (d 20 °C/ 4 °C) ..... 0.860 - 0.862  
Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.08691.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire/1 l
8.08691.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire/2.5 l

## 108684 p-Xylene for analysis EMSURE® ISO

### Specification

p-Xylene (GC) ..... ≥ 99.0 %  
Identity (IR) ..... conforms  
Appearance ..... clear  
Colour ..... ≤ 10 Hazen  
Acidity ..... ≤ 0.00025 meq/g  
Alkalinity ..... ≤ 0.00025 meq/g  
Density (d 20 °C/20 °C) ..... 0.862 - 0.869  
Refractive index (n 20/D) ..... 1.495 - 1.499  
Boiling range (137-142°C) ..... ≥ 95 % (v/v)  
Benzene (GC) ..... ≤ 0.1 %  
Ethylbenzene (GC) ..... ≤ 3 %  
Toluene (GC) ..... ≤ 0.1 %  
Sulfur compounds (as S) ..... ≤ 0.003 %  
Readily carbonizable substances ..... conforms  
Thiophene ..... conforms  
Al (Aluminium) ..... ≤ 0.00005 %  
B (Boron) ..... ≤ 0.000002 %  
Ba (Barium) ..... ≤ 0.00001 %  
Ca (Calcium) ..... ≤ 0.00005 %  
Cd (Cadmium) ..... ≤ 0.000005 %  
Co (Cobalt) ..... ≤ 0.000002 %  
Cr (Chromium) ..... ≤ 0.000002 %  
Cu (Copper) ..... ≤ 0.000002 %  
Fe (Iron) ..... ≤ 0.00001 %  
Mg (Magnesium) ..... ≤ 0.00001 %  
Mn (Manganese) ..... ≤ 0.000002 %  
Ni (Nickel) ..... ≤ 0.000002 %

Pb (Lead) ..... ≤ 0.00001 %  
Sn (Tin) ..... ≤ 0.00001 %  
Zn (Zinc) ..... ≤ 0.00001 %  
Evaporation residue ..... ≤ 0.001 %  
Water ..... ≤ 0.01 %  
ISO-reagent

Ord.No.	Packaging	Quantity	Price
1.08684.1000	Glass bottle	1 l	inquire
	Glass bottle	6 x 1 l	inquire/1 l
1.08684.2500	Glass bottle	2.5 l	inquire
	Glass bottle	4 x 2.5 l	inquire/2.5 l
1.08684.9025	Steel barrel	25 l	inquire

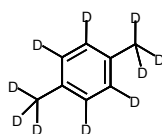
## 109799 p-Xylene reference substance for gas chromatography

### Specification

Purity (GC) ..... ≥ 99.5% (a/a)  
Identity (IR-spectrum) ..... conforms

Ord.No.	Packaging	Quantity	Price
1.09799.0005	Glass bottle	5 ml	inquire

## 815005 p-Xylene-D10 deuteration degree min. 99.5% for NMR spectroscopy MagniSolv™

C<sub>8</sub>D<sub>10</sub>

- CAS-No. 41051-88-1 ■ EC-No. 255-193-6
- Vapour pressure 8.7 hPa (20 °C)
- Spec. density 0.948 g/cm<sup>3</sup> (20 °C) ■ Explosive

limit 1.1 - 7 % (V) ■ Flash point 24 °C ■ Solub. in H<sub>2</sub>O 0.2 g/l (25 °C) ■ M = 116.23 g/mol

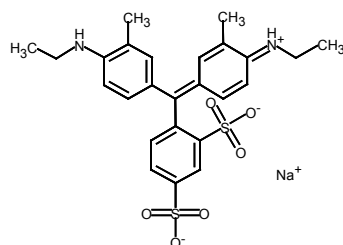
- Melting point 13.3 °C ■ Boiling point 138.4 °C (1013 hPa) ■ Ignition temp. 540 °C
- WGK 2
- GHS: Warning, Flammable liquid, Category 3, H226; Acute toxicity, Category 4, Inhalation, H332; Acute toxicity, Category 4, Dermal, H312; Skin irritation, Category 2, H315, P210, P302 + P352
- LC50 rat 21.99 mg/l

- LD50 oral rat 3910 mg/kg
- LGK 3
- HS-No. 2845 90 10 ■ Disposal 1
- ADR-RID UN 1307 Xylene, 3, III ■ IMDG-Code UN 1307 XYLENES, 3, III
- IATA-DGR UN 1307 XYLENES, 3, III

**Specification**  
Deuteration degree..... ≥ 99.5 %

Ord.No.	Packaging	Quantity	Price
8.15005.0010	Glass ampoule	10 ml	inquire

## 110590 Xylene cyanol for electrophoresis (C.I. 42135)



C<sub>25</sub>H<sub>27</sub>N<sub>2</sub>NaO<sub>6</sub>S<sub>2</sub>

- CAS-No. 2650-17-1 ■ EC-No. 220-167-5
- Solub. in H<sub>2</sub>O 1 g/l (20 °C) ■ M = 538.62 g/mol
- pH value 3.8 (1 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 530 kg/m<sup>3</sup>
- WGK 2
- GHS: Warning, Eye irritation, Category 2, H319, P305 + P351 + P338
- LGK 10 - 13
- HS-No. 3204 19 00 ■ Disposal 3

Soluble in water; very soluble in ethanol. Tracker dye in DNA sequencing gels.

**Specification**  
Identity (UV/VIS-Spectrum)..... passes test  
Absorption maximum λ max (water). 613 - 616 nm  
Spec. Absorptivity A 1%/1cm (λmax; 0.005 g/l; water) ..... 1000 - 1500  
Loss on drying (110 °C) ..... ≤ 6 %  
TLC-Test ..... passes test  
Suitability for electrophoresis ..... passes test

Ord.No.	Packaging	Quantity	Price
1.10590.0005	Glass bottle	5 g	inquire

## 108633 Xylenes (isomeric mixture) for analysis EMPARTA® ACS

- CAS-No. 1330-20-7
- Disposal 1

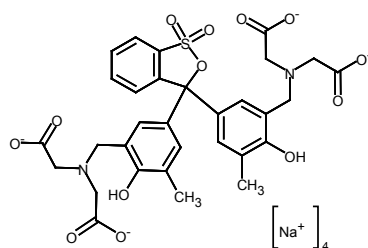
Ord.No.	Packaging	Quantity	Price
1.08633.2500		2.5 l	inquire
1.08633.4000		4 l	inquire

asym.-m-Xylenol → 2,4-Dimethylphenol page 796  
asym.-o-Xylenol → 3,4-Dimethylphenol page 797

p-Xylenol → 2,5-Dimethylphenol page 797  
sym.-m-Xylenol → 3,5-Dimethylphenol page 797

vic.-m-Xylenol → page 797

## 108677 Xylenol orange tetrasodium salt metal indicator ACS, Reag. Ph Eur



C<sub>31</sub>H<sub>28</sub>N<sub>2</sub>Na<sub>4</sub>O<sub>13</sub>S

3,3'-Bis[bis(carboxymethyl)aminoethyl] cresol sulfone phthalein sodium salt

- CAS-No. 3618-43-7 ■ EC-No. 222-805-8
- Solub. in H<sub>2</sub>O 510 g/l (20 °C) ■ M = 760.59 g/mol
- pH value 8.1 (10 g/l, H<sub>2</sub>O, 20 °C)
- Bulk density 250 kg/m<sup>3</sup>
- WGK 2
- LGK 10 - 13
- HS-No. 2934 99 90 ■ Disposal 3

Use as metal indicator: 0.1 % in ethanol (50%) or 1:100 KNO<sub>3</sub>

**Specification**  
Appearance of solution ..... passes test  
Loss on drying (110 °C) ..... ≤ 7 %  
Suitability as indicator (for metal titration)... passes test  
Sensitivity test ..... passes test

Ord.No.	Packaging	Quantity	Price
1.08677.0001	Glass bottle	1 g	inquire
1.08677.0005	Glass bottle	5 g	inquire

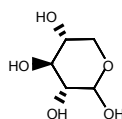
Xylenolphthalein-bis(iminodiacetic acid) → Phthalein purple page 172

asym.-m-Xylidine → 2,4-Dimethylaniline page 781  
asym.-o-Xylidine → 3,4-Dimethylaniline page 781

p-Xylidine → 2,5-Dimethylaniline page 781  
vic.-m-Xylidine → 2,6-Dimethylaniline page 781  
vic.-o-Xylidine → 2,3-Dimethylaniline page 780

Xylidyl blue → Magnesium reagent page 1089

## 108689 D(+)-Xylose for biochemistry

C<sub>5</sub>H<sub>10</sub>O<sub>5</sub>

- CAS-No. 58-86-6 ■ EC-No. 200-400-7
- Spec. density 1.53 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 550 g/l (20 °C) ■ M = 150.13 g/mol

- pH value 6.0 - 6.5 (100 g/l, H<sub>2</sub>O, 20 °C)
- Melting point 146 - 152 °C
- Bulk density 450 kg/m<sup>3</sup>
- WGK nwg
- LGK 10 - 13
- HS-No. 2940 00 00 ■ Disposal 3

D(+)-Xylose exhibits mutarotation from [α] 20/D = +93,6° to [α] 20°/D = 18,8° at c = 4 in water

**Specification**  
Purity (HPLC) ..... ≥ 98.0 % (a/a)

Identity (IR-spectrum) ..... conforms  
Spec. rotation (α 20/D; 10 % water + 0,2ml ammonia) ..... 18.5 - 20.0 °  
Heavy metals (as Pb) ..... ≤ 0.001 %  
Water (according to Karl Fischer) ..... ≤ 0.5%

Ord.No.	Packaging	Quantity	Price
1.08689.0025	Plastic bottle	25 g	inquire
1.08689.0100	Plastic bottle	100 g	inquire

Xylose lysine deoxycholate agar → page 105  
o-Xylyl chloride → 2-Methylbenzyl chloride page 1136

o-Xylylene dibromide → 1,2-Bis(bromomethyl)-benzene page 463  
m-Xylylene dichloride → 1,3-Bis(chloromethyl)-benzene page 465

m-Xylylene dicyanide → 1,3-Bis(cyanomethyl)-benzene page 465  
o-Xylylene dicyanide → 1,2-Bis(cyanomethyl)-benzene page 465



# Yeast

Yeast extract glucose chloramphenicol agar → page 105

Yersinia selective supplement (CIN) → page 109

YGC Agar → page 105

## 112410 Ytterbium oxide 99+

O<sub>3</sub>Yb<sub>2</sub>  
 Yb<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 1314-37-0 ■ EC-No. 215-234-0  
 ■ M = 394.07 g/mol  
 ■ WGK nwg

■ HS-No. 2846 90 00 ■ Disposal 27

### Specification

Identity (elemental analysis)..... passes test  
 Assay (complexometric) ..... ≥ 99.0 %

Ord.No.	Packaging	Quantity	Price
1.12410.0005	Glass bottle	5 g	inquire

## Yttrium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
995	107098	8-Hydroxyquinoline						

## 112516 Yttrium(III) nitrate hexahydrate 99+



Na<sub>3</sub>O<sub>9</sub>Y \* 6 H<sub>2</sub>O  
 Y(NO<sub>3</sub>)<sub>3</sub> \* 6 H<sub>2</sub>O  
 ■ CAS-No. 13494-98-9 ■ EC-No. 233-802-6  
 ■ Spec. density 1.1 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O >1500 g/l (20 °C) ■ M = 383.01 g/mol  
 ■ pH value 3.5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Bulk density 1100 kg/m<sup>3</sup>  
 ■ WGK 1  
 ■ GHS: Danger, Oxidising solid, Category 2, H272;  
 Skin irritation, Category 2, H315; Serious eye

damage, Category 1, H318; Specific target organ  
 toxicity - single exposure, Category 3, H335, P210,  
 P221, P280, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 3890 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2846 90 00 ■ Disposal 27  
 ■ ADR-RID UN 1477 Nitrate, anorganische, n.a.g.,  
 5, 1, II ■ IMDG-Code UN 1477 NITRATES,  
 INORGANIC, N.O.S., 5.1, II  
 ■ IATA-DGR UN 1477 NITRATES, INORGANIC,

N.O.S., 5.1, II

### Specification

Assay (complexometric; calculated on dried  
 substance) ..... ≥ 99,0 %(m)  
 Identity (elemental analysis)..... conforms

Ord.No.	Packaging	Quantity	Price
1.12516.0025	Plastic bottle	25 g	inquire

## 112412 Yttrium oxide 99+

O<sub>3</sub>Y<sub>2</sub>  
 Y<sub>2</sub>O<sub>3</sub>  
 ■ CAS-No. 1314-36-9 ■ EC-No. 215-233-5  
 ■ Spec. density 5.0 g/cm<sup>3</sup> (20 °C) ■ Solub. in  
 H<sub>2</sub>O (20 °C) insoluble ■ M = 225.81 g/mol  
 ■ Melting point 2410 °C  
 ■ WGK nwg

■ LGK 10 - 13  
 ■ HS-No. 2846 90 00  
 In high-temperature superconductors.

### Specification

Assay (complexometric, calc. on the ignited basis)..  
 ..... ≥ 99%

Loss on ignition (1000 °C)..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.12412.0025	Plastic bottle	25 g	inquire

Yttrium standard for aqueous matrices ready for use → page 1472

Z-γ-Abu-OH → page 247  
 Z-ε-Ahx-OH → page 248  
 Z-B-Ala-OH → page 247  
 Z-D-Ala-OH → page 247  
 Z-Ala-OH → page 247  
 Z-Arg-OH → page 248  
 Z-D-Asn-OH → page 248  
 Z-Asn-OH → page 248  
 Z-Asn(Trt)-OH → page 248  
 Z-Asp-OBzl → page 248  
 Z-Asp(OBzl)-OH → page 248  
 Z-D-Asp-OH → page 248  
 Z-Asp-OH → page 248  
 Z-Asp(OtBu)-OH . H<sub>2</sub>O → page 249

Z-D-Asp(OtBu)-OHΔH<sub>2</sub>O → page 249  
 Z(2-Cl)-OSu → page 280  
 Z-Gln(Trt)-OH → page 250  
 Z-Glu-OBzl → page 250  
 Z-Glu(OBzl)-OH → page 250  
 Z-Glu-OtBu . DCHA → page 250  
 Z-Glu(OtBu)-OH → page 250  
 Z-Gly-OH → page 250  
 Z-His(Z)-OH → page 250  
 Z-Hyp-OH → page 251  
 Z-Hyp(tBu)-OH → page 251  
 ZIC<sup>®</sup>-cHILIC (3μm,100Å) 150 x 0.1 mm → page 27  
 ZIC<sup>®</sup>-cHILIC (3μm,100Å) 150 x 0.3 mm → page 27  
 ZIC<sup>®</sup>-cHILIC (3μm,100Å) 150 x 1 mm → page 27

ZIC<sup>®</sup>-cHILIC (3μm,100Å) PEEK 100 x 4.6 mm → page 27  
 ZIC<sup>®</sup>-cHILIC (5μm) 20 x 2.1 mm PEEK Guard Kit → page 26  
 ZIC<sup>®</sup>-cHILIC (3μm,100Å) 50 x 2.1 mm PEEK → page 27  
 ZIC<sup>®</sup>-cHILIC (3μm,100Å) 100 x 2.1 mm PEEK → page 27  
 ZIC<sup>®</sup>-cHILIC (3μm,100Å) PEEK 50 x 4.6 mm → page 27  
 ZIC<sup>®</sup>-cHILIC (3μm,100Å) PEEK 150 x 2.1 mm → page 27  
 ZIC<sup>®</sup>-cHILIC (3μm,100Å) PEEK 150 x 4.6 mm → page 27  
 ZIC<sup>®</sup>-cHILIC (3μm,100Å) PEEK 250 x 4.6 mm → page 27  
 ZIC<sup>®</sup>-cHILIC Guard 5 x 0.3 mm → page 26  
 ZIC<sup>®</sup>-cHILIC Guard 5 x 1 mm → page 26  
 ZIC<sup>®</sup>-HILIC (5μm,200Å) 250 x 21.2 mm → page 27  
 Ziehl-Neelsen carbol-fuchsin solution → page 193  
 Z-Ile-OH → page 251

Zinc



Zn  
 ■ CAS-No. 7440-66-6 ■ EC-No. 231-175-3  
 ■ Vapour pressure 1.33 hPa (487 °C)  
 ■ Spec. density 7.14 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble,(reaction) ■ M = 65.39 g/mol  
 ■ pH value (H<sub>2</sub>O) not applicable  
 ■ Melting point 420 °C  
 ■ Bulk density 1800 - 2700 kg/m<sup>3</sup>  
 ■ Boiling point 908 °C (1013 hPa)  
 ■ Ignition temp. 460 °C

■ WGK 2  
 ■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P260, P273  
 ■ EC-Index-No. 030-001-01-9 ■ LGK 10 - 13  
 ■ HS-No. 7903 10 00 ■ Disposal 14  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ZINKPULVER STABILISIERT), 9, III  
 ■ IMDG-Code UN 3077 ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC POWDER STABILIZED), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds)), 15 (Powdered metals)  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC POWDER STABILIZED), 9, III  
 Reducing agent, preparation of hydrogen, detection of arsenic.

108774 Zinc dust particle size < 63 μm

Specification

Assay (complexometric, total Zn)..... ≥ 97.0 %  
 Assay (manganometric, metall. Zn)..... ≥ 95.0 %  
 Substances insoluble in nitric acid..... ≤ 0.5 %  
 Cd (Cadmium)..... ≤ 0.2 %

Cu (Copper)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.01 %  
 Pb (Lead)..... ≤ 1.0 %  
 Sn (Tin)..... ≤ 0.03 %

Ord.No.	Packaging	Quantity	Price
1.08774.1000	Plastic bottle	1 kg	inquire
1.08774.9050	Steel drum	50 kg	inquire

108789 Zinc powder for analysis particle size < 45 μm EMSURE<sup>®</sup>

Specification

Assay (complexometric)..... ≥ 95 %  
 Identity..... passes test  
 As (Arsenic)..... ≤ 0.0001 %  
 Substances insoluble in hydrochloric acid.. ≤ 0.1 %  
 Cd (Cadmium)..... ≤ 0.05 %

Cu (Copper)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.005 %  
 Pb (Lead)..... ≤ 0.005 %  
 Sn (Tin)..... ≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.08789.0500	Metal can	500 g	inquire
1.08789.1000	Metal can	1 kg	inquire

108756 Zinc coarse powder for analysis suitable for filling of reductors, particle size about 0.3- 1.5 mm (14-50 mesh ASTM) EMSURE<sup>®</sup> Reag. Ph Eur

Specification

Assay (complexometric)..... ≥ 99.9 %  
 As (Arsenic)..... ≤ 0.00001 %  
 Cd (Cadmium)..... ≤ 0.002 %  
 Cu (Copper)..... ≤ 0.001 %

Fe (Iron)..... ≤ 0.02 %  
 Pb (Lead)..... ≤ 0.005 %  
 Sn (Tin)..... ≤ 0.001 %  
 Corresponds to Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.08756.0250	Metal can	250 g	inquire
1.08756.1000	Metal can	1 kg	inquire

108780 Zinc granular for analysis, particle size about 3-8 mm EMSURE<sup>®</sup> ISO

Specification

Assay (complexometric)..... ≥ 99.9 %  
 As (Arsenic)..... ≤ 0.00001 %  
 Cd (Cadmium)..... ≤ 0.0005 %  
 Cu (Copper)..... ≤ 0.001 %

Fe (Iron)..... ≤ 0.02 %  
 Pb (Lead)..... ≤ 0.005 %  
 Sn (Tin)..... ≤ 0.005 %  
 Corresponds to ISO

Ord.No.	Packaging	Quantity	Price
1.08780.0500	Plastic bottle	500 g	inquire
1.08780.1000	Plastic bottle	1 kg	inquire

108755 Zinc granular extra pure particle size about 3-8 mm

Specification

Assay (complexometric)..... ≥ 99.9 %  
 As (Arsenic)..... ≤ 0.00001 %  
 Cd (Cadmium)..... ≤ 0.005 %  
 Fe (Iron)..... ≤ 0.03 %

Pb (Lead)..... ≤ 0.01 %  
 Sn (Tin)..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.08755.1000	Plastic bottle	1 kg	inquire
1.08755.9010	Plastic bottle	10 kg	inquire

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z

# Zinc

## 108782 Zinc sticks, triangular cross section about 8 mm for analysis EMSURE®

### Specification

Assay (complexometric).....	≥ 99.9 %	Fe (Iron).....	≤ 0.005 %
As (Arsenic).....	≤ 0.00001 %	Pb (Lead).....	≤ 0.005 %
Cd (Cadmium).....	≤ 0.005 %	Sn (Tin).....	≤ 0.001 %
Cu (Copper).....	≤ 0.002 %		

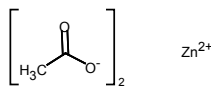
Ord.No.	Packaging	Quantity	Price
1.08782.0500	Plastic bag	500 g	inquire

## 102409 Zinc volumetric standard, secondary reference material for complexometry, traceable to NIST SRM Certipur®

Zn	<ul style="list-style-type: none"> <li>■ CAS-No. 7440-66-6 ■ EC-No. 231-175-3</li> <li>■ Spec. density 7.13 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 65.39 g/mol</li> <li>■ Melting point 419 °C ■ Boiling point 906 °C (1013 hPa)</li> </ul>	<ul style="list-style-type: none"> <li>■ WGK nwg</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 3822 00 00 ■ Disposal 14</li> <li>■ ADR-RID Kein Gefahrgut ■ IMDG-Code No Dangerous Good</li> </ul>	<ul style="list-style-type: none"> <li>■ IATA-DGR No Dangerous Good</li> </ul>
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Ord.No.	Packaging	Quantity	Price
1.02409.0100	Glass bottle	100 g	inquire

## 108802 Zinc acetate dihydrate for analysis EMSURE® ACS

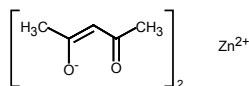


C <sub>4</sub> H <sub>6</sub> O <sub>4</sub> Zn * 2 H <sub>2</sub> O (CH <sub>3</sub> COO) <sub>2</sub> Zn * 2 H <sub>2</sub> O	<ul style="list-style-type: none"> <li>■ CAS-No. 5970-45-6 ■ EC-No. 209-170-2</li> <li>■ Spec. density 1.74 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 430 g/l (20 °C) ■ M = 219.49 g/mol</li> <li>■ pH value 6 - 7 (50 g/l, H<sub>2</sub>O, 20 °C)</li> <li>■ Melting point 237 °C ■ Bulk density 900 kg/m<sup>3</sup></li> <li>■ WGK 3</li> <li>■ GHS: Warning, Acute toxicity, Category 4, Oral, H302; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P262, P273</li> </ul>	<ul style="list-style-type: none"> <li>■ LD50 oral rat 794 mg/kg</li> <li>■ LGK 10 - 13</li> <li>■ HS-No. 2915 29 00 ■ Disposal 3</li> <li>■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ZINKACETAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC ACETATE), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds))</li> <li>■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC ACETATE), 9, III</li> </ul>	<p><b>Specification</b></p> <p>Assay (complexometric).....99.5 - 101.0 %</p> <p>Insoluble matter.....≤ 0.005 %</p> <p>pH-value (5 %; water).....6.0 - 7.0</p>
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Chloride (Cl).....	≤ 0.0005 %
Sulphate (SO <sub>4</sub> ).....	≤ 0.005 %
Total nitrogen (N).....	≤ 0.002 %
Ca (Calcium).....	≤ 0.001 %
Cd (Cadmium).....	≤ 0.0005 %
Cu (Copper).....	≤ 0.0005 %
Fe (Iron).....	≤ 0.0005 %
K (Potassium).....	≤ 0.01 %
Mg (Magnesium).....	≤ 0.005 %
Na (Sodium).....	≤ 0.001 %
Pb (Lead).....	≤ 0.0005 %
Corresponds to ACS	

Ord.No.	Packaging	Quantity	Price
1.08802.0250	Plastic bottle	250 g	inquire
1.08802.1000	Plastic bottle	1 kg	inquire

## 808803 Zinc(II) acetylacetonate for synthesis



C <sub>10</sub> H <sub>14</sub> O <sub>4</sub> Zn <i>Bis(acetylacetonato)zinc(II), Bis(2,4-pentanedionato)zinc(II)</i>	<ul style="list-style-type: none"> <li>■ CAS-No. 14024-63-6 ■ EC-No. 237-860-3</li> </ul>	<ul style="list-style-type: none"> <li>■ Vapour pressure 1 hPa (20 °C) ■ Solub. in H<sub>2</sub>O 6.9 g/l (20 °C) ■ M = 263.61 g/mol</li> <li>■ pH value 10 (4 g/l, H<sub>2</sub>O, 20 °C)</li> <li>■ Melting point 124 - 126 °C</li> <li>■ Bulk density 500 kg/m<sup>3</sup></li> <li>■ Boiling point 129 - 131 °C (13 hPa)</li> <li>■ Ignition temp. 580 °C</li> <li>■ WGK 1</li> <li>■ GHS: Warning, Eye irritation, Category 2, H319,</li> </ul>
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P305 + P351 + P338	<ul style="list-style-type: none"> <li>■ LGK 10 - 13</li> <li>■ HS-No. 2914 19 90 ■ Disposal 3</li> </ul>
<b>Specification</b>	
Assay (ex Zn).....	≥ 95.0 % (m)
Identity (IR).....	conforms

Ord.No.	Packaging	Quantity	Price
8.08803.0100	Plastic bottle	100 g	inquire

## 818631 Zinc bromide anhydrous for synthesis

Br <sub>2</sub> Zn ZnBr <sub>2</sub>	<ul style="list-style-type: none"> <li>■ CAS-No. 7699-45-8 ■ EC-No. 231-718-4</li> <li>■ Spec. density 4.2 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 4470 g/l (20 °C) ■ M = 225.2 g/mol</li> <li>■ pH value 4 (H<sub>2</sub>O, 20 °C) (saturated solution)</li> <li>■ Melting point 394 °C ■ Boiling point 697 °C (1013 mbar)</li> <li>■ WGK 1</li> <li>■ GHS: Danger, Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P280, P273,</li> </ul>	<ul style="list-style-type: none"> <li>P301 + P330 + P331, P305 + P351 + P338, P309 + P310</li> <li>■ LGK 8 B</li> <li>■ HS-No. 2827 59 00 ■ Disposal 14</li> <li>■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff, n.a.g.(ZINKBROMID), 8, III ■ IMDG-Code UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(ZINC BROMIDE), 8, III, Segregation Group: 1 (Acids), 7 (Heavy metals and their salts (including their organometallic compounds))</li> <li>■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC,</li> </ul>
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INORGANIC, N.O.S.(ZINC BROMIDE), 8, III	
<b>Specification</b>	
Assay (argentometric).....	≥ 98.0 %
Water (K. F.).....	≤ 2.00 %

Ord.No.	Packaging	Quantity	Price
8.18631.0005	Glass bottle	5 g	inquire
8.18631.0250	Glass bottle	250 g	inquire
8.18631.1000	Glass bottle	1 kg	inquire

Zinc Cell Test → page 89

**108816 Zinc chloride** for analysis EMSURE® ACS,ISO,Reag. Ph Eur



Cl<sub>2</sub>Zn  
ZnCl<sub>2</sub>  
*Zinc dichloride*  
 ■ CAS-No. 7646-85-7 ■ EC-No. 231-592-0  
 ■ Vapour pressure 1.33 hPa (428 °C)  
 ■ Spec. density 2.91 g/cm<sup>3</sup> (25 °C) ■ Solub. in H<sub>2</sub>O 4320 g/l (25 °C) ■ M = 136.30 g/mol  
 ■ pH value 5 (100 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 283 °C  
 ■ Bulk density 1400 - 1800 kg/m<sup>3</sup>  
 ■ Boiling point 732 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 350 mg/kg

■ EC-Index-No. 030-003-00-2 ■ LGK 8B  
 ■ HS-No. 2827 39 85 ■ Disposal 14  
 ■ ADR-RID UN 2331 Zinkchlorid, wasserfrei, 8, III  
 ■ IMDG-Code UN 2331 ZINC CHLORIDE, ANHYDROUS, 8, III, Marine Pollutant: P, Segregation Group: 1 (Acids), 7 (Heavy metals and their salts (including their organometallic compounds))  
 ■ IATA-DGR UN 2331 ZINC CHLORIDE, ANHYDROUS, 8, III  
**Specification**  
 Assay (complexometric, ZnCl<sub>2</sub>).....98.0 - 100.5 %  
 Identity.....passes test  
 Insoluble matter.....≤ 0.005 %  
 pH-value (10 %; water).....4.6 - 5.5  
 Nitrate (NO<sub>3</sub>).....≤ 0.003 %  
 Oxide chloride (as ZnO).....≤ 1.20 %  
 Sulphate (SO<sub>4</sub>).....≤ 0.002 %

Total nitrogen (N).....≤ 0.002 %  
 Aluminium,Calcium,Magnesium,Heavy metals,Iron.....passes test  
 Ca (Calcium).....≤ 0.001 %  
 Cd (Cadmium).....≤ 0.0005 %  
 Cu (Copper).....≤ 0.001 %  
 Fe (Iron).....≤ 0.0005 %  
 K (Potassium).....≤ 0.02 %  
 Mg (Magnesium).....≤ 0.01 %  
 Na (Sodium).....≤ 0.005 %  
 NH<sub>4</sub> (Ammonium).....≤ 0.005 %  
 Pb (Lead).....≤ 0.001 %

Ord.No.	Packaging	Quantity	Price
1.08816.0250	Plastic bottle	250 g	inquire
1.08816.1000	Plastic bottle	1 kg	inquire
1.08816.9025	Plastic drum	25 kg	inquire

**Zinc, determination**

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
172	103122	3,3'-Dimethylnaphthidine	1432	106689	Sodium diethyldithiocarbamate trihydrate	1641	108739	Zincon
172	103092	Dithizone						
995	107098	8-Hydroxyquinoline	1554	107979	Thiourea			
			173	108677	Xylenol orange tetrasodium salt			

**108828 Zinc iodide** for analysis EMSURE®



I<sub>2</sub>Zn  
ZnI<sub>2</sub>  
*Zinc diiodide*  
 ■ CAS-No. 10139-47-6 ■ EC-No. 233-396-0  
 ■ Spec. density 4.74 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 4500 g/l (20 °C) ■ M = 319.18 g/mol  
 ■ pH value 5.6 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 446 °C ■ Bulk density 1800 kg/m<sup>3</sup>  
 ■ Boiling point 625 °C (1013 hPa)  
 ■ WGK 3  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338

■ LGK 10 - 13  
 ■ HS-No. 2827 60 00 ■ Disposal 14  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ZINKIODID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC IODIDE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC IODIDE), 9, III  
**Specification**  
 Assay (complexometric).....≥ 98.5 %  
 Chloride (Cl).....≤ 0.01 %  
 Sulphate (SO<sub>4</sub>).....≤ 0.005 %

As (Arsenic).....≤ 0.00005 %  
 Cd (Cadmium).....≤ 0.005 %  
 Cu (Copper).....≤ 0.001 %  
 Fe (Iron).....≤ 0.001 %  
 Pb (Lead).....≤ 0.001 %  
 Substances not precipitated by ammonium sulfide (as sulphates).....≤ 0.1 %  
 Loss on drying.....≤ 1.5 %

Ord.No.	Packaging	Quantity	Price
1.08828.0025	Glass bottle	25 g	inquire
1.08828.0100	Glass bottle	100 g	inquire

**105445 Zinc iodide starch solution** for analysis



*Zinc diiodide*  
 ■ Spec. density 1.02 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 6.2 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 2  
 ■ GHS: Warning, Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Chronic aquatic

toxicity, Category 3, H412, P273, P302 + P352, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 3822 00 00 ■ Disposal 28  
 For iodometry.

**Specification**  
 Suitability as indicator.....conforms

Ord.No.	Packaging	Quantity	Price
1.05445.0500	Plastic bottle	500 ml	inquire

**108833 Zinc nitrate tetrahydrate** for analysis EMSURE®



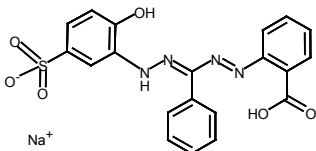
N<sub>2</sub>O<sub>6</sub>Zn \* 4 H<sub>2</sub>O  
Zn(NO<sub>3</sub>)<sub>2</sub> \* 4 H<sub>2</sub>O  
 ■ CAS-No. 19154-63-3 ■ EC-No. 231-943-8  
 ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 261.44 g/mol ■ pH value 5 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 45 °C ■ Bulk density 1000 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Oxidising solid, Category 2, H272; Acute toxicity, Category 4, Oral, H302; Skin irritation, Category 2, H315; Eye irritation, Category 2, H319; Specific target organ toxicity - single exposure, Category 3, H335; Acute aquatic toxicity, Category 1, H400; Chronic aquatic

toxicity, Category 1, H410, P273, P302 + P352, P305 + P351 + P338  
 ■ LD50 oral rat 1190 mg/kg  
 ■ LGK 5.1B  
 ■ HS-No. 2834 29 80 ■ Disposal 14  
 ■ ADR-RID UN 1514 Zinknitrat, 5.1, II ■ IMDG-Code UN 1514 ZINC NITRATE, 5.1, II, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds))  
 ■ IATA-DGR UN 1514 ZINC NITRATE, 5.1, II  
**Specification**  
 Assay (complexometric).....≥ 98.5 %

Chloride (Cl).....≤ 0.001 %  
 Sulphate (SO<sub>4</sub>).....≤ 0.005 %  
 Ca (Calcium).....≤ 0.001 %  
 Cd (Cadmium).....≤ 0.0005 %  
 Cu (Copper).....≤ 0.0005 %  
 Fe (Iron).....≤ 0.0005 %  
 Na (Sodium).....≤ 0.001 %  
 Pb (Lead).....≤ 0.002 %  
 Identity.....passes test

Ord.No.	Packaging	Quantity	Price
1.08833.1000	Plastic bottle	1 kg	inquire

**108739 Zincon** for the photometric determination of copper and zinc



C<sub>20</sub>H<sub>15</sub>N<sub>4</sub>NaO<sub>6</sub>S \* H<sub>2</sub>O  
 2-{[α-(2-Hydroxy-5-sulfophenylazo)benzylidene]-hydrazino}-benzoic acid monosodium salt

■ CAS-No. 62625-22-3 ■ EC-No. 263-651-1  
 ■ Solub. in H<sub>2</sub>O (20 °C) slightly soluble  
 ■ M = 480.43 g/mol ■ Melting point 250 °C  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ LGK 10 - 13  
 ■ HS-No. 2928 00 90 ■ Disposal 3  
 Use as metal indicator: 0.1 % in ethanol (96%)

Absorption maximum λ max (buffer pH 9.0).487 - 493 nm  
 Spec. Absorptivity A 1%/1cm (λmax; 0.001 %; buffer pH 9.0; calc. on dried substance).490 - 540  
 Loss on drying (105 °C).....3 - 6 %  
 Suitability for photometric Zinc determination.....passes test

Ord.No.	Packaging	Quantity	Price
1.08739.0001	Glass bottle	1 g	inquire
1.08739.0005	Glass bottle	5 g	inquire

## 108849 Zinc oxide for analysis EMSURE® ACS, Reag. Ph Eur



OZn  
ZnO  
 ■ CAS-No. 1314-13-2 ■ EC-No. 215-222-5  
 ■ Spec. density 5.61 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) insoluble ■ M = 81.37 g/mol  
 ■ pH value 7 (50 g/l, H<sub>2</sub>O, 20 °C) (slurry)  
 ■ Melting point 1975 °C  
 ■ Bulk density 200 - 700 kg/m<sup>3</sup>  
 ■ WGK 2  
 ■ GHS: Warning, Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273  
 ■ LD50 oral rat > 5000 mg/kg  
 ■ EC-Index-No. 030-013-00-7 ■ LGK 10 - 13  
 ■ HS-No. 2817 00 00 ■ Disposal 14  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff, fest, n.a.g.(ZINKOXID), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC OXIDE), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy

metals and their salts (including their organometallic compounds))  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC OXIDE), 9, III  
 Reagent for urobilin.  
**Specification**  
 Assay (complexometric, ZnO calculated on calcined substance) ..... 99.0 - 100.5 %  
 Assay (complexometric, ZnO) ..... ≥ 99.0 %  
 Identity ..... passes test  
 Carbonate and color of solution ..... passes test  
 Substances insoluble in diluted sulfuric acid ..... ≤ 0.01 %  
 Free Alkali ..... passes test  
 Chloride (Cl) ..... ≤ 0.001 %  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.003 %  
 Sulfur compounds (as SO<sub>4</sub>) ..... ≤ 0.01 %  
 Total nitrogen (N) ..... ≤ 0.0005 %

As (Arsenic) ..... ≤ 0.0001 %  
 Ca (Calcium) ..... ≤ 0.001 %  
 Cd (Cadmium) ..... ≤ 0.0005 %  
 Cu (Copper) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.01 %  
 Mg (Magnesium) ..... ≤ 0.005 %  
 Mn (Manganese) ..... ≤ 0.0005 %  
 Na (Sodium) ..... ≤ 0.001 %  
 Pb (Lead) ..... ≤ 0.002 %  
 Substances reducing potassium permanganate (as O) ..... ≤ 0.001 %  
 Loss on ignition (500 °C) ..... ≤ 1.0 %

Ord.No.	Packaging	Quantity	Price
1.08849.0500	Plastic bottle	500 g	inquire
1.08849.1000	Plastic bottle	1 kg	inquire
1.08849.9025	Fibre carton	25 kg	inquire

Zinc powder → page 1639

109953 Zinc standard 1000 mg Zn, (ZnCl<sub>2</sub> in 0.06% HCl) Titrisol®

■ Spec. density 1.04 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.0 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Skin irritation, Category 2, H315; Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 2, H411, P273, P280, P302 + P352, P305 + P351 + P338, P313  
 ■ LGK 8B  
 ■ HS-No. 3822 00 00 ■ Disposal 28

■ ADR-RID UN 1840 Zinkchlorid, Lösung, 8, III  
 ■ IMDG-Code UN 1840 ZINC CHLORIDE SOLUTION, 8, III, Segregation Group: 1 (Acids), 7 (Heavy metals and their salts (including their organometallic compounds))  
 ■ IATA-DGR UN 1840 ZINC CHLORIDE SOLUTION, 8, III

content (Zn) ..... 1000 mg / Ampoule  
 Determination method: Complexometric titration. (traceable of NIST - SRM 682) Accuracy of the method: +/- 2 mg

Ord.No.	Packaging	Quantity	Price
1.09953.0001	Plastic ampoule	1 amp	inquire

Zinc standard for aqueous matrices → Zinc standard page 1642

Zinc standard for aqueous matrices ready for use → page 1472

## 108883 Zinc sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur



O<sub>4</sub>SZn \* 7 H<sub>2</sub>O  
 ZnSO<sub>4</sub> \* 7 H<sub>2</sub>O  
 Zinc vitriol  
 ■ CAS-No. 7446-20-0 ■ EC-No. 231-793-3  
 ■ Spec. density 1.97 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O 965 g/l (20 °C) ■ M = 287.54 g/mol  
 ■ pH value 4 - 6 (50 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 100 °C  
 ■ Bulk density 800 - 1000 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Serious eye damage, Category 1, H318; Acute aquatic toxicity, Category 1, H400; Chronic aquatic toxicity, Category 1, H410, P273, P280, P305 + P351 + P338, P313  
 ■ LD50 oral rat 1260 mg/kg  
 ■ EC-Index-No. 030-006-00-9 ■ LGK 10 - 13  
 ■ HS-No. 2833 29 20 ■ Disposal 14  
 ■ ADR-RID UN 3077 Umweltgefährdender Stoff,

fest, n.a.g.(ZINKSULFAT), 9, III ■ IMDG-Code UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC SULFATE), 9, III, Marine Pollutant: P, Segregation Group: 7 (Heavy metals and their salts (including their organometallic compounds))  
 ■ IATA-DGR UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(ZINC SULFATE), 9, III  
**Specification**  
 Assay (complexometric) ..... 99.5 - 103.0 %  
 Identity ..... passes test  
 Appearance of solution ..... passes test  
 Insoluble matter ..... ≤ 0.01 %  
 pH-value (5 %; water, 25 °C) ..... 4.4 - 5.6  
 Chloride (Cl) ..... ≤ 0.0005 %  
 Total nitrogen (N) ..... ≤ 0.0005 %  
 Nitrate (NO<sub>3</sub>) ..... ≤ 0.002 %

As (Arsenic) ..... ≤ 0.00005 %  
 Ca (Calcium) ..... ≤ 0.001 %  
 Cd (Cadmium) ..... ≤ 0.0005 %  
 Cu (Copper) ..... ≤ 0.0005 %  
 Fe (Iron) ..... ≤ 0.0005 %  
 K (Potassium) ..... ≤ 0.001 %  
 Mg (Magnesium) ..... ≤ 0.001 %  
 Mn (Manganese) ..... ≤ 0.0003 %  
 Na (Sodium) ..... ≤ 0.001 %  
 NH<sub>4</sub> (Ammonium) ..... ≤ 0.001 %  
 Pb (Lead) ..... ≤ 0.001 %  
 Corresponds to ACS, ISO, Reag. Ph Eur

Ord.No.	Packaging	Quantity	Price
1.08883.0500	Plastic bottle	500 g	inquire
1.08883.1000	Plastic bottle	1 kg	inquire
1.08883.5000	Plastic bottle	5 kg	inquire
1.08883.9050	Fibre carton	25 kg	inquire

108879 Zinc sulfate solution c(ZnSO<sub>4</sub>) = 0.1 mol/l Titripur®

■ Spec. density 1.02 g/m<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 4.8 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 1  
 ■ GHS: Warning, Eye irritation, Category 2, H319; Chronic aquatic toxicity, Category 3, H412, P273, P305 + P351 + P338  
 ■ LGK 10 - 13  
 ■ HS-No. 2833 29 20 ■ Disposal 28  
**Specification**  
 Amount-of-substance concentration . 0.1000 mol/l

The concentration of this volumetric solution was determined with titriplex-III standard solution (Merck article number 1.08431) standardized against volumetric standard zinc (Merck article number 1.02409). The determined titer at 20 °C was 1.000 with an expanded measurement uncertainty of ± 0.003 (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 682 (NIST: National Institute of Standards and

Technology, USA) by means of volumetric standard zinc, measured in the accredited calibration laboratory of Merck KGaA in accordance to DIN EN ISO/EC 17025.

Ord.No.	Packaging	Quantity	Price
1.08879.1000	Plastic bottle	1 l	inquire



109991 Zinc sulfate solution for 1000 ml, c(ZnSO<sub>4</sub>) = 0.1 mol/l (0.1 M) Titrisol®

■ Spec. density 1.16 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ pH value 2.2 (H<sub>2</sub>O, 20 °C)  
 ■ WGK 3  
 ■ GHS: Danger, Serious eye damage, Category 1, H318; Chronic aquatic toxicity, Category 2, H411, P273, P280, P305 + P351 + P338, P313  
 ■ LGK 10 - 13  
 ■ HS-No. 2833 29 20 ■ Disposal 28  
 ■ ADR-RID UN 3082 Umweltgefährdender Stoff, flüssig, n.a.g.(ZINKSULFAT), 9, III ■ IMDG-Code UN 3082 ENVIRONMENTALLY HAZARDOUS

SUBSTANCE, LIQUID, N.O.S.(ZINC SULFATE), 9, III, Marine Pollutant: P  
 ■ IATA-DGR UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(ZINC SULFATE), 9, III

**Specification**  
 Concentration after dilution to 1l: c(ZnSO<sub>4</sub>) = 0.1 mol/l  
 Amount-of-substance concentration .....  
 ..... c(ZnSO<sub>4</sub>)=0.1000 mol/l +/- 0.2 %

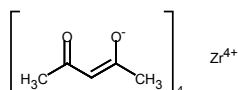
Titer (20 °C) ..... 1.000  
 This volumetric solution was checked by means of Titriplex III standard solution tested against a Merck volumetric standard. The Merck volumetric standard are traceable to the Standard Reference Material 682 of NIST (National Institute of Standards and Technology, USA).

Ord.No.	Packaging	Quantity	Price
1.09991.0001	Plastic ampoule	1 amp	inquire

Zinc Test → page 89

Zinc Test Refill pack → page 89

## 808915 Zirconium(IV) acetylacetonate for synthesis

C<sub>20</sub>H<sub>28</sub>O<sub>8</sub>Zr

Tetrakis(2,4-pentanedionato)zirconium(IV)

, Tetrakis(acetylacetonato)zirconium(IV)

■ CAS-No. 17501-44-9 ■ EC-No. 241-510-5

■ Solub. in H<sub>2</sub>O 14 g/l (20 °C) ■ M = 487.66 g/mol

■ pH value 7.2 (4.5 g/l, H<sub>2</sub>O, 20 °C)  
 ■ Melting point 189 - 192 °C  
 ■ Bulk density 500 kg/m<sup>3</sup>  
 ■ WGK 3  
 ■ GHS: Warning, Acute toxicity, Category 4, Oral, H302  
 ■ LD50 oral rat 719 mg/kg  
 ■ LGK 10 - 13  
 ■ HS-No. 2914 19 90 ■ Disposal 3

**Specification**

Assay (ex Zr) ..... ≥ 98.0 %  
 Melting range (lower value) ..... ≥ 187 °C  
 Melting range (upper value) ..... ≤ 192 °C  
 Identity (IR) ..... passes test

Ord.No.	Packaging	Quantity	Price
8.08915.0100	Plastic bottle	100 g	inquire

## 808913 Zirconium(IV) chloride anhydrous, for synthesis

Cl<sub>4</sub>ZrZrCl<sub>4</sub>

Zirconium tetrachloride

■ CAS-No. 10026-11-6 ■ EC-No. 233-058-2

■ Vapour pressure 1.3 hPa (190 °C)

■ Spec. density 2.80 g/cm<sup>3</sup> (15 °C) ■ Solub. in H<sub>2</sub>O (20 °C) (decomposition) ■ M = 233.04 g/mol■ pH value < 1 (H<sub>2</sub>O, 20 °C) (saturated aqueous solution) ■ Melting point 437 °C■ Bulk density 1200 kg/m<sup>3</sup>

■ WGK 1

■ GHS: Danger, Acute toxicity, Category 4, Oral, H302; Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310  
 ■ LD50 oral rat 1688 mg/kg  
 ■ LGK 8 B

■ HS-No. 2827 39 85 ■ Disposal 24

■ ADR-RID UN 2503 Zirkoniumtetrachlorid, 8, III

■ IMDG-Code UN 2503 ZIRCONIUM

TETRACHLORIDE, 8, III, Segregation Group: 1

(Acids)

■ IATA-DGR UN 2503 ZIRCONIUM

TETRACHLORIDE, 8, III

**Specification**

Assay (argentometric) ..... ≥ 98.0 % (m)

Hafnium (Hf) ..... ≤ 40 ppm (m)

Ord.No.	Packaging	Quantity	Price
8.08913.0005	Glass bottle	5 g	inquire

Ord.No.	Packaging	Quantity	Price
8.08913.0250	Glass bottle	250 g	inquire

Ord.No.	Packaging	Quantity	Price
8.08913.1000	Glass bottle	1 kg	inquire

## Zirconium, determination

Page	Cat.No.	Designation	Page	Cat.No.	Designation	Page	Cat.No.	Designation
171	110107	Arsenazo III	663	105227	Cupferron	995	107098	8-Hydroxyquinoline
440	800140	Benzilic acid	763	107998	1,8-Dihydroxy-2-(4-sulfophenylazo)naphthalene-3,6-disulfonic acid trisodium salt	1094	806914	(R)-(-)-Mandelic acid

## 108917 Zirconium(IV) oxide chloride octahydrate for analysis EMSURE®

Cl<sub>2</sub>OZr \* 8 H<sub>2</sub>OZrOCl<sub>2</sub> \* 8 H<sub>2</sub>O

Zirconyl chloride

■ CAS-No. 13520-92-8 ■ EC-No. 231-717-9

■ Spec. density 1.91 g/cm<sup>3</sup> (20 °C) ■ Solub. in H<sub>2</sub>O (20 °C) soluble ■ M = 322.28 g/mol■ pH value 1 (50 g/l, H<sub>2</sub>O, 20 °C)■ Bulk density 800 kg/m<sup>3</sup>

■ WGK 1

■ GHS: Danger, Skin corrosion, Category 1B, H314, P280, P301 + P330 + P331, P305 + P351 + P338, P309 + P310

■ LD50 oral rat 3500 mg/kg

■ LGK 8 B

■ HS-No. 2827 49 90 ■ Disposal 14

■ ADR-RID UN 3260 Ätzender saurer anorganischer fester Stoff,

n.a.g.(ZIRKONOXIDCHLORID), 8, II ■ IMDG-

Code UN 3260 CORROSIVE SOLID, ACIDIC,

INORGANIC, N.O.S.(ZIRKONIUMOXIDCHLORIDE), 8,

II, Segregation Group: 1 (Acids)

■ IATA-DGR UN 3260 CORROSIVE SOLID, ACIDIC,

INORGANIC, N.O.S.(ZIRKONIUMOXIDCHLORIDE), 8,

II

Reagent for fluorine, spray reagent for TLC.

**Specification**

Assay (gravimetrically) ..... ≥ 99.0 %

Sulphate (SO<sub>4</sub>) ..... ≤ 0.005 %

Heavy metals (as Pb) ..... ≤ 0.001 %

Fe (Iron) ..... ≤ 0.001 %

Ti (Titanium) ..... ≤ 0.005 %

Ord.No.	Packaging	Quantity	Price
1.08917.0100	Plastic bottle	100 g	inquire

Zirconium tetrachloride → Zirconium(IV) chloride page 1643

Zirconocene dichloride → Bis(cyclopentadienyl) zirconium dichloride page 467

Zirconyl chloride → Zirconium(IV) oxide chloride octahydrate page 1643

Z-Leu-OH → page 251

Z-Lys(Boc)-OH → page 252

Z-D-Lys(Boc)-OH → page 252

Z-Lys-OH → page 252

Z-Lys-OMe . HCl → page 252

Z-Lys(Z)-OH → page 252

Z-D-Met-OH → page 252

Z-Met-OH → page 252

Z-Nle-OH → page 252

Z-Orn(Boc)-OH → page 252

Z-Orn-OH → page 252

Z-OSu → page 280

Z-D-Phe-OH → page 253

Z-Phe-OH → page 253

Z-Phg-OH → page 253

Z-D-Pro-OH → page 254

Z-Pro-OH → page 253

Z-Ser(Bzl)-OH → page 254

Z-D-Ser-OH → page 254

Z-Ser-OH → page 254

Z-Ser(tBu)-OH → page 254

Z-Thr-OH → page 254

Z-Thr(tBu)-OH . DCHA → page 254

Z-Trp-OH → page 255

Z-Tyr-OH → page 255

Z-D-Val-OH → page 255

Z-Val-OH → page 255

{3-[[Ethyl-Fmoc-amino)methyl]-indol-1-yl}-

acetyl AM resin → page 269

{3-[[Methyl-Fmoc-amino)methyl]-indol-1-yl}-

acetyl AM resin → page 269

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The complex instrumental and wet chemical testing procedures involved are constantly updated in line with technical and method developments. "Quality" is thus a Merck tradition. This is demonstrated by the declaration that the founder of the company, Heinrich Emanuel Merck, gave to a customer back in 1851: "I fully guarantee the purity of my preparations and take the responsibility for any disadvantage you may have through using a contaminated product ..." Till today with the Quality Mission Statement of Merck Millipore:

"We deliver Quality – always ..."

At Merck today, the term quality means far more than just traditional product quality; it also includes the essential elements of customer service. This means, in particular, fulfilling the needs and expectations of customers. Hence, even though a reagent user may primarily expect product purity and batch-to-batch reproducibility of the reagent supplied, a number of other service elements are also important, e.g. speed of delivery, application-oriented packaging, competent advice, accessibility, environmental compatibility, reliability of results and much more. These are the qualities that make for permanent business relationships. Customer satisfaction is Merck's prime quality standard.

Today, the integrated quality-management systems **DIN EN ISO 9001**, **17025** and **13485** and also cGMP standards form the basis of our quality philosophy. The adherence to the high level of our quality standards is repeatedly confirmed by successful audits conducted by internal audits, regulatory bodies, official agencies and our customers. This gives us the impetus to bring our efforts to perfection.

We fulfill customer-specific requirements such as additional parameters, customized certificates of analysis, and special packaging units. Individual consultation and just-in-time delivery of order consignments from our broad product range are a matter of course.

### Quality grades

You can be certain of the proper application of the products on the basis of our batch-to-batch consistency, the batch-specific certificates of analysis measured against the product specifications, and our statement of the minimum shelf-life together with the appropriate storage details for the unopened product package.

Our broad spectrum of quality grades and products provides you with a scope of use for the most varied range of applications. We invite you to make use of our special service support if you have any further inquiries. The following listing gives you an overview of the various quality and application terms and abbreviations.

Products designated "pure" or "extra pure" are especially suitable for use in industrial production. The range of fine and industrial chemicals with this designation may be used in various industrial sectors such as pharmaceuticals, chemicals, cosmetics, foodstuffs, lacquers, printing dyes and optical and electronic components.

Reagents and constituents for laboratory-scale chemical synthesis as well as for a wide variety of industrial-technical applications are additionally designated **EMPLURA**® and "for synthesis". This quality standard meets the requirements of preparative chemistry. The users of non-GMP materials for pharmaceutical synthesis need

more and more additional information about such materials. With our brand "for pharma synthesis, non-GMP" an additional Qualification Dossier is available.

**EMPARTA**® solvents are suitable for classical analytical lab applications. The quality of these products conforms to the specification of the ACS (American Chemical Society). With the quality **EMSURE**® and **GR for analysis** and we offer a comprehensive range of reagents for a multitude of classical laboratory applications. An unrivalled range of comprehensive and extensive specifications with up to 60 parameters combined with the declaration of international standards (e.g. ISO, ACS, Reag. Ph Eur) gives proven safety to our customers and enables the use in an extraordinarily wide range of applications. In addition, an unparalleled range of packaging completes our offer.

**ISO:** Specifications according to the standards of the "International Organization for Standardization".

**ACS:** Specifications conform to those given in the "Book of Reagents" and current amendments of the American Chemical Society.

**Reag. USP:** Reagent specifications of the USP; correspond in almost all cases to the ACS and are thus listed only in exceptional cases.

**Reag. Ph Eur:** Specifications conform to the requirements for reagents specified by the European Pharmacopoeia.

**LiChrosolv**® (for analytical HPLC and new also for LC/MS applications) and **Prepsolv**® (for preparative HPLC) are tailor-made solvent qualities for liquid chromatography. They are characterized by highest batch-to-batch consistency, high UV transmittance, low particle count, low acidity and alkalinity combined with low residues on evaporation.

**SeccoSolv**® Dried solvents are suitable for the analysis or synthesis of water sensitive substances. Also for DNA synthesis we are able to offer specially dried reagents to optimize the amounts in oligo nucleotides.

The solvent qualities **SupraSolv**® and **UniSolv**® cover all laboratory applications for gas chromatography with the maximum of security and reliability. **SupraSolv**® solvents are specially developed for the high sensitive pesticide residue analyses of e.g. environmental and food samples, detected by GC-ECD. For determinations of highly volatile chlorinated hydrocarbons present in ppb trace amounts only and for highly demanding GC-MS and GC-FID applications, the **UniSolv**® solvents are particularly suitable.

The **Uvasol**® range has been specially designed for spectroscopy (UV, IR, fluorescence) and for other applications requiring solvents of the highest spectral purity. The specifications include minimum transmittances at certain wavelengths within the UV-range, fluorescence and other application orientated suitability parameters.

**Deuterated solvents** are required for the most important method in the structural analysis of organic molecules – Nuclear Magnetic Resonance (NMR) Spectroscopy. Merck Millipore's deuterated solvents are characterized by extremely low residual water, excellent chemical purity, and the highest isotopic enrichment available.

**Suprapur**® reagents, primarily acids, bases and salts, are products of highest purity and hence suitable for trace analysis. Due to the high purity of the reagents, in many cases in the ppt-range, the given data in the certificate of analysis is put on a level of the detection limit of the used analytical test method.

Increasingly stringent requirements have led to the development of the **Ultrapur**® grade for the most important acids as well as hydrogen peroxide and water which certifies contamination levels in the ppt-range – with effective values in the ppq-range.

Products designated as "for biochemistry" are especially suitable for the use in pharmaceutical research and development, in biochemical analysis and in biotechnology. The range of reagents available includes amino acids, biological buffers, carbohydrates, enzymes, coenzymes and various reagents.

These high purity reagents are specified according to all critical parameters relevant for biochemical applications, such as heavy metals, inhibitors and foreign proteins. Merck Millipore enforces a high-level quality manage-

ment system based on the latest regulations such as **ISO 11133**, and including all relevant certificates. We also regularly pass audits conducted by international companies and government authorities. When it comes to designing products "for microbiology", for the majority of products Merck Millipore completes every step of the process in-house. Our products are held in high esteem across the globe for their unparalleled quality, innovation, and safety. The secret of our success is simple: quality control and quality assurance are central to everything we do.

Products for use as **in vitro diagnostic** medical devices Most products of microscopy; some products of microbiology and one pH-stick comply with European "Directive 98/79/EC on in vitro diagnostic medical devices" and bear the CE marking. They are classified as devices "other than those covered by Annex II". Products without **CE marking** on the label are not intended for use as medical devices for in vitro diagnostic testing of human specimens. They are for research purposes only, for investigating in vitro samples without any medical objective. For further information about quality grades, trade names, etc. please see "Trademarks".

### Quality documentation

The **Certificate of Analysis** lists the test parameters and analytical values of the chemical substance involved. If absolute values are available, these are given; however, if the degree of contamination is lower than the detection limit of the method used, absolute values cannot be given. A Certificate of Analysis can be downloaded from the WEB ([www.merckmillipore.com](http://www.merckmillipore.com)); frequently, however, e.g. in the case of reference materials and standards, it is included in the package.

In addition, in the case of numerous compounds, the date of analysis and the shelf life are indicated on the package. The shelf life data – which are also indicated on the label – are based on current knowledge; they are valid only if the product is stored properly and the package remains unopened. As soon as the package is opened, the shelf life responsibility is transferred to the user.

### Accreditation

The basis of our accreditation is the adherence to European Standard **DIN EN ISO/IEC 17025**. The accreditation attests the competence of the laboratory to produce technically valid data and results. All instrumentation used is regularly checked by officially authorized calibration laboratories. In addition, all relevant parameters used in measurement, e.g. as amount of substance, mass and temperature, have to correspond to national and international standards which are related to the international system of units (SI units). The accreditation is compliant with the company-wide certification of the quality management system according to **DIN EN ISO 9001**.

Since 1994, Merck Millipore has run its own, **accredited calibration laboratory for pH and conductivity measurement**. High precision pH measurement is performed by the use of standard hydrogen electrodes. The laboratory registered under **DKD-K-14301** has been accredited and regularly audited by DKD (Deutscher Kalibrierdienst/German Accreditation Body). The quality of all Merck Millipore buffer substances, buffer solutions and conductivity solutions is controlled by our accredited laboratory.

Since 2004, the laboratory at Merck Millipore for the quality control of single element standards has been accredited by DKD as calibration laboratory registered under **DKD-K-14302**. The precision elemental analysis is performed by ICP-OES. Reference materials for calibrating analytical instruments in elemental analysis are the fundamental basis in all analytical laboratories worldwide. ...

Merck Millipore certifies its **CertiPUR**® reference materials for the measurement of pH, conductivity and elemental analysis in its own, accredited calibration laboratories. All Certi-PUR® products are traceable to primary standard reference materials certified by PTB (Physikalisch-Technische Bundesanstalt/Federal Physical-Technical Institute, Braunschweig, Germany) or NIST (National Institute of Standards and Technology, Gaithersburg, Maryland, USA). Both of the traceability procedures are documented in the Certificate of Analysis.



## In general

The products are tested and specified for the stated areas of application as per the declaration enclosed for each batch. The customer is responsible for testing the suitability of the product in question for any applications that are not among those listed (cf. also the General terms of delivery).

Further information on quality issues at Merck Millipore can be found at [www.merckmillipore.com](http://www.merckmillipore.com).

# H/P statements

## Hazard and precautionary statements, hazard pictograms

The properties of all Merck products are evaluated in detail. Items classified as hazardous are labeled in accordance with EU regulations.

These demand labeling with hazard pictograms, a signal word, and the inclusion of hazard and precautionary statements.

It must be noted, that at the time of going to print, the classification of products in the catalog might differ from the information on labels and safety data sheets, because we classify our products according to the latest empirical findings and legal regulations. Where a label apparently disagrees with the catalog entry, the label shall invariably take precedence. For small packages with volumes not exceeding 125 ml we make use of the exemptions as laid down in Regulation (EC) No 1272/2008, Annex I, 1.5.2.1.

While this catalog always states the complete labeling information, for reasons of space the labeling of small packages may differ. Both the full and – where applicable – the reduced labeling information can be referred to in the Safety Data Sheet.

Example n-hexane:

Labeling on the 1 l bottle: [H225](#), [H304](#), [H361f](#), [H373](#), [H315](#), [H336](#), [H411](#)

Reduced labeling on the 5 ml bottle: [H304](#), [H361f](#)

Both packages will bear four pictograms and the signal word “danger” as well as appropriate precautionary statements. The full classification and labeling information can always be referred to in the Safety Data Sheet.

## Hazard statements

<a href="#">H200</a>	Unstable explosives.
<a href="#">H201</a>	Explosive; mass explosion hazard.
<a href="#">H202</a>	Explosive; severe projection hazard.
<a href="#">H203</a>	Explosive; fire, blast or projection hazard.
<a href="#">H204</a>	Fire or projection hazard.
<a href="#">H205</a>	May mass explode in fire.
<a href="#">H220</a>	Extremely flammable gas.
<a href="#">H221</a>	Flammable gas.
<a href="#">H222</a>	Extremely flammable aerosol.
<a href="#">H223</a>	Flammable aerosol.
<a href="#">H224</a>	Extremely flammable liquid and vapour.
<a href="#">H225</a>	Highly flammable liquid and vapour.
<a href="#">H226</a>	Flammable liquid and vapour.
<a href="#">H228</a>	Flammable solid.
<a href="#">H240</a>	Heating may cause an explosion.
<a href="#">H241</a>	Heating may cause a fire or explosion.
<a href="#">H242</a>	Heating may cause a fire.
<a href="#">H250</a>	Catches fire spontaneously if exposed to air.
<a href="#">H251</a>	Self-heating; may catch fire.
<a href="#">H252</a>	Self-heating in large quantities; may catch fire.
<a href="#">H260</a>	In contact with water releases flammable gases which may ignite spontaneously.
<a href="#">H261</a>	In contact with water releases flammable gases.
<a href="#">H270</a>	May cause or intensify fire; oxidiser.
<a href="#">H271</a>	May cause fire or explosion; strong oxidiser.
<a href="#">H272</a>	May intensify fire; oxidiser.
<a href="#">H280</a>	Contains gas under pressure; may explode if heated.
<a href="#">H281</a>	Contains refrigerated gas; may cause cryogenic burns or injury.
<a href="#">H290</a>	May be corrosive to metals.
<a href="#">H300</a>	Fatal if swallowed.
<a href="#">H301</a>	Toxic if swallowed.
<a href="#">H302</a>	Harmful if swallowed.
<a href="#">H304</a>	May be fatal if swallowed and enters airways.
<a href="#">H310</a>	Fatal in contact with skin.
<a href="#">H311</a>	Toxic in contact with skin.
<a href="#">H312</a>	Harmful in contact with skin.
<a href="#">H314</a>	Causes severe skin burns and eye damage.
<a href="#">H315</a>	Causes skin irritation.
<a href="#">H317</a>	May cause an allergic skin reaction.
<a href="#">H318</a>	Causes serious eye damage.
<a href="#">H319</a>	Causes serious eye irritation.
<a href="#">H330</a>	Fatal if inhaled.
<a href="#">H331</a>	Toxic if inhaled.
<a href="#">H332</a>	Harmful if inhaled.
<a href="#">H334</a>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<a href="#">H335</a>	May cause respiratory irritation.
<a href="#">H336</a>	May cause drowsiness or dizziness.
<a href="#">H340</a>	May cause genetic defects <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<a href="#">H341</a>	Suspected of causing genetic defects <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<a href="#">H350</a>	May cause cancer <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<a href="#">H351</a>	Suspected of causing cancer <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<a href="#">H360</a>	May damage fertility or the unborn child <state specific effect if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<a href="#">H361</a>	Suspected of damaging fertility or the unborn child <state specific effect if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<a href="#">H362</a>	May cause harm to breast-fed children.
<a href="#">H370</a>	Causes damage to organs <or state all organs affected, if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<a href="#">H371</a>	May cause damage to organs <or state all organs affected, if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

<a href="#">H372</a>	Causes damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<a href="#">H373</a>	May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<a href="#">H400</a>	Very toxic to aquatic life.
<a href="#">H410</a>	Very toxic to aquatic life with long lasting effects.
<a href="#">H411</a>	Toxic to aquatic life with long lasting effects.
<a href="#">H412</a>	Harmful to aquatic life with long lasting effects.
<a href="#">H413</a>	May cause long lasting harmful effects to aquatic life.
<a href="#">H350i</a>	May cause cancer by inhalation.
<a href="#">H360F</a>	May damage fertility.
<a href="#">H360D</a>	May damage the unborn child.
<a href="#">H361f</a>	Suspected of damaging fertility.
<a href="#">H361d</a>	Suspected of damaging the unborn child.
<a href="#">H360FD</a>	May damage fertility. May damage the unborn child.
<a href="#">H361fd</a>	Suspected of damaging fertility. Suspected of damaging the unborn child.
<a href="#">H360Fd</a>	May damage fertility. Suspected of damaging the unborn child.
<a href="#">H360Df</a>	May damage the unborn child. Suspected of damaging fertility.

## EU-Hazard statements

<a href="#">EUH 001</a>	Explosive when dry.
<a href="#">EUH 006</a>	Explosive with or without contact with air.
<a href="#">EUH 014</a>	Reacts violently with water.
<a href="#">EUH 018</a>	In use may form flammable/explosive vapour-air mixture.
<a href="#">EUH 019</a>	May form explosive peroxides.
<a href="#">EUH 044</a>	Risk of explosion if heated under confinement.
<a href="#">EUH 029</a>	Contact with water liberates toxic gas.
<a href="#">EUH 031</a>	Contact with acids liberates toxic gas.
<a href="#">EUH 032</a>	Contact with acids liberates very toxic gas.
<a href="#">EUH 066</a>	Repeated exposure may cause skin dryness or cracking.
<a href="#">EUH 070</a>	Toxic by eye contact.
<a href="#">EUH 071</a>	Corrosive to the respiratory tract.
<a href="#">EUH 059</a>	Hazardous to the ozone layer.
<a href="#">EUH 201</a>	Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.
<a href="#">EUH 201A</a>	Warning! Contains lead.
<a href="#">EUH 202</a>	Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.
<a href="#">EUH 203</a>	Contains chromium (VI). May produce an allergic reaction.
<a href="#">EUH 204</a>	Contains isocyanates. May produce an allergic reaction.
<a href="#">EUH 205</a>	Contains epoxy constituents. May produce an allergic reaction.
<a href="#">EUH 206</a>	Warning! Do not use together with other products. May release dangerous gases (chlorine).
<a href="#">EUH 207</a>	Warning! Contains cadmium. Dangerous fumes are formed during use. See information supplied by the manufacturer. Comply with the safety instructions.
<a href="#">EUH 208</a>	Contains <name of sensitising substance>. May produce an allergic reaction.
<a href="#">EUH 209</a>	Can become highly flammable in use.
<a href="#">EUH 209A</a>	Can become flammable in use.
<a href="#">EUH 210</a>	Safety data sheet available on request.
<a href="#">EUH 401</a>	To avoid risks to human health and the environment, comply with the instructions for use.

## Precautionary statements

P101	If medical advice is needed, have product container or label at hand.	P331	Do NOT induce vomiting.	P370 + P376	In case of fire: Stop leak if safe to do so.
P102	Keep out of reach of children.	P332	If skin irritation occurs:	P370 + P378	In case of fire: Use ... for extinction.
P103	Read label before use.	P333	If skin irritation or rash occurs:	P370 + P380	In case of fire: Evacuate area.
P201	Obtain special instructions before use.	P334	Immerse in cool water/wrap in wet bandages.	P370 + P380 + P375	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
P202	Do not handle until all safety precautions have been read and understood.	P335	Brush off loose particles from skin.	P371 + P380 + P375	In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P210	Keep away from heat/sparks/open flames/hot surfaces. — No smoking.	P336	Thaw frosted parts with lukewarm water. Do no rub affected area.	P401	Store ...
P211	Do not spray on an open flame or other ignition source.	P337	If eye irritation persists:	P402	Store in a dry place.
P220	Keep/Store away from clothing/.../combustible materials.	P338	Remove contact lenses, if present and easy to do. Continue rinsing.	P403	Store in a well-ventilated place.
P221	Take any precaution to avoid mixing with combustibles...	P340	Remove victim to fresh air and keep at rest in a position comfortable for breathing.	P404	Store in a closed container.
P222	Do not allow contact with air.	P341	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.	P405	Store locked up.
P223	Keep away from any possible contact with water, because of violent reaction and possible flash fire.	P342	If experiencing respiratory symptoms:	P406	Store in corrosive resistant/... container with a resistant inner liner.
P230	Keep wetted with...	P350	Gently wash with plenty of soap and water.	P407	Maintain air gap between stacks/pallets.
P231	Handle under inert gas.	P351	Rinse cautiously with water for several minutes.	P410	Protect from sunlight.
P232	Protect from moisture.	P352	Wash with plenty of soap and water.	P411	Store at temperatures not exceeding ... °C/...°F.
P233	Keep container tightly closed.	P353	Rinse skin with water/shower.	P412	Do not expose to temperatures exceeding 50 °C/122°F.
P234	Keep only in original container.	P360	Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.	P413	Store bulk masses greater than ... kg/... lbs at temperatures not exceeding ... °C/...°F.
P235	Keep cool.	P361	Remove/Take off immediately all contaminated clothing.	P420	Store away from other materials.
P240	Ground/bond container and receiving equipment.	P362	Take off contaminated clothing and wash before reuse.	P422	Store contents under ...
P241	Use explosion-proof electrical/ventilating/lighting/.../equipment.	P363	Wash contaminated clothing before reuse.	P402 + P404	Store in a dry place. Store in a closed container.
P242	Use only non-sparking tools.	P370	In case of fire:	P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P243	Take precautionary measures against static discharge.	P371	In case of major fire and large quantities:	P403 + P235	Store in a well-ventilated place. Keep cool.
P244	Keep reduction valves free from grease and oil.	P372	Explosion risk in case of fire.	P410 + P403	Protect from sunlight. Store in a well-ventilated place.
P250	Do not subject to grinding/shock/.../friction.	P373	DO NOT fight fire when fire reaches explosives.	P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
P251	Pressurized container: Do not pierce or burn, even after use.	P374	Fight fire with normal precautions from a reasonable distance.	P411 + P235	Store at temperatures not exceeding ... °C/...°F. Keep cool.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.	P375	Fight fire remotely due to the risk of explosion.	P501	Dispose of contents/container to ...
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.	P376	Stop leak if safe to do so.		
P262	Do not get in eyes, on skin, or on clothing.	P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.		
P263	Avoid contact during pregnancy/while nursing.	P378	Use ... for extinction.		
P264	Wash ... thoroughly after handling.	P380	Evacuate area.		
P270	Do not eat, drink or smoke when using this product.	P381	Eliminate all ignition sources if safe to do so.		
P271	Use only outdoors or in a well-ventilated area.	P390	Absorb spillage to prevent material damage.		
P272	Contaminated work clothing should not be allowed out of the workplace.	P391	Collect spillage.		
P273	Avoid release to the environment.	P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.		
P280	Wear protective gloves/protective clothing/eye protection/face protection.	P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.		
P281	Use personal protective equipment as required.	P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.		
P282	Wear cold insulating gloves/face shield/eye protection.	P302 + P334	IF ON SKIN: Immerse in cool water/wrap in wet bandages.		
P283	Wear fire/flame resistant/retardant clothing.	P302 + P350	IF ON SKIN: Gently wash with plenty of soap and water.		
P284	Wear respiratory protection.	P302 + P352	IF ON SKIN: Wash with plenty of soap and water.		
P285	In case of inadequate ventilation wear respiratory protection.	P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.		
P231 + P232	Handle under inert gas. Protect from moisture.	P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.		
P235 + P410	Keep cool. Protect from sunlight.	P304 + P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.		
P301	IF SWALLOWED:	P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.		
P302	IF ON SKIN:	P306 + P360	IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.		
P303	IF ON SKIN (or hair):	P307 + P311	IF exposed: Call a POISON CENTER or doctor/physician.		
P304	IF INHALED:	P308 + P313	IF exposed or concerned: Get medical advice/attention.		
P305	IF IN EYES:	P309 + P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.		
P306	IF ON CLOTHING:	P332 + P313	If skin irritation occurs: Get medical advice/attention.		
P307	IF exposed:	P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.		
P308	IF exposed or concerned:	P335 + P334	Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.		
P309	IF exposed or if you feel unwell:	P337 + P313	If eye irritation persists: Get medical advice/attention.		
P310	Immediately call a POISON CENTER or doctor/physician.	P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.		
P311	Call a POISON CENTER or doctor/physician.				
P312	Call a POISON CENTER or doctor/physician if you feel unwell.				
P313	Get medical advice/attention.				
P314	Get medical advice/attention if you feel unwell.				
P315	Get immediate medical advice/attention.				
P320	Specific treatment is urgent (see ... on this label).				
P321	Specific treatment (see ... on this label).				
P322	Specific measures (see ... on this label).				
P330	Rinse mouth.				

## Signal words

Dgr (Danger) Danger  
Wng (Warning) Warning

# Packaging

## Packaging

The following package types with ordering information are available:

### Alu bottle = Aluminum bottle

Aluminum bottles are currently used for some solvents as non-breakable containers. Advantage: 100% diffusion-proof.

### Alu can = Aluminum can

Aluminum cans are used for some solids as non-breakable and diffusion-proof containers.

### Aluminium tube

These are used e.g. for test strips and are sealed off with plastic stoppers. In the case of hygroscopic materials, the stopper can be provided with a drying agent.

### Barrel PE/met = Plastic receptacle in steel barrel

These barrels comprise an external lacquered metal mantle and an internal polyethylene lining which is extremely resistant to aggressive acids. As the outer mantle can be grounded, these barrels can be used for transporting, storing and filling solvents.

### Barrel PE/PE = Plastic receptacle in plastic barrel

These barrels have an external very stable polyethylene mantle and an internal polyethylene liner made of particularly pure polyethylene without additives as used e.g. in the semiconductor industry. Advantages: No risk of contamination, high degree of mechanical stability.

### Barrel stainl. st. = Barrel stainless steel

Stainless steel barrels in volumes of 10 l, 30 l and 185 l are used for packaging high-purity organic solvents. Special withdrawal systems, including permanent systems with their own piping, facilitate withdrawal of solvent. Each stainless steel barrel has its own identification serial number and can thus be traced at any time. All such recyclable barrels remain the property of Merck Millipore and are simply made available on a temporary basis (6 – 8 weeks) to the user. Customers are kept informed on outstanding barrels by Merck Millipore. Merck Millipore retains the right to charge, at purchasing prices, for damaged or lost vessels.

### Big Bag = Flexible IBC

Big Bags are large containers (> 500 l) for solids. They have an external layer of plastic material to provide stability when filled. The inner container is a plastic bag designed to provide product protection. Advantages: low packaging material weight, can be folded together.

### Carboy = Glass carboy

Carboys have a volume of 22.5 l and are used for transporting products that tend to react with plastic or metal. The outer packaging used is polyethylene or polystyrene.

### Container = Tank container

Large volumes of product are supplied in tank containers. These are mostly product-dedicated and customized to particular applications. The containers are recyclable.

### Double PE Sack (DPES)

The double PE sack (DPES) is a packaging system consisting of an outer and an inner sack to meet the growing demand for packaging that can be used under clean-room conditions. In an area next to the production room the fully labelled outer sack is removed from the inner sack by tearing along the perforated seam. The clean inner sack, labelled with the most important product data, is then conveyed into the production room where the product is used. The sack-in-sack principle of the Double PE Sack ensures that no packaging-borne contaminants can enter the production room. The Double PE sacks are dispatched in corrugated cardboard cartons or loaded onto pallets.

### Drum, fiber = Fiberboard drum

These are made of several layers of heavy-duty fiberboard. Base and lid may be made of other materials, e.g. wood or metal. Advantages: Low weight, high degree of stability.

### Drum stainl. st. = Drum stainless steel

Stainless steel drums in volumes of 10 l, 25 l and 190 l are used for packaging "GR", "for synthesis" and "extra pure" organic solvents. Advantages: Recyclable vessels with no time limit for use, optimal emptying via special withdrawal systems. Containers should be returned to Merck Millipore as soon as possible once empty.

### EPS box

These are made-to-measure boxes made of expanded polystyrene (EPS) for glass bottles. Advantages: They provide protection from external impact, limit the risk of breakage and protect the contents from short-term fluctuations in temperature.

### Fiber carton

These are used for solids and are made of 1 or 2 layers of heavy-duty fiberboard. Waterproof glue provides protection against the effects of moisture. The cartons are stable and can be stacked and are hence optimal for the Merck Millipore CP-5 range of products (114 x 76 cm). They are optimal for space utilization and transport. They have been officially tested and are UN-approved. Polyethylene sacks provide product protection.

### Fiber case

These are used for test sets, test kits and HPLC columns.

### Gas cylinder

Gases are stored in pressurized lecture bottles and can be connected directly at their place of use.

### Glass ampoul

Glass as an inert material is suitable for use with all types of contents, including aggressive products. Glass ampoules are used for different reagents and closed with KT15 screw caps. Advantages: optimal tightness, pressure stability.

### Glass bottle

Glass as an inert material is suitable for use with all types of contents, including aggressive products. Glass bottles are colored brown and provide protection against light. Glass is also impervious to air and water vapor and hence guarantees a high degree of stability and corresponding long storage times. Glass bottles for use with liquids are fitted with S 28 or S 40 caps; glass bottles for solids have an S 40, S 60 or S 85 cap, depending on the volume. Advantages: Optimal tightness, pressure stability. Glass bottles are transported in made-to-measure inserts (polystyrene or corrugated cardboard) in UN-approved cartons.

### Glass btl. Duran = Glass bottle Duran (borosilicate glass)

These high-quality colorless bottles of hydrolytic grade 1 are used for the transport and storage of high-purity chemicals (e.g. Suprapur grade). Advantages: No contamination and hence maintenance of the high purity of the contents.

### Glass btl. pl. coat. = Glass bottle with plastic jacket

These bottles provide additional safety when used with hazardous chemicals. If they fall off a laboratory bench, the form remains intact and the contents may not even spill. More time is thus available for enacting safety procedures.

### Metal can

Oxidizing solids and some dyes are first packed in polyethylene bags and then enclosed in metal cans for additional protection.

### Plastic ampoule

Titrisol®, concentrates for making up buffer solutions, standard solutions and volumetric solutions are filled in polyethylene ampoules. Advantage: Can be opened without the help of tools.

### Plastic bag

Many solids, e.g. those used as food additives, are packaged in polyethylene bags in smaller volumes. They are then dispatched in folding cartons.

### Plastic barrel

These are made of high-density polyethylene (HDPE) and have a volume of 200 l. They are universally used for packaging most acids, alkaline and aqueous solutions and have a 2" opening. Numerous withdrawal systems can be connected. Advantages: Easy withdrawal, optimal emptying.

### Plastic bottle

Most plastic bottles are made of high-density polyethylene (HDPE). Current bottles are colored against the effects of UV radiation (white in the case of solids; black for liquids). They are available in volumes of 2.5 l and 5 l and are easy to use due to their integrated grip. From a volume of 250 ml, they have an S 40 cap. Bottles for solids have a large opening to facilitate withdrawal and have caps up to S 85.

### Plastic box

These are used for test kits. They are robust and are protected from splashes. They contain all components and additional tools of a test kit.

### Plastic bucket

These are used to safely carrying glass bottles with chemicals. In case of any accident the chemical spills into the bucket.

### Plastic can

These are made of HDPE and have volumes of 5 l, 10 l, 25 l and 60 l. They are used for acids, alkaline and aqueous solutions. Blue containers are used for contents sensitive

to light. All containers have a standard KS 60 x 6 external thread. Connectors and withdrawal aids are available.

### Plastic case

These are used for carrying kits, e.g. test kits. They are robust, have a grip and are protected from splashes. They are mobile and can be used in inclement weather. The hinged lid can be used as a working area.

### Plastic drum

Solids are packed in polyethylene sacks and then inserted in stable plastic drums. Advantages: Highly stable, large volumes possible.

### Plastic IBC = Plastic IBC (Tank pallet)

These IBCs (Intermediate Bulk Containers) are 400 – 1,000 l plastic containers. Made of highly resistant high-density polyethylene (HDPE), they are suitable for acids and alkaline solutions. Advantages: Reduced volume of packaging materials, optimal utilization of available volume, easy connection, recyclable/returnable (depending on contents).

### Plastic tube

These are used e.g. for test strips and are sealed off with plastic stoppers. In the case of hygroscopic materials, the stopper can be provided with a drying agent.

### Sachets

Sachets are made of aluminum-laminated plastic foil for pre-portioned quantities of liquids, e.g. buffer solutions. The material structure and the materials employed make these sachets absolutely tight and the contained solution stable.

### Safebreak btl. = Safebreak bottle

Safebreak bottles are glass bottles with a polyethylene (PE) coating. In case of a breakage the liquid and glass splinters are reliably retained within the polyethylene coating. Empty and acid-free Safebreak bottles can be recycled together with conventional glass bottles.

### Septum ampoule

These are ampoules made of glass with an integrated septum for removing samples with a syringe in a contamination free way. Subsequent to sampling, the septum closes itself off and becomes airtight again.

### Steel barrel

Non-returnable steel barrels in volumes of 25 l and 190 l. On the inside, they are coated with a chemically-resistant lacquer to prevent corrosion. Primarily used for organic solvents.

### Steel drum

Oxidizing solids are packed in polyethylene sacks and then placed in robust steel drums. The external surface is coated with a special substance to prevent corrosion. Advantages: Highly stable, large volumes possible.

### Steel IBC = Container steel IBC

IBC (Intermediate Bulk Container) containers are made of stainless steel and are used for tank pallets of 400 – 1,500 l for large users. Advantages: Packaging material reduced, volume utilization, recyclable.

### Titripac PE/Alu = Titripac Plastic/Aluminum

Volumetric solutions in larger volumes for laboratory purposes are supplied in corrugated cardboard cartons with a plastic bag liner. The flexible liner collapses when product is removed, hence preventing laboratory air from entering and altering the titer. In this way, the titer remains constant over a long period of time. Additional advantage: Integrated tap makes for ease of use.

### Tube

Tubes are ideal for pastes as the reagent can be portioned. After use, the tube can be closed off.

## StoreCard – Mixed storage of chemicals

Hazardous materials must be stored in such a way that:

- risks involved in storing incompatible materials together are minimized.
- dangerous, violent reactions, such as the generation of flammable gases or very toxic gases are prevented.
- in the event of fire, toxic smoke is avoided.

For safety reasons, all products to be stored must be classified in the storage class relevant to their specific hazard characteristics. A chemical can only be classified in one storage class. Chemicals having more than one hazardous property are assigned to a class based on a ranking system for the hazard involved. This guarantees that chemicals with the same or similar hazardous properties can be treated similarly with regard to the necessary safety measures, in particular fire and explosion protection. All Merck Millipore reagents and chemicals are assigned to the storage class stated in their respective Material Safety Data Sheets (MSDS) and online in <http://www.merckmillipore.com>.

### Storage classes

- 1 Explosive substances
- 2 A Gases
- 2 B Aerosols
- 3 Flammable liquids
- 4.1 A Flammable solids (explosive)
- 4.1 B Flammable solids and desensitized substances
- 4.2 Substances liable to spontaneous combustion
- 4.3 Substances that form flammable gases in contact with water
- 5.1 A Oxidizing substances (strong oxidizer)
- 5.1 B Oxidizing substances
- 5.1 C Oxidizing substances (ammonium nitrate)
- 5.2 Organic peroxides and self-reactive substances
- 6.1 A Combustible acute toxic substances
- 6.1 B Non-combustible acute toxic substances
- 6.1 C Combustible toxic substances or substances with chronic effect
- 6.1 D Non-combustible toxic substances or substances with chronic effect
- 6.2 Infectious substances
- 7 Radioactive substances
- 8 A Combustible corrosive substances
- 8 B Non-combustible corrosive substances
- 10–13 Other combustible and non-combustible substances
- 10 Other combustible liquids\*
- 11 Other combustible solids\*
- 12 Other non-combustible liquids\*
- 13 Other non-combustible solids\*

\*Optional storage class for substances of storage class 10–13

When the recommendations for mixed storage of chemicals of StoreCard are used, national regulations for separate and segregated storage must also be adhered to.

The mixed storage table indicates whether a product in a particular storage class may be stored together with one in another class, whether such mixed storage together is prohibited (separate storage required) or whether there are restrictions on mixed storage that have to be observed (segregated storage in the same storage area required).

#### Separate storage:

The term "separate storage" means locating products in different storage areas. A storage area is a section of a warehouse is separated from other rooms by either by fire-resistant walls and ceilings or safety cabinets or both.

Separate storage may be necessary to avoid the increased risk which may happen if contact occurs between products of different storage classes.

#### Segregated storage:

The term "segregated storage" means storage in the same storage area where the products are separated from one another by gaps or barriers (e.g. walls, non-combustible substances of storage class 10 – 13 or in safety cabinets made of non-combustible material). The mixed storage of products of differing storage classes is only permitted if certain conditions are met (e.g. identical extinguishing agent for all products, identical temperature conditions). Segregated storage within one area may also be necessary if certain products are in the same storage class, but have special properties. This is also the case for products in differing storage classes, with particular properties, for which mixed storage in accordance with the mixed storage table is normally permitted (Example: cyanides must not be stored together with substances, such as acids, with which they can form hydrogen cyanide.). Information on this is available in the hazard and precautionary statements (e.g. H271, H272, H304, EUH029, EUH031, EUH032, P220, P223 or P420). However, chapter 10 (stability and reactivity) of the MSDS is of no use.

### Important rules

1. A risk assessment is necessary. Are there no significant risks a mixed storage is permitted.
2. Combustible substances, with the exception of flammable liquids, may be stored in storage areas in which there are no more than 50 full compressed-gas cylinders – of which a maximum of 25 of them contain flammable, oxidizing or toxic gases – provided the storage area for compressed-gas cylinders is separated by an at least two-metre high wall made of non-combustible building materials. Alternatively, there must be at least five-metres distance between the gas cylinders and the combustible substances.
3. Up to 150 compressed-gas containers containing flammable, oxidising and inert gases may be stored together. In addition 15 compressed-gas containers with toxic and highly toxic gases may be stored together with them at the same time.
4. Mixed storage is permitted if the following restrictions and quantities are adhered to:

		Maximum quantity (tonnes)				
		3	4.1 B	5.1 B	6.1 A	6.1 B
1	restrictions	1	10 <sup>1)</sup>	1	1	1
2	only with a functioning automatic fire-alarm system		20			
3	only with a functioning automatic extinguisher system	20	100 <sup>1)</sup>	20	20	20

<sup>1)</sup> These quantities apply only to the mixed storage of store class 4.1 B with store class 6.1 A.

5. Materials that ignite easily or cause a fire to spread rapidly, such as packaging materials, must not be stored together with toxic substances or flammable liquids.
6. Products which do not react with one another in the event of an incident may be stored together. This can be achieved by segregated storage, e.g. physical separation, large gaps between containers, separate containment basins, or storage in safety cabinets.
7. Mixed storage with non-combustible substances is permitted. For mixed storage with combustible substances see point 4.

## Protective measures and rules of conduct

The potential harm that may arise in the storage of chemicals depends not only on the quantities involved, but also on the particular hazards they pose. Uncontrolled storage is not permitted. The following requirements apply to all hazardous chemicals.

1. Safety instructions, which relate either to individual chemicals or to classes of chemicals with the same hazardous properties, need to be compiled.
2. Chemicals must be stored strictly according to the warehousing plan.
3. Workers must wear suitable protective clothing (overalls, safety shoes and as needed, also safety goggles and protective gloves) within the warehouse.
4. There must be a strict ban on naked flames, unshielded lights and smoking.
5. Stored goods must be handled in a way that prevents damage to packaging and the escape of chemicals.
6. Escape routes, emergency exits and access routes for the emergency services must be kept free at all times.
7. Suitable fire extinguishers (ABC powder extinguishers), first-aid boxes and eyewash bottles must be close at hand.
8. Written permission must be obtained before any welding is undertaken. The same applies to the use of power tools (for drilling, grinding, etc).
9. There must be a strict ban on smoking, eating and drinking in areas where chemicals are stored.



# Dangerous goods transport

## Transport regulations for dangerous goods

This catalog contains information concerning the transportation of dangerous goods. This page provides a basic introduction to the transportation of dangerous goods and explains some of the terms and abbreviations used throughout the catalog.

### General

Dangerous goods may only be carried on public transportation networks as long as there are adequate measures in place to ensure that they can be moved safely. These measures cover in particular:

- packaging that is physically suitable, properly labelled, type-approved and permitted under the relevant transport regulations.
- consignment paperwork showing required data (such as, and especially, the addresses of the sender and recipient; proper labeling, designation and classification of the substances in question; number and description of the packaging units used).
- safe loading onto/into the carrying vehicle/container.

Dangerous goods are classified as follows irrespective of carrier:

#### Class Meaning

- |     |   |
|-----|---|
| 1   | Explosives  |
| 2   | Gases   |
| 3   | Flammable liquids   |
| 4.1 | Flammable solids  |
| 4.2 | Substances liable to spontaneous combustion                 |
| 4.3 | Substances which in contact with water emit flammable gases |
| 5.1 | Oxidizing substances  |
| 5.2 | Organic peroxides   |
| 6.1 | Toxic substances  |
| 6.2 | Infectious substances                                       |
| 7   | Radioactive material  |
| 8   | Corrosive substances  |
| 9   | Miscellaneous dangerous substances                          |

### UN number

The UN number is a four-digit number issued by the United Nations Subcommittee of Experts to individual dangerous goods and to groups of dangerous goods having the same or similar properties. In some cases, different numbers are issued depending on the particular carrier.

### Packing category

Dangerous substances may only be packed together with other substances (whether dangerous or not) in a single shipment provided such a consignment is not prohibited by the dangerous goods regulations covering the type of carrier, and as long as the substances being shipped cannot enter into dangerous reactions with one another. Merck Millipore has defined its own packing categories so as to cover substances having the same properties and posing the same type of risk within one and the same hazard grouping. It is permissible, therefore, to pack together dangerous goods from the same hazard class and packing category.

### Carriers

The different conditions under which goods are carried by land (road, rail and inland waterway), sea and air are the reason why there are numerous differences in the regulations binding each type of carrier.

### Transportation by land

Regulations covering transport by road and rail are largely the same.

### Road – ADR

The European agreement on cross-border transportation of dangerous goods by road (Accord européen relatif au transport international des marchandises Dangereuses par Route) regulates cross-border trucking of dangerous goods.

### Rail – RID

RID, the international regulations covering transportation of dangerous goods by rail (Règlement International concernant le transport des marchandises Dangereuses par chemin de fer) apply to rail shipments from one country to another within Europe. The RID and ADR regulations are virtually the same, though there are differences in the means by which substances may be transported (e.g. in tank cars).

### Sea – IMDG

The International Maritime Dangerous Goods Code was drawn up to regulate the sea shipment of dangerous goods.

### Air – IATA/ICAO

The ICAO (International Civil Aviation Organization) has compiled technical instructions for sending dangerous goods by airfreight (ICAO/TI). IATA-DGR regulations (International Air Transport Association – Dangerous Goods Regulations) contain all of the requirements embodied in ICAO/TI plus additional requirements and restrictions. IATA-DGR is therefore the basis used for sending dangerous goods by air. Separate requirements concerning packaging and maximum packaged quantity per primary packaging unit/consignment pack exist for transport by passenger aircraft (PAX) and freight aircraft (CAO).

### PAX

In this catalog under “PAX” (= passenger aircraft) you will find the relevant packing instruction defining the permitted packing and shipping quantities for dangerous goods sent by passenger aircraft. An F signifies a ban on transport by passenger aircraft (Forbidden).

### CAO

In this catalog under “CAO” (= cargo aircraft) you will find the relevant packing instruction defining the permitted packing and shipping quantities for dangerous goods sent by cargo aircraft. An F signifies a ban on transport by cargo aircraft (Forbidden).

## Notes for collection and treatment of chemicals in loose small quantities

When using chemicals, prime importance must be attached to the proper disposal of waste. This is important for the environment and is a considerable cost factor. Please take these factors into account when planning your use of chemicals.

### Small packs may be the solution

Merck supplies more than 5,000 products in small packs. The safety advantage of hazardous products in small packs is obvious: there is less or no residue, hence disposal is easier.

### Prevention of waste water pollution

It is principally prohibited to dispose of waste by releasing it into the sewage system. Please bear in mind that many chemicals cannot be readily degraded by waste water treatment plants and that they thus enter the environment in an unaltered state. The disposal of waste material via the drains should, therefore, be avoided at all costs.

### Recycling unused and used chemicals

Before you send any unavoidable remainders of chemicals, chemical mixtures, or other related products for disposal, please check whether the possibility exists to recycle them by appropriate pretreatment (distillation, separation of defined chemicals, transformation, etc.).

## Recycling Industrial and Waste Disposal Act and European Disposal Directive

In particular, we refer to the necessity of being able to prove that waste material has been disposed of properly. The person or company producing such chemical waste is responsible for its disposal even if a disposal company has been authorized to carry out the disposal. Within the EU, disposal is regulated by an EU Directive that has to be incorporated into national law of the Member States. The Directive defines waste and the objects to be protected. However, in carrying out disposal, all other national regulations must be adhered to.

## Collection of laboratory waste

Laboratory waste should be collected for disposal in separate containers according to the type of chemical involved. The containers can, for example, be labelled according to the schedule described below and labelled with the letters A-K. In doing so, it must be ensured that the chemicals collected in any one category cannot react with each other. At least a check should be made for acid and base content. Many disposal companies require a neutral solution to be provided.

- A** Halogen-free organic solvents and organic substances in solution.
- B** Halogen-containing organic solvents and organic substances in solution. Attention: Do not use aluminium containers!
- C** Solid residues of organic laboratory chemicals.
- D** Salts in solution; the contents of such containers should be adjusted to pH 6 – 8.
- E** Toxic inorganic residues and salts of heavy metals and solutions.
- F** Toxic flammable compounds.
- G** Mercury and inorganic mercury salt residues.
- H** Metallic-salt residues; each metal should be collected separately.
- I** Inorganic solids.
- K** Separate collection of glass, metal, and plastic waste materials.

The collecting vessels should be clearly labelled with the contents and provided with hazard symbols and safety phrases. Please note that double labelling may be necessary, e.g. if flammable liquids are collected in aqueous solutions of category D, if organic solutions react caustically, if bases and acids are contained or if poisons are collected in categories other than E and F. Of course, other categories may be designated if: This is meaningful. Adequate space is available. The total volume allowed to

be stored is not exceeded. Thus, it is recommended that those substances hazardous to health as well as irritating and poisonous substances be collected together; however, two containers – one for substances that are hazardous to health and the other for poisonous substances – may be used.

### Chemicals in closed containers:

Collect. Remove and treat only in exceptional cases. Apply the principle of minimum personal safety risk!

### Chemicals in loose quantities:

Treat if spontaneously flammable, oxidizing, or reactive with water or other substances. To prevent uncontrolled reactions, it is in principle recommended to pack waste chemicals individually (plastic bags or containers) before placing them in collecting vessels! Special caution should be taken with explosive substances, which should be disposed of separately only in phlegmatized form.

### Container for organic solvents:

In order to enable laboratory waste to be disposed of properly and to minimize the effect on laboratory routines, collection containers designated for waste materials must be:

- Able to cope with the chemicals involved
- Unbreakable
- Leakproof and gas-tight
- In possession of a UN certificate for transport if they are to be transported on public roads.

In addition, the following points should be taken into account:

- The containers should be located in a well-ventilated place
- The containers should be kept closed to prevent evaporation of harmful vapors
- Select containers of a size that will prevent the waste being kept too long at the place of storage. This also minimizes the risk of leakage.

Based on experience of the routines of many laboratories, the following containers can be recommended:

Container for liquid organic waste, for aqueous and contaminated waste, acids and bases:

Combi-container, 10 l with PE inliner, Ord. No. 9.43442.1013.

Container for solid chemical waste:

Such waste should whenever possible be collected in containers made of the same material – glass, metal, plastic – as the original product container.

## Tips for collecting and neutralizing laboratory waste

It should be taken into account that it may frequently be necessary to deactivate waste material before storing it. The purpose of this is to convert small quantities of reactive material into harmless secondary products hence facilitating storage and subsequent disposal. Prior to doing this, however, you should check whether you can return the material to the manufacturer.

Please also bear in mind that such treatment normally increases the amount of material to be disposed of. Thus, first check with your Safety Officer or disposal unit as to whether the material you have can be disposed of as it is or whether it must first be treated.

Utmost care is called for when handling laboratory chemicals and particularly when neutralizing reactive chemicals, since frequently violent chemical reactions occur. All such work must, therefore, be carried out by qualified personnel and under strict observance of the respective safety measures, in an efficient hood with the front screen closed.

When carrying out these activities, general safety rules must be adhered to at all times.

The method chosen to neutralize the chemical product in question must at all costs be tried out first on a small scale to see if there are any unforeseen problems. Always choose a suitable type and size of laboratory vessel!

The instructions for the neutralization of reactive chemicals described in the following are of general nature and should not be taken as operating procedures. Prior to undertaking the tasks described below, it is absolutely necessary for an experienced and qualified person (chemist, chemical engineer, technician) to compile a detailed operating procedure – listing all the appropriate safety measures – with reference to the relevant literature.

Refer also to any Safety Data Sheets supplied by the manufacturer. However, no guarantee can be given that in carrying out deactivation instructions all potentially dangerous substances can be completely deactivated.

To facilitate the disposal of small quantities, each entry in the catalog includes a key word "Disposal", followed by a code number that refers to the respective paragraph set out below. The container stipulated for the collection of the chemical in question is given a code letter from **A** to **K** as described above. Should a particular substance not be provided with a corresponding descriptive label, several treatments may have to be carried out consecutively.

## Code

**1** Strongly contaminated halogen-free organic solvents: container **A**.

**2** Organic halogenated solvents and solutions of organic halogen-containing substances: For strongly contaminated or mixed halogenated solvents container **B**. Caution: Do not use aluminium containers; in addition, in the case of watercontaining chlorinated waste materials do not use stainless steel containers (danger of leaks caused by corrosion).

**3** Relatively unreactive organic reagents should be collected in container **A**. If halogenated, they should be collected in container **B**. For solid residues use container **C**.

**4** Liquid organic acids or solutions should be diluted, if necessary, and carefully neutralized with sodium hydrogen carbonate (Cat. No. 106323) or with sodium hydroxide (Cat. No. 106462). Before filling into container **D**, check the pH with pH universal indicator strips (Cat. No. 109535).

**6** Sulfides and sulfites as well as other reducing substances, inorganic cyanides and isonitriles: Stir into sodium hypochlorite solution (Cat. No. 105614) and, if necessary, leave to react for several days. Caution: some substances may show a violent reaction! Draw off any toxic or flammable gases that may be formed. Excess oxidant should be neutralized with sodium thiosulfate (Cat. No. 106513). Container **D** or **E**.

**8** Hydrolysis-sensitive organoelement compounds and metal alkyls, which are as a rule dissolved in organic solvents, should be carefully stirred dropwise into 1-Butanol (Cat. No. 822262) in a hood with the front screen closed. Any flammable gases formed should be fed via a tube directly into the extractor duct. When gas development has ceased, continue stirring for one hour and add an excess of water. Container **A**.

**9** Carcinogenic compounds and flammable compounds labelled "Highly toxic" or "Toxic" (except solvents): container **F**. Alkyl sulfates are carcinogenic; take particular care to avoid inhalation and skin contact. To neutralize alkyl sulfates, add dropwise (from a dropping funnel) to concentrated ice-cool ammonia solution (Cat. No. 105426) with vigorous stirring. Before placing in container **D**, check the pH with pH universal indicator strips (Cat. No. 109535).

**10** Organic peroxides can be detected in aqueous solutions or organic solvents. Pure peroxides are diluted to min. 10% in a suitable solvent or with water and added in small portions, with temperature control, to iron(II) chloride (Cat. No. 103860) solution. Container **D**. Explosive substances (storage class 4.1A) should be packed separately and tightly sealed for disposal. Ensure sufficient phlegmatization by water or the stated phlegmatizing agent!

**25** Red phosphorus must not come into contact with oxidizing substances. Container **I**. Phosphorus compounds should be oxidized under an inert gas in an efficient hood with the front screen closed. From each gram

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## Disposal of reagents and chemical waste

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of phosphorus compound measure out a 100 ml aliquot of 5% sodium hypochlorite solution (Cat. No. 105614) containing 5 ml of 50% sodium hydroxide solution (Cat. No. 106462), and carefully add the substance solution to be neutralized a drop at a time, cooling with ice. Add calcium hydroxide (Cat. No. 102047) and filter off the precipitated phosphates. Precipitate: container I; aqueous solutions: container D.

**26** Alkali and alkaline-earth metals should be taken up in an inert solvent and neutralized by adding 2-propanol (Cat. No. 100995) dropwise with stirring. Should the reaction be more violent than expected, conversion should be carried out with tert-butanol or octanol. Caution: This reaction produces hydrogen, which can form explosive mixtures; take necessary precautions. When the reaction has ceased, add water dropwise; neutralize; container D. In the case of alkali or alkaline-earth borohydrides, add methanol (Cat. No. 106008) with stirring; in the case of alkali or alkalineearth amides and hydrides, organoaluminium and organotin hydrides, add 2-propanol (Cat. No. 100995) dropwise. The substances, which are usually in solid form, should be previously suspended in an ether! When the respective reaction has ceased, hydrolyze with water; then neutralize. Container D or E. Lithium aluminium hydride must also be destroyed by slurrying in an ether. Under an inert gas and with thorough stirring, add dropwise a 1:4 mixture of ethyl acetate (Cat. No. 822277) and the ether used to prepare the slurry. Always ensure thorough mixing (stirring)! Container A.

**27** Residues containing valuable recoverable metals should be forwarded for recycling; container H.

**28** Aqueous solutions: container D.

**30** The Extran® laboratory cleaning agents are biodegradable. If during cleaning operations environmentally harmful materials have been collected, the washwater should be collected in container D.

**32** Chromatographic residues: Aggressive, explosive (e.g. peroxides) or toxic substances in chromatographic layers or sorbents must be eliminated using suitable methods (washing out, elution) prior to disposal. The solvents used for elution can in many cases be reutilized. Larger quantities of sorbents (e.g. from columns) should be freed from solvents (filtration, drying) and packed into rip-resistant plastic sachets; container I. TLC carrier materials and columns should be disposed of together with the corresponding waste materials (aluminium, glass, plastic); container K.

AAS	Atomic absorption spectrometry	JP	The Pharmacopoeia of Japan
ACS	American Chemical Society	JPE	Japanese Pharmaceutical Excipients
ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route	kg	kilogram
AOX	Adsorbable organic halogen	l	litre
API	Active pharmaceutical ingredient	LC	Liquid chromatography
ASTM	American Society for Testing and Materials	LCD	Liquid-crystal display
ATP	Adenosintriphosphate	LD	Letal dosis
BOD	Biochemical oxygen demand	M	molar mass
BP	British Pharmacopoeia	MALDI-	Matrix-assisted laser desorption ionization
BPC	British Pharmaceutical Codex	ToF-MS	Time-of-flight – mass spectrometer
c	Concentration	m <sup>3</sup>	cubic metre
C.I. No.	Colour Index Number	mbar	millibar (1 mbar = 1 hPa)
CAP	College of American Pathologists	mg	milligram
CAS	Chemical Abstracts Service	ml	millilitre (= ccm, cm <sup>3</sup> )
CLSI	Clinical and Laboratory Standards Institute, Inc.	MS	Mass spectrometry
CLRW	CLSI® Clinical Laboratory Reagent Water	mS	Millisiemens
COD	Chemical oxygen demand	µm	micrometer (10 <sup>-6</sup> m)
DAB	Deutsches Arzneibuch (German Pharmacopoeia)	NBS	National Bureau of Standards
DAC	German Pharmaceutical Codex	NF	The National Formulary
DEV	German standard methods for the analysis of water, wastewater, and sludge (Deutsches Einheitsverfahren zur Wasser-, Abwasser- und Schlamm-Untersuchung)	NIST	National Institute of Standards and Technology
DIN	German standards institute (Deutsches Institut für Normung)	nm	nanometer (10 <sup>-9</sup> m)
DI	Deionized	NMR	Nuclear magnetic resonance spectroscopy
DSC	Differential scanning calorimetry	NT	New Technology
E Nr.	Number code for food additives	NTU	Nephelometric Turbidity Unit
EC	Enzyme Commission	ÖAB	Österreichisches Arzneibuch (Austrian Pharmacopoeia)
EDI	Electrodeionization	OQ	Operational Qualification
EP	European Pharmacopoeia	P	Precautionary Statement
FAM	German mineral oil and fuel standards commission (Fachausschuss für Mineralöl- und Brennstoffnormung)	PAX	Passenger Aircraft
FCC	Food Chemical Codex/USA	PE	Polyethylene
FIP	International pharmaceutical federation (Fédération Internationale Pharmaceutique)	pH	negative logarithm to base 10 of the hydrogen ion
g	gram	Ph Eur	European Pharmacopoeia
GC	Gas chromatography	Ph Franc	Pharmacopée Française
GHS	Globally Harmonised System	Ph Helv	Pharmacopoea Helvetica
GLP	Good Laboratory Practice	ppb	parts per billion (1:10 <sup>9</sup> )
GMO	Genetically modified organism	ppm	parts per million (1:10 <sup>6</sup> )
GMP	Good Manufacturing Practice	PP	Polypropylene
GR	Guaranteed Reagent	PTB	Physikalisch-Technische Bundesanstalt
H	Hazard Statement	PTFE	Polytetrafluoroethylene
HDPE	High-density polyethylene	PVDF	Polyvinylidenfluoride
HIC	Hydrophobic interaction chromatography	R	Risk phrases
hPa	hectopascal (1 hPa = 1 mbar)	Reach	Registration, Evaluation, Authorisation and Restriction of Chemicals
HPLC	High-performance liquid chromatography	RFID	Radio-frequency identification
HPTLC	High-performance thin layer chromatography	RO	Reverse Osmosis
HS	Harmonized system	RP	Reversed-phase chromatography
IATA	International Air Transport Association	S	Safety phrases
IC	Ion chromatography	SRM	Standard reference material
ICAO	International Civil Aviation Organization	SRW	CLSI® Special Reagent Water
ICP	Induction-coupled plasma	TISAB	Total ionic strength adjustment buffer
ICR	Industrial Clean Room	TLC	Thin-layer chromatography
IMDG	International Maritime Code for Dangerous Goods	TOC	Total organic carbon
IQ	Installation Qualification	TSB	Tryptic Soy Broth
IR	Infrared spectroscopy	U	enzyme-activity unit
ISO	International Organization for Standardization	UHPLC	Ultrahigh-performance liquid chromatography
IUPAC	International Union of Pure and Applied Chemistry	US-EPA	US Environmental Protection Agency
IVD	In vitro diagnostics	USP	The United States Pharmacopoeia
		UV	Ultraviolet spectroscopy
		UV/VIS	UV/visible spectroscopy
		V	Volt
		VHP	Very High Pressure
		VOC	Volatile Organic Compound
		WGK	German water-pollution risk classes (= Wassergefährdungsklasse)
		WHO	World Health Organisation

# Empirical formulae

## A

Ag	Silver.....	1422
AgBF <sub>4</sub>	Silver tetrafluoroborate.....	1425
AgCl	Silver chloride.....	1423
AgNO <sub>3</sub>	Silver nitrate.....	1423
Ag <sub>2</sub> O	Silver oxide.....	1424
Ag <sub>2</sub> O <sub>4</sub> S	Silver sulfate.....	1425
Al	Aluminium.....	370
AlBr <sub>3</sub>	Aluminium bromide.....	370
AlCl <sub>3</sub>	Aluminium chloride.....	371
AID <sub>4</sub> Li	Lithium aluminium deuteride.....	1081
AlH <sub>3</sub> O <sub>3</sub>	Aluminium hydroxide.....	371
AlH <sub>4</sub> NO <sub>3</sub> S <sub>2</sub> * 12 H <sub>2</sub> O	Aluminium ammonium sulfate dodecahydrate.....	370
AlKO <sub>3</sub> S <sub>2</sub> * 12 H <sub>2</sub> O	Aluminium potassium sulfate dodecahydrate.....	372
AlN <sub>3</sub> O <sub>9</sub> * 9 H <sub>2</sub> O	Aluminium nitrate nonahydrate.....	372
As	Arsenic.....	427
AuCl <sub>4</sub> H * 3 H <sub>2</sub> O	Tetrachloroauric(III) acid trihydrate 99.5%.....	1528
<b>B</b>		
B	Boron.....	483
BBr <sub>3</sub>	Boron tribromide.....	484
BF <sub>4</sub> Li	Lithium tetrafluoroborate.....	1086
BF <sub>4</sub> NO	Nitrosyl tetrafluoroborate.....	1232
BF <sub>4</sub> Na	Sodium tetrafluoroborate.....	1456
BH <sub>3</sub> O <sub>3</sub>	Boric acid.....	482
BH <sub>3</sub> O <sub>3</sub> *xPb	Lead borate.....	1076
BH <sub>4</sub> Li	Lithium tetrahydroborate.....	1086
BLiO <sub>2</sub>	Spectromelt® A 20.....	1463
BN	Boron nitride.....	484
BNaO <sub>3</sub> * 4 H <sub>2</sub> O	Sodium perborate tetrahydrate.....	1451
BNi <sub>2</sub>	Nickel boride.....	1207
B <sub>2</sub> O <sub>3</sub>	di-Boron trioxide.....	486
B <sub>4</sub> Li <sub>2</sub> O <sub>7</sub>	di-Lithium tetraborate.....	1086
	Spectromelt® A 10.....	1463
	Spectromelt® A 100.....	1464
B <sub>4</sub> Na <sub>2</sub> O <sub>7</sub>	di-Sodium tetraborate anhydrous. 1455	
	Spectromelt® B 10.....	1464
B <sub>4</sub> Na <sub>2</sub> O <sub>7</sub> *10H <sub>2</sub> O	di-Sodium tetraborate decahydrate.....	525, 1455
Ba	Barium.....	432
BaCl <sub>2</sub>	Barium chloride.....	433
BaCl <sub>2</sub> O <sub>8</sub>	Barium perchlorate.....	434
BaCl <sub>2</sub> * 2 H <sub>2</sub> O	Barium chloride dihydrate.....	433
BaF <sub>2</sub>	Barium fluoride.....	434

BaH <sub>2</sub> O <sub>2</sub> * 8 H <sub>2</sub> O	Barium hydroxide octahydrate.....	434
BaN <sub>2</sub> O <sub>6</sub>	Barium nitrate.....	434
BaO <sub>3</sub> Ti	Barium titanate (IV).....	435
BaO <sub>4</sub> S	Barium sulfate.....	435, 1497
Bi	Bismuth.....	476
BiCl <sub>3</sub>	Bismuth(III) chloride.....	476
Bi <sub>2</sub> O <sub>3</sub>	Bismuth(III) oxide.....	477
Bi <sub>5</sub> H <sub>9</sub> N <sub>4</sub> O <sub>22</sub>	Bismuth(III) nitrate.....	477
BrI	Iodine monobromide.....	1008
BrK	Potassium bromide.....	1346
BrKO <sub>3</sub>	Potassium bromate.....	1346
BrLi * x H <sub>2</sub> O	Lithium bromide hydrate.....	1082
BrNa	Sodium bromide.....	1430
BrNaO <sub>3</sub>	Sodium bromate.....	1430
Br <sub>2</sub>	Bromine.....	487
Br <sub>2</sub> Cu	Copper(II) bromide.....	655
Br <sub>2</sub> Hg	Mercury(II) bromide.....	1105
Br <sub>2</sub> Zn	Zinc bromide.....	1642
Br <sub>3</sub> OP	Phosphoryl bromide.....	1326
Br <sub>3</sub> P	Phosphorus tribromide.....	1325

## C

C	Charcoal activated.....	592
	Charcoal wood.....	593
	Graphite.....	933
CAgF <sub>3</sub> O <sub>3</sub> S	Silver trifluoromethanesulfonate.....	1426
CBaO <sub>3</sub>	Barium carbonate.....	433
CB <sub>2</sub> Cl <sub>3</sub>	Bromotrifluoromethane.....	519
CB <sub>2</sub> N	Cyanogen bromide.....	667
CB <sub>4</sub>	Carbon tetrabromide.....	573
CCaO <sub>3</sub>	Calcium carbonate.....	563
	Marble granular.....	1099
CClF <sub>2</sub> O <sub>2</sub> S	Trifluoromethanesulfonyl chloride 1594	
CCINO <sub>3</sub> S	Chlorosulfonyl isocyanate.....	637
CCl <sub>2</sub> D <sub>2</sub>	Dichloromethane-D2.....	727
CCl <sub>3</sub> D	Chloroform-D1.....	616
CCuN	Copper(I) cyanide.....	655
CD <sub>2</sub> O <sub>2</sub>	Formic acid-D2.....	914
CD <sub>3</sub> NO <sub>2</sub>	Nitromethane-D3.....	1226
CD <sub>4</sub> O	Methanol-D4.....	1115
CHBr <sub>3</sub>	Bromoform.....	503
CHCl <sub>3</sub>	Chloroform.....	615
CHD <sub>3</sub> O	Methanol-D3.....	1115
CHF <sub>3</sub> O <sub>3</sub> S	Trifluoromethanesulfonic acid.....	1593

CHKO <sub>3</sub>	Potassium hydrogen carbonate.....	1354
CHNaO <sub>2</sub>	Sodium formate.....	1437
CHNaO <sub>3</sub>	Sodium hydrogen carbonate.....	1438
CH <sub>2</sub> Br <sub>2</sub>	Dibromomethane.....	706
CH <sub>2</sub> ClI	Chloriodomethane.....	618
CH <sub>2</sub> Cl <sub>2</sub>	Dichloromethane.....	725
CH <sub>2</sub> Cl <sub>2</sub> O <sub>2</sub> S	Chloromethanesulfonyl chloride.....	619
CH <sub>2</sub> Cl <sub>3</sub> Si	Trichloro(chloromethyl)silane.....	1580
CH <sub>2</sub> Cu <sub>2</sub> O <sub>5</sub>	Copper(II) hydroxide carbonate.....	656
CH <sub>2</sub> I <sub>2</sub>	Diiodomethane.....	766
CH <sub>2</sub> O <sub>2</sub>	Formic acid.....	914
	Formic acid 98-100%.....	915
CH <sub>3</sub> BNNa	Sodium cyanoborohydride.....	1434
CH <sub>3</sub> ClO <sub>2</sub> S	Methanesulfonyl chloride.....	1112
CH <sub>3</sub> Cl <sub>3</sub> Si	Trichloromethylsilane.....	1582
CH <sub>3</sub> DO	Methanol-D1.....	1115
CH <sub>3</sub> I	Iodomethane.....	1013
CH <sub>3</sub> KO	Potassium methylate.....	1362
CH <sub>3</sub> NO	Formamide.....	913
CH <sub>3</sub> NO <sub>2</sub>	Nitromethane.....	1226
CH <sub>3</sub> NaO	Sodium methylate.....	1448
CH <sub>3</sub> NaO <sub>3</sub> S * xH <sub>2</sub> O (x ca. 2)	Sodium formaldehydesulfoxylate hydrate.....	1437
CH <sub>3</sub> O(C <sub>2</sub> H <sub>4</sub> O) <sub>n</sub> CH <sub>3</sub>	Polyethylene glycol dimethyl ether 2000.....	1341
	Polyethylene glycol dimethyl ether 250.....	1341
CH <sub>4</sub> N <sub>2</sub> O	Urea.....	1627
CH <sub>4</sub> N <sub>2</sub> O <sub>2</sub> S	Aminoiminomethanesulfinic acid.. 392	
CH <sub>4</sub> N <sub>2</sub> S	Ammonium thiocyanate.....	417
	Thiourea.....	1556
CH <sub>4</sub> O	Bio-Methanol (Gas-to-Liquid).....	461
	CombiMethanol.....	1062
	Methanol.....	1113
CH <sub>4</sub> O <sub>3</sub> S	Methanesulfonic acid.....	1112
CH <sub>5</sub> NO <sub>2</sub> S	Methanesulfonamide.....	1111
CH <sub>5</sub> NO <sub>3</sub> S	Aminomethanesulfonic acid.....	393
CH <sub>5</sub> N <sub>3</sub> S	Thiosemicarbazide.....	1556
CH <sub>5</sub> O <sub>3</sub> P	Methylphosphonic acid.....	1173
CH <sub>6</sub> CIN	Methylammonium chloride.....	1133
CH <sub>6</sub> CINO	O-Methylhydroxylammonium chloride.....	1157
CH <sub>6</sub> CIN <sub>3</sub>	Guanidinium chloride.....	933
CH <sub>6</sub> CIN <sub>3</sub> O	Semicarbazide hydrochloride.....	1417

CH <sub>6</sub> N <sub>2</sub> O <sub>2</sub>	Ammonium carbamate.....	411
CH <sub>6</sub> N <sub>2</sub> O <sub>3</sub>	Hydrogen peroxide urea.....	976
	Perhydrit® tablets 1 g.....	1279
CH <sub>6</sub> N <sub>4</sub> O <sub>3</sub>	Guanidinium nitrate.....	934
CH <sub>6</sub> O <sub>6</sub> P <sub>2</sub>	Methylenediphosphonic acid.....	1152
CKN	Potassium cyanide.....	1349
CKNO	Potassium cyanate.....	1349
CKNS	Potassium thiocyanate.....	1367
CK <sub>2</sub> O <sub>3</sub>	Potassium carbonate.....	1347
CK <sub>2</sub> O <sub>3</sub> * 1.5 H <sub>2</sub> O	Potassium carbonate-1.5-hydrate.....	1347
CLi <sub>2</sub> O <sub>3</sub>	Lithium carbonate.....	1083
CNNa	Sodium cyanide.....	1433
CNNaS	Sodium thiocyanate.....	1456
CNa <sub>2</sub> O <sub>3</sub>	Sodium carbonate.....	1431
CNa <sub>2</sub> O <sub>3</sub> * 10 H <sub>2</sub> O	Sodium carbonate decahydrate.....	1431
CO <sub>3</sub> Pb	Lead(II) carbonate.....	1076
CO <sub>3</sub> Rb <sub>2</sub>	Rubidium carbonate.....	1410
CS <sub>2</sub>	Carbon disulfide.....	572, 573
C <sub>2</sub> AgF <sub>3</sub> O <sub>2</sub>	Silver trifluoroacetate.....	1425
C <sub>2</sub> Br <sub>2</sub> Cl <sub>4</sub>	1,2-Dibromotetrachloroethane.....	708
C <sub>2</sub> ClF <sub>2</sub> NaO <sub>2</sub>	Sodium chlorodifluoroacetate.....	1433
C <sub>2</sub> Cl <sub>2</sub> O <sub>2</sub>	Oxalyl chloride.....	1256
C <sub>2</sub> Cl <sub>3</sub> F <sub>3</sub>	1,1,2-Trichlorotrifluoroethane.....	1583, 1584
C <sub>2</sub> Cl <sub>3</sub> N	Trichloroacetoneitrile.....	1579
C <sub>2</sub> Cl <sub>4</sub>	Tetrachloroethylene.....	1529
C <sub>2</sub> Cl <sub>4</sub> D <sub>2</sub>	1,1,2,2-Tetrachloroethane-D2.....	1529
C <sub>2</sub> Cl <sub>4</sub> O	Trichloroacetyl chloride.....	1579
C <sub>2</sub> Cl <sub>4</sub> O <sub>2</sub>	Trichloromethyl chloroformate.....	1582
C <sub>2</sub> DF <sub>3</sub> O <sub>2</sub>	Trifluoroacetic acid-D1.....	1591
C <sub>2</sub> D <sub>3</sub> N	Acetonitrile-D3.....	344
C <sub>2</sub> D <sub>4</sub> O <sub>2</sub>	Acetic acid-D4.....	336
C <sub>2</sub> D <sub>6</sub> O	Ethanol-D6.....	844
C <sub>2</sub> D <sub>6</sub> OS	Dimethyl sulfoxide-D6.....	806
C <sub>2</sub> D <sub>6</sub> O <sub>4</sub> S	Dimethyl sulfate-D6.....	804
C <sub>2</sub> F <sub>3</sub> NaO <sub>2</sub>	Sodium trifluoroacetate.....	1458
C <sub>2</sub> F <sub>6</sub> LiNO <sub>4</sub> S <sub>2</sub>	Lithium bis(trifluoromethanesulfonyl)imide.....	1082
C <sub>2</sub> F <sub>6</sub> O <sub>5</sub> S <sub>2</sub>	Trifluoromethanesulfonic anhydride.....	1594
C <sub>2</sub> HCl <sub>3</sub>	Trichloroethylene.....	1581
C <sub>2</sub> HCl <sub>3</sub> O	Dichloroacetyl chloride.....	714
C <sub>2</sub> HCl <sub>3</sub> O <sub>2</sub>	Trichloroacetic acid.....	1578



<b>C<sub>2</sub>HF<sub>3</sub>O<sub>2</sub></b> Trifluoroacetic acid..... 1591	<b>C<sub>2</sub>H<sub>4</sub>BrNaO<sub>3</sub>S</b> 2-Bromoethanesulfonic acid sodium salt ..... 501	<b>C<sub>2</sub>H<sub>6</sub>AsNaO<sub>2</sub> * 3 H<sub>2</sub>O</b> Cacodylic acid sodium salt trihydrate ..... 561	<b>C<sub>2</sub>H<sub>8</sub>N<sub>2</sub> * H<sub>2</sub>O</b> Ethylenediamine monohydrate ..... 863
<b>C<sub>2</sub>HF<sub>6</sub>NO<sub>4</sub>S<sub>2</sub></b> Bis(trifluoromethylsulfonyl)imide.. 478	<b>C<sub>2</sub>H<sub>4</sub>Br<sub>2</sub></b> 1,2-Dibromoethane ..... 706	<b>C<sub>2</sub>H<sub>6</sub>Cl<sub>2</sub>Si</b> Dichlorodimethylsilane ..... 722	<b>C<sub>2</sub>H<sub>10</sub>BN</b> Boron hydride dimethylamine ..... 484
<b>C<sub>2</sub>H<sub>2</sub>BrN</b> Bromoacetonitrile..... 489	<b>C<sub>2</sub>H<sub>4</sub>CINO</b> 2-Chloroacetamide..... 596	<b>C<sub>2</sub>H<sub>6</sub>Cl<sub>2</sub>Sn</b> Dimethyltin dichloride..... 808	<b>C<sub>2</sub>H<sub>10</sub>Cl<sub>2</sub>N<sub>2</sub></b> Ethylenediammonium dichloride ..... 864
<b>C<sub>2</sub>H<sub>2</sub>Br<sub>4</sub></b> 1,1,2,2-Tetrabromoethane..... 1524	<b>C<sub>2</sub>H<sub>4</sub>CINaO<sub>3</sub>S*H<sub>2</sub>O</b> 2-Chloroethanesulfonic acid sodium salt monohydrate..... 612	<b>C<sub>2</sub>H<sub>6</sub>Cl<sub>2</sub>O</b> Acetohydrate..... 340	<b>C<sub>2</sub>H<sub>10</sub>Cl<sub>2</sub>N<sub>2</sub></b> Ethylenediammonium diiodide..... 864
<b>C<sub>2</sub>H<sub>2</sub>CIN</b> Chloroacetonitrile..... 597	<b>C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub></b> 1,2-Dichloroethane..... 723	<b>C<sub>2</sub>H<sub>6</sub>Cl<sub>2</sub>O<sub>2</sub></b> N-Methylurea..... 1188	<b>C<sub>2</sub>H<sub>10</sub>Cl<sub>2</sub>N<sub>2</sub></b> Ethylenediammonium sulfate..... 1041
<b>C<sub>2</sub>H<sub>2</sub>CINS</b> Chloromethyl thiocyanate ..... 623	<b>C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub>S</b> 2-Chloroethanesulfonyl chloride ..... 612	<b>C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O</b> N-Methylthiourea..... 1185	<b>C<sub>2</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub>S</b> Ethylenediammonium sulfate..... 864
<b>C<sub>2</sub>H<sub>2</sub>ClNaO<sub>2</sub></b> Sodium chloroacetate ..... 1433	<b>C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub></b> 2-Iodoacetamide..... 1009	<b>C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub></b> Oxalyl dihydrazide..... 1256	<b>C<sub>2</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub>S*FeSO<sub>4</sub>*4H<sub>2</sub>O</b> Iron(II) ethylenediammonium sulfate..... 1041
<b>C<sub>2</sub>H<sub>2</sub>Cl<sub>2</sub></b> 1,1-Dichloroethylene..... 724	<b>C<sub>2</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub></b> N-Formylurea ..... 918	<b>C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub></b> Methyl carbazate..... 1144	<b>C<sub>2</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub>S</b> Ethylenediammonium sulfate..... 864
<b>C<sub>2</sub>H<sub>2</sub>Cl<sub>2</sub>O</b> Chloroacetyl chloride ..... 598	<b>C<sub>2</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub></b> Oxamide ..... 1257	<b>C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub></b> N-Methylthiourea..... 1185	<b>C<sub>2</sub>H<sub>12</sub>N<sub>6</sub>O<sub>4</sub>S</b> Guanidinium sulfate..... 934
<b>C<sub>2</sub>H<sub>2</sub>Cl<sub>2</sub>O<sub>2</sub></b> Dichloroacetic acid..... 714	<b>C<sub>2</sub>H<sub>4</sub>N<sub>2</sub>S<sub>2</sub></b> Rubeanic acid..... 1409	<b>C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub></b> Ethanol ..... 841, 843	<b>C<sub>2</sub>H<sub>14</sub>N<sub>6</sub>O<sub>4</sub>S</b> Bis(1-aminoguanidinium) sulfate.. 465
<b>C<sub>2</sub>H<sub>2</sub>Cl<sub>4</sub></b> 1,1,2,2-Tetrachloroethane ..... 1528	<b>C<sub>2</sub>H<sub>4</sub>N<sub>4</sub></b> 1-Cyanoguanidine ..... 667	<b>C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub></b> Ethanol 96%..... 844	<b>C<sub>2</sub>HgN<sub>2</sub>S<sub>2</sub></b> Mercury(II) thiocyanate ..... 1109
<b>C<sub>2</sub>H<sub>2</sub>F<sub>2</sub>O<sub>2</sub></b> Difluoroacetic acid..... 753	<b>C<sub>2</sub>H<sub>4</sub>N<sub>4</sub></b> 3-Amino-1H-1,2,4-triazole..... 407	<b>C<sub>2</sub>H<sub>6</sub>O</b> Ethanol ..... 841, 843	<b>C<sub>2</sub>I<sub>4</sub></b> Tetraiodoethylene ..... 1539
<b>C<sub>2</sub>H<sub>2</sub>F<sub>3</sub>I</b> 2-Iodo-1,1,1-trifluoroethane..... 1016	<b>C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>O<sub>2</sub></b> 4-Amino-1,2,4-triazole..... 407	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub></b> 2-Mercaptoethanol ..... 1103	<b>C<sub>2</sub>K<sub>2</sub>O<sub>4</sub> * H<sub>2</sub>O</b> di-Potassium oxalate monohydrate ..... 1363
<b>C<sub>2</sub>H<sub>2</sub>F<sub>3</sub>NO</b> 2,2,2-Trifluoroacetamide ..... 1591	<b>C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>O<sub>2</sub></b> Azodicarboxamide ..... 430	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub></b> Dimethyl sulfoxide..... 805	<b>C<sub>2</sub>Li<sub>2</sub>O<sub>4</sub></b> di-Lithium oxalate ..... 1085
<b>C<sub>2</sub>H<sub>2</sub>N<sub>2</sub>S<sub>3</sub></b> 2,5-Dimercapto- 1,3,4-thiadiazole..... 771	<b>C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>S</b> 3-Amino-5-mercapto- 1,2,4-triazole..... 393	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S</b> Dimethyl sulfite..... 805	<b>C<sub>2</sub>Na<sub>2</sub>O<sub>4</sub></b> di-Sodium oxalate ..... 1450
<b>C<sub>2</sub>H<sub>2</sub>N<sub>2</sub>Na</b> 1H-1,2,4-Triazole sodium salt ..... 1575	<b>C<sub>2</sub>H<sub>4</sub>O</b> Acetaldehyde..... 332	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S</b> Ethanesulfonic acid..... 841	<b>C<sub>2</sub>O<sub>4</sub>Sn</b> Tin(II) oxalate..... 1560
<b>C<sub>2</sub>H<sub>2</sub>N<sub>4</sub>O<sub>2</sub></b> 3-Nitro-1H-1,2,4-triazole ..... 1233	<b>C<sub>2</sub>H<sub>4</sub>OS</b> Thioacetic acid ..... 1551	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S</b> Methyl methanesulfonate ..... 1162	<b>C<sub>2</sub>Cl<sub>2</sub>N<sub>3</sub>NaO<sub>3</sub> * 2 H<sub>2</sub>O</b> Dichloroisocyanuric acid sodium salt dihydrate..... 725
<b>C<sub>2</sub>H<sub>2</sub>O<sub>4</sub></b> Oxalic acid ..... 1255	<b>C<sub>2</sub>H<sub>4</sub>O<sub>2</sub></b> Acetic acid (glacial) 100%..... 338	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S</b> Dimethyl sulfate..... 804	<b>C<sub>2</sub>Cl<sub>3</sub>NO<sub>2</sub></b> Trichloroacetyl isocyanate ..... 1579
<b>C<sub>2</sub>H<sub>2</sub>O<sub>3</sub> * H<sub>2</sub>O</b> Glyoxylic acid monohydrate..... 932	<b>C<sub>2</sub>H<sub>4</sub>O<sub>2</sub></b> Acetic acid 99-100%..... 337	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S<sub>2</sub></b> Methanesulfonic anhydride..... 1112	<b>C<sub>2</sub>Cl<sub>3</sub>N<sub>3</sub></b> Cyanuric chloride..... 668
<b>C<sub>2</sub>H<sub>2</sub>O<sub>4</sub> * 2 H<sub>2</sub>O</b> Oxalic acid dihydrate..... 1255	<b>C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>S</b> Thioglycolic acid..... 1553	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S</b> Dimethyl sulfide..... 805	<b>C<sub>2</sub>Cl<sub>3</sub>NaO<sub>3</sub></b> Trichloroisocyanuric acid ..... 1581
<b>C<sub>2</sub>H<sub>3</sub>AgO<sub>2</sub></b> Silver acetate..... 1422	<b>C<sub>2</sub>H<sub>4</sub>O<sub>3</sub></b> Glycolic acid ..... 931	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S</b> Ethanethiol ..... 841	<b>C<sub>2</sub>Cl<sub>6</sub></b> Hexachloropropene..... 947
<b>C<sub>2</sub>H<sub>3</sub>BrO</b> Acetyl bromide ..... 347	<b>C<sub>2</sub>H<sub>5</sub>Br</b> Bromoethane..... 501	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S<sub>2</sub></b> 1,2-Ethanedithiol..... 840	<b>C<sub>2</sub>Cl<sub>6</sub>O</b> Hexachloroacetone..... 947
<b>C<sub>2</sub>H<sub>3</sub>BrO<sub>2</sub></b> Bromoacetic acid..... 489	<b>C<sub>2</sub>H<sub>5</sub>BrO</b> 2-Bromoethanol..... 501	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S<sub>2</sub></b> Dimethyl disulfide..... 789	<b>C<sub>2</sub>Cl<sub>6</sub>O<sub>3</sub></b> Bis(trichloromethyl) carbonate..... 477
<b>C<sub>2</sub>H<sub>3</sub>ClO</b> Acetyl chloride ..... 348	<b>C<sub>2</sub>H<sub>5</sub>Cl</b> Chloroethane..... 611	<b>C<sub>2</sub>H<sub>7</sub>Br<sub>2</sub>N</b> 2-Bromoethylammonium bromide 502	<b>C<sub>2</sub>D<sub>2</sub>F<sub>6</sub>O</b> 1,1,1,3,3,3-Hexafluoro- 2-propanol-D2 ..... 951
<b>C<sub>2</sub>H<sub>3</sub>ClO<sub>2</sub></b> Chloroacetic acid..... 597	<b>C<sub>2</sub>H<sub>5</sub>ClO</b> 2-Chloroethanol..... 612	<b>C<sub>2</sub>H<sub>7</sub>Cl<sub>2</sub>N</b> 2-Chloroethylammonium chloride 612	<b>C<sub>2</sub>D<sub>6</sub>O</b> Acetone-D6..... 341
<b>C<sub>2</sub>H<sub>3</sub>ClO<sub>2</sub>S</b> Methyl chloroformate..... 1144	<b>C<sub>2</sub>H<sub>5</sub>ClO<sub>2</sub></b> 2-Chloroethanol..... 612	<b>C<sub>2</sub>H<sub>7</sub>Cl<sub>2</sub>N</b> Glycinamide hydrochloride..... 930	<b>C<sub>2</sub>D<sub>7</sub>NO</b> 2-Propanol-D7 ..... 790
<b>C<sub>2</sub>H<sub>3</sub>Cl<sub>2</sub>NO</b> 2,2-Dichloroacetamide..... 713	<b>C<sub>2</sub>H<sub>5</sub>ClO<sub>2</sub>S</b> Ethanesulfonyl chloride..... 841	<b>C<sub>2</sub>H<sub>7</sub>Cl<sub>2</sub>N</b> Chlorodimethylsilane..... 610	<b>C<sub>2</sub>D<sub>8</sub>O</b> 2-Propanol-D8 ..... 1373
<b>C<sub>2</sub>H<sub>3</sub>Cl<sub>3</sub>O</b> 2,2,2-Trichloroethanol..... 1580	<b>C<sub>2</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Dichloro(chloromethyl) methylsilane ..... 721	<b>C<sub>2</sub>H<sub>7</sub>Cl<sub>2</sub>N</b> 2-Chloroethylammonium chloride 612	<b>C<sub>2</sub>F<sub>6</sub>O * 1.5 H<sub>2</sub>O</b> Hexafluoroacetone sesquihydrate. 950
<b>C<sub>2</sub>H<sub>3</sub>DO<sub>2</sub></b> Acetic acid-D1..... 336	<b>C<sub>2</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichloroethylsilane ..... 1581	<b>C<sub>2</sub>H<sub>7</sub>Cl<sub>2</sub>N</b> Ethanolamine ..... 844	<b>C<sub>2</sub>HF<sub>5</sub>O<sub>2</sub></b> 2,2,3,3,3-Pentafluoropropionic acid..... 1269
<b>C<sub>2</sub>H<sub>3</sub>F<sub>3</sub>O</b> 2,2,2-Trifluoroethanol ..... 1593	<b>C<sub>2</sub>H<sub>5</sub>DO</b> Ethanol-D1 ..... 843	<b>C<sub>2</sub>H<sub>7</sub>NO<sub>2</sub></b> Ammonium acetate..... 409	<b>C<sub>2</sub>H<sub>2</sub>BrNS</b> 2-Bromothiazole..... 517
<b>C<sub>2</sub>H<sub>3</sub>F<sub>3</sub>O<sub>3</sub>S</b> Methyl trifluoromethanesulfonate 1187	<b>C<sub>2</sub>H<sub>5</sub>I</b> Iodoethane..... 1012	<b>C<sub>2</sub>H<sub>7</sub>NO<sub>2</sub>S</b> Taurine..... 1521	<b>C<sub>2</sub>H<sub>2</sub>Cl<sub>4</sub>O<sub>2</sub></b> 2,2,2-Trichloroethyl chloroformate 1580
<b>C<sub>2</sub>H<sub>3</sub>KOS</b> Potassium thioacetate ..... 1367	<b>C<sub>2</sub>H<sub>5</sub>IO</b> 2-Iodoethanol ..... 1012	<b>C<sub>2</sub>H<sub>8</sub>CIN</b> Dimethylammonium chloride..... 782	<b>C<sub>2</sub>H<sub>2</sub>F<sub>6</sub>O</b> 1,1,1,3,3,3-Hexafluoro- 2-propanol ..... 951
<b>C<sub>2</sub>H<sub>3</sub>N</b> Acetonitrile..... 342, 344	<b>C<sub>2</sub>H<sub>5</sub>KO</b> Potassium ethylate..... 1352	<b>C<sub>2</sub>H<sub>8</sub>CINO</b> 2-Hydroxyethylammonium chloride..... 983	<b>C<sub>2</sub>H<sub>2</sub>N<sub>2</sub></b> Malonitrile..... 1095
<b>C<sub>2</sub>H<sub>3</sub>NS</b> Methyl isothiocyanate ..... 1160	<b>C<sub>2</sub>H<sub>5</sub>NO</b> Acetaldoxime..... 333	<b>C<sub>2</sub>H<sub>8</sub>CINO</b> N,O-Dimethylhydroxylamine hydrochloride..... 794	<b>C<sub>2</sub>H<sub>3</sub>BrO<sub>2</sub></b> 2-Bromomalondialdehyd ..... 506
<b>C<sub>2</sub>H<sub>3</sub>N<sub>3</sub></b> 1,2,4-Triazole..... 1575	<b>C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub></b> Acetamide..... 333	<b>C<sub>2</sub>H<sub>8</sub>CINS</b> Cysteaminium chloride ..... 683	<b>C<sub>2</sub>H<sub>3</sub>ClO</b> Acryloyl chloride ..... 355
<b>C<sub>2</sub>H<sub>3</sub>N<sub>3</sub>S</b> 3-Mercapto-1,2,4-triazole ..... 1104	<b>C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub></b> Glycine..... 930	<b>C<sub>2</sub>H<sub>8</sub>CINO</b> N,N-Dimethylhydroxylamine hydrochloride..... 794	<b>C<sub>2</sub>H<sub>3</sub>ClO<sub>3</sub></b> Methyl chloroglyoxylate ..... 1145
<b>C<sub>2</sub>H<sub>3</sub>N<sub>3</sub>S<sub>2</sub></b> 2-Amino-5-mercapto- 1,3,4-thiadiazole..... 393	<b>C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub></b> Methyl carbamate ..... 1143	<b>C<sub>2</sub>H<sub>8</sub>NO<sub>4</sub>P</b> 2-Aminoethyl dihydrogen phosphate ..... 389	<b>C<sub>2</sub>H<sub>3</sub>Cl<sub>2</sub>NaO<sub>2</sub></b> 2,2-Dichloropropionic acid sodium salt..... 733
<b>C<sub>2</sub>H<sub>3</sub>NaO<sub>2</sub></b> Sodium acetate..... 1427	<b>C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub></b> Nitroethane ..... 1225	<b>C<sub>2</sub>H<sub>8</sub>NO<sub>4</sub>P</b> 2-Aminoethyl dihydrogen phosphate ..... 389	<b>C<sub>2</sub>H<sub>3</sub>Cl<sub>2</sub>NaO<sub>2</sub></b> 2,2-Dichloropropionic acid sodium salt..... 733
<b>C<sub>2</sub>H<sub>3</sub>NaO<sub>2</sub> * 3 H<sub>2</sub>O</b> Sodium acetate trihydrate ..... 1427	<b>C<sub>2</sub>H<sub>5</sub>NS</b> Thioacetamide..... 1551	<b>C<sub>2</sub>H<sub>8</sub>NO<sub>4</sub>P</b> 2-Aminoethyl dihydrogen phosphate ..... 389	<b>C<sub>2</sub>H<sub>3</sub>Cl<sub>3</sub>O<sub>2</sub></b> Methyl trichloroacetate ..... 1186
<b>C<sub>2</sub>H<sub>4</sub>BrCl</b> 1-Bromo-2-chloroethane..... 497	<b>C<sub>2</sub>H<sub>5</sub>NS<sub>2</sub></b> 3,5-Diamino-1,2,4-triazole..... 700	<b>C<sub>2</sub>H<sub>8</sub>NO<sub>4</sub>P</b> 2-Aminoethyl dihydrogen phosphate ..... 389	
<b>C<sub>2</sub>H<sub>4</sub>BrNO</b> 2-Bromoacetamide..... 488	<b>C<sub>2</sub>H<sub>5</sub>NaO</b> Sodium ethoxide..... 1436	<b>C<sub>2</sub>H<sub>8</sub>NO<sub>4</sub>P</b> 2-Aminoethyl dihydrogen phosphate ..... 389	
	<b>C<sub>2</sub>H<sub>5</sub>NaO<sub>2</sub></b> Sodium ethylate..... 1437	<b>C<sub>2</sub>H<sub>8</sub>NO<sub>4</sub>P</b> 2-Aminoethyl dihydrogen phosphate ..... 389	
	<b>C<sub>2</sub>H<sub>5</sub>NaO<sub>3</sub>S<sub>2</sub></b> Sodium 2-mercaptoethane- sulfonate ..... 1448	<b>C<sub>2</sub>H<sub>8</sub>NO<sub>4</sub>P</b> 2-Aminoethyl dihydrogen phosphate ..... 389	
	<b>C<sub>2</sub>H<sub>5</sub>NaO<sub>4</sub>S</b> 2-Hydroxyethanesulfonic acid sodium salt ..... 983	<b>C<sub>2</sub>H<sub>8</sub>NO<sub>4</sub>P</b> 2-Aminoethyl dihydrogen phosphate ..... 389	
	<b>C<sub>2</sub>H<sub>5</sub>O<sub>3</sub>P</b> Vinylphosphonic acid, 90% ..... 1632	<b>C<sub>2</sub>H<sub>8</sub>NO<sub>4</sub>P</b> 2-Aminoethyl dihydrogen phosphate ..... 389	

# Empirical formulae

C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> O 1,1,1-Trifluoroacetone ..... 1592	Methyl chloroacetate ..... 1144	C <sub>3</sub> H <sub>7</sub> Cl 1-Chloropropane ..... 641 2-Chloropropane ..... 632	C <sub>3</sub> H <sub>9</sub> BF <sub>4</sub> O Trimethylxonium tetrafluoroborate ..... 1607
C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> O <sub>2</sub> Methyl trifluoroacetate ..... 1186	C <sub>3</sub> H <sub>5</sub> Cl <sub>3</sub> 1,2,3-Trichloropropane ..... 1583	C <sub>3</sub> H <sub>7</sub> ClO 2-Methoxyethyl chloride ..... 1122 3-Chloro-1-propanol ..... 632	C <sub>3</sub> H <sub>9</sub> BO <sub>3</sub> Trimethyl borate ..... 1605
C <sub>3</sub> H <sub>3</sub> N Acrylonitrile ..... 355	C <sub>3</sub> H <sub>5</sub> F <sub>3</sub> O <sub>3</sub> S Ethyltrifluoromethane- sulfonate ..... 888	C <sub>3</sub> H <sub>7</sub> ClO <sub>2</sub> 3-Chloro-1,2-propanediol ..... 632	C <sub>3</sub> H <sub>9</sub> BrSi Bromotrimethylsilane ..... 520
C <sub>3</sub> H <sub>3</sub> NO Isoxazole ..... 1059	C <sub>3</sub> H <sub>5</sub> I 3-Iodo-1-propene ..... 1015	C <sub>3</sub> H <sub>7</sub> ClO <sub>2</sub> S 2-Propane sulfonyl chloride... 1370	C <sub>3</sub> H <sub>9</sub> Br <sub>2</sub> N 3-Bromopropylammonium bromide ..... 515
C <sub>3</sub> H <sub>3</sub> NOS <sub>2</sub> 2-Thioxo-4-thiazolidinone ..... 1557	C <sub>3</sub> H <sub>5</sub> KOS <sub>2</sub> Potassium-O-ethylthio- carbonate ..... 1352	C <sub>3</sub> H <sub>7</sub> Cl <sub>2</sub> N N-Chloromethylen-N,N-dimethyl ammonium chloride ..... 620	C <sub>3</sub> H <sub>9</sub> CIN <sub>2</sub> O <sub>2</sub> DL-2,3-Diaminopropionic acid monohydrochloride ..... 699
C <sub>3</sub> H <sub>3</sub> NO <sub>2</sub> Cyanoacetic acid ..... 666	C <sub>3</sub> H <sub>5</sub> LiO <sub>3</sub> L-(+)-Lithium lactate ..... 1085	C <sub>3</sub> H <sub>7</sub> DO 2-Propanol-D1 ..... 1373	C <sub>3</sub> H <sub>9</sub> CISi Chlorotrimethylsilane ..... 640
C <sub>3</sub> H <sub>3</sub> NO <sub>2</sub> S 2,4-Thiazolidinedione ..... 1550	C <sub>3</sub> H <sub>5</sub> N Propionitrile ..... 1375	C <sub>3</sub> H <sub>7</sub> I 1-Iodopropane ..... 1015 2-Iodopropane ..... 1015	C <sub>3</sub> H <sub>9</sub> CISn Trimethyltin chloride ..... 1611
C <sub>3</sub> H <sub>3</sub> NS Thiazole ..... 1550	C <sub>3</sub> H <sub>5</sub> NO 3-Hydroxypropionitrile ..... 996 Acrylamide ..... 353 Ethyl isocyanate ..... 874	C <sub>3</sub> H <sub>7</sub> N Allylamine ..... 366 Azetidine ..... 429 Cyclopropylamine ..... 681	C <sub>3</sub> H <sub>9</sub> Cl <sub>2</sub> N 3-Chloropropylamine hydrochloride ..... 634
C <sub>3</sub> H <sub>3</sub> N <sub>3</sub> O <sub>2</sub> 2-Nitroimidazole ..... 1226 4-Nitroimidazole ..... 1226 6-Azauracil ..... 429	C <sub>3</sub> H <sub>5</sub> NO <sub>2</sub> 2-Oxazolidinone ..... 1257	C <sub>3</sub> H <sub>7</sub> NO N,N-Dimethylformamide ..... 790 N-Methylacetamide ..... 1130 Propionamide ..... 1374	C <sub>3</sub> H <sub>9</sub> IOS Trimethylsulfoxoniumiodide.. 1610
C <sub>3</sub> H <sub>3</sub> N <sub>3</sub> O <sub>3</sub> Cyanuric acid ..... 668	C <sub>3</sub> H <sub>5</sub> NS Ethyl isothiocyanate ..... 875	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> IS Trimethylsulfonium iodide ..... 1610
C <sub>3</sub> H <sub>3</sub> N <sub>3</sub> S <sub>3</sub> 1,3,5-Triazine-2,4,6-(1H,3H,5H) -thrithione ..... 1575	C <sub>3</sub> H <sub>5</sub> NS <sub>2</sub> 2-Thiazoline-2-thiol ..... 1550	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> ISi Iodotrimethylsilane ..... 1016
C <sub>3</sub> H <sub>3</sub> NaO <sub>3</sub> Pyruvic acid sodium salt ..... 1397	C <sub>3</sub> H <sub>5</sub> N <sub>3</sub> O 2-Amino- 2-cyanoacetamide ..... 386	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> N Isopropylamine ..... 1054 Propylamine ..... 1376
C <sub>3</sub> H <sub>3</sub> BrN 3-Bromopropionitrile ..... 515	C <sub>3</sub> H <sub>5</sub> NaO <sub>2</sub> Propionic acid sodium salt ..... 1375	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO (S)-(+)-1-Amino-2-propanol ... 403 (S)-(+)-2-Amino-1-propanol ... 403 2-(Methylamino)ethanol ..... 1133 2-Methoxyethylamine ..... 1122 3-Amino-1-propanol ..... 403 Aminopropanol ..... 402 DL-2-Amino-1-propanol ..... 403
C <sub>3</sub> H <sub>4</sub> Br <sub>2</sub> 2,3-Dibromopropene ..... 707	C <sub>3</sub> H <sub>6</sub> BrCl 1-Bromo-3-chloropropane ..... 498	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> CIN 3-Chloropropionitrile ..... 634	C <sub>3</sub> H <sub>6</sub> Br <sub>2</sub> 1,2-Dibromopropane ..... 707 1,3-Dibromopropane ..... 707	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> Cl <sub>2</sub> 2,3-Dichloro-1-propene ..... 733	C <sub>3</sub> H <sub>6</sub> ClI 1-Chloro-3-iodopropane ..... 618	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> Cl <sub>2</sub> O 1,1-Dichloroacetone ..... 714 1,3-Dichloroacetone ..... 714 2-Chloropropionyl chloride ..... 634 3-Chloropropionyl chloride ..... 634	C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub> O 1,3-Dichloro-2-propanol ..... 733 2,3-Dichloro-1-propanol ..... 733	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> Cl <sub>2</sub> O <sub>2</sub> 1-Chloroethyl chloroformate ..... 612 Methyl dichloroacetate ..... 1149	C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub> Si Dichloromethylvinylsilane ..... 728	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> F <sub>3</sub> NO N-Methyl-2,2,2-trifluoro- acetamide ..... 1186	C <sub>3</sub> H <sub>6</sub> Cl <sub>4</sub> Si (3-Chloropropyl) trichlorosilane ..... 635	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> F <sub>4</sub> O 2,2,3,3-Tetrafluoro- 1-propanol ..... 1533	C <sub>3</sub> H <sub>6</sub> Cl <sub>4</sub> Si (3-Chloropropyl) trichlorosilane ..... 635	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> N <sub>2</sub> Imidazole ..... 1000 Pyrazole ..... 1384	C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub> Si Dichloromethylvinylsilane ..... 728	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> N <sub>2</sub> O Cyanoacetamide ..... 665	C <sub>3</sub> H <sub>6</sub> Cl <sub>4</sub> Si (3-Chloropropyl) trichlorosilane ..... 635	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> N <sub>2</sub> OS <sub>2</sub> N-Aminorhodanine ..... 406	C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub> Si Dichloromethylvinylsilane ..... 728	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> N <sub>2</sub> O <sub>2</sub> Hydantoin ..... 964	C <sub>3</sub> H <sub>6</sub> Cl <sub>4</sub> Si (3-Chloropropyl) trichlorosilane ..... 635	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> N <sub>2</sub> S 2-Aminothiazole ..... 406	C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub> Si Dichloromethylvinylsilane ..... 728	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> O 2-Propyn-1-ol ..... 1379	C <sub>3</sub> H <sub>6</sub> Cl <sub>4</sub> Si (3-Chloropropyl) trichlorosilane ..... 635	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> O <sub>2</sub> Acrylic acid ..... 355	C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub> Si Dichloromethylvinylsilane ..... 728	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>4</sub> O <sub>3</sub> Ethylene carbonate ..... 862 Pyruvic acid ..... 1397	C <sub>3</sub> H <sub>6</sub> Cl <sub>4</sub> Si (3-Chloropropyl) trichlorosilane ..... 635	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
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C <sub>3</sub> H <sub>5</sub> Br <sub>3</sub> 1,2,3-Tribromopropane ..... 1576	C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub> Si Dichloromethylvinylsilane ..... 728	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
C <sub>3</sub> H <sub>5</sub> Cl 3-Chloro-1-propene ..... 633	C <sub>3</sub> H <sub>6</sub> Cl <sub>4</sub> Si (3-Chloropropyl) trichlorosilane ..... 635	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> (S)-(+)-Alanine ..... 359 1-Nitropropane ..... 1231 L-(-)-Lactamide ..... 1073 L-Alanine ..... 359 Sarcosine ..... 1414 β-Alanine ..... 358	C <sub>3</sub> H <sub>9</sub> NO <sub>2</sub> 3-Amino-1,2-propanediol ..... 402
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<b>C<sub>4</sub>H<sub>2</sub>Cl<sub>2</sub>O<sub>2</sub></b> Fumaryl chloride ..... 918	<b>C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>6</sub> * 2H<sub>2</sub>O</b> di-Sodium tartrate dihydrate ..... 1455 Sodium tartrate dihydrate ..... 1064	<b>C<sub>4</sub>H<sub>6</sub>Cl<sub>2</sub>O</b> 4-Chlorobutyl chloride ..... 607	<b>C<sub>4</sub>H<sub>6</sub>O<sub>6</sub></b> (2R,3R)-(+)-Tartaric acid ..... 1520 (2S,3S)-(-)-Tartaric acid ..... 1520 DL-Tartaric acid ..... 1521 L(+)-Tartaric acid ..... 1521
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<b>C<sub>4</sub>H<sub>2</sub>Na<sub>2</sub>O<sub>4</sub></b> di-Sodium fumarate ..... 1438	<b>C<sub>4</sub>H<sub>4</sub>O<sub>3</sub></b> Maleic anhydride ..... 1093	<b>C<sub>4</sub>H<sub>6</sub>HgO<sub>4</sub></b> Mercury(II) acetate ..... 1105	<b>C<sub>4</sub>H<sub>7</sub>ClO</b> 3-Chloro-2-butanone ..... 607 Butyryl chloride ..... 560 Isobutyryl chloride ..... 1048
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<b>C<sub>4</sub>H<sub>3</sub>Cl<sub>2</sub>N<sub>3</sub></b> 2-Amino- 4,6-dichloropyrimidine ..... 387	<b>C<sub>4</sub>H<sub>5</sub>Cl<sub>3</sub>O<sub>2</sub></b> Ethyl trichloroacetate ..... 888	<b>C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>S</b> 2,5-Dimethyl- 1,3,4-thiadiazole ..... 807 2-Amino-4-methylthiazol ..... 398	<b>C<sub>4</sub>H<sub>7</sub>NO<sub>3</sub></b> Ethyl oxamate ..... 880 N-Acetylglycine ..... 350
<b>C<sub>4</sub>H<sub>3</sub>FN<sub>2</sub>O<sub>2</sub></b> 5-Fluorouracil ..... 909	<b>C<sub>4</sub>H<sub>5</sub>F<sub>3</sub>OS</b> S-Ethyl trifluorothioacetate ..... 889	<b>C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub></b> 2-Mercapto- 1-methylimidazole ..... 1103	<b>C<sub>4</sub>H<sub>7</sub>NO<sub>4</sub></b> (S)-(+)-Aspartic acid ..... 428 Ethyl nitroacetate ..... 879 Iminodiacetic acid ..... 1001 L-Aspartic acid ..... 428
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<b>C<sub>4</sub>H<sub>3</sub>NO<sub>2</sub>S</b> 2-Nitrothiophene ..... 1232	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>3</sub></b> N-Hydroxysuccinimide ..... 998	<b>C<sub>4</sub>H<sub>6</sub>O</b> 2,3-Dihydrofuran ..... 759 2,5-Dihydrofuran ..... 759 2-Butyne-1-ol ..... 558 3-Butyne-1-ol ..... 558 Crotonaldehyde ..... 661 Cyclobutanone ..... 668 Methyl vinyl ketone ..... 1188	<b>C<sub>4</sub>H<sub>8</sub>Br<sub>2</sub></b> 1,3-Dibromobutane ..... 705 1,4-Dibromobutane ..... 705
<b>C<sub>4</sub>H<sub>3</sub>N<sub>2</sub>NaO<sub>3</sub></b> Sodium barbiturate ..... 1428	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> * H<sub>2</sub>O</b> Iminodiacetic acid disodium salt hydrate ..... 1001	<b>C<sub>4</sub>H<sub>6</sub>O<sub>2</sub></b> 2-Butyne-1,4-diol ..... 558 Crotonic acid ..... 661 Cyclopropanecarboxylic acid ..... 681 Diacetyl ..... 693 Methacrylic acid ..... 1111 Methyl acrylate ..... 1131 Vinyl acetate ..... 1631 Vinylacetic acid ..... 1631	<b>C<sub>4</sub>H<sub>8</sub>Cl<sub>2</sub>O</b> 1,4-Dichlorobutane ..... 721
<b>C<sub>4</sub>H<sub>4</sub>BrNO<sub>2</sub></b> N-Bromosuccinimide ..... 517	<b>C<sub>4</sub>H<sub>5</sub>NS</b> Allyl isothiocyanate ..... 368	<b>C<sub>4</sub>H<sub>6</sub>O<sub>3</sub></b> 2-Oxobutyric acid ..... 1258 Acetic anhydride ..... 339 Propylene carbonate ..... 1377	<b>C<sub>4</sub>H<sub>8</sub>Cl<sub>2</sub>O</b> 1,4-Dichlorobutane ..... 721
<b>C<sub>4</sub>H<sub>4</sub>Br<sub>2</sub>O<sub>4</sub></b> 2,3-Dibromosuccinic acid ..... 708	<b>C<sub>4</sub>H<sub>5</sub>N<sub>3</sub></b> 2-Aminopyrazine ..... 404 2-Aminopyrimidine ..... 405	<b>C<sub>4</sub>H<sub>6</sub>O<sub>4</sub>Pb * 3H<sub>2</sub>O</b> Lead(II) acetate trihydrate ..... 1076	<b>C<sub>4</sub>H<sub>8</sub>Cl<sub>2</sub>O</b> 1,4-Dichlorobutane ..... 721
<b>C<sub>4</sub>H<sub>4</sub>ClNO<sub>2</sub></b> N-Chlorosuccinimide ..... 637	<b>C<sub>4</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub></b> 4(6)-Aminouracil ..... 407 N-Carbamoyl- 2-cyanoacetamide ..... 571	<b>C<sub>4</sub>H<sub>6</sub>O<sub>4</sub>Pd</b> Palladium(II) acetate (47% Pd) ..... 1260	<b>C<sub>4</sub>H<sub>8</sub>Cl<sub>2</sub>O</b> Bis(2-chloroethyl) ether ..... 466
<b>C<sub>4</sub>H<sub>4</sub>Cl<sub>2</sub></b> 1,4-Dichloro-2-butene ..... 721	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>3</sub></b> N-Hydroxysuccinimide ..... 998	<b>C<sub>4</sub>H<sub>6</sub>O<sub>5</sub></b> 2,2'-Thiodiacetic acid ..... 1552 Mercaptosuccinic acid ..... 1104	<b>C<sub>4</sub>H<sub>8</sub>N<sub>2</sub></b> 3-Methylaminopropionitrile... 1133
<b>C<sub>4</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub></b> Succinyl dichloride ..... 1506	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> * H<sub>2</sub>O</b> Iminodiacetic acid disodium salt hydrate ..... 1001	<b>C<sub>4</sub>H<sub>6</sub>O<sub>4</sub>Zn * 2H<sub>2</sub>O</b> Zinc acetate dihydrate ..... 1642	<b>C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub></b> Dimethylglyoxime ..... 793 N,N'-Diacetylhydrazine ..... 693 Succinamide ..... 1505
<b>C<sub>4</sub>H<sub>4</sub>INO<sub>2</sub></b> N-Iodosuccinimide ..... 1015	<b>C<sub>4</sub>H<sub>5</sub>NS</b> Allyl isothiocyanate ..... 368	<b>C<sub>4</sub>H<sub>6</sub>O<sub>5</sub></b> D-(+)-Malic acid ..... 1094 Diglycolic acid ..... 757 Dimethyl dicarbonate ..... 788 DL-Malic acid ..... 1094 L-(-)-Malic acid ..... 1094	<b>C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub></b> Glycylglycine ..... 931
<b>C<sub>4</sub>H<sub>4</sub>KNaO<sub>6</sub> * 4H<sub>2</sub>O</b> Potassium sodium tartrate tetrahydrate ..... 1365	<b>C<sub>4</sub>H<sub>5</sub>N<sub>3</sub></b> 2-Aminopyrazine ..... 404 2-Aminopyrimidine ..... 405	<b>C<sub>4</sub>H<sub>6</sub>O<sub>5</sub></b> D-(+)-Malic acid ..... 1094 Diglycolic acid ..... 757 Dimethyl dicarbonate ..... 788 DL-Malic acid ..... 1094 L-(-)-Malic acid ..... 1094	<b>C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub> * H<sub>2</sub>O</b> (S)-(+)-Asparagine monohydrate ..... 428 L-Asparagine monohydrate ..... 427
<b>C<sub>4</sub>H<sub>4</sub>N<sub>2</sub></b> Pyrazine ..... 1384 Pyridazine ..... 1385 Succinodinitrile ..... 1506	<b>C<sub>4</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub></b> 4(6)-Aminouracil ..... 407 N-Carbamoyl- 2-cyanoacetamide ..... 571	<b>C<sub>4</sub>H<sub>6</sub>O<sub>5</sub></b> D-(+)-Malic acid ..... 1094 Diglycolic acid ..... 757 Dimethyl dicarbonate ..... 788 DL-Malic acid ..... 1094 L-(-)-Malic acid ..... 1094	
<b>C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>OS</b> 2-Thiouracil ..... 1556	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>3</sub></b> N-Hydroxysuccinimide ..... 998		
<b>C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub></b> 3,6-Pyridazinediol ..... 1385 4,6-Dihydroxypyrimidine ..... 765	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> * H<sub>2</sub>O</b> Iminodiacetic acid disodium salt hydrate ..... 1001		
<b>C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>S</b> 2-Thiobarbituric acid ..... 1551	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> * H<sub>2</sub>O</b> Iminodiacetic acid disodium salt hydrate ..... 1001		
<b>C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>3</sub></b> Barbituric acid ..... 432	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> * H<sub>2</sub>O</b> Iminodiacetic acid disodium salt hydrate ..... 1001		
<b>C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>S</b> 2-Mercaptopyrimidine ..... 1104	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> * H<sub>2</sub>O</b> Iminodiacetic acid disodium salt hydrate ..... 1001		
<b>C<sub>4</sub>H<sub>4</sub>N<sub>4</sub></b> 5-Aminopyrazole- 4-carbonitrile ..... 404 Diaminomaleonitrile ..... 698	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> * H<sub>2</sub>O</b> Iminodiacetic acid disodium salt hydrate ..... 1001		
<b>C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>4</sub></b> di-Sodium succinate ..... 1453	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> * H<sub>2</sub>O</b> Iminodiacetic acid disodium salt hydrate ..... 1001		
<b>C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>5</sub></b> di-Sodium DL-malate ..... 1448	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> * H<sub>2</sub>O</b> Iminodiacetic acid disodium salt hydrate ..... 1001		
<b>C<sub>4</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>4</sub> * 6H<sub>2</sub>O</b> di-Sodium succinate hexahydrate ..... 1453	<b>C<sub>4</sub>H<sub>5</sub>NO<sub>4</sub>Na<sub>2</sub> * H<sub>2</sub>O</b> Iminodiacetic acid disodium salt hydrate ..... 1001		



# Empirical formulae

<b>C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>S</b> N-Allylthiourea ..... 369	4-Aminobutyric acid ..... 384 Butyl nitrite ..... 555 DL-2-Aminobutyric acid ..... 384 tert-Butyl nitrite ..... 555	<b>C<sub>4</sub>H<sub>11</sub>Cl<sub>2</sub>N</b> N-(2-Chloroethyl)-N,N-dimethyl- ammonium chloride ..... 613	<b>C<sub>4</sub>H<sub>15</sub>NSi<sub>2</sub></b> 1,1,3,3-Tetramethyl- disilazane ..... 1543
<b>C<sub>4</sub>H<sub>8</sub>O</b> 1,2-Epoxybutane ..... 838 2,2-Dimethyloxirane ..... 798 2-Methoxy-1-propene ..... 1128 3-Buten-1-ol ..... 539 Butyraldehyde ..... 559 Cyclopropylmethanol ..... 682 Ethyl methyl ketone ..... 878 Ethyl vinyl ether ..... 890 Isobutyraldehyde ..... 1047 Tetrahydrofuran ..... 1534	<b>C<sub>4</sub>H<sub>9</sub>NO<sub>3</sub></b> (2S,3R)-(-)-Threonine ..... 1557 L-(-)-Homoserine ..... 963 L-Threonine ..... 1558	<b>C<sub>4</sub>H<sub>11</sub>N</b> Butylamine ..... 541 Diethylamine ..... 740 Isobutylamine ..... 1045 N,N-Dimethylethylamine ..... 789 sec-Butylamine ..... 542 tert-Butylamine ..... 542	<b>C<sub>4</sub>N<sub>4</sub>O<sub>4</sub>Si</b> Silicon tetrakisocyanate ..... 1422
<b>C<sub>4</sub>H<sub>8</sub>O<sub>5</sub></b> 3-(Methylthio)- propionaldehyde ..... 1185	<b>C<sub>4</sub>H<sub>9</sub>NSi</b> Trimethylsilyl cyanide ..... 1609	<b>C<sub>4</sub>H<sub>11</sub>NO</b> (R)-(-)-2-Amino-1-butanol ..... 383 2-(Dimethylamino)-ethanol ..... 779 2-(Ethylamino)ethanol ..... 853 2-Amino-1-butanol ..... 383 2-Amino-2-methyl- 1-propanol ..... 396 3-Methoxypropylamine ..... 1128 4-Amino-1-butanol ..... 383 N,N-Diethylhydroxylamine ..... 749	<b>C<sub>5</sub>Cl<sub>5</sub>N</b> Pentachloropyridine ..... 1265
<b>C<sub>4</sub>H<sub>8</sub>O<sub>2</sub></b> 1,4-Dioxane ..... 813 2-Methyl-1,3-dioxolane ..... 1150 Butyric acid ..... 559 cis-2-Butene-1,4-diol ..... 539 Ethyl acetate ..... 850, 851 Isobutyric acid ..... 1047 Methyl propionate ..... 1176 Propyl formate ..... 1378	<b>C<sub>4</sub>H<sub>9</sub>NaO</b> Sodium tert-butylate ..... 1430	<b>C<sub>4</sub>H<sub>10</sub>NO<sub>2</sub></b> 2-(2-Aminoethoxy)ethanol ..... 389 2-Amino-2-methyl- 1,3-propanediol ..... 396 3-Methylamino- 1,2-propanediol ..... 1133 Aminoacetaldehyde dimethyl acetal ..... 378 Diethanolamine ..... 738	<b>C<sub>5</sub>D<sub>5</sub>N</b> Pyridine-D <sub>5</sub> ..... 1386
<b>C<sub>4</sub>H<sub>8</sub>O<sub>3</sub></b> 3-(Methylthio)- propionaldehyde ..... 1185	<b>C<sub>4</sub>H<sub>9</sub>NaO<sub>2</sub> * H<sub>2</sub>O</b> Creatine monohydrate ..... 659	<b>C<sub>4</sub>H<sub>11</sub>NO<sub>3</sub></b> Tris(hydroxymethyl) aminomethane ..... 1618	<b>C<sub>5</sub>FeN<sub>6</sub>Na<sub>2</sub>O * 2 H<sub>2</sub>O</b> Sodium nitroprusside dihydrate ..... 1450
<b>C<sub>4</sub>H<sub>8</sub>O<sub>4</sub></b> 1,4-Dioxane ..... 813 2-Methyl-1,3-dioxolane ..... 1150 Butyric acid ..... 559 cis-2-Butene-1,4-diol ..... 539 Ethyl acetate ..... 850, 851 Isobutyric acid ..... 1047 Methyl propionate ..... 1176 Propyl formate ..... 1378	<b>C<sub>4</sub>H<sub>9</sub>NaO<sub>3</sub>S</b> 2,4,5-Triamino-6- hydroxypyrimidine sulfate ..... 1574	<b>C<sub>4</sub>H<sub>10</sub>NO<sub>2</sub></b> 2-(2-Aminoethoxy)ethanol ..... 389 2-Amino-2-methyl- 1,3-propanediol ..... 396 3-Methylamino- 1,2-propanediol ..... 1133 Aminoacetaldehyde dimethyl acetal ..... 378 Diethanolamine ..... 738	<b>C<sub>5</sub>H<sub>2</sub>ClN<sub>3</sub>O<sub>4</sub></b> 2-Chloro-3,5-dinitropyridine ..... 611
<b>C<sub>4</sub>H<sub>8</sub>O<sub>5</sub></b> Ethyl thioglycolate ..... 886 Sulfolane ..... 1509	<b>C<sub>4</sub>H<sub>9</sub>NaO</b> Sodium tert-butylate ..... 1430	<b>C<sub>4</sub>H<sub>11</sub>NO<sub>3</sub></b> Tris(hydroxymethyl) aminomethane ..... 1618	<b>C<sub>5</sub>H<sub>2</sub>FeO<sub>2</sub></b> 1,1,1,5,5,5-Hexafluoroacetyl- acetone ..... 950
<b>C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>S<sub>2</sub></b> 2,5-Dihydroxy-1,4-dithiane ..... 764	<b>C<sub>4</sub>H<sub>9</sub>NaO<sub>3</sub>S</b> Butane-1-sulfonic acid sodium salt ..... 536	<b>C<sub>4</sub>H<sub>10</sub>NO<sub>2</sub></b> 2-(2-Aminoethoxy)ethanol ..... 389 2-Amino-2-methyl- 1,3-propanediol ..... 396 3-Methylamino- 1,2-propanediol ..... 1133 Aminoacetaldehyde dimethyl acetal ..... 378 Diethanolamine ..... 738	<b>C<sub>5</sub>H<sub>2</sub>N<sub>4</sub></b> 4,5-Dicyanoimidazole ..... 735
<b>C<sub>4</sub>H<sub>8</sub>O<sub>3</sub></b> (S)-(-)-Methyl lactate ..... 1160 2-Hydroxyisobutyric acid ..... 985 3-Hydroxybutyric acid ..... 981 Methyl methoxyacetate ..... 1162	<b>C<sub>4</sub>H<sub>9</sub>O<sub>3</sub>P</b> Dimethyl vinylphosphonate ..... 809	<b>C<sub>4</sub>H<sub>11</sub>NO<sub>2</sub></b> 2-(2-Aminoethoxy)ethanol ..... 389 2-Amino-2-methyl- 1,3-propanediol ..... 396 3-Methylamino- 1,2-propanediol ..... 1133 Aminoacetaldehyde dimethyl acetal ..... 378 Diethanolamine ..... 738	<b>C<sub>5</sub>H<sub>3</sub>Br<sub>2</sub>N</b> 2,5-Dibromopyridine ..... 707 2,6-Dibromopyridine ..... 708 3,5-Dibromopyridine ..... 708
<b>C<sub>4</sub>H<sub>8</sub>O<sub>4</sub></b> 1,4-Butanesultone ..... 536	<b>C<sub>4</sub>H<sub>10</sub>BF<sub>3</sub>O</b> Boron trifluoride-diethyl ether complex ..... 485	<b>C<sub>4</sub>H<sub>12</sub>BF<sub>4</sub>N</b> Tetramethylammonium tetrafluoroborate ..... 1541	<b>C<sub>5</sub>H<sub>3</sub>CIN<sub>2</sub>O<sub>2</sub></b> 2-Chloro-3-nitropyridine ..... 627
<b>C<sub>4</sub>H<sub>8</sub>O<sub>6</sub>Pb<sub>2</sub></b> Lead(II) hydroxide acetate ..... 1077	<b>C<sub>4</sub>H<sub>10</sub>CINO</b> Morpholinium chloride ..... 1194	<b>C<sub>4</sub>H<sub>11</sub>NO<sub>3</sub></b> Tris(hydroxymethyl) aminomethane ..... 1618	<b>C<sub>5</sub>H<sub>3</sub>CIO<sub>2</sub></b> 2-Furoyl chloride ..... 921
<b>C<sub>4</sub>H<sub>8</sub>O<sub>4</sub> * BF<sub>3</sub></b> Boron trifluoride-acetic acid-complex ..... 484	<b>C<sub>4</sub>H<sub>10</sub>Cl<sub>2</sub>Si</b> Dichlorodiethylsilane ..... 722	<b>C<sub>4</sub>H<sub>11</sub>O<sub>2</sub>PS<sub>2</sub></b> O,O-Diethyl dithiophosphate ..... 744	<b>C<sub>5</sub>H<sub>3</sub>Cl<sub>2</sub>N</b> 2,3-Dichloropyridine ..... 734 2,6-Dichloropyridine ..... 734
<b>C<sub>4</sub>H<sub>8</sub>S</b> Tetrahydrothiophene ..... 1538	<b>C<sub>4</sub>H<sub>10</sub>Cl<sub>3</sub>N</b> Bis(2-chloroethyl)ammonium chloride ..... 466	<b>C<sub>4</sub>H<sub>12</sub>BF<sub>4</sub>N</b> Tetramethylammonium tetrafluoroborate ..... 1541	<b>C<sub>5</sub>H<sub>3</sub>F<sub>2</sub>N</b> 2,6-Difluoropyridine ..... 756
<b>C<sub>4</sub>H<sub>8</sub>Br</b> 1-Bromo-2-methylpropane ..... 509 1-Bromobutane ..... 495 2-Bromo-2-methylpropane ..... 509 2-Bromobutane ..... 495	<b>C<sub>4</sub>H<sub>10</sub>F<sub>3</sub>NS</b> Diethylaminosulfur trifluoride ..... 741	<b>C<sub>4</sub>H<sub>12</sub>BrN</b> Diethylammonium bromide ..... 741 Tetramethylammonium bromide ..... 1540	<b>C<sub>5</sub>H<sub>3</sub>N<sub>3</sub></b> 2-Pyrazinecarbonitril ..... 1384
<b>C<sub>4</sub>H<sub>8</sub>O<sub>4</sub> * BF<sub>3</sub></b> Boron trifluoride-acetic acid-complex ..... 484	<b>C<sub>4</sub>H<sub>10</sub>MgO<sub>2</sub></b> Magnesium ethylate ..... 1089	<b>C<sub>4</sub>H<sub>11</sub>NO<sub>2</sub></b> Diethylammonium chloride ..... 741 Tetramethylammonium chloride ..... 1540	<b>C<sub>5</sub>H<sub>4</sub>BrN</b> 2-Bromopyridine ..... 516 3-Bromopyridine ..... 516
<b>C<sub>4</sub>H<sub>8</sub>S</b> Tetrahydrothiophene ..... 1538	<b>C<sub>4</sub>H<sub>10</sub>N<sub>2</sub></b> (3S)-(-)-Aminopyrrolidine ..... 405 Piperazine anhydrous ..... 1331	<b>C<sub>4</sub>H<sub>12</sub>CIN</b> Diethylammonium chloride ..... 741 Tetramethylammonium chloride ..... 1540	<b>C<sub>5</sub>H<sub>4</sub>CIN</b> 2-Chloropyridine ..... 635 3-Chloropyridine ..... 636
<b>C<sub>4</sub>H<sub>8</sub>Br</b> 1-Bromo-2-methylpropane ..... 509 1-Bromobutane ..... 495 2-Bromo-2-methylpropane ..... 509 2-Bromobutane ..... 495	<b>C<sub>4</sub>H<sub>10</sub>N<sub>2</sub>O</b> 4-Aminomorpholine ..... 398	<b>C<sub>4</sub>H<sub>12</sub>CINO</b> 2-Amino-2-methyl-1-propanol hydrochloride ..... 396	<b>C<sub>5</sub>H<sub>4</sub>FN</b> 2-Fluoropyridine ..... 907 3-Fluoropyridine ..... 908
<b>C<sub>4</sub>H<sub>8</sub>O<sub>6</sub>Pb<sub>2</sub></b> Lead(II) hydroxide acetate ..... 1077	<b>C<sub>4</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub>S</b> N-(2-Acetamido)-2-aminoethane- sulfonic acid ..... 334	<b>C<sub>4</sub>H<sub>12</sub>BrN</b> Diethylammonium bromide ..... 741 Tetramethylammonium bromide ..... 1540	<b>C<sub>5</sub>H<sub>4</sub>F<sub>8</sub>O</b> 2,2,3,3,4,4,5,5-Octafluoro- 1-pentanol ..... 1241
<b>C<sub>4</sub>H<sub>8</sub>O<sub>4</sub> * BF<sub>3</sub></b> Boron trifluoride-acetic acid-complex ..... 484	<b>C<sub>4</sub>H<sub>10</sub>N<sub>4</sub>O<sub>4</sub>S</b> Aminoacetonitrile sulfate ..... 378	<b>C<sub>4</sub>H<sub>12</sub>N<sub>2</sub></b> 1,4-Diaminobutane ..... 695 3-Methylamino propylamine ..... 1133 N,N'-Dimethylethylene- diamine ..... 790 N,N-Dimethylethylene- diamine ..... 789	<b>C<sub>5</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub></b> 2-Pyrazinecarboxylic acid ..... 1384
<b>C<sub>4</sub>H<sub>8</sub>Br</b> 1-Bromo-2-methylpropane ..... 509 1-Bromobutane ..... 495 2-Bromo-2-methylpropane ..... 509 2-Bromobutane ..... 495	<b>C<sub>4</sub>H<sub>10</sub>O</b> 1-Butanol ..... 537 2-Butanol ..... 538 Diethyl ether ..... 746, 747 Isobutanol ..... 1044 tert-Butanol ..... 538	<b>C<sub>4</sub>H<sub>12</sub>N<sub>2</sub>O</b> 2-(2-Aminoethylamino) ethanol ..... 389	<b>C<sub>5</sub>H<sub>4</sub>N<sub>2</sub>O<sub>3</sub></b> 4-Nitropyridine-1-oxide ..... 1231
<b>C<sub>4</sub>H<sub>8</sub>BrO</b> (2-Bromoethyl) ethyl ether ..... 502 1-Bromo-3-methoxypropane ..... 507	<b>C<sub>4</sub>H<sub>10</sub>OS</b> 2-(Ethylmercapto)-ethanol ..... 876	<b>C<sub>4</sub>H<sub>12</sub>O<sub>2</sub>Si</b> Dimethoxydimethylsilane ..... 773	<b>C<sub>5</sub>H<sub>4</sub>N<sub>2</sub>O<sub>4</sub> * H<sub>2</sub>O</b> Pyrazole-3,5-dicarboxylic acid monohydrate ..... 1385
<b>C<sub>4</sub>H<sub>8</sub>BrO<sub>2</sub></b> Bromoacetaldehyde dimethyl acetal ..... 488	<b>C<sub>4</sub>H<sub>10</sub>OS<sub>2</sub></b> 2,2'-Oxydiethanethiol ..... 1259	<b>C<sub>4</sub>H<sub>12</sub>O<sub>2</sub>Si</b> Dimethoxydimethylsilane ..... 773	<b>C<sub>5</sub>H<sub>4</sub>NS * H<sub>2</sub>O</b> 6-Mercaptopurine monohydrate ..... 1104
<b>C<sub>4</sub>H<sub>8</sub>Cl</b> 1-Chloro-2-methylpropane ..... 622 1-Chlorobutane ..... 606 2-Chloro-2-methylpropane ..... 622 2-Chlorobutane ..... 606	<b>C<sub>4</sub>H<sub>10</sub>O<sub>2</sub></b> (R,R)-(-)-2,3-Butanediol ..... 535 (S,S)-(+)-2,3-Butanediol ..... 535 1,3-Butandiol ..... 534 1,3-Butanediol ..... 535 1,4-Butanediol ..... 535 1-Methoxy-2-propanol ..... 1127 2,3-Butanediol ..... 535 2-Ethoxyethanol (stabilised) ..... 848 3-Methoxy-1-propanol ..... 1127 Acetaldehyde dimethyl acetal ..... 333 Ethylene glycol dimethyl ether ..... 867	<b>C<sub>4</sub>H<sub>12</sub>O<sub>2</sub>Si</b> Trimethoxymethylsilane ..... 1601	<b>C<sub>5</sub>H<sub>4</sub>OS</b> Thiophene-2-carbaldehyde ..... 1554
<b>C<sub>4</sub>H<sub>8</sub>ClO</b> 1-Chloro-3-methoxypropane ..... 619 4-Chloro-1-butanol ..... 607	<b>C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>S<sub>2</sub></b> 1,4-Dithioerythritol ..... 826 1,4-Dithiothreitol ..... 827	<b>C<sub>4</sub>H<sub>12</sub>O<sub>2</sub>Si</b> Tetramethyl orthosilicate ..... 1544	<b>C<sub>5</sub>H<sub>4</sub>O<sub>2</sub>S</b> Thiophene-3-carboxylic acid ..... 1554
<b>C<sub>4</sub>H<sub>8</sub>ClO<sub>2</sub></b> 3-Chloro-1-methoxy- 2-propanol ..... 619 Chloroacetaldehyde dimethyl acetal ..... 596	<b>C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>Sn</b> Butyltinhydroxide-oxide ..... 557	<b>C<sub>4</sub>H<sub>12</sub>O<sub>4</sub>Si</b> Tetramethyl orthosilicate ..... 1544	<b>C<sub>5</sub>H<sub>4</sub>O<sub>3</sub></b> 2-Furancarboxylic acid ..... 919 3-Furancarboxylic acid ..... 919 Citraconic anhydride ..... 647 Methylenesuccinic anhydride ..... 1153
<b>C<sub>4</sub>H<sub>8</sub>DO</b> tert-Butanol-D <sub>1</sub> ..... 539	<b>C<sub>4</sub>H<sub>10</sub>O<sub>3</sub></b> Trimethyl orthoformate ..... 1607	<b>C<sub>4</sub>H<sub>12</sub>OSi</b> Tetramethylsilane ..... 1546	<b>C<sub>5</sub>H<sub>4</sub>BO<sub>4</sub></b> 5-Formylfuran-2-boronic acid ..... 916
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<b>C<sub>4</sub>H<sub>8</sub>I</b> 1-Iodo-2-methylpropane ..... 1014 1-Iodobutane ..... 1011 2-Iodobutane ..... 1011	<b>C<sub>4</sub>H<sub>10</sub>O<sub>4</sub>S<sub>2</sub></b> Diethyl disulfide ..... 744	<b>C<sub>4</sub>H<sub>13</sub>NO<sub>4</sub>S</b> Tetramethylammonium hydrogen sulfate ..... 1540	<b>C<sub>5</sub>H<sub>5</sub>BrN<sub>2</sub></b> 2-Amino-5-bromopyridine ..... 383
<b>C<sub>4</sub>H<sub>8</sub>KO</b> Potassium tert-butylate ..... 1347	<b>C<sub>4</sub>H<sub>10</sub>O<sub>5</sub></b> Diethyl sulfite ..... 752	<b>C<sub>4</sub>H<sub>13</sub>N<sub>3</sub></b> Diethylenetriamine ..... 746	<b>C<sub>5</sub>H<sub>5</sub>CIN<sub>2</sub></b> 2-Amino-5-chloropyridine ..... 386
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<b>C<sub>4</sub>H<sub>8</sub>N</b> Cyclopropanemethylamine ..... 681 Pyrrolidine ..... 1395	<b>C<sub>4</sub>H<sub>10</sub>O<sub>7</sub></b> Diethyl disulfide ..... 744	<b>C<sub>4</sub>H<sub>14</sub>Cl<sub>2</sub>N<sub>2</sub>S<sub>2</sub></b> Cystaminium dichloride ..... 682	<b>C<sub>5</sub>H<sub>5</sub>Cl<sub>2</sub>N</b> 4-Chloropyridinium chloride ..... 636
<b>C<sub>4</sub>H<sub>8</sub>NO</b> 2-Butanoneoxime ..... 539 Butyramide ..... 559 Morpholine ..... 1194 N,N-Dimethylacetamide ..... 776	<b>C<sub>4</sub>H<sub>11</sub>ClO<sub>2</sub>Sn</b> Butyltinchloride-dihydroxide ..... 557	<b>C<sub>4</sub>H<sub>14</sub>Cl<sub>2</sub>N<sub>2</sub></b> 1,4-Diaminobutane dihydrochloride ..... 695	<b>C<sub>5</sub>H<sub>5</sub>Cl<sub>2</sub>N</b> 4-Chloropyridinium chloride ..... 636
<b>C<sub>4</sub>H<sub>8</sub>NO<sub>2</sub></b> 2-Methylalanine ..... 1131	<b>C<sub>4</sub>H<sub>11</sub>ClSi</b> (Chloromethyl)trimethylsilane ..... 623	<b>C<sub>4</sub>H<sub>14</sub>OSi<sub>2</sub></b> 1,1,3,3-Tetramethyl- disiloxane ..... 1543	

<b>C<sub>5</sub>H<sub>5</sub>F<sub>3</sub>O<sub>2</sub></b> 1,1,1-Trifluoro- 2,4-pentanedione ..... 1597	<b>C<sub>5</sub>H<sub>5</sub>N</b> Pyridine ..... 1386	<b>C<sub>5</sub>H<sub>5</sub>NO</b> 1,4-Dihydro-4-pyridinone ..... 761 2-Hydroxypyridine ..... 996 2-Pyrrolicarbaldehyde ..... 1395 3-Pyridinol ..... 1391 Pyridine N-oxide ..... 1390	<b>C<sub>5</sub>H<sub>5</sub>NOS</b> 2-Acetylthiazole ..... 351	<b>C<sub>5</sub>H<sub>5</sub>NO<sub>2</sub></b> 2,3-Pyridinediol ..... 1390	<b>C<sub>5</sub>H<sub>5</sub>NO<sub>3</sub>S</b> Pyridine-3-sulfonic acid ..... 1390 Sulfur trioxide pyridine complex ..... 1518	<b>C<sub>5</sub>H<sub>5</sub>NO<sub>3</sub>S<sub>2</sub></b> Rhodanine-N-acetic acid ..... 1408	<b>C<sub>5</sub>H<sub>5</sub>N<sub>3</sub>O</b> 2-Pyrazinecarboxamide ..... 1384	<b>C<sub>5</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub></b> 2-Amino-3-nitropyridine ..... 399 2-Amino-5-nitropyridine ..... 399	<b>C<sub>5</sub>H<sub>6</sub>Br<sub>2</sub>N<sub>2</sub>O<sub>2</sub></b> 1,3-Dibromo- 5,5-dimethylhydantoin ..... 705	<b>C<sub>5</sub>H<sub>6</sub>Br<sub>3</sub>N</b> Pyridinium bromide- perbromide ..... 1390	<b>C<sub>5</sub>H<sub>6</sub>ClCrNO<sub>3</sub></b> Pyridinium chlorochromate... 1391	<b>C<sub>5</sub>H<sub>6</sub>ClN</b> Pyridinium chloride ..... 1391	<b>C<sub>5</sub>H<sub>6</sub>ClN<sub>3</sub></b> 2-Amino-4-chloro- 6-methylpyrimidine ..... 385	<b>C<sub>5</sub>H<sub>6</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>2</sub></b> 1,3-Dichloro-5,5- dimethylhydantoin ..... 722	<b>C<sub>5</sub>H<sub>6</sub>N<sub>2</sub></b> 2-Aminopyridine ..... 404 2-Methylpyrazine ..... 1176 3-Aminopyridine ..... 404 4-Aminopyridine ..... 405 4-Methylpyrimidine ..... 1179 Glutaronitrile ..... 928	<b>C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>O</b> 2-Amino-3-hydroxypyridine... 392 2-Methoxypyrazine ..... 1128	<b>C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub></b> 2-Furancarboxylic acid hydrazide ..... 919 4,6-Dihydroxy- 2-methylpyrimidine ..... 764	<b>C<sub>5</sub>H<sub>6</sub>O</b> 2-Methylfuran ..... 1154	<b>C<sub>5</sub>H<sub>6</sub>OS</b> 2-Furanmethanethiol ..... 919	<b>C<sub>5</sub>H<sub>6</sub>O<sub>2</sub></b> 1,3-Cyclopentanedione ..... 679 Ethyl acetylenecarboxylate ..... 851 Furfuryl alcohol ..... 920	<b>C<sub>5</sub>H<sub>6</sub>O<sub>3</sub></b> Glutaric anhydride ..... 928	<b>C<sub>5</sub>H<sub>6</sub>O<sub>4</sub></b> Methylenesuccinic acid ..... 1152	<b>C<sub>5</sub>H<sub>6</sub>O<sub>5</sub></b> 2-Oxoglutaric acid ..... 1258 3-Oxoglutaric acid ..... 1259	<b>C<sub>5</sub>H<sub>6</sub>S</b> 2-Methylthiophene ..... 1184 3-Methylthiophene ..... 1184	<b>C<sub>5</sub>H<sub>7</sub>BrO<sub>3</sub></b> Ethyl bromopyruvate ..... 856	<b>C<sub>5</sub>H<sub>7</sub>ClO<sub>2</sub></b> 3-Chloroacetylacetone ..... 598	<b>C<sub>5</sub>H<sub>7</sub>KO<sub>4</sub></b> Monoethyl malonate potassium salt ..... 1193	<b>C<sub>5</sub>H<sub>7</sub>N</b> 1-Methylpyrrole ..... 1179 cis-2-Pentenitrile ..... 1274	<b>C<sub>5</sub>H<sub>7</sub>NO</b> 3,5-Dimethylisoxazole ..... 795 Furfurylamine ..... 920	<b>C<sub>5</sub>H<sub>7</sub>NO<sub>2</sub></b> Ethyl cyanoacetate ..... 859	<b>C<sub>5</sub>H<sub>7</sub>NO<sub>3</sub></b> (S)-(-)-2-Pyrrolidone- 5-carboxylic acid ..... 1396 DL-2-Pyrrolidone- 5-carboxylic acid ..... 1396	<b>C<sub>5</sub>H<sub>7</sub>N<sub>3</sub></b> 2,3-Diaminopyridine ..... 700 2,6-Diaminopyridine ..... 700 2-Amino-4-methylpyrimidine.. 397 3,4-Diaminopyridine ..... 700	<b>C<sub>5</sub>H<sub>8</sub></b> 1-Pentyne ..... 1275 2-Methyl-1,3-butadiene ..... 1140 2-Pentyne ..... 1275	<b>C<sub>5</sub>H<sub>8</sub>BrN</b> 5-Bromovaleronitrile ..... 520	<b>C<sub>5</sub>H<sub>8</sub>Br<sub>2</sub>O<sub>2</sub></b> Ethyl 2,3-dibromopropionate... 860	<b>C<sub>5</sub>H<sub>8</sub>CIN</b> 5-Chlorovaleronitrile ..... 641	<b>C<sub>5</sub>H<sub>8</sub>CINO<sub>2</sub></b> 4-Morpholine- carbonylchloride ..... 1194	<b>C<sub>5</sub>H<sub>8</sub>Cl<sub>2</sub>O</b> 5-Chlorovaleryl chloride ..... 641	<b>C<sub>5</sub>H<sub>8</sub>N<sub>2</sub></b> 1,2-Dimethylimidazole ..... 794 1-Ethyl-1H-imidazole ..... 874 3,5-Dimethylpyrazol ..... 802	<b>C<sub>5</sub>H<sub>8</sub>O</b> 2-Methyl-3-butyne-ol ..... 1142 3,4-Dihydro-2H-pyran ..... 760 4-Pentyn-1-ol ..... 1276 Cyclopentanone ..... 680 Cyclopropyl methyl ketone ..... 682	<b>C<sub>5</sub>H<sub>8</sub>O<sub>2</sub></b> 2,3-Pentanedione ..... 1271 4-Pentenoic acid ..... 1274 Acetylacetone ..... 346 Allyl acetate ..... 365 Cyclobutanecarboxylic acid ..... 668 Cyclopropylacetic acid ..... 681 Ethyl acrylate ..... 852 Isopropenyl acetate ..... 1053 Methyl crotonate ..... 1146 Methyl cyclopropanecarboxylate ..... 1148 Methyl methacrylate ..... 1162 Tetrahydro-4H-pyran-4-one.. 1538 Tiglic acid ..... 1558 trans-2-Pentenoic acid ..... 1274 γ-Pentanolactone ..... 1273	<b>C<sub>5</sub>H<sub>8</sub>O<sub>3</sub></b> 2-Tetrahydrofuran carboxylic acid ..... 1535 Ethyl pyruvate ..... 885 Levulinic acid ..... 1079 Methyl acetoacetate ..... 1130	<b>C<sub>5</sub>H<sub>8</sub>O<sub>4</sub></b> Dimethyl malonate ..... 796 Glutaric acid ..... 928	<b>C<sub>5</sub>H<sub>8</sub>Br</b> 5-Bromo-1-pentene ..... 511 Bromocyclopentane ..... 499 Cyclobutyl methyl bromide ..... 669	<b>C<sub>5</sub>H<sub>8</sub>BrO<sub>2</sub></b> 2-Bromoisovaleric acid ..... 506 5-Bromovaleric acid ..... 520 Ethyl 2-bromopropionate ..... 856 Methyl 2-bromobutyrate ..... 1139	<b>C<sub>5</sub>H<sub>8</sub>Cl</b> Chlorocyclopentane ..... 608	<b>C<sub>5</sub>H<sub>8</sub>ClO</b> 5-Chloro-2-pentanone ..... 628 Pentanoyl chloride ..... 1273 Tetrahydrofurfuryl chloride... 1536	<b>C<sub>5</sub>H<sub>8</sub>ClO<sub>2</sub></b> (S)-2-Chloro-3-methylbutyric acid ..... 620 5-Chlorovaleric acid ..... 640 Butyl chloroformate ..... 546 Ethyl 2-chloropropionate ..... 858 Ethyl 3-chloropropionate ..... 858 Isobutyl chloroformate ..... 1045	<b>C<sub>5</sub>H<sub>8</sub>N</b> Pentanitrile ..... 1273	<b>C<sub>5</sub>H<sub>8</sub>NO*CIH*H<sub>2</sub>O</b> 4-Piperidinone monohydrate hydrochloride ..... 1334	<b>C<sub>5</sub>H<sub>8</sub>NO</b> 1-Methyl-2-pyrrolidone ..... 1180 2-Ethyl-2-oxazoline ..... 881	2-Piperidinone ..... 1334 4,4-Dimethyl-2-oxazoline ..... 798 n-Butyl isocyanate ..... 550	<b>C<sub>5</sub>H<sub>9</sub>NO<sub>2</sub></b> (S)-(-)-Proline ..... 1368 L-Proline ..... 1368 Methyl 3-aminocrotonate ..... 1132 N-Formylmorpholine ..... 917	<b>C<sub>5</sub>H<sub>9</sub>NO<sub>3</sub></b> (S)-(-)-trans- 4-Hydroxyproline ..... 995 L-Hydroxyproline ..... 995	<b>C<sub>5</sub>H<sub>9</sub>NO<sub>3</sub>S</b> N-Acetyl-L-cysteine ..... 348	<b>C<sub>5</sub>H<sub>9</sub>NO<sub>4</sub></b> (S)-(+)-Glutamic acid ..... 926 2-(2-Nitroethyl)- 1,3-dioxolane ..... 1225 L-Glutamic acid ..... 926	<b>C<sub>5</sub>H<sub>10</sub></b> 2-Methyl-2-butene ..... 1141 Cyclopentane ..... 679	<b>C<sub>5</sub>H<sub>10</sub>AgNS<sub>2</sub></b> Silver diethyldithiocarbamate ..... 1423	<b>C<sub>5</sub>H<sub>10</sub>BrCl</b> 1-Bromo-5-chloropentane ..... 498	<b>C<sub>5</sub>H<sub>10</sub>Br<sub>2</sub></b> 1,5-Dibromopentane ..... 707	<b>C<sub>5</sub>H<sub>10</sub>CINO</b> Diethylcarbonyl chloride ..... 742	<b>C<sub>5</sub>H<sub>10</sub>CINO<sub>3</sub></b> 5-Aminolevulinic acid hydrochloride ..... 393	<b>C<sub>5</sub>H<sub>10</sub>CINO<sub>4</sub></b> L-Glutamic acid hydrochloride... 926	<b>C<sub>5</sub>H<sub>10</sub>Cl<sub>2</sub></b> 1,5-Dichloropentane ..... 729	<b>C<sub>5</sub>H<sub>10</sub>NNa<sub>2</sub>S * 3 H<sub>2</sub>O</b> Sodium diethyldithiocarbamate trihydrate ..... 1434	<b>C<sub>5</sub>H<sub>10</sub>N<sub>2</sub></b> 3-(Dimethylamino) propionitrile ..... 781	<b>C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>O</b> 1,3-Dimethyl- 2-imidazolidinone ..... 795	<b>C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub></b> 1-(2-Hydroxyethyl)- 2-imidazolidinone ..... 983	<b>C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub></b> (S)-(+)-Glutamine ..... 927 L-Glutamine ..... 927	<b>C<sub>5</sub>H<sub>10</sub>Na<sub>2</sub>O<sub>5</sub>S<sub>2</sub></b> Glutardialdehyde bis (sodium hydrogen sulfite) ..... 927	<b>C<sub>5</sub>H<sub>10</sub>O</b> 1-Cyclopropylethanol ..... 682 1-Penten-3-ol ..... 1274 2-Methyl-3-buten-2-ol ..... 1141 2-Methylbutyraldehyde ..... 1142 2-Methyltetrahydrofuran ..... 1182 3-Methyl-2-buten-1-ol ..... 1141 3-Methyl-3-buten-1-ol ..... 1141 3-Methylbutyraldehyde ..... 1143 4-Penten-1-ol ..... 1274 4-Pentene-2-ol ..... 1273 Cyclopentanol ..... 679 Diethyl ketone ..... 749 Hydroxymethylcyclobutane ..... 990 Isopropyl methyl ketone ..... 1057 Methyl propyl ketone ..... 1176 Pentanal ..... 1269 Tetrahydrofuran ..... 1538	<b>C<sub>5</sub>H<sub>10</sub>O<sub>2</sub></b> 2,2-Dimethyl-1,3-dioxolan ..... 789 2-Methylbutyric acid ..... 1143 3-Methyl- 3-oxethanemethanol ..... 1168 Butyl formate ..... 549 Ethyl propionate ..... 884 Isopentanoic acid ..... 1051 Isopropyl acetate ..... 1054 Methyl butyrate ..... 1143 Methyl isobutyrate ..... 1160 Pentanoic acid ..... 1272 Pivalic acid ..... 1335 Propyl acetate ..... 1376 Tetrahydrofurfuryl alcohol ..... 1535	<b>C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>S</b> Methyl 3-methylthiopropionate ..... 1163	<b>C<sub>5</sub>H<sub>10</sub>O<sub>3</sub></b> (R)-(-)-Methyl 3-hydroxy- 2-methylpropionate ..... 1158 (S)-(-)-Ethyl lactate ..... 875 (S)-(+)-Methyl 3-hydroxy- 2-methylpropionate ..... 1158 2-Methoxyethyl acetate ..... 1121 Diethyl carbonate ..... 743 Pyruvaldehyde 1,1-dimethyl acetal ..... 1397	<b>C<sub>5</sub>H<sub>10</sub>O<sub>4</sub></b> 2,2-Bis(hydroxymethyl)propionic acid ..... 474	<b>C<sub>5</sub>H<sub>10</sub>O<sub>5</sub></b> D(-)-Ribose ..... 1409 D(+)-Xylose ..... 1639	<b>C<sub>5</sub>H<sub>10</sub>Si</b> Trimethylsilylacetylene ..... 1609	<b>C<sub>5</sub>H<sub>11</sub>Br</b> 1-Bromo-3-methylbutane ..... 508 1-Bromopentane ..... 511 2-Bromopentane ..... 511	<b>C<sub>5</sub>H<sub>11</sub>BrO<sub>2</sub>Si</b> Trimethylsilyl bromoacetate... 1609	<b>C<sub>5</sub>H<sub>11</sub>Cl</b> 1-Chloropentane ..... 628	<b>C<sub>5</sub>H<sub>11</sub>l</b> 1-Iodo-3-methylbutane ..... 1013 1-Iodopentane ..... 1014	<b>C<sub>5</sub>H<sub>11</sub>N</b> 1-Methylpyrrolidine ..... 1180 Cyclopentylamine ..... 680 N,N-Dimethylallylamine ..... 777 Piperidine ..... 1332	<b>C<sub>5</sub>H<sub>11</sub>NO</b> 2-Tetrahydrofurfurylamine... 1536 3-Piperidinol ..... 1333 4-Methylmorpholine ..... 1163 4-Piperidinol ..... 1333 N,N-Diethylformamide ..... 748 N,N-Dimethylpropionamide ..... 801	<b>C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub></b> (S)-(+)-Valine ..... 1629 5-Aminovaleric acid ..... 407 DL-Norvaline ..... 1238 D-Norvaline ..... 1238 Isopentyl nitrite ..... 1052 L-Norvaline ..... 1238 L-Valine ..... 1629 n-Pentyl nitrite ..... 1275	<b>C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>S</b> L-Methionine ..... 1116	<b>C<sub>5</sub>H<sub>11</sub>NO<sub>3</sub></b> N-tert-BOC-Hydroxylamine ..... 481	<b>C<sub>5</sub>H<sub>11</sub>NO<sub>4</sub></b> 1,1-Dimethoxy- 3-nitropropane ..... 774	<b>C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub> * H<sub>2</sub>O</b> 4-Methylmorpholine-4-oxide monohydrate ..... 1163	<b>C<sub>5</sub>H<sub>11</sub>NaO<sub>3</sub>S</b> Pentane-1-sulfonic acid sodium salt ..... 1272	<b>C<sub>5</sub>H<sub>11</sub>O<sub>4</sub>P</b> Dimethyl acetylmethylphosphonate ..... 777 Dimethyl methoxycarbonylmethane- phosphonate ..... 796	<b>C<sub>5</sub>H<sub>12</sub></b> 2-Methylbutane ..... 1140 n-Pentane ..... 1270, 1271	<b>C<sub>5</sub>H<sub>12</sub>CIN</b> Piperidinium chloride ..... 1333	<b>C<sub>5</sub>H<sub>12</sub>CINO<sub>2</sub></b> Betain hydrochloride ..... 459 L-Ethyl alanate hydrochloride ..... 852	<b>C<sub>5</sub>H<sub>12</sub>N<sub>2</sub></b> 1-Methylpiperazine ..... 1173 2-Methylpiperazine ..... 1174	<b>C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>O</b> Tetramethylurea ..... 1547	<b>C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub></b> tert-Butyl carbazate ..... 545	<b>C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub> * CIH</b> L-Ornithine monohydrochloride ..... 1254	<b>C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>S</b> N,N'-Diethylthiourea ..... 752 Tetramethylthiourea ..... 1546
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# Empirical formulae

<b>C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>S<sub>2</sub></b> Pyrrolidine-1-dithiocarboxylic acid ammonium salt..... 1395	<b>C<sub>5</sub>H<sub>15</sub>N<sub>3</sub></b> N-(2-Aminoethyl)-1,3-propanediamine..... 390	<b>C<sub>6</sub>H<sub>4</sub>BF<sub>3</sub>O<sub>2</sub></b> 3,4,5-Trifluorophenylboronic acid..... 1598	<b>C<sub>6</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>6</sub>S<sub>2</sub> * H<sub>2</sub>O</b> 3,5-Pyrocatecholdisulfonic acid disodium salt monohydrate... 1393
<b>C<sub>5</sub>H<sub>12</sub>O</b> 2-Methyl-1-butanol..... 1140 2-Pentanol..... 1272 3-Methyl-2-butanol..... 1141 3-Pentanol..... 1273 Isoamyl alcohol..... 1042, 1043 n-Amyl alcohol..... 418 tert-Amyl alcohol..... 419 tert-Butyl methyl ether..... 552	<b>C<sub>6</sub>Br<sub>4</sub>O<sub>2</sub></b> Tetrabromo-p-benzoquinone..... 1524	<b>C<sub>6</sub>H<sub>4</sub>BrCl</b> 1-Bromo-2-chlorobenzene..... 497 1-Bromo-3-chlorobenzene..... 497 1-Bromo-4-chlorobenzene..... 497	<b>C<sub>6</sub>H<sub>4</sub>O<sub>2</sub></b> p-Benzoquinone..... 444
<b>C<sub>5</sub>H<sub>12</sub>O<sub>2</sub></b> 1,5-Pentanediol..... 1271 2,2-Dimethoxypropane..... 775 2,2-Dimethyl-1,3-propanediol..... 801 2,4-Pentanediol..... 1271 Ethylene glycol monoisopropyl ether..... 868 Ethylene glycol monopropylether..... 869 Formaldehyde diethyl acetal..... 912	<b>C<sub>6</sub>Cl<sub>4</sub>O<sub>2</sub></b> p-Chloranil..... 595	<b>C<sub>6</sub>H<sub>4</sub>BrClO<sub>2</sub>S</b> 4-Bromobenzenesulfonyl chloride..... 492	<b>C<sub>6</sub>H<sub>5</sub>BF<sub>2</sub>O<sub>2</sub></b> 3,4-Difluorophenylboronic acid..... 756
<b>C<sub>5</sub>H<sub>12</sub>O<sub>3</sub></b> 2-Hydroxymethyl-2-methyl-1,3-propanediol..... 990 Diethylene glycol monomethyl ether..... 745 Trimethyl orthoacetate..... 1606	<b>C<sub>6</sub>CrO<sub>6</sub></b> Chromium hexacarbonyl..... 643	<b>C<sub>6</sub>H<sub>4</sub>BrF</b> 1-Bromo-2-fluorobenzene..... 502 1-Bromo-3-fluorobenzene..... 502 1-Bromo-4-fluorobenzene..... 503	<b>C<sub>6</sub>H<sub>5</sub>Br</b> Bromobenzene..... 492
<b>C<sub>5</sub>H<sub>12</sub>O<sub>4</sub></b> Pentaerythritol..... 1266	<b>C<sub>6</sub>D<sub>4</sub>Cl<sub>2</sub></b> 1,2-Dichlorobenzene-D <sub>4</sub> ..... 717	<b>C<sub>6</sub>H<sub>4</sub>BrI</b> 4-Bromo-1-iodobenzene..... 505	<b>C<sub>6</sub>H<sub>5</sub>BrO</b> 2-Bromophenol..... 512 3-Bromophenol..... 512 4-Bromophenol..... 512
<b>C<sub>5</sub>H<sub>12</sub>S</b> 1-Pentanethiol..... 1272	<b>C<sub>6</sub>D<sub>5</sub>NO<sub>2</sub></b> Nitrobenzene-D <sub>5</sub> ..... 1220	<b>C<sub>6</sub>H<sub>4</sub>BrNO<sub>2</sub></b> 1-Bromo-2-nitrobenzene..... 510 1-Bromo-3-nitrobenzene..... 510 1-Bromo-4-nitrobenzene..... 510 5-Bromonicotinic acid..... 510	<b>C<sub>6</sub>H<sub>5</sub>BrS</b> 2-Bromothiophenol..... 518 4-Bromothiophenol..... 518
<b>C<sub>5</sub>H<sub>12</sub>S<sub>2</sub></b> 1,5-Pentanedithiol..... 1271	<b>C<sub>6</sub>D<sub>6</sub>O</b> Phenol-D <sub>6</sub> ..... 1291	<b>C<sub>6</sub>H<sub>4</sub>Br<sub>2</sub></b> 1,2-Dibromobenzene..... 704 1,3-Dibromobenzene..... 704 1,4-Dibromobenzene..... 704	<b>C<sub>6</sub>H<sub>5</sub>BrN</b> 2,4-Dibromoaniline..... 704
<b>C<sub>5</sub>H<sub>12</sub>Si</b> Trimethylvinylsilane..... 1611	<b>C<sub>6</sub>D<sub>12</sub></b> Cyclohexane-D <sub>12</sub> ..... 671	<b>C<sub>6</sub>H<sub>4</sub>BrNO<sub>2</sub></b> 2,4,6-Tribromoaniline..... 1576	<b>C<sub>6</sub>H<sub>5</sub>Cl</b> Chlorobenzene..... 601
<b>C<sub>5</sub>H<sub>13</sub>Cl<sub>2</sub>N</b> N-(2-Chloropropyl)-N,N-dimethylammonium chloride... 635 N-(3-Chloropropyl)-N,N-dimethylammonium chloride... 635	<b>C<sub>6</sub>D<sub>14</sub></b> n-Hexane-D <sub>14</sub> ..... 956	<b>C<sub>6</sub>H<sub>4</sub>ClFO</b> 2-Chloro-4-fluorophenol..... 614	<b>C<sub>6</sub>H<sub>5</sub>ClFIN</b> 3-Chloro-4-fluoroaniline..... 614
<b>C<sub>5</sub>H<sub>13</sub>N</b> N,N-Dimethyl isopropylamine.. 795 Neopentylamine..... 1206 N-Methylbutylamine..... 1142 n-Pentylamine..... 1275	<b>C<sub>6</sub>F<sub>6</sub></b> Hexafluorobenzene..... 951	<b>C<sub>6</sub>H<sub>4</sub>ClI</b> 2-Chloro-1-iodobenzene..... 618	<b>C<sub>6</sub>H<sub>5</sub>ClIN<sub>2</sub>O</b> 2-Chloronicotinamide..... 623
<b>C<sub>5</sub>H<sub>13</sub>NO</b> (R)-(-)-2-Amino-3-methylbutanol..... 394 (S)-(+)-2-Amino-3-methyl-1-butanol..... 394 1-(Dimethylamino)-2-propanol..... 780 3-(Dimethylamino)-1-propanol..... 780 3-Ethoxypropylamine..... 849 5-Amino-1-pentanol..... 400	<b>C<sub>6</sub>F<sub>13</sub>I</b> Perfluorohexyl iodide..... 1279	<b>C<sub>6</sub>H<sub>4</sub>ClNO<sub>2</sub></b> 1-Chloro-2-nitrobenzene..... 625 1-Chloro-3-nitrobenzene..... 625 2-Chloronicotinic acid..... 624 6-Chloronicotinic acid..... 624	<b>C<sub>6</sub>H<sub>5</sub>ClIN<sub>2</sub>O<sub>2</sub></b> 2-Chloro-4-nitroaniline..... 624 4-Chloro-2-nitroaniline..... 624 4-Chloro-3-nitroaniline..... 625 5-Chloro-2-nitroaniline..... 625
<b>C<sub>5</sub>H<sub>13</sub>NOSi</b> N-(Trimethylsilyl)acetamide... 1608	<b>C<sub>6</sub>FeK<sub>3</sub>N<sub>6</sub></b> Potassium hexacyanoferrate(III)..... 1353	<b>C<sub>6</sub>H<sub>4</sub>ClNO<sub>3</sub></b> 4-Chloro-3-nitrophenol..... 627	<b>C<sub>6</sub>H<sub>5</sub>ClIO</b> 2-Chlorophenol..... 629 3-Chlorophenol..... 629 4-Chlorophenol..... 629
<b>C<sub>5</sub>H<sub>13</sub>NO<sub>2</sub></b> (Methylamino)acetaldehyde dimethyl acetal..... 1132 N,N-Dimethylformamide dimethyl acetal..... 792 N-Methyl-2,2'-iminodiethanol..... 1159	<b>C<sub>6</sub>FeK<sub>4</sub>N<sub>6</sub> * 3H<sub>2</sub>O</b> Potassium hexacyanoferrate(II) trihydrate..... 1353	<b>C<sub>6</sub>H<sub>4</sub>ClNO<sub>4</sub>S</b> 2-Nitrobenzenesulfonyl chloride..... 1220 3-Nitrobenzenesulfonyl chloride..... 1220 4-Nitrobenzenesulfonyl chloride..... 1221	<b>C<sub>6</sub>H<sub>5</sub>ClIOS</b> 4-Chlorothiophenol..... 638
<b>C<sub>5</sub>H<sub>14</sub>N<sub>2</sub></b> 2,2-Dimethylpropylene-diamine..... 801 N,N,N',N'-Tetramethyldiaminomethane..... 1542 N,N-Dimethyl-trimethylenediamine..... 809 N-Isopropylethylene-diamine..... 1056	<b>C<sub>6</sub>HF<sub>5</sub></b> Pentafluorobenzene..... 1267	<b>C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub></b> 1,2-Dichlorobenzene..... 716 1,3-Dichlorobenzene..... 717 1,4-Dichlorobenzene..... 717	<b>C<sub>6</sub>H<sub>5</sub>ClISe</b> Phenylselenenyl chloride..... 1316
<b>C<sub>5</sub>H<sub>14</sub>N<sub>2</sub>O<sub>2</sub></b> Dimethyl ammonium dimethylcarbamate..... 782	<b>C<sub>6</sub>HF<sub>5</sub>O</b> Pentafluorophenol..... 1268	<b>C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>O</b> 2,3-Dichlorophenol..... 729 2,4-Dichlorophenol..... 730 2,5-Dichlorophenol..... 730 2,6-Dichlorophenol..... 730 3,4-Dichlorophenol..... 730	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>N</b> 2,4-Dichloroaniline..... 715 2,5-Dichloroaniline..... 715 2,6-Dichloroaniline..... 715 3,4-Dichloroaniline..... 715 3,5-Dichloroaniline..... 715
<b>C<sub>5</sub>H<sub>14</sub>OSi</b> 2-(Trimethylsilyl)-ethanol..... 1609 Ethoxytrimethylsilane..... 849	<b>C<sub>6</sub>H<sub>2</sub>BrF<sub>3</sub></b> 1-Bromo-3,4,5-trifluorobenzene..... 519	<b>C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub></b> 2,6-Dichloro-4-nitroaniline.... 728	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>NO</b> 4-Pyridinoyl chloride hydrochloride..... 1391
<b>C<sub>5</sub>H<sub>15</sub>NSi</b> Dimethylaminotrimethylsilane... 782	<b>C<sub>6</sub>H<sub>2</sub>Cl<sub>2</sub>O<sub>4</sub></b> Chloranilic acid..... 595	<b>C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>3</sub></b> 2,3-Dichlorophenol..... 729 2,4-Dichlorophenol..... 730 2,5-Dichlorophenol..... 730 2,6-Dichlorophenol..... 730 3,4-Dichlorophenol..... 730	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>OP</b> Dichlorophenylphosphine oxide..... 732
	<b>C<sub>6</sub>H<sub>2</sub>Cl<sub>3</sub>NO</b> 2,6-Dichloroquinone-4-chloroimide..... 734	<b>C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>O<sub>2</sub></b> 2,6-Dichloro-4-nitroaniline.... 728	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>O<sub>2</sub>P</b> Phenyl dichlorophosphate..... 1302
	<b>C<sub>6</sub>H<sub>2</sub>Cl<sub>4</sub></b> 1,2,3,4-Tetrachlorobenzene... 1528 1,2,4,5-Tetrachlorobenzene... 1528	<b>C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>S</b> 2,6-Dichlorothiophenol..... 734	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>2</sub>P</b> Dichlorophenylphosphine..... 732
	<b>C<sub>6</sub>H<sub>2</sub>F<sub>2</sub>N<sub>2</sub>O<sub>4</sub></b> 1,5-Difluoro-2,4-dinitrobenzene..... 755	<b>C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>S<sub>2</sub></b> 3,4-Dichlorothiophenol..... 734	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>2</sub>F<sub>3</sub>N</b> Pentafluoroaniline..... 1267	<b>C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>S<sub>2</sub>O</b> 1-Fluoro-2-nitrobenzene..... 904 1-Fluoro-3-nitrobenzene..... 904 1-Fluoro-4-nitrobenzene..... 904	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>BrF<sub>2</sub></b> 1-Bromo-2,4-difluorobenzene..... 500 1-Bromo-3,4-difluorobenzene..... 500 1-Bromo-3,5-difluorobenzene..... 500	<b>C<sub>6</sub>H<sub>4</sub>FNO<sub>2</sub></b> 1-Fluoro-2-nitrobenzene..... 904 1-Fluoro-3-nitrobenzene..... 904 1-Fluoro-4-nitrobenzene..... 904	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>Br<sub>3</sub></b> 1,3,5-Tribromobenzene..... 1576	<b>C<sub>6</sub>H<sub>4</sub>FNO<sub>3</sub></b> 3-Fluoro-4-nitrophenol..... 905 5-Fluoro-2-nitrophenol..... 905	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>CIN<sub>2</sub>O<sub>4</sub></b> 1-Chloro-2,4-dinitrobenzene.. 610	<b>C<sub>6</sub>H<sub>4</sub>F<sub>2</sub></b> 1,2-Difluorobenzene..... 754 1,3-Difluorobenzene..... 754 1,4-Difluorobenzene..... 754	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>Cl<sub>2</sub>NO</b> 6-Chloronicotinic acid chloride..... 624	<b>C<sub>6</sub>H<sub>4</sub>F<sub>2</sub>O</b> 1,2-Difluoro-2-nitrobenzene..... 904 1-Fluoro-2-nitrobenzene..... 904 1-Fluoro-3-nitrobenzene..... 904 1-Fluoro-4-nitrobenzene..... 904	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>Cl<sub>2</sub>NO<sub>2</sub></b> 1,2-Dichloro-3-nitrobenzene.. 728 1,2-Dichloro-4-nitrobenzene.. 728 1,3-Dichloro-4-nitrobenzene.. 729 1,4-Dichloro-2-nitrobenzene.. 729	<b>C<sub>6</sub>H<sub>4</sub>F<sub>2</sub>O<sub>2</sub></b> 2-Fluoro-5-nitroaniline..... 904 4-Fluoro-3-nitroaniline..... 904	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>Cl<sub>2</sub>NaO<sub>4</sub>S</b> 3,5-Dichloro-2-hydroxybenzenesulfonic acid sodium salt..... 724	<b>C<sub>6</sub>H<sub>4</sub>F<sub>2</sub>O<sub>3</sub></b> 3-Fluoro-4-nitrophenol..... 905 5-Fluoro-2-nitrophenol..... 905	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>Cl<sub>3</sub></b> 1,2,3-Trichlorobenzene..... 1580 1,2,4-Trichlorobenzene..... 1580	<b>C<sub>6</sub>H<sub>4</sub>F<sub>2</sub>O<sub>4</sub></b> 2,4-Difluoroaniline..... 753 2,5-Difluoroaniline..... 753 2,6-Difluoroaniline..... 753	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>Cl<sub>3</sub>O</b> 2,4,6-Trichlorophenol..... 1582	<b>C<sub>6</sub>H<sub>4</sub>F<sub>2</sub>O<sub>5</sub></b> 3-Nitrobenzenesulfonic acid sodium salt..... 1220	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>Cl<sub>3</sub>O<sub>3</sub>S</b> 3,5-Dichloro-2-hydroxybenzenesulfonyl chloride..... 725	<b>C<sub>6</sub>H<sub>4</sub>N<sub>2</sub></b> 2-Pyridinecarbonitrile..... 1388 3-Pyridinecarbonitrile..... 1388 4-Pyridinecarbonitrile..... 1388	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>F<sub>3</sub>O</b> 3,4,5-Trifluorophenol..... 1597	<b>C<sub>6</sub>H<sub>4</sub>N<sub>2</sub>O<sub>4</sub></b> 1,4-Dinitrobenzene..... 810 2,3-Pyrazinedicarboxylic acid..... 1384	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582
	<b>C<sub>6</sub>H<sub>3</sub>F<sub>5</sub>N<sub>2</sub></b> Pentafluorophenylhydrazine..... 1268	<b>C<sub>6</sub>H<sub>4</sub>Na<sub>2</sub>O<sub>6</sub>S<sub>2</sub></b> 1,3-Benzenedisulfonic acid disodium salt..... 439	<b>C<sub>6</sub>H<sub>5</sub>Cl<sub>3</sub>Si</b> Trichlorophenylsilane..... 1582

<b>C<sub>6</sub>H<sub>5</sub>NO</b>	<b>C<sub>6</sub>H<sub>6</sub>O<sub>5</sub></b>	<b>C<sub>6</sub>H<sub>7</sub>N<sub>3</sub>O<sub>2</sub></b>	<b>C<sub>6</sub>H<sub>9</sub>CIN<sub>2</sub></b>
2-Pyridinecarbaldehyde ..... 1387	2-Acetylthiophene ..... 351	2-Nitro-	Phenylhydrazinium chloride... 1308
3-Pyridinecarbaldehyde ..... 1387	2-Mercaptophenol ..... 1103	1,4-phenylenediamine ..... 1229	<b>C<sub>6</sub>H<sub>9</sub>CIN<sub>2</sub>O<sub>2</sub>S</b>
4-Pyridinecarbaldehyde ..... 1387	3-Methylthiophene-	4-Nitro-	2-Chloro-1,4-phenylene-
Nitrosobenzene ..... 1232	2-carbaldehyde ..... 1184	1,2-phenylenediamine ..... 1229	diammonium sulfate ..... 631
<b>C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub></b>	5-Methylthiophene-	<b>C<sub>6</sub>H<sub>8</sub>BrCIN<sub>2</sub></b>	<b>C<sub>6</sub>H<sub>9</sub>CIO</b>
2-Pyridinecarboxylic acid ..... 1388	2-carbaldehyde ..... 1184	4-Bromophenylhydrazinium	Cyclopentanecarboxylic acid
4-Pyridinecarboxylic acid ..... 1388	Methyl 3-thienyl ketone ..... 1183	chloride ..... 513	chloride ..... 679
Nicotinic acid ..... 1210	<b>C<sub>6</sub>H<sub>6</sub>O<sub>2</sub></b>	<b>C<sub>6</sub>H<sub>8</sub>ClFN<sub>2</sub></b>	<b>C<sub>6</sub>H<sub>9</sub>CIO<sub>3</sub></b>
Nitrobenzene ..... 1219	2-Furyl methyl ketone ..... 921	4-Fluoro-phenylhydrazine	Ethyl 4-chloroacetoacetate ..... 858
<b>C<sub>6</sub>H<sub>5</sub>NO<sub>3</sub></b>	5-Methylfurfural ..... 1154	hydrochloride ..... 907	<b>C<sub>6</sub>H<sub>9</sub>D<sub>4</sub>NaO<sub>2</sub>Si</b>
1,2-Dihydro-2-oxonicotinic	Hydroquinone ..... 977	<b>C<sub>6</sub>H<sub>8</sub>CIN</b>	3-(Trimethylsilyl)propionic
acid ..... 760	Pyrocatechol ..... 1393	Anilinium chloride ..... 420	acid-D4 sodium salt ..... 1610
1,6-Dihydro-6-oxo-	Resorcinol ..... 1407	<b>C<sub>6</sub>H<sub>8</sub>CINO</b>	<b>C<sub>6</sub>H<sub>9</sub>NO</b>
3-pyridinecarboxylic acid ..... 760	<b>C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>S</b>	4-Hydroxyanilinium chloride... 978	1-Vinyl-2-pyrrolidone ..... 1632
2-Nitrophenol ..... 1227	Thiophene-2-acetic acid ..... 1554	<b>C<sub>6</sub>H<sub>8</sub>Cl<sub>2</sub>N<sub>2</sub></b>	<b>C<sub>6</sub>H<sub>9</sub>NOS</b>
3-Nitrophenol ..... 1227	Thiophene-3-acetic acid ..... 1554	2-Chlorophenylhydrazine	5-(2-Hydroxyethyl)-
4-Nitrophenol ..... 1228	<b>C<sub>6</sub>H<sub>6</sub>O<sub>3</sub></b>	hydrochloride ..... 631	4-methylthiazole ..... 984
<b>C<sub>6</sub>H<sub>5</sub>NO<sub>4</sub></b>	1,2,4-Trihydroxybenzene ..... 1598	4-Chlorophenylhydrazine	<b>C<sub>6</sub>H<sub>9</sub>NO<sub>3</sub></b>
4-Nitropyrocatechol ..... 1231	2,3-Dimethylmaleic	hydrochloride ..... 631	2-Methoxyethyl
Citrazinic acid ..... 647	anhydride ..... 796	<b>C<sub>6</sub>H<sub>8</sub>Cl<sub>2</sub>O<sub>2</sub></b>	cyanoacetate ..... 1122
<b>C<sub>6</sub>H<sub>5</sub>NS</b>	3-Hydroxy-2-methyl-	Adipyl chloride ..... 357	<b>C<sub>6</sub>H<sub>9</sub>NO<sub>6</sub></b>
Thiophene-2-acetonitrile ..... 1554	4-pyranone ..... 991	<b>C<sub>6</sub>H<sub>8</sub>N<sub>2</sub></b>	Titriplex® I ..... 1563
<b>C<sub>6</sub>H<sub>5</sub>N<sub>3</sub></b>	4-Hydroxy-6-methyl-	1,2-Phenylenediamine ..... 1302	<b>C<sub>6</sub>H<sub>9</sub>NS<sub>2</sub></b>
1H-Benzotriazole ..... 445	2H-pyran-2-one ..... 991	1,3-Phenylenediamine ..... 1303	2-(Allylthio)-2-thiazoline ..... 369
<b>C<sub>6</sub>H<sub>5</sub>N<sub>3</sub>O<sub>4</sub></b>	5-Hydroxymethyl-	1,4-Phenylenediamine ..... 1303	<b>C<sub>6</sub>H<sub>9</sub>N<sub>3</sub></b>
2,6-Dinitroaniline ..... 810	2-furancarbaldehyde ..... 990	2-(Aminomethyl)pyridine ..... 396	2-Amino-
<b>C<sub>6</sub>H<sub>5</sub>NaO<sub>2</sub>S</b>	Methyl 2-furancarboxylate ... 1154	2,3-Dimethylpyrazine ..... 802	4,6-dimethylpyrimidine ..... 387
Sodium benzenesulphinate ... 1428	Phloroglucinol ..... 1322	2,5-Dimethylpyrazine ..... 802	<b>C<sub>6</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub></b>
<b>C<sub>6</sub>H<sub>5</sub>Na<sub>3</sub>O<sub>7</sub> * 2 H<sub>2</sub>O</b>	Pyrogallol ..... 1394	2,6-Dimethylpyrazine ..... 802	4-Amino-1,3-dimethyluracil ... 388
tri-Sodium citrate dihydrate .. 1433	<b>C<sub>6</sub>H<sub>6</sub>O<sub>3</sub>S</b>	2-Amino-3-methylpyridine ..... 396	Cupferron ..... 665
<b>C<sub>6</sub>H<sub>5</sub>ONa * 3 H<sub>2</sub>O</b>	Benzenesulfonic acid ..... 439	2-Amino-4-methylpyridine ..... 397	Ethyl (3-aminopyrazole 4-
Sodium phenolate	<b>C<sub>6</sub>H<sub>6</sub>O<sub>4</sub></b>	2-Amino-5-methylpyridine ..... 397	carboxylate) ..... 853
trihydrate ..... 1452	5-Hydroxy-2-hydroxymethyl-	2-Amino-6-methylpyridine ..... 397	L-Histidine ..... 961
<b>C<sub>6</sub>H<sub>6</sub></b>	4H-pyran-4-one ..... 985	2-Ethylpyrazine ..... 884	<b>C<sub>6</sub>H<sub>9</sub>NaO<sub>7</sub>*H<sub>2</sub>O</b>
Benzene ..... 437	Dimethyl	2-Methylglutarodinitrile ..... 1155	D(+)-Glucuronic acid sodium salt
<b>C<sub>6</sub>H<sub>6</sub>BF<sub>2</sub></b>	acetylenedicarboxylate ..... 776	3-(Aminomethyl)pyridine ..... 397	monohydrate ..... 925
3-Fluorophenylboronic acid .... 906	trans, trans-2,4-Hexadienedioic	4,6-Dimethylpyrimidine ..... 803	<b>C<sub>6</sub>H<sub>10</sub></b>
4-Fluorophenylboronic acid .... 906	acid ..... 950	Adiponitrile ..... 357	1,5-Hexadiene ..... 950
<b>C<sub>6</sub>H<sub>6</sub>BNO<sub>4</sub></b>	<b>C<sub>6</sub>H<sub>6</sub>O<sub>6</sub></b>	Phenylhydrazine ..... 1308	1-Hexyne ..... 960
3-Nitro-benzenboronic	trans-Propene-	<b>C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>S</b>	1-Methyl-1-cyclopentene ..... 1148
acid ..... 1220	1,2,3-tricarboxylic acid ..... 1374	Sulfanilamide ..... 1507	2-Hexyne ..... 960
<b>C<sub>6</sub>H<sub>6</sub>BrN</b>	<b>C<sub>6</sub>H<sub>6</sub>S</b>	<b>C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub></b>	3-Hexyne ..... 960
2-Bromoaniline ..... 490	Thiophenol ..... 1555	1,3-Dimethylbarbituric acid ... 784	Cyclohexene ..... 675
3-Bromoaniline ..... 490	<b>C<sub>6</sub>H<sub>7</sub>BO<sub>2</sub></b>	<b>C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>S</b>	<b>C<sub>6</sub>H<sub>10</sub>BNaO<sub>6</sub></b>
4-Bromoaniline ..... 491	Benzenboronic acid ..... 438	4,6-Dimethyl-2-	Sodium
<b>C<sub>6</sub>H<sub>6</sub>CIN</b>	<b>C<sub>6</sub>H<sub>7</sub>BO<sub>3</sub></b>	mercaptopyrimidine ..... 796	triacetoxyborohydride ..... 1458
2-Chloroaniline ..... 599	4-Hydroxyphenylboronic acid ... 994	<b>C<sub>6</sub>H<sub>8</sub>O</b>	<b>C<sub>6</sub>H<sub>10</sub>BrCIO</b>
3-Chloroaniline ..... 599	<b>C<sub>6</sub>H<sub>7</sub>ClIN</b>	2,5-Dimethylfuran ..... 792	6-Bromohexanoyl chloride ..... 505
4-Chloroaniline ..... 599	2-Chloro-1-methylpyridinium	2-Cyclohexen-1-one ..... 676	<b>C<sub>6</sub>H<sub>10</sub>BrN</b>
<b>C<sub>6</sub>H<sub>6</sub>CINO</b>	iodide ..... 623	3-Methyl-2-cyclopenten-	6-Bromohexanonitrile ..... 505
2-Amino-4-chlorophenol ..... 385	<b>C<sub>6</sub>H<sub>7</sub>Cl<sub>2</sub>N</b>	1-one ..... 1148	<b>C<sub>6</sub>H<sub>10</sub>CaO<sub>4</sub></b>
<b>C<sub>6</sub>H<sub>6</sub>FN</b>	3-(Chloromethyl)-pyridinium	<b>C<sub>6</sub>H<sub>8</sub>OS</b>	Calcium propionate ..... 566
2-Fluoroaniline ..... 898	chloride ..... 622	Thiophene-2-ethanol ..... 1555	<b>C<sub>6</sub>H<sub>10</sub>CaO<sub>6</sub> * 5 H<sub>2</sub>O</b>
3-Fluoroaniline ..... 899	4-(Chloromethyl)-pyridinium	<b>C<sub>6</sub>H<sub>8</sub>OS<sub>2</sub></b>	Calcium lactate ..... 565
4-Fluoroaniline ..... 899	chloride ..... 622	Methyl fufuryl disulfide ..... 1154	<b>C<sub>6</sub>H<sub>10</sub>CIN<sub>3</sub>O<sub>2</sub> * H<sub>2</sub>O</b>
<b>C<sub>6</sub>H<sub>6</sub>HgO</b>	<b>C<sub>6</sub>H<sub>7</sub>F<sub>3</sub>O<sub>3</sub></b>	<b>C<sub>6</sub>H<sub>8</sub>O<sub>2</sub></b>	(S)-(+)-Histidine hydrochloride
Phenylmercury hydroxide ..... 1311	Ethyl 4,4,4-trifluoro-	1,2-Cyclohexanedione ..... 673	monohydrate ..... 961
<b>C<sub>6</sub>H<sub>6</sub>IN</b>	acetoacetate ..... 888	1,3-Cyclohexanedione ..... 673	L-Histidine monohydrochloride
2-Iodoaniline ..... 1009	<b>C<sub>6</sub>H<sub>7</sub>N</b>	1,4-Cyclohexanedione ..... 674	monohydrate ..... 961
3-Iodoaniline ..... 1009	2-Methylpyridine ..... 1177	1-Acetoxy-1,3-butadiene ..... 345	<b>C<sub>6</sub>H<sub>10</sub>Cl<sub>2</sub>N<sub>2</sub></b>
4-Iodoaniline ..... 1010	3-Methylpyridine ..... 1177	2-Hydroxy-3-methyl-	1,4-Phenylenediammonium
<b>C<sub>6</sub>H<sub>6</sub>NNaO<sub>3</sub>S * 2 H<sub>2</sub>O</b>	4-Methylpyridine ..... 1178	2-cyclopentene-1-one ..... 990	dichloride ..... 1303
Sodium sulfanilate	Aniline ..... 420	2-Methyl-	<b>C<sub>6</sub>H<sub>10</sub>Cl<sub>2</sub>N<sub>2</sub>O</b>
dihydrate ..... 1453	<b>C<sub>6</sub>H<sub>7</sub>NO</b>	1,3-cyclopentanedione ..... 1148	4-Hydroxy-1,3-phenylene-
<b>C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O</b>	1-Methylpyrrol-	3-Methyl-	diammonium dichloride ..... 994
2-Pyridinecarbaldehyde	2-carbaldehyde ..... 1179	1,2-cyclopentanedione ..... 1148	<b>C<sub>6</sub>H<sub>10</sub>Cl<sub>2</sub>Pd<sub>2</sub></b>
oxime ..... 1387	2-Acetylpyrrole ..... 351	<b>C<sub>6</sub>H<sub>8</sub>O<sub>3</sub></b>	Allylpalladium(II) chloride dimer
4-Pyridinecarbaldehyde	2-Aminophenol ..... 400	2,5-Dimethyl-4-hydroxy-	(58% Pd) ..... 368
oxime ..... 1387	2-Pyridylmethanol ..... 1392	(2H)-furan-3-on ..... 794	<b>C<sub>6</sub>H<sub>10</sub>N<sub>2</sub>O<sub>2</sub></b>
4-Pyridinecarboxylic	3-Aminophenol ..... 400	2-Acetyl-γ-butyrolactone ..... 348	1,2-Cyclohexanedione
acid amide ..... 1388	3-Methylpyridine 1-oxide ..... 1178	<b>C<sub>6</sub>H<sub>8</sub>O<sub>4</sub></b>	dioxime ..... 674
Nicotinamide ..... 1209	3-Pyridylmethanol ..... 1392	1,1-Cyclobutanedicarboxylic	1,4-Dimethylpiperazine-
<b>C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub></b>	4-Aminophenol ..... 400	acid ..... 668	2,5-dione ..... 801
2-Aminopyridin-3-carboxylic	4-Methylpyridine-1-oxide ..... 1178	4,6-dione ..... 788	3,6-Dimethylpiperazine-
acid ..... 404	p-Aminophenol ..... 401	Dimethyl fumarate ..... 792	2,5-dione ..... 801
2-Nitroaniline ..... 1217	<b>C<sub>6</sub>H<sub>7</sub>NO<sub>2</sub></b>	Dimethyl maleate ..... 796	<b>C<sub>6</sub>H<sub>10</sub>N<sub>2</sub>O<sub>5</sub></b>
3-Nitroaniline ..... 1218	Allyl cyanoacetate ..... 367	<b>C<sub>6</sub>H<sub>8</sub>O<sub>6</sub></b>	N-(2-Acetamido)-iminodiacetic
4-Nitroaniline ..... 1218	<b>C<sub>6</sub>H<sub>7</sub>NO<sub>2</sub>S</b>	D-(+)-Glucuronolactone ..... 926	acid ..... 334
Imidazole-4-acrylic acid ..... 1000	Benzenesulfonamide ..... 439	L(+)-Ascorbic Acid ..... 427	<b>C<sub>6</sub>H<sub>10</sub>N<sub>2</sub>S</b>
<b>C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O<sub>3</sub></b>	<b>C<sub>6</sub>H<sub>7</sub>NO<sub>3</sub>S</b>	Propane-1,2,3-tricarboxylic	2,5-Diethyl-1,3,4-thiadiazole... 752
4-Amino-3-nitrophenol ..... 399	1-Aminobenzene-3-sulfonic	acid ..... 1370	<b>C<sub>6</sub>H<sub>10</sub>O</b>
<b>C<sub>6</sub>H<sub>6</sub>Na<sub>2</sub>O<sub>7</sub> * 1,5H<sub>2</sub>O</b>	acid ..... 380	<b>C<sub>6</sub>H<sub>8</sub>O<sub>7</sub></b>	3-Methyl-1-pentyn-3-ol ..... 1170
di-Sodium hydrogen citrate	Sulfanilic acid ..... 1507	Citric acid ..... 647	3-Methyl-3-penten-2-one ..... 1170
1,5-hydrate ..... 1438	<b>C<sub>6</sub>H<sub>7</sub>NS</b>	<b>C<sub>6</sub>H<sub>8</sub>O<sub>7</sub> * H<sub>2</sub>O</b>	Cyclohexanone ..... 675
<b>C<sub>6</sub>H<sub>6</sub>O</b>	2-Aminothiophenol ..... 406	Citric acid monohydrate ..... 648	Epoxy cyclohexane ..... 838
Phenol ..... 1291	4-Aminothiophenol ..... 407	<b>C<sub>6</sub>H<sub>8</sub>S</b>	Mesityl oxide ..... 1109
<b>C<sub>6</sub>H<sub>7</sub>N<sub>3</sub>O</b>	<b>C<sub>6</sub>H<sub>7</sub>N<sub>3</sub>O</b>	2,5-Dimethylthiophene ..... 808	trans-2-Hexenal ..... 958
4-Pyridinecarboxylic acid	4-Pyridinecarboxylic acid	2-Ethylthiophene ..... 886	
hydrazide ..... 1389	hydrazide ..... 1389	<b>C<sub>6</sub>H<sub>8</sub>BrO<sub>3</sub></b>	
		2-Acetoxyisobutryl bromide... 346	

# Empirical formulae

<b>C<sub>6</sub>H<sub>10</sub>O<sub>2</sub></b> 1,5-Hexadiene-3,4-diol ..... 950 2,3-Hexanedione.....956 2,5-Hexanedione.....956 Allyl 2,3-epoxypropyl ether.....367 Cyclopentanecarboxylic acid...679 Ethyl crotonate.....859 Ethyl cyclopropane-carboxylate.....860 Ethyl methacrylate.....876 γ-Caprolactone.....571 ε-Caprolactone.....571	<b>C<sub>6</sub>H<sub>11</sub>NaO<sub>5</sub>S</b> 3-Allyloxy-2-hydroxypropane sulfonate sodium salt.....368	<b>C<sub>6</sub>H<sub>11</sub>NaO<sub>7</sub></b> Gluconic acid sodium salt.....924	<b>C<sub>6</sub>H<sub>12</sub></b> 2,3-Dimethyl-1-butene ..... 787 2,3-Dimethyl-2-butene ..... 787 3,3-Dimethyl-1-butene ..... 787 Cyclohexane ..... 670 Methylcyclopentane ..... 1147	<b>C<sub>6</sub>H<sub>12</sub>Br<sub>2</sub></b> 1,6-Dibromohexane.....706	<b>C<sub>6</sub>H<sub>12</sub>ClNO</b> 2-Chloro-N,N-diethylacetamide .....609	<b>C<sub>6</sub>H<sub>12</sub>Cl<sub>2</sub></b> 1,6-Dichlorohexane .....724	<b>C<sub>6</sub>H<sub>12</sub>Cl<sub>2</sub>O<sub>2</sub></b> 1,2-Bis-(2-chloroethoxy) ethane .....466 Dichloroacetaldehyde diethyl acetal.....713	<b>C<sub>6</sub>H<sub>12</sub>F<sub>3</sub>NOSi</b> 2,2,2-Trifluoro-N-methyl-N-(trimethylsilyl)acetamide.....1597 N-Methyl-N-trimethylsilyl-trifluoroacetamide.....1187	<b>C<sub>6</sub>H<sub>12</sub>NNaO<sub>3</sub>S</b> Sodium cyclamate .....1434	<b>C<sub>6</sub>H<sub>12</sub>NNaO<sub>4</sub>S</b> 2-Morpholinoethanesulfonic acid sodium salt (MES Na).....1195	<b>C<sub>6</sub>H<sub>12</sub>NO<sub>3</sub>P</b> Diethyl cyanomethylphosphonate.....743	<b>C<sub>6</sub>H<sub>12</sub>N<sub>2</sub></b> 1,4-Diazabicyclo[2.2.2]octane...701	<b>C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O</b> 1,3-Dimethyltetrahydro-2(1H)-pyrimidinone.....807	<b>C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub></b> Adipamide.....357	<b>C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>S</b> 1-Ethyl-3-methylimidazolium hydrogensulfate .....1023, 1036	<b>C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub></b> (R)-(-)-Cystine.....684 L-Cystine.....684	<b>C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>S<sub>4</sub></b> Tetramethylthiuram disulfide...1547	<b>C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>Si</b> N-(Trimethylsilyl)imidazole ...1610	<b>C<sub>6</sub>H<sub>12</sub>N<sub>4</sub></b> Hexamethylenetetramine .....953 Methanamine.....1115	<b>C<sub>6</sub>H<sub>12</sub>O</b> 3,3-Dimethyl-2-butanone .....786 3-Hexanone.....958 5-Hexen-1-ol .....958 cis-3-Hexen-1-ol.....958 Cyclohexanol .....674 Cyclopentyl methyl ether.....680 Hexanal .....954 Isobutyl methyl ketone .....1046 n-Butyl vinyl ether.....558 trans-2-Hexen-1-ol.....959	<b>C<sub>6</sub>H<sub>12</sub>O<sub>2</sub></b> 1,4-Butanediolmonovinylether...536 1,4-Cyclohexanediol.....673 2,3-Epoxypropyl isopropyl ether .....839 2-Ethylbutyric acid .....857 2-Methylpentanoic acid .....1169 3-Methylpentanoic acid .....1169 4-Hydroxy-4-methyl-2-pentanone.....991 4-Methyl pentanoic acid .....1169 Amyl formate.....419 Ethyl butyrate.....857 Ethyl isobutyrate.....874 Hexanoic acid.....957 Isobutyl acetate .....1044 Methyl pivalate .....1175 Methyl valerate .....1188 n-Butyl acetate .....540 Propyl propionate.....1379 tert-Butyl acetate.....541 trans-1,2-Cyclohexanediol .....673	<b>C<sub>6</sub>H<sub>12</sub>O<sub>3</sub></b> (1-Methoxy-2-propyl) acetate.....1128 (R)-(-)-1,2-O-Isopropylidenglycerol .....1056 (S)-Ethyl-3-hydroxybutyrate.....873 1,2-O-Isopropylidenglycerol...1056 2,5-Dimethoxy-tetrahydrofuran.....775 2-Ethoxyethyl acetate .....848 3-Allyloxy-1,2-propanediol.....368 Acetoacetaldehyde-1,1-dimethyl acetal.....339 DL-Ethyl-3-hydroxybutyrate....873 Ethyl 2-methyl lactate.....879 Paraldehyde.....1264	<b>C<sub>6</sub>H<sub>12</sub>O<sub>6</sub></b> D(-)-Fructose.....918 D(+)-Galactose.....922 D(+)-Glucose .....925 D(+)-Mannose .....1099 myo-Inositol .....1007	<b>C<sub>6</sub>H<sub>12</sub>O<sub>6</sub> * H<sub>2</sub>O</b> D(+)-Glucose monohydrate...925	<b>C<sub>6</sub>H<sub>12</sub>S</b> Cyclohexanethiol .....674	<b>C<sub>6</sub>H<sub>13</sub>Br</b> 1-Bromohexane .....504 Bromohexane .....504	<b>C<sub>6</sub>H<sub>13</sub>BrO<sub>2</sub></b> Bromoacetaldehyde diethyl acetal.....488	<b>C<sub>6</sub>H<sub>13</sub>Cl</b> 1-Chlorohexane .....617	<b>C<sub>6</sub>H<sub>13</sub>ClO<sub>2</sub></b> Chloroacetaldehyde diethyl acetal.....594	<b>C<sub>6</sub>H<sub>13</sub>Cl<sub>2</sub>NO</b> N-(2-Chloroethyl)-morpholinium chloride .....613	<b>C<sub>6</sub>H<sub>13</sub>N</b> 1-Methylpiperidine.....1174 2-Methylpiperidine.....1174 4-Methylpiperidine.....1174 Cyclohexylamine.....676 Hexamethyleneimine.....953	<b>C<sub>6</sub>H<sub>13</sub>NO</b> (S)-(-)-2-Hydroxymethyl-1-methylpyrrolidine.....990 1-Methyl-4-piperidinol.....1175 4-Ethylmorpholine.....879 N,N-Diethylacetamide.....739	<b>C<sub>6</sub>H<sub>13</sub>NO<sub>2</sub></b> (S)-(-)-Isoleucine.....1049 (S)-(+)-Leucine.....1079 2-Morpholinoethanol.....1195 6-Aminohexanoic 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hydrochloride.....386	<b>C<sub>6</sub>H<sub>14</sub>N<sub>2</sub></b> 1,2-Diaminocyclohexane .....696 1,4-Dimethylpiperazine.....800 N-Ethylpiperazine .....883	<b>C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>O</b> (R)-(+)-1-Amino-2-(methoxymethyl)pyrrolidine ....394 (S)-(-)-1-Amino-2-(methoxymethyl)pyrrolidine ....394 2-(1-Piperazinyl)ethanol.....1332	<b>C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>O<sub>7</sub></b> di-Ammonium hydrogen citrate.....413	<b>C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>O<sub>2</sub> * H<sub>2</sub>O</b> L-Lysine monohydrate.....1087	<b>C<sub>6</sub>H<sub>14</sub>N<sub>4</sub>O<sub>2</sub></b> Adipic dihydrazide .....357 L-Arginine.....426	<b>C<sub>6</sub>H<sub>14</sub>O</b> 1-Hexanol .....957 2-Ethyl-1-butanol .....857 2-Methyl-2-pentanol.....1169 4-Methyl-2-pentanol.....1170 Diisopropyl ether.....769 n-Butylethylether .....548 tert-Butyl ethyl ether.....548	<b>C<sub>6</sub>H<sub>14</sub>O<sub>2</sub></b> 1,6-Hexanediol .....956 2-Methyl-2,4-pentanediol ...1169 Acetaldehyde diethyl acetal....333 Ethylene glycol diethyl ether...866 Ethylene glycol monobutyl ether .....867 Pinacol.....1330	<b>C<sub>6</sub>H<sub>14</sub>O<sub>2</sub>S<sub>2</sub></b> 1,8-Dihydroxy-3,6-dithiaoctane .....764	<b>C<sub>6</sub>H<sub>14</sub>O<sub>3</sub></b> 1,2,6-Hexanetriol.....957 2-Ethyl-2-(hydroxymethyl)-1,3-propanediol.....873 Diethylene glycol dimethyl ether .....744 Diethylene glycol monoethyl ether .....745 Dipropylene glycol .....824	<b>C<sub>6</sub>H<sub>14</sub>O<sub>4</sub></b> Triethylene glycol.....1588	<b>C<sub>6</sub>H<sub>14</sub>O<sub>6</sub></b> D(-)-Mannitol.....1099 D(-)-Sorbitol .....1462	<b>C<sub>6</sub>H<sub>14</sub>S</b> Dipropyl sulfide .....824	<b>C<sub>6</sub>H<sub>14</sub>S<sub>2</sub></b> Dipropyl disulfide.....824	<b>C<sub>6</sub>H<sub>14</sub>Si</b> Allyltrimethylsilane.....369	<b>C<sub>6</sub>H<sub>15</sub>AlO<sub>3</sub></b> Aluminium triethylate.....373	<b>C<sub>6</sub>H<sub>15</sub>BO<sub>3</sub></b> Triethyl borate.....1588	<b>C<sub>6</sub>H<sub>15</sub>ClN<sub>2</sub>O<sub>2</sub></b> (S)-(+)-Lysine monohydrochloride.....1087 L-Lysine monohydrochloride...1087	<b>C<sub>6</sub>H<sub>15</sub>ClN<sub>4</sub>O<sub>2</sub></b> (S)-(+)-Arginine hydrochloride.....426 L-Arginine monohydrochloride.....426	<b>C<sub>6</sub>H<sub>15</sub>ClO<sub>3</sub>Si</b> 3-(Chloropropyl)-trimethoxysilane.....635	<b>C<sub>6</sub>H<sub>15</sub>ClSi</b> Chlorotriethylsilane .....639 tert-Butyldimethylchlorosilane .....547	<b>C<sub>6</sub>H<sub>15</sub>Cl<sub>2</sub>N</b> N-(2-Chloroethyl)-N,N-diethylammonium chloride .....613	<b>C<sub>6</sub>H<sub>15</sub>N*3FH</b> Triethylamine trishydrofluoride.....1587	<b>C<sub>6</sub>H<sub>15</sub>N</b> Diisopropyl amine .....768 Dipropylamine.....823 Hexylamine .....959 Triethylamine.....1587	<b>C<sub>6</sub>H<sub>15</sub>NO</b> 2-(Diethylamino)-ethanol.....740 2-Butylamino-ethanol .....542
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2-tert-Butylamino-ethanol.....	C <sub>7</sub> H <sub>4</sub> ClF <sub>3</sub> N <sub>2</sub> O <sub>4</sub>	C <sub>7</sub> H <sub>4</sub> CINO <sub>3</sub>	C <sub>7</sub> H <sub>5</sub> CIO
..... 542	4-Chloro-3,5-	4-Chloro-	2-Chlorobenzaldehyde..... 600
C <sub>6</sub> H <sub>15</sub> NO <sub>2</sub>	dinitrobenzotrifluoride..... 610	3-nitrobenzaldehyde..... 625	3-Chlorobenzaldehyde..... 600
1,1-Iminodi-2-propanol..... 1002	C <sub>7</sub> H <sub>3</sub> BrF <sub>4</sub> O	4-Nitrobenzoyl chloride..... 1222	4-Chlorobenzaldehyde..... 600
2-Aminoacetaldehyde	1-Bromo-3-fluoro-4-	C <sub>7</sub> H <sub>4</sub> CINO <sub>4</sub>	Benzoyl chloride..... 446
diethylacetal..... 378	(trifluoromethoxy)benzene.....	2-Chloro-4-nitrobenzoic acid.... 626	C <sub>7</sub> H <sub>5</sub> CIOS
Bis(2-methoxyethyl)-amine.....	..... 503	2-Chloro-5-nitrobenzoic acid.... 626	0-Phenyl chlorothioformate... 1301
..... 475	C <sub>7</sub> H <sub>3</sub> CIFN	4-Chloro-2-nitrobenzoic acid.... 626	C <sub>7</sub> H <sub>5</sub> ClO <sub>2</sub>
C <sub>6</sub> H <sub>15</sub> NO <sub>3</sub>	2-Chloro-6-fluorobenzonitrile.....	4-Chloro-3-nitrobenzoic acid.... 626	2-Chlorobenzoic acid..... 601
Triethanolamine..... 1585	..... 614	4-Nitrophenyl chloroformate... 1229	3-Chlorobenzoic acid..... 602
C <sub>6</sub> H <sub>15</sub> NO <sub>5</sub> S	C <sub>7</sub> H <sub>3</sub> ClF <sub>3</sub> NO <sub>2</sub>	5-Chloro-2-nitrobenzoic acid.... 626	4-Chlorobenzoic acid..... 602
N,N-Bis(2-hydroxyethyl)-2-	4-Chloro-3-nitrobenzotrifluoride..	C <sub>7</sub> H <sub>4</sub> CINS	Phenyl chloroformate..... 1301
aminoethanesulfonic acid..... 473	626	2-Chlorobenzothiazole..... 603	C <sub>7</sub> H <sub>5</sub> ClO <sub>3</sub>
C <sub>6</sub> H <sub>15</sub> NO <sub>5</sub> S	C <sub>7</sub> H <sub>3</sub> CIN <sub>2</sub> O <sub>5</sub>	C <sub>7</sub> H <sub>4</sub> Cl <sub>2</sub> N <sub>2</sub>	5-Chloro-2-hydroxybenzoic
N-[Tris(hydroxymethyl)-	3,5-Dinitrobenzoyl chloride.....	2,6-Dichloro-4-	acid..... 618
methoxyethyl)-2-aminoethanesulfonic	..... 811	methylnicotinonitrile..... 727	C <sub>7</sub> H <sub>5</sub> Cl <sub>2</sub> NO <sub>2</sub>
acid..... 1618	C <sub>7</sub> H <sub>3</sub> CIN <sub>2</sub> O <sub>6</sub>	C <sub>7</sub> H <sub>4</sub> Cl <sub>2</sub> O	2-Amino-3,5-dichlorobenzoic
C <sub>6</sub> H <sub>15</sub> N <sub>3</sub>	4-Chloro-3,5-dinitrobenzoic acid.	2,3-Dichlorobenzaldehyde..... 716	acid..... 387
2-(1-Piperaziny)ethylamine.....	610	2,4-Dichlorobenzaldehyde..... 716	2-Amino-4,6-dichlorobenzoic
..... 1332	C <sub>7</sub> H <sub>3</sub> Cl <sub>2</sub> F <sub>3</sub>	2,6-Dichlorobenzaldehyde..... 716	acid..... 387
C <sub>6</sub> H <sub>15</sub> O <sub>3</sub> P	2,4-Dichlorobenzotrifluoride.....	2-Chlorobenzoyl chloride..... 604	C <sub>7</sub> H <sub>5</sub> Cl <sub>3</sub>
Triethylphosphite..... 1590	..... 719	3,5-Dichlorobenzaldehyde..... 716	2,4-Dichlorobenzyl chloride... 720
C <sub>6</sub> H <sub>15</sub> O <sub>4</sub> P	3,4-Dichlorobenzotrifluoride.....	3-Chlorobenzoyl chloride..... 604	3,4-Dichlorobenzyl chloride... 720
Triethyl phosphate..... 1589	..... 719	4-Chlorobenzoyl chloride..... 605	C <sub>7</sub> H <sub>5</sub> FO
C <sub>6</sub> H <sub>16</sub> CIN	C <sub>7</sub> H <sub>3</sub> Cl <sub>2</sub> N	C <sub>7</sub> H <sub>4</sub> Cl <sub>2</sub> O <sub>2</sub>	2-Fluorobenzaldehyde..... 899
Triethylammonium chloride.....	2,4-Dichlorobenzonitrile..... 718	2,4-Dichlorobenzoic acid..... 718	3-Fluorobenzaldehyde..... 899
..... 1587	C <sub>7</sub> H <sub>3</sub> Cl <sub>2</sub> NO	2,5-Dichlorobenzoic acid..... 718	4-Fluorobenzaldehyde..... 900
C <sub>6</sub> H <sub>16</sub> CINO	2,4-Dichlorophenyl isocyanate.....	2,6-Dichlorobenzoic acid..... 718	C <sub>7</sub> H <sub>5</sub> FO <sub>2</sub>
N,N-Diethylethanolammonium	..... 731	3,4-Dichlorobenzoic acid..... 718	2-Fluorobenzoic acid..... 900
chloride..... 746	3,5-Dichlorophenyl isocyanate.....	C <sub>7</sub> H <sub>4</sub> FN	3-Fluorobenzoic acid..... 900
C <sub>6</sub> H <sub>16</sub> CINO <sub>3</sub>	..... 732	2-Fluorobenzonitrile..... 900	4-Fluorobenzoic acid..... 900
Triethanolamine hydrochloride.....	C <sub>7</sub> H <sub>3</sub> Cl <sub>3</sub> O	4-Fluorobenzonitrile..... 901	C <sub>7</sub> H <sub>5</sub> F <sub>2</sub> NO
..... 1585	2,3,5-Trichlorobenzaldehyde.....	C <sub>7</sub> H <sub>4</sub> FNO	3,5-Difluorobenzamide..... 754
C <sub>6</sub> H <sub>16</sub> N <sub>2</sub>	..... 1579	2-Fluoro-4-hydroxy-	C <sub>7</sub> H <sub>5</sub> F <sub>3</sub>
1,5-Diamino-2-methylpentane.....	2,4-Dichlorobenzoyl chloride.....	benzonitrile..... 903	Benzotrifluoride..... 445
..... 698	..... 719	C <sub>7</sub> H <sub>4</sub> FNS	C <sub>7</sub> H <sub>5</sub> F <sub>3</sub> N <sub>2</sub> O <sub>2</sub>
1,6-Diaminohexane..... 697	2,6-Dichlorobenzoyl chloride.....	4-Fluorophenyl	2-Amino-
N,N,N',N'-Tetramethyl	..... 719	isothiocyante..... 907	5-nitrobenzotrifluoride..... 398
ethylenediamine..... 1543	3,5-Dichlorobenzoyl chloride.....	C <sub>7</sub> H <sub>4</sub> F <sub>2</sub> O	C <sub>7</sub> H <sub>5</sub> F <sub>3</sub> O
N,N-Diethylethylenediamine.....	..... 719	2,6-Difluorobenzaldehyde..... 753	4-Hydroxybenzotrifluoride..... 980
..... 748	C <sub>7</sub> H <sub>5</sub> F <sub>2</sub> N	3,4-Difluorobenzaldehyde..... 754	C <sub>7</sub> H <sub>5</sub> F <sub>3</sub> O <sub>2</sub>
C <sub>6</sub> H <sub>16</sub> N <sub>2</sub> O <sub>2</sub>	2,6-Difluorobenzonitrile..... 755	C <sub>7</sub> H <sub>4</sub> F <sub>2</sub> O <sub>2</sub>	4-Trifluoromethoxyphenol.... 1595
1,8-Diamino-3,6-dioxaoctane.....	C <sub>7</sub> H <sub>5</sub> F <sub>3</sub> O	2,6-Difluorobenzoic acid..... 755	C <sub>7</sub> H <sub>5</sub> F <sub>4</sub> N
..... 696	3,4,5-Trifluorobenzaldehyde.....	3,4-Difluorobenzoic acid..... 755	3-Amino-
C <sub>6</sub> H <sub>16</sub> O <sub>5</sub> SSi	..... 1592	C <sub>7</sub> H <sub>4</sub> F <sub>4</sub> O	4-fluorobenzotrifluoride..... 390
3-(Trimethoxysilyl)-1-propanethiol	C <sub>7</sub> H <sub>3</sub> F <sub>3</sub> O <sub>2</sub>	4-(Trifluoromethoxy)-	5-Amino-
1602	2,4,5-Trifluorobenzoic acid.....	1-fluorobenzene..... 1595	2-fluorobenzotrifluoride..... 390
C <sub>6</sub> H <sub>16</sub> Si	..... 1593	C <sub>7</sub> H <sub>4</sub> I <sub>2</sub> O <sub>3</sub>	C <sub>7</sub> H <sub>5</sub> HgNaO <sub>3</sub>
Triethylsilane..... 1590	C <sub>7</sub> H <sub>5</sub> F <sub>5</sub> O	3,5-Diiodosalicylic acid..... 766	4-(Hydroxymercuri)benzoic
C <sub>6</sub> H <sub>17</sub> NO <sub>3</sub> Si	2,3,4,5,6-	C <sub>7</sub> H <sub>4</sub> NNaO <sub>3</sub> S * 2 H <sub>2</sub> O	acid sodium salt..... 987
3-(Trimethoxysilyl)-propylamine ...	Pentafluorobenzylalcohol..... 1268	Saccharin sodium salt	C <sub>7</sub> H <sub>5</sub> IO <sub>2</sub>
1602	C <sub>7</sub> H <sub>3</sub> IO <sub>2</sub>	dihydrate..... 1411	2-Iodobenzoic acid..... 1010
C <sub>6</sub> H <sub>18</sub> LiNSi <sub>2</sub>	2,3,5-Triiodobenzoic acid..... 1598	C <sub>7</sub> H <sub>4</sub> NNaO <sub>4</sub>	4-Iodobenzoic acid..... 1010
Lithium bis(trimethylsilyl)amide....	C <sub>7</sub> H <sub>4</sub> BrClO	3-Nitrobenzoic acid	C <sub>7</sub> H <sub>5</sub> IO <sub>3</sub>
1082	2-Bromobenzoyl chloride..... 494	sodium salt..... 1221	5-Iodosalicylic acid..... 1015
C <sub>6</sub> H <sub>18</sub> N <sub>3</sub> P	4-Bromobenzoyl chloride..... 494	C <sub>7</sub> H <sub>4</sub> N <sub>2</sub> O <sub>2</sub>	C <sub>7</sub> H <sub>5</sub> N
Hexamethyltriaminophosphine.....	C <sub>7</sub> H <sub>4</sub> BrClO <sub>2</sub>	3-Nitrobenzotrifluoride..... 1222	Benzonitrile..... 444
..... 953	5-Bromo-2-chlorobenzoic acid.....	4-Nitrobenzotrifluoride..... 1222	C <sub>7</sub> H <sub>5</sub> NO
C <sub>6</sub> H <sub>18</sub> N <sub>4</sub>	497	C <sub>7</sub> H <sub>4</sub> N <sub>2</sub> O <sub>2</sub> S	2-Hydroxybenzotrifluoride..... 980
Triethylenetetramine..... 1589	C <sub>7</sub> H <sub>4</sub> BrF <sub>3</sub>	4-Nitrophenyl	4-Hydroxybenzotrifluoride..... 980
C <sub>6</sub> H <sub>18</sub> OSi <sub>2</sub>	3-Bromobenzotrifluoride..... 493	isothiocyante..... 1230	Phenyl isocyanate..... 1309
Hexamethyldisiloxane..... 952	4-Bromobenzotrifluoride..... 493	C <sub>7</sub> H <sub>4</sub> N <sub>2</sub> O <sub>6</sub>	C <sub>7</sub> H <sub>5</sub> NO <sub>5</sub>
C <sub>6</sub> H <sub>18</sub> Si <sub>2</sub>	C <sub>7</sub> H <sub>4</sub> BrF <sub>3</sub> O	2,4-Dinitrobenzoic acid..... 810	2-Mercaptobenzoxazole..... 1102
Hexamethyldisilane..... 952	1-Bromo-4-(trifluoromethoxy)	C <sub>7</sub> H <sub>4</sub> N <sub>2</sub> O <sub>7</sub>	C <sub>7</sub> H <sub>5</sub> NO <sub>3</sub>
C <sub>6</sub> H <sub>19</sub> NSi <sub>2</sub>	benzene..... 519	2-Hydroxy-3,5-dinitrobenzoic	2-Nitrobenzaldehyde..... 1219
1,1,1,3,3,3-Hexamethyldisilazane.	C <sub>7</sub> H <sub>4</sub> BrN	acid..... 983	3-Nitrobenzaldehyde..... 1219
952	2-Bromobenzonitrile..... 493	C <sub>7</sub> H <sub>4</sub> O <sub>4</sub> S	4-Nitrobenzaldehyde..... 1219
C <sub>6</sub> MoO <sub>6</sub>	3-Bromobenzonitrile..... 493	2-Sulfobenzoic anhydride..... 1509	C <sub>7</sub> H <sub>5</sub> NO <sub>3</sub> S
Hexacarbonylmolybdenum..... 946	4-Bromobenzonitrile..... 493	C <sub>7</sub> H <sub>5</sub> AgO <sub>2</sub>	Saccharin..... 1411
C <sub>6</sub> N <sub>4</sub>	C <sub>7</sub> H <sub>4</sub> Br <sub>2</sub> O <sub>3</sub>	Silver benzoate..... 1423	C <sub>7</sub> H <sub>5</sub> NO <sub>4</sub>
Tetracyanoethylene..... 1530	3,5-Dibromosalicylic acid..... 708	C <sub>7</sub> H <sub>5</sub> BrO	2,3-Pyridinedicarboxylic
C <sub>6</sub> Na <sub>2</sub> O <sub>6</sub>	C <sub>7</sub> H <sub>4</sub> ClFO	2-Bromobenzaldehyde..... 491	acid..... 1389
Rhodizonic acid disodium salt.....	2-Chloro-6-fluorobenzaldehyde....	3-Bromobenzaldehyde..... 492	2,4-Pyridinedicarboxylic
..... 1409	614	4-Bromobenzaldehyde..... 492	acid..... 1389
C <sub>6</sub> O <sub>6</sub> W	2-Fluorobenzoyl chloride..... 901	C <sub>7</sub> H <sub>5</sub> BrO <sub>2</sub>	2-Hydroxy-
Hexacarbonyltungsten..... 947	3-Fluorobenzoyl chloride..... 901	2-Bromobenzoic acid..... 492	5-nitrobenzaldehyde..... 992
C <sub>7</sub> ClF <sub>5</sub> O	4-Fluorobenzoyl chloride..... 901	4-Bromobenzoic acid..... 492	2-Nitrobenzoic acid..... 1221
Pentafluorobenzoyl chloride.....	C <sub>7</sub> H <sub>4</sub> ClFO <sub>2</sub>	5-Bromo-	3-Nitrobenzoic acid..... 1221
..... 1268	2-Chloro-6-fluorobenzoic acid.....	2-hydroxybenzaldehyde..... 505	4-Nitrobenzoic acid..... 1221
C <sub>7</sub> D <sub>8</sub>	..... 614	C <sub>7</sub> H <sub>5</sub> BrO <sub>3</sub>	Pyridine-2,5-dicarboxylic
Toluene-D <sub>8</sub> ..... 1568	C <sub>7</sub> H <sub>4</sub> ClF <sub>3</sub>	5-Bromo-	acid..... 1389
C <sub>7</sub> D <sub>14</sub>	2-Chlorobenzotrifluoride..... 604	2-hydroxybenzoic acid..... 505	Pyridine-2,6-dicarboxylic
Methylcyclohexane-D <sub>14</sub> ..... 1146	4-Chlorobenzotrifluoride..... 604	C <sub>7</sub> H <sub>5</sub> ClF <sub>3</sub> N	acid..... 1389
C <sub>7</sub> F <sub>5</sub> N	C <sub>7</sub> H <sub>4</sub> ClIO	3-Amino-	Pyridine-3,4-dicarboxylic
Pentafluorobenzonitrile..... 1267	2-Iodobenzoyl chloride..... 1011	4-chlorobenzotrifluoride..... 385	acid..... 1389
C <sub>7</sub> HF <sub>5</sub> O <sub>2</sub>	C <sub>7</sub> H <sub>4</sub> CIN	5-Amino-	Pyridine-3,5-dicarboxylic
2,3,4,5,6-Pentafluorobenzoic acid.	2-Chlorobenzonitrile..... 602	2-chlorobenzotrifluoride..... 385	acid..... 1390
1267	3-Chlorobenzonitrile..... 602	C <sub>7</sub> H <sub>5</sub> ClN <sub>2</sub> O <sub>4</sub>	C <sub>7</sub> H <sub>5</sub> NO <sub>5</sub>
C <sub>7</sub> H <sub>2</sub> BrF <sub>5</sub>	4-Chlorobenzonitrile..... 602	2,4-Dinitrobenzyl chloride..... 811	2-Hydroxy-5-nitrobenzoic
2,3,4,5,6-	C <sub>7</sub> H <sub>5</sub> ClN <sub>4</sub>	5-Chloro-1-phenyltetrazole.... 632	acid..... 992
Pentafluorobenzylbromide..... 1268	.....		3-Hydroxy-4-nitrobenzoic
			acid..... 993

# Empirical formulae

<b>C<sub>7</sub>H<sub>5</sub>NS</b>	Benzothiazole..... 445	Phenyl isothiocyanate..... 1310
<b>C<sub>7</sub>H<sub>5</sub>NS<sub>2</sub></b>	2-Mercaptobenzothiazole..... 1102	
<b>C<sub>7</sub>H<sub>5</sub>N<sub>3</sub>O<sub>2</sub></b>	5-Nitro-1H-indazole..... 1226	5-Nitrobenzimidazole..... 1221
	6-Nitroindazole..... 1226	
<b>C<sub>7</sub>H<sub>5</sub>NaO<sub>3</sub></b>	Sodium salicylate..... 1452	
<b>C<sub>7</sub>H<sub>6</sub>BrF</b>	3-Fluorobenzyl bromide..... 902	
<b>C<sub>7</sub>H<sub>6</sub>BrI</b>	3-Iodobenzyl bromide..... 1011	
<b>C<sub>7</sub>H<sub>6</sub>BrNO<sub>2</sub></b>	2-Nitrobenzyl bromide..... 1223	4-Nitrobenzyl bromide..... 1223
<b>C<sub>7</sub>H<sub>6</sub>Br<sub>2</sub></b>	2-Bromobenzyl bromide..... 494	3-Bromobenzyl bromide..... 495
	4-Bromobenzyl bromide..... 495	
<b>C<sub>7</sub>H<sub>6</sub>ClF</b>	2-Chloro-6-fluorotoluene..... 615	2-Fluorobenzyl chloride..... 902
	3-Fluorobenzyl chloride..... 902	4-Fluorobenzyl chloride..... 902
<b>C<sub>7</sub>H<sub>6</sub>ClNO<sub>2</sub></b>	2-Amino-4-chlorobenzoic acid..... 384	2-Amino-5-chlorobenzoic acid..... 384
	2-Chloro-6-nitrotoluene..... 627	2-Nitrobenzyl chloride..... 1223
	3-Amino-4-chlorobenzoic acid..... 384	4-Amino-2-chlorobenzoic acid..... 384
	4-Chloro-2-nitrotoluene..... 627	4-Chloro-3-nitrotoluene..... 627
	5-Amino-2-chloro benzoic acid..... 384	
<b>C<sub>7</sub>H<sub>6</sub>Cl<sub>2</sub></b>	2,4-Dichlorotoluene..... 735	2,6-Dichlorotoluene..... 735
	2-Chlorobenzyl chloride..... 605	3,4-Dichlorotoluene..... 735
<b>C<sub>7</sub>H<sub>6</sub>Cl<sub>2</sub>O</b>	2,4-Dichlorobenzyl alcohol..... 720	3,4-Dichlorobenzyl alcohol..... 720
<b>C<sub>7</sub>H<sub>6</sub>FNO<sub>2</sub></b>	5-Fluoro-2-nitrotoluene..... 905	
<b>C<sub>7</sub>H<sub>6</sub>F<sub>2</sub></b>	2,3-Difluorotoluene..... 756	
<b>C<sub>7</sub>H<sub>6</sub>F<sub>3</sub>N</b>	2-Aminobenzotrifluoride..... 382	3-Aminobenzotrifluoride..... 382
	4-Aminobenzotrifluoride..... 382	
<b>C<sub>7</sub>H<sub>6</sub>F<sub>3</sub>NO</b>	3-(Trifluoromethoxy)-aniline... 1594	4-(Trifluoromethoxy)-aniline... 1594
<b>C<sub>7</sub>H<sub>6</sub>I<sub>2</sub>NO<sub>2</sub></b>	2-Iodo-5-nitrotoluene..... 1014	
<b>C<sub>7</sub>H<sub>6</sub>NNaO<sub>3</sub> * 2H<sub>2</sub>O</b>	4-Amino-2-hydroxybenzoic acid sodium salt dihydrate..... 392	
<b>C<sub>7</sub>H<sub>6</sub>N<sub>2</sub></b>	2-Aminobenzonitrile..... 381	4-Aminobenzonitrile..... 381
	7-Azaindole..... 429	Benzimidazole..... 442
	Indazole..... 1003	
<b>C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>O</b>	2-Hydroxybenzimidazole..... 979	
<b>C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>O<sub>4</sub></b>	2,4-Dinitrotoluene..... 812	
<b>C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>O<sub>5</sub></b>	2-Methyl-4,6-dinitrophenol... 1149	
<b>C<sub>7</sub>H<sub>6</sub>N<sub>2</sub>S</b>	2-Aminobenzothiazole..... 382	2-Mercaptobenzimidazole..... 1102
<b>C<sub>7</sub>H<sub>6</sub>N<sub>4</sub>O</b>	1,1'-Carbonyldiimidazole..... 573	
<b>C<sub>7</sub>H<sub>6</sub>N<sub>4</sub>S</b>	1-Phenyl-1H-tetrazole-5-thiol..... 1317	
<b>C<sub>7</sub>H<sub>6</sub>O</b>	Benzaldehyde..... 436	
<b>C<sub>7</sub>H<sub>6</sub>O<sub>2</sub></b>	1,2-Methylenedioxybenzene... 1152	2-Hydroxybenzaldehyde..... 979
	3-Hydroxybenzaldehyde..... 979	4-Hydroxybenzaldehyde..... 979
	Benzoic acid..... 442	Tropolone..... 1621
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<b>C<sub>7</sub>H<sub>6</sub>O<sub>3</sub></b>	2,3-Dihydroxybenzaldehyde... 762	2,4-Dihydroxybenzaldehyde... 762
	2,5-Dihydroxybenzaldehyde... 762	3-(2-Furyl)acrylic acid..... 921
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	3-Hydroxybenzoic acid..... 979	4-Hydroxybenzoic acid..... 980
	Salicylic acid..... 1412	
<b>C<sub>7</sub>H<sub>6</sub>O<sub>4</sub></b>	2,4-Dihydroxybenzoic acid..... 762	2,5-Dihydroxybenzoic acid..... 763
	2,6-Dihydroxybenzoic acid..... 763	3,4-Dihydroxybenzoic acid..... 763
	3,5-Dihydroxybenzoic acid..... 763	
<b>C<sub>7</sub>H<sub>6</sub>O<sub>5</sub></b>	Gallic acid..... 922	
<b>C<sub>7</sub>H<sub>6</sub>O<sub>5</sub>S * 2 H<sub>2</sub>O</b>	5-Sulfosalicylic acid dihydrate..... 1510	
<b>C<sub>7</sub>H<sub>7</sub>BO<sub>3</sub></b>	4-Formylphenyl boronic acid..... 917	
<b>C<sub>7</sub>H<sub>7</sub>Br</b>	2-Bromotoluene..... 518	3-Bromotoluene..... 519
	4-Bromotoluene..... 519	Benzyl bromide..... 450
<b>C<sub>7</sub>H<sub>7</sub>BrO</b>	2-Bromoanisole..... 491	2-Bromobenzyl alcohol..... 494
	3-Bromoanisole..... 491	3-Bromobenzyl alcohol..... 494
	4-Bromoanisole..... 491	4-Bromobenzyl alcohol..... 494
<b>C<sub>7</sub>H<sub>7</sub>Cl</b>	2-Chlorotoluene..... 638	3-Chlorotoluene..... 638
	4-Chlorotoluene..... 639	Benzyl chloride..... 451
<b>C<sub>7</sub>H<sub>7</sub>ClN<sub>2</sub>O</b>	6-Chloro-N-methyl nicotinamide..... 621	
<b>C<sub>7</sub>H<sub>7</sub>ClNaNO<sub>2</sub>S * 3 H<sub>2</sub>O</b>	Chloramine T trihydrate..... 594	
<b>C<sub>7</sub>H<sub>7</sub>ClO</b>	2-Chlorobenzyl alcohol..... 605	3-Chloroanisole..... 599
	3-Chlorobenzyl alcohol..... 605	4-Chloro-3-methylphenol..... 621
	4-Chloroanisole..... 599	4-Chlorobenzyl alcohol..... 605
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<b>C<sub>7</sub>H<sub>7</sub>Cl<sub>2</sub>N</b>	3,4-Dichlorobenzylamine..... 720	
<b>C<sub>7</sub>H<sub>7</sub>F</b>	2-Fluorotoluene..... 908	3-Fluorotoluene..... 908
	4-Fluorotoluene..... 908	
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	3-Fluoroanisole..... 899	3-Fluorobenzyl alcohol..... 901
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<b>C<sub>7</sub>H<sub>7</sub>I</b>	2-Iodotoluene..... 1016	4-Iodotoluene..... 1016
<b>C<sub>7</sub>H<sub>7</sub>IO</b>	2-Iodoanisole..... 1010	3-Iodobenzyl alcohol..... 1011
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	3-Aminobenzoic acid..... 381	3-Nitrotoluene..... 1233
	4-Aminobenzoic acid..... 381	4-Nitrotoluene..... 1233
	Anthranilic acid..... 423	Benzohydroxamic acid..... 442
	Methyl nicotinate..... 1164	
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<b>C<sub>7</sub>H<sub>7</sub>NO<sub>3</sub></b>	2-Nitroanisole..... 1218	2-Nitrobenzyl alcohol..... 1222
	3-Nitroanisole..... 1218	3-Nitrobenzyl alcohol..... 1222
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	p-Cresol..... 660	
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<b>C<sub>7</sub>H<sub>8</sub>NO<sub>2</sub>S</b>	4-Toluenesulfonamide..... 1568	
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<b>C<sub>7</sub>H<sub>11</sub>NO<sub>2</sub></b> N-Acetyl-4-piperidone..... 351 tert-Butyl cyanoacetate..... 546	<b>C<sub>7</sub>H<sub>14</sub>N<sub>2</sub>O<sub>3</sub>S</b> 1-Ethyl-3-methylimidazolium methanesulfonate..... 1023, 1038	<b>C<sub>7</sub>H<sub>16</sub>O<sub>2</sub></b> 1,7-Heptanediol ..... 939 2,2-Diethoxypropane..... 738	<b>C<sub>8</sub>H<sub>4</sub>KNO<sub>2</sub></b> Phthalimide potassium salt... 1328
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<b>C<sub>7</sub>H<sub>11</sub>N<sub>3</sub>S</b> 1-Ethyl-3-methylimidazolium thiocyanate..... 1024, 1038	<b>C<sub>7</sub>H<sub>14</sub>O<sub>5</sub></b> 2-(Trimethylsiloxy)- 1,3-butadiene..... 1608	<b>C<sub>7</sub>H<sub>16</sub>O<sub>4</sub></b> Malondialdehyde bis(dimethyl acetal)..... 1095 Triethylene glycol monomethyl ether ..... 1588	<b>C<sub>8</sub>H<sub>4</sub>K<sub>2</sub>O<sub>12</sub>Sb<sub>2</sub> * 3 H<sub>2</sub>O</b> Potassium triantimony(III) oxide tartrate trihydrate..... 1345
<b>C<sub>7</sub>H<sub>12</sub>BrN</b> 7-Bromoheptanonitrile ..... 504	<b>C<sub>7</sub>H<sub>14</sub>O<sub>2</sub></b> 2-(Heptanone ..... 941 3-Heptanone ..... 941 3-Methylcyclohexanol ..... 1146 4-Heptanone ..... 941 5-Methyl-2-hexanone ..... 1157 Cycloheptanol..... 669 Cyclohexylmethanol ..... 677 Heptanal..... 938	<b>C<sub>7</sub>H<sub>16</sub>O<sub>5</sub></b> D(-)-N-Methylglucamine..... 1154	<b>C<sub>8</sub>H<sub>4</sub>N<sub>2</sub></b> Isophthalonitrile..... 1053 Phthalonitrile ..... 1329 Terephthalodinitrile ..... 1523
<b>C<sub>7</sub>H<sub>12</sub>N<sub>2</sub></b> 1,5-Diazabicyclo[4.3.0]non- 5-ene ..... 701 1-Butyl imidazole ..... 549	<b>C<sub>7</sub>H<sub>14</sub>O<sub>3</sub></b> (S)-(-)-Butyllactate..... 550 4,4-Dimethoxy-tetrahydro- 4H-pyran ..... 775 Ethyl 3-ethoxypropionate..... 869	<b>C<sub>7</sub>H<sub>17</sub>NO<sub>2</sub></b> N,N-Dimethylformamide diethyl acetal ..... 792	<b>C<sub>8</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub></b> 2,3-Dicyanohydroquinone ..... 735
<b>C<sub>7</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>S</b> 2-Methyl-1,4-phenylene- diammonium sulfate ..... 1171	<b>C<sub>7</sub>H<sub>14</sub>O<sub>4</sub></b> Ethyl isopentanoate..... 875 Ethyl pentanoate..... 882 Ethyl pivalate ..... 884 Heptanoic acid ..... 940 Isoamyl acetate..... 1042 Isobutyl propionate..... 1047 Isopropyl butyrate..... 1055 Methyl hexanoate..... 1156 n-Amyl acetate ..... 418	<b>C<sub>7</sub>H<sub>17</sub>NO<sub>5</sub></b> D(-)-N-Methylglucamine..... 1154	<b>C<sub>8</sub>H<sub>4</sub>N<sub>2</sub>S<sub>2</sub></b> 1,4-Phenylene diisothiocyanate..... 1303
<b>C<sub>7</sub>H<sub>12</sub>O</b> 2-Methylcyclohexanone ..... 1147 3-Methylcyclohexanone ..... 1147 4-Methylcyclohexanone ..... 1147 Cycloheptanone ..... 670	<b>C<sub>7</sub>H<sub>14</sub>O<sub>5</sub></b> [2-(2-Methoxyethoxy)ethoxy] acetic acid..... 1121	<b>C<sub>7</sub>H<sub>17</sub>NO<sub>6</sub>S</b> N-[Tris(hydroxymethyl)methyl]-3- aminopropanesulfonic acid... 1618	<b>C<sub>8</sub>H<sub>4</sub>O<sub>3</sub></b> Phthalic anhydride..... 1328
<b>C<sub>7</sub>H<sub>12</sub>O<sub>2</sub></b> Butyl acrylate ..... 541 Cyclohexanecarboxylic acid .... 672	<b>C<sub>7</sub>H<sub>14</sub>O<sub>6</sub></b> Methyl-D-glucopyranoside... 1155	<b>C<sub>7</sub>H<sub>18</sub>N<sub>2</sub></b> 1,7-Diaminoheptane ..... 697 3-Diethylamino- 1-propylamine..... 741 N,N,N',N'-Tetramethyl- 1,3-propanediamine ..... 1546	<b>C<sub>8</sub>H<sub>5</sub>FO<sub>4</sub></b> 3-Fluorophthalic acid..... 907
<b>C<sub>7</sub>H<sub>12</sub>O<sub>2</sub>S<sub>2</sub></b> Ethyl 1,3-dithiane- 2-carboxylate..... 861	<b>C<sub>7</sub>H<sub>14</sub>O<sub>7</sub></b> 2-(2-Methoxyethoxy)ethoxy] acetic acid..... 1121	<b>C<sub>7</sub>H<sub>18</sub>O<sub>2</sub>Si</b> Triethoxymethylsilane ..... 1586	<b>C<sub>8</sub>H<sub>5</sub>BrO<sub>4</sub></b> 2-Bromoterephthalic acid ..... 517
<b>C<sub>7</sub>H<sub>12</sub>O<sub>3</sub></b> Ethyl 3-oxovalerate ..... 881 Ethyl levulinate ..... 875 Hydroxypropyl methacrylate... 996 Methyl isobutyrylacetate..... 1160	<b>C<sub>7</sub>H<sub>14</sub>O<sub>8</sub></b> [2-(2-Methoxyethoxy)ethoxy] acetic acid..... 1121	<b>C<sub>7</sub>H<sub>19</sub>NSi</b> Diethylaminotrimethylsilane... 741	<b>C<sub>8</sub>H<sub>5</sub>F<sub>3</sub>O</b> 4-(Trifluoromethyl)- benzaldehyde..... 1595 α,α,α-Trifluoroacetophenone.. 1592
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	<b>C<sub>7</sub>H<sub>15</sub>Br</b> 1-Bromoheptane..... 504	<b>C<sub>8</sub>ClF<sub>15</sub>O</b> Pentadecafluorooctanoyl chloride ..... 1265	<b>C<sub>8</sub>H<sub>5</sub>KO<sub>4</sub></b> Potassium hydrogen phthalate..... 524, 1355
	<b>C<sub>7</sub>H<sub>15</sub>Cl</b> 1-Chloroheptane..... 617	<b>C<sub>8</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>2</sub></b> 2,3-Dichloro-5,6-dicyano-p- benzoquinone..... 722	<b>C<sub>8</sub>H<sub>5</sub>NO</b> 3-Cyanobenzaldehyde..... 666 4-Cyanobenzaldehyde..... 666

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<b>C<sub>8</sub>H<sub>5</sub>NO<sub>2</sub></b> 4-Cyanobenzoic acid..... 666 Isatin..... 1042 Phthalimide..... 1328	<b>C<sub>8</sub>H<sub>7</sub>BrO</b> 2'-Bromoacetophenone ..... 489 2-Bromoacetophenone ..... 489 3'-Bromoacetophenone ..... 490 4'-Bromoacetophenone ..... 490	<b>C<sub>8</sub>H<sub>7</sub>NS</b> 2-Methylbenzothiazole..... 1136 2-Methylphenyl isothiocyanate..... 1172 3-Methylphenyl isothiocyanate..... 1172 4-Methylphenyl isothiocyanate..... 1172 Benzyl isothiocyanate..... 454 Benzyl thiocyanate..... 457	2-Hydroxy-3-methoxy- benzaldehyde..... 988 2-Hydroxy-3-methylbenzoic acid..... 989 2-Hydroxy-4-methoxy- benzaldehyde..... 988 2-Hydroxy-5-methoxy- benzaldehyde..... 988 2-Methoxybenzoic acid..... 1118 3-Hydroxy-4-methoxy- benzaldehyde..... 988 3-Hydroxy-4-methylbenzoic acid..... 990 3-Methoxybenzoic acid..... 1118 4-Methoxybenzoic acid..... 1118 DL-Mandelic acid..... 1095 Phenoxyacetic acid..... 1296 Vanillin..... 1630
<b>C<sub>8</sub>H<sub>5</sub>NO<sub>3</sub></b> Isatoic anhydride..... 1042 N-Hydroxyphthalimide..... 995	<b>C<sub>8</sub>H<sub>7</sub>BrO<sub>2</sub></b> 3-Bromophenylacetic acid..... 513 4-(Bromomethyl)benzoic acid..... 507 4-Bromo-2-methylbenzoic acid..... 507 4-Bromophenylacetic acid..... 513 DL- $\alpha$ -Bromophenylacetic acid..... 513 Methyl 3-bromobenzoate..... 1139	<b>C<sub>8</sub>H<sub>7</sub>N<sub>3</sub>O<sub>2</sub></b> 4-Phenylurazole..... 1318 5-Amino-2,3-dihydrophthalazine- 1,4-dione..... 387	2-Hydroxy-5-methoxybenzoic acid..... 988 Dehydroacetic acid..... 690 Vanillin acid..... 1630
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<b>C<sub>8</sub>H<sub>6</sub></b> Phenylacetylene..... 1299	<b>C<sub>8</sub>H<sub>7</sub>Cl</b> 4-Chlorostyrene..... 637	<b>C<sub>8</sub>H<sub>7</sub>NO</b> 4'-Bromoacetanilide..... 489	<b>C<sub>8</sub>H<sub>8</sub>Br</b> 1-Bromo-4-ethylbenzene..... 502 2-Methylbenzyl bromide..... 1138 2-Phenylethyl bromide..... 1306 3-Bromo-o-xylene..... 521 4-Bromo-o-xylene..... 521 5-Bromo-m-xylene..... 521
<b>C<sub>8</sub>H<sub>6</sub>BrN</b> 2-(Bromomethyl)-benzonitrile..... 507 3-(Bromomethyl)-benzonitrile..... 508 5-Bromindole..... 505	<b>C<sub>8</sub>H<sub>7</sub>ClO</b> 2'-Chloroacetophenone..... 597 3'-Chloroacetophenone..... 598 3-Methylbenzoyl chloride..... 1137 4'-Chloroacetophenone..... 598 4-Methylbenzoyl chloride..... 1137 Phenylacetyl chloride..... 1298	<b>C<sub>8</sub>H<sub>8</sub>BrNO</b> 4'-Bromoacetanilide..... 489	<b>C<sub>8</sub>H<sub>8</sub>BrO</b> (2-Bromethoxy)benzene..... 487
<b>C<sub>8</sub>H<sub>6</sub>Br<sub>2</sub>O</b> 2,4'-Dibromoacetophenone..... 704	<b>C<sub>8</sub>H<sub>7</sub>ClO<sub>2</sub></b> 2-Chloroacetophenone..... 597 3-Chloroacetophenone..... 598 3-Methylbenzoyl chloride..... 1137 4'-Chloroacetophenone..... 598 4-Methylbenzoyl chloride..... 1137 Phenylacetyl chloride..... 1298	<b>C<sub>8</sub>H<sub>8</sub>BrNO<sub>2</sub></b> 2-(4-Nitrophenyl)- 1-bromoethane..... 1229	<b>C<sub>8</sub>H<sub>8</sub>O<sub>4</sub> * H<sub>2</sub>O</b> 2',4',6'-Trihydroxyacetophenone monohydrate..... 1598
<b>C<sub>8</sub>H<sub>6</sub>Br<sub>4</sub></b> 1,2-Bis(dibromomethyl)- benzene..... 469	<b>C<sub>8</sub>H<sub>7</sub>ClO<sub>3</sub></b> 2-Chlorophenylacetic acid..... 630 2-Methoxybenzoyl chloride..... 1119 3-Chlorophenylacetic acid..... 630 4-Chlorophenylacetic acid..... 630 4-Methoxybenzoyl chloride..... 1119 Benzyl chloroformate..... 451 Methyl 2-chlorobenzoate..... 1144 Phenoxyacetyl chloride..... 1296	<b>C<sub>8</sub>H<sub>8</sub>BrNO<sub>2</sub></b> 2-(4-Nitrophenyl)- 1-bromoethane..... 1229	<b>C<sub>8</sub>H<sub>9</sub>Br</b> 1-Bromo-4-ethylbenzene..... 502 2-Methylbenzyl bromide..... 1138 2-Phenylethyl bromide..... 1306 3-Bromo-o-xylene..... 521 4-Bromo-o-xylene..... 521 5-Bromo-m-xylene..... 521
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<b>C<sub>8</sub>H<sub>6</sub>ClN</b> 4-Chlorobenzyl cyanide..... 606	<b>C<sub>8</sub>H<sub>7</sub>FO<sub>2</sub></b> 3-Fluorophenylacetic acid..... 906 4-Fluorophenylacetic acid..... 906	<b>C<sub>8</sub>H<sub>8</sub>BrNO<sub>2</sub></b> 2-(4-Nitrophenyl)- 1-bromoethane..... 1229	<b>C<sub>8</sub>H<sub>9</sub>Cl</b> 2-Methylbenzyl chloride..... 1138 2-Phenylethyl chloride..... 1306 3-Methylbenzyl chloride..... 1138 4-Methylbenzyl chloride..... 1138
<b>C<sub>8</sub>H<sub>6</sub>ClNO</b> 3-Chloro-4-methyl-phenyl isocyanate..... 621 5-Chloro-2- methylbenzoxazole..... 620	<b>C<sub>8</sub>H<sub>7</sub>F<sub>2</sub>O</b> 4-(Trifluoromethyl)-benzyl alcohol..... 1596	<b>C<sub>8</sub>H<sub>8</sub>BrNO<sub>2</sub></b> 2-(4-Nitrophenyl)- 1-bromoethane..... 1229	<b>C<sub>8</sub>H<sub>9</sub>ClO</b> 1-(4-Chlorophenyl) ethanol..... 631 3-Methoxybenzyl chloride..... 1120 4-Chloro-3,5-dimethylphenol..... 609 4-Methoxybenzyl chloride..... 1120
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<b>C<sub>8</sub>H<sub>6</sub>Cl<sub>2</sub>O<sub>3</sub></b> 2,4-Dichlorophenoxyacetic acid..... 731	<b>C<sub>8</sub>H<sub>7</sub>FO<sub>2</sub></b> 3-Fluorophenylacetic acid..... 906 4-Fluorophenylacetic acid..... 906	<b>C<sub>8</sub>H<sub>8</sub>ClNO<sub>2</sub></b> Ethyl - 6 chloronicotinate..... 849	<b>C<sub>8</sub>H<sub>9</sub>Cl</b> 2-Methylbenzyl chloride..... 1138 2-Phenylethyl chloride..... 1306 3-Methylbenzyl chloride..... 1138 4-Methylbenzyl chloride..... 1138
<b>C<sub>8</sub>H<sub>6</sub>FN</b> 6-Fluoroindole..... 903	<b>C<sub>8</sub>H<sub>7</sub>F<sub>2</sub>O</b> 4-(Trifluoromethyl)-benzyl alcohol..... 1596	<b>C<sub>8</sub>H<sub>8</sub>ClNO<sub>2</sub></b> Ethyl - 6 chloronicotinate..... 849	<b>C<sub>8</sub>H<sub>9</sub>Cl</b> 2-Methylbenzyl chloride..... 1138 2-Phenylethyl chloride..... 1306 3-Methylbenzyl chloride..... 1138 4-Methylbenzyl chloride..... 1138
<b>C<sub>8</sub>H<sub>6</sub>F<sub>2</sub>O</b> 2',4'-Difluoroacetophenone..... 753	<b>C<sub>8</sub>H<sub>7</sub>IO</b> 4'-Iodoacetophenone..... 1009	<b>C<sub>8</sub>H<sub>8</sub>ClNO<sub>2</sub></b> Ethyl - 6 chloronicotinate..... 849	<b>C<sub>8</sub>H<sub>9</sub>Cl</b> 2-Methylbenzyl chloride..... 1138 2-Phenylethyl chloride..... 1306 3-Methylbenzyl chloride..... 1138 4-Methylbenzyl chloride..... 1138
<b>C<sub>8</sub>H<sub>6</sub>F<sub>2</sub>O<sub>2</sub></b> 2,6-Difluorophenylacetic acid..... 756	<b>C<sub>8</sub>H<sub>7</sub>N</b> Benzyl cyanide..... 452 Indole..... 1004 m-Tolunitrile..... 1571 o-Tolunitrile..... 1571 p-Tolunitrile..... 1572	<b>C<sub>8</sub>H<sub>8</sub>ClNO<sub>2</sub></b> Ethyl - 6 chloronicotinate..... 849	<b>C<sub>8</sub>H<sub>9</sub>Cl</b> 2-Methylbenzyl chloride..... 1138 2-Phenylethyl chloride..... 1306 3-Methylbenzyl chloride..... 1138 4-Methylbenzyl chloride..... 1138
<b>C<sub>8</sub>H<sub>6</sub>N<sub>2</sub></b> Quinoxaline..... 1400	<b>C<sub>8</sub>H<sub>7</sub>NO</b> 2-Methylbenzoxazole..... 1137 4-Hydroxyphenylacetoneitrile..... 993 4-Methoxybenzonitrile..... 1118 5-Hydroxyindole..... 985 Benzyl isocyanate..... 454 DL-Mandelic acid nitrile..... 1096 Oxindole..... 1258	<b>C<sub>8</sub>H<sub>8</sub>ClNO<sub>2</sub></b> Ethyl - 6 chloronicotinate..... 849	<b>C<sub>8</sub>H<sub>9</sub>Cl</b> 2-Methylbenzyl chloride..... 1138 2-Phenylethyl chloride..... 1306 3-Methylbenzyl chloride..... 1138 4-Methylbenzyl chloride..... 1138
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<b>C<sub>8</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub></b> (4-Nitrophenyl)acetoneitrile..... 1228	<b>C<sub>8</sub>H<sub>7</sub>NO<sub>2</sub></b> 2-Methylbenzoxazole..... 1137 4-Hydroxyphenylacetoneitrile..... 993 4-Methoxybenzonitrile..... 1118 5-Hydroxyindole..... 985 Benzyl isocyanate..... 454 DL-Mandelic acid nitrile..... 1096 Oxindole..... 1258	<b>C<sub>8</sub>H<sub>8</sub>ClNO<sub>2</sub></b> Ethyl - 6 chloronicotinate..... 849	<b>C<sub>8</sub>H<sub>9</sub>Cl</b> 2-Methylbenzyl chloride..... 1138 2-Phenylethyl chloride..... 1306 3-Methylbenzyl chloride..... 1138 4-Methylbenzyl chloride..... 1138
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	<b>C<sub>8</sub>H<sub>12</sub>O<sub>6</sub>Si</b> Silicon tetraacetate ..... 1422		





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<b>C<sub>9</sub>H<sub>12</sub>O<sub>6</sub></b> (+)-5,6-O-Isopropylidene-L-ascorbic acid ..... 1056	<b>C<sub>9</sub>H<sub>16</sub>O<sub>2</sub></b> Allyl hexanoate ..... 367 γ-Nonanolactone ..... 1236	<b>C<sub>9</sub>H<sub>20</sub>CIN</b> 1-Butyl-1-methylpyrrolidinium chloride ..... 1027, 1030	<b>C<sub>10</sub>H<sub>7</sub>Cl</b> 1-Chloronaphthalene ..... 623
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<b>C<sub>9</sub>H<sub>18</sub>F<sub>3</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub></b> Ethyl-dimethyl-propylammonium bis(trifluoromethylsulfonyle) imide ..... 1019, 1032	<b>C<sub>9</sub>H<sub>18</sub>NO<sub>3</sub>Si</b> N-tert-Butyldimethylsilyl-N-methyltrifluoroacetamide ..... 547	<b>C<sub>9</sub>H<sub>20</sub>O<sub>3</sub></b> Triethyl orthopropionate ..... 1589	<b>C<sub>10</sub>H<sub>8</sub>BrNO<sub>2</sub></b> N-(2-Bromoethyl)phthalimide ..... 502
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<b>C<sub>9</sub>H<sub>18</sub>F<sub>3</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub></b> Ethyl-dimethyl-propylammonium bis(trifluoromethylsulfonyle) imide ..... 1019, 1032	<b>C<sub>9</sub>H<sub>18</sub>NO<sub>3</sub>Si</b> N-tert-Butyldimethylsilyl-N-methyltrifluoroacetamide ..... 547	<b>C<sub>9</sub>H<sub>21</sub>N</b> Nonylamine ..... 1237 Tripropylamine ..... 1616	<b>C<sub>10</sub>H<sub>8</sub>N<sub>2</sub></b> 1,2-Bis(cyanomethyl)-benzene ..... 467 1,3-Bis(cyanomethyl)-benzene ..... 467 2,2'-Bipyridine ..... 464 4,4'-Bipyridine ..... 464 Indole-3-acetonitrile ..... 1005



# Empirical formulae

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<b>C<sub>10</sub>H<sub>8</sub>ClFeHg</b> Chloromercuriferrocene..... 618	<b>C<sub>10</sub>H<sub>11</sub>NO<sub>4</sub></b> 2-Aminodimethyl terephthalate..... 388	<b>C<sub>10</sub>H<sub>13</sub>Cl<sub>3</sub>N<sub>2</sub></b> 1-(2,3-Dichlorophenyl) piperazine monohydrochloride..... 732	<b>C<sub>10</sub>H<sub>14</sub>O<sub>5</sub></b> (+)-Di-O-acetyl-L-rhamnal..... 694
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<b>C<sub>10</sub>H<sub>8</sub>NO<sub>3</sub></b> N-(2-Hydroxyethyl)-phthalimide..... 984	<b>C<sub>10</sub>H<sub>12</sub>Cl<sub>2</sub>N<sub>2</sub></b> 1-(3,4-Dichlorophenyl)-piperazine..... 732	<b>C<sub>10</sub>H<sub>13</sub>NO<sub>2</sub>S</b> (1S)-(-)-3-Oxocamphorsulfonylimine..... 1258	<b>C<sub>10</sub>H<sub>15</sub>ClO<sub>3</sub>S</b> (1R)-(-)-Camphor-10-sulfonic acid chloride..... 569
<b>C<sub>10</sub>H<sub>8</sub>NO<sub>3</sub>S</b> 4-Aminonaphthalene-1-sulfonic acid..... 398	<b>C<sub>10</sub>H<sub>12</sub>CuN<sub>2</sub>Na<sub>2</sub>O<sub>8</sub> * 2 H<sub>2</sub>O</b> Ethylenediamine tetraacetic acid copper disodium salt..... 863	<b>C<sub>10</sub>H<sub>13</sub>NO<sub>2</sub>S</b> (1S)-(+)-Camphorlactone-sulfonyloxaziridine..... 568	<b>C<sub>10</sub>H<sub>15</sub>Cl<sub>2</sub>FN<sub>2</sub></b> 1-(4-Fluorophenyl) piperazine dihydrochloride..... 907
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C <sub>17</sub> H <sub>19</sub> NO <sub>3</sub> Piperine ..... 1334	C <sub>18</sub> H <sub>32</sub> O <sub>2</sub> Linoleic acid ..... 1080	C <sub>19</sub> H <sub>36</sub> O <sub>2</sub> Methyl oleate ..... 1167	C <sub>20</sub> H <sub>26</sub> O <sub>2</sub> Zr Zirconium(IV) acetylacetonate ..... 1645
C <sub>17</sub> H <sub>20</sub> N <sub>2</sub> O 4,4'-Bis(dimethylamino)- benzophenone ..... 469	C <sub>18</sub> H <sub>32</sub> O <sub>7</sub> Tributyl citrate ..... 1576	C <sub>19</sub> H <sub>38</sub> O <sub>2</sub> Isopropyl palmitate ..... 1057	
C <sub>17</sub> H <sub>20</sub> N <sub>2</sub> S 4,4'-Bis(dimethylamino) thiobenzophenone ..... 470	C <sub>18</sub> H <sub>32</sub> O <sub>16</sub> * 5 H <sub>2</sub> O Raffinose pentahydrate ..... 1401	C <sub>19</sub> H <sub>40</sub> n-Nonadecane ..... 1234	
	C <sub>18</sub> H <sub>34</sub> O <sub>6</sub> Span® 20 ..... 1462	C <sub>19</sub> H <sub>40</sub> O 1-Nonadecanol ..... 1234	

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C <sub>20</sub> H <sub>31</sub> N Dehydroabietylamine ..... 690	C <sub>21</sub> H <sub>27</sub> N <sub>7</sub> O <sub>14</sub> P <sub>2</sub> Nicotinamide adenine dinucleotide free acid..... 1209	C <sub>24</sub> H <sub>8</sub> O <sub>6</sub> 3,4,9,10-Perylenetetracarboxylic 3,4,9,10-dianhydride..... 1280	C <sub>26</sub> H <sub>24</sub> P <sub>2</sub> 1,2-Bis(diphenylphosphino)- ethane ..... 471
C <sub>20</sub> H <sub>34</sub> O <sub>8</sub> Tributylacetyl citrate ..... 1576	C <sub>21</sub> H <sub>28</sub> Cl <sub>2</sub> N <sub>2</sub> 4,4'-Methylenebis(3-chloro- 2,6-diethylaniline) ..... 1150	C <sub>24</sub> H <sub>16</sub> N <sub>2</sub> Bathophenanthroline ..... 436	C <sub>26</sub> H <sub>28</sub> N <sub>2</sub> O <sub>5</sub> Krytoxif <sup>®</sup> 5..... 1070
C <sub>20</sub> H <sub>36</sub> BO <sub>3</sub> P Tetra-n-butylphosphonium bis(oxalato-(2)-borate) ..... 1527	C <sub>21</sub> H <sub>28</sub> N <sub>2</sub> O 4,4'-Bis(diethylamino)- benzophenone..... 469	C <sub>24</sub> H <sub>20</sub> AsCl * H <sub>2</sub> O Tetraphenylarsonium chloride monohydrate ..... 1548	C <sub>26</sub> H <sub>42</sub> N <sub>2</sub> O <sub>4</sub> (-)-N-Benzoyloxycarbonyl-L-tert- leucine dicyclohexyl ammonium salt ..... 456
C <sub>20</sub> H <sub>36</sub> N <sub>2</sub> O <sub>4</sub> S Amantadine sulfate ..... 373	C <sub>21</sub> H <sub>38</sub> BrN * H <sub>2</sub> O N-Cetylpyridinium bromide monohydrate ..... 591	C <sub>24</sub> H <sub>20</sub> BNA Sodium tetraphenyl borate.... 1456	C <sub>26</sub> H <sub>42</sub> O <sub>4</sub> Bis(3,5,5-trimethylhexyl) phthalate..... 478
C <sub>20</sub> H <sub>36</sub> O <sub>6</sub> Crown ether/ Dicyclohexyl-18-crown-6..... 663	C <sub>21</sub> H <sub>38</sub> ClN * H <sub>2</sub> O 1-Cetylpyridinium chloride monohydrate ..... 591	C <sub>24</sub> H <sub>20</sub> BaNa <sub>2</sub> O <sub>6</sub> S <sub>2</sub> Diphenylamine-4-sulfonic acid barium salt..... 816	Dinonyl phthalate ..... 812
C <sub>20</sub> H <sub>40</sub> O Phytol ..... 1329	C <sub>21</sub> H <sub>38</sub> N*Cl N-Benzyl-N,N- dimethyldodecylammonium chloride ..... 452	C <sub>24</sub> H <sub>20</sub> BRP Tetraphenylphosphonium bromide ..... 1548	C <sub>26</sub> H <sub>49</sub> NO <sub>5</sub> S Hexadecyltrimethylammonium-p- toluenesulfonate..... 949
C <sub>20</sub> H <sub>40</sub> O <sub>2</sub> Ethyl stearate ..... 886	C <sub>22</sub> H <sub>12</sub> N <sub>4</sub> Na <sub>4</sub> O <sub>13</sub> S <sub>4</sub> Ponceau S (C.I. 27195)..... 1345	C <sub>24</sub> H <sub>20</sub> IP Tetraphenylphosphonium iodide ..... 1549	C <sub>26</sub> H <sub>50</sub> O <sub>4</sub> Bis(2-ethylhexyl) sebacate ..... 473
C <sub>20</sub> H <sub>42</sub> n-Eicosane ..... 836	C <sub>22</sub> H <sub>16</sub> N <sub>4</sub> O Sudan III, C.I. 26100..... 1507	C <sub>24</sub> H <sub>20</sub> N <sub>2</sub> N,N'-Diphenylbenzidine ..... 817	C <sub>27</sub> H <sub>18</sub> O <sub>2</sub> 1-Naphtholbenzein..... 1202
C <sub>20</sub> H <sub>42</sub> O 1-Eicosanol..... 836	C <sub>22</sub> H <sub>18</sub> As <sub>2</sub> N <sub>4</sub> O <sub>14</sub> S <sub>2</sub> Arsenazo III ..... 426	C <sub>24</sub> H <sub>22</sub> 1,4-Bis(2-methylstyryl)- benzene ..... 476	C <sub>27</sub> H <sub>26</sub> BRP 4-Ethoxybenzyltriphenylpho- sphonium bromide..... 847
C <sub>20</sub> H <sub>42</sub> O <sub>5</sub> Sn <sub>2</sub> 1,3-Diacetoxy-1,1,3,3- tetrabutyl-distannoxane..... 693	C <sub>22</sub> H <sub>20</sub> N <sub>2</sub> 3,3'-Dimethylnaphthidine..... 797	C <sub>24</sub> H <sub>24</sub> [2,2,2]-Paracyclophane ..... 1262	C <sub>27</sub> H <sub>26</sub> P <sub>2</sub> 1,3-Bis(diphenylphosphino)- propane ..... 472
C <sub>20</sub> H <sub>44</sub> BrN Ethylhexadecyldimethylam- monium bromide..... 870	C <sub>22</sub> H <sub>20</sub> O <sub>3</sub> (R)-(+)-2-Hydroxy-1,2,2- triphenylethyl acetate..... 998	C <sub>24</sub> H <sub>24</sub> O <sub>6</sub> S (S)-(-)-1-Benzoyloxy-2-benzyloxy- 3-tosyloxypropane ..... 447	C <sub>27</sub> H <sub>27</sub> Br <sub>2</sub> NaO <sub>5</sub> S Bromothymol blue sodium salt ..... 518
C <sub>20</sub> H <sub>44</sub> IN Tetrapentylammonium iodide ..... 1548	C <sub>22</sub> H <sub>20</sub> O <sub>3</sub> (S)-(-)-2-Hydroxy-1,2,2- triphenylethyl acetate..... 998	C <sub>24</sub> H <sub>28</sub> BrP Hexyltriphenylphosphonium bromide ..... 960	C <sub>27</sub> H <sub>28</sub> Br <sub>2</sub> O <sub>5</sub> S Bromothymol blue ..... 518
C <sub>21</sub> H <sub>13</sub> Br <sub>4</sub> NaO <sub>5</sub> S Bromocresol green sodium salt ..... 498	C <sub>22</sub> H <sub>21</sub> O <sub>2</sub> P Ethoxycarbonylmethylene- triphenylphosphorane ..... 847	C <sub>24</sub> H <sub>32</sub> O <sub>8</sub> Crown ether/ Dibenzo-24-crown-8 ..... 663	C <sub>27</sub> H <sub>30</sub> O <sub>5</sub> S Thymol blue ..... 1558
C <sub>21</sub> H <sub>14</sub> Br <sub>4</sub> O <sub>5</sub> S Bromocresol green..... 498	C <sub>22</sub> H <sub>22</sub> BrO <sub>2</sub> P (1,3-Dioxolan-2-yl)- methyltriphenylphosphonium bromide..... 814	C <sub>24</sub> H <sub>38</sub> O <sub>4</sub> Bis(2-ethylhexyl) phthalate.... 473	C <sub>27</sub> H <sub>31</sub> N <sub>2</sub> NaO <sub>6</sub> S <sub>2</sub> Disulfine blue VN 150 (C.I.42045) ..... 826
C <sub>21</sub> H <sub>14</sub> N <sub>2</sub> O <sub>7</sub> S * 2 H <sub>2</sub> O Calconcarboxylic acid..... 567	C <sub>22</sub> H <sub>23</sub> NaO <sub>9</sub> Aurin tricarboxylic acid ammonium salt ..... 428	C <sub>24</sub> H <sub>44</sub> O <sub>6</sub> Span <sup>®</sup> 80..... 1462	C <sub>27</sub> H <sub>42</sub> CINO <sub>2</sub> Benzethonium chloride..... 441
C <sub>21</sub> H <sub>16</sub> Br <sub>2</sub> O <sub>5</sub> S Bromocresol purple..... 499	C <sub>22</sub> H <sub>24</sub> CIP Butyltriphenylphosphonium chloride ..... 557	C <sub>24</sub> H <sub>46</sub> O <sub>4</sub> Lauroyl peroxide..... 1075	C <sub>27</sub> H <sub>44</sub> O 4-Cholesten-3-one ..... 641
C <sub>21</sub> H <sub>18</sub> BRP 2-Propinyl-triphenylphosphonium bromide ..... 1374	C <sub>22</sub> H <sub>24</sub> Cl <sub>2</sub> N <sub>10</sub> Chlorohexidine ..... 617	C <sub>24</sub> H <sub>46</sub> O <sub>6</sub> Span <sup>®</sup> 60..... 1462	C <sub>27</sub> H <sub>45</sub> Cl Cholesteryl chloride..... 641
C <sub>21</sub> H <sub>18</sub> O <sub>5</sub> S Cresol red ..... 661	C <sub>22</sub> H <sub>24</sub> O <sub>2</sub> S 4,4'-Thiobis(2-tert-butyl- 5-methylphenol) ..... 1552	C <sub>24</sub> H <sub>50</sub> n-Tetracosane..... 1529	C <sub>27</sub> H <sub>48</sub> O 5 $\alpha$ -Cholestan-3 $\beta$ -ol..... 641
m-Cresol purple ..... 660	C <sub>22</sub> H <sub>24</sub> O <sub>4</sub> Diisooheptyl phthalate ..... 767	C <sub>24</sub> H <sub>50</sub> O <sub>12</sub> Polyethylene glycol dimethyl ether 500 ..... 1341	C <sub>28</sub> H <sub>18</sub> O <sub>4</sub> 1-Naphtholphthalein ..... 1202
C <sub>21</sub> H <sub>18</sub> O <sub>7</sub> (2R,6S)-(+)-4-Benzoyloxy- 2-benzyloxymethyl-6-methoxy- 2H-pyran-3(6H)-one ..... 446	C <sub>22</sub> H <sub>24</sub> O <sub>4</sub> Bis(2-ethylhexyl) adipate..... 472	C <sub>24</sub> H <sub>51</sub> N Triisooctylamine..... 1599	C <sub>28</sub> H <sub>19</sub> Na <sub>5</sub> Na <sub>2</sub> O <sub>6</sub> S <sub>4</sub> Titan yellow (C.I. 19540)..... 1562
C <sub>21</sub> H <sub>19</sub> ClO <sub>2</sub> 4,4'-Dimethoxytriphenylmethyl chloride ..... 775	C <sub>22</sub> H <sub>24</sub> O <sub>2</sub> Isobutyl stearate ..... 1047	Triocetylamine..... 1611	C <sub>28</sub> H <sub>30</sub> O <sub>4</sub> Thymolphthalein ..... 1558
C <sub>21</sub> H <sub>19</sub> OP Acetylmethylenetriphenyl- phosphorane..... 350	C <sub>22</sub> H <sub>24</sub> O <sub>6</sub> Crown ether/ Decyl-18-crown-6..... 663	Triocetylamine..... 1611	C <sub>28</sub> H <sub>38</sub> O <sub>19</sub> D-(+)-Saccharose octaacetate..... 1411
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C <sub>21</sub> H <sub>20</sub> BrN <sub>3</sub> Ethidium bromide ..... 846	C <sub>22</sub> H <sub>26</sub> O 1-Docosanol ..... 828	C <sub>24</sub> H <sub>51</sub> O <sub>4</sub> P Tris(2-ethylhexyl) phosphate... 1617	C <sub>28</sub> H <sub>46</sub> O <sub>4</sub> Diisodocyl phthalate..... 767
C <sub>21</sub> H <sub>20</sub> BRP Allyltriphenylphosphonium bromide ..... 369	C <sub>23</sub> H <sub>15</sub> Na <sub>3</sub> O <sub>5</sub> S Eriochrome cyanine R (C.I. 43820) ..... 840	C <sub>25</sub> H <sub>20</sub> Na <sub>3</sub> NaO <sub>6</sub> S Magnesium reagent..... 1091	C <sub>28</sub> H <sub>58</sub> Octacosane ..... 1240
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C <sub>21</sub> H <sub>20</sub> O <sub>6</sub> Curcumin..... 665	C <sub>23</sub> H <sub>24</sub> BrO <sub>2</sub> P 4-Carboxybutyltriphenylpho- sphonium bromide..... 574	C <sub>25</sub> H <sub>22</sub> CIP Benzyltriphenylphosphonium chloride ..... 459	C <sub>28</sub> H <sub>60</sub> IN Tetraheptylammonium iodide..... 1533
C <sub>21</sub> H <sub>21</sub> Br <sub>2</sub> P 3-Bromopropyltriphenyl- phosphonium bromide..... 516	C <sub>23</sub> H <sub>24</sub> N <sub>4</sub> O <sub>2</sub> Diantiprylmethane ..... 701	C <sub>25</sub> H <sub>22</sub> P <sub>2</sub> Bis(diphenylphosphino)- methane ..... 471	C <sub>29</sub> H <sub>29</sub> NP <sub>2</sub> (2R,4R)-(+)-4-Diphenyl- phosphino-2-diphenylphosphino methylpyrrolidine..... 821
C <sub>21</sub> H <sub>21</sub> N Tribenzylamine ..... 1575	C <sub>23</sub> H <sub>26</sub> N <sub>2</sub> O <sub>4</sub> (-)-Brucine ..... 521	C <sub>25</sub> H <sub>24</sub> N <sub>2</sub> O <sub>2</sub> (S)-(-)-2-(N-Benzylpropyl) aminobenzophenone ..... 457	C <sub>29</sub> H <sub>44</sub> O <sub>2</sub> 4,4'-Methylenebis(2,6-di-tert- butylphenol) ..... 1150
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C <sub>21</sub> H <sub>21</sub> P Tri(o-tolyl)-phosphine ..... 1620	C <sub>23</sub> H <sub>26</sub> N <sub>2</sub> O <sub>4</sub> (-)-Brucine ..... 521	C <sub>25</sub> H <sub>30</sub> CIN <sub>3</sub> Crystal violet (C.I. 42555) ..... 664	C <sub>30</sub> H <sub>26</sub> N <sub>2</sub> O <sub>13</sub> Calcein indicator ..... 562
C <sub>21</sub> H <sub>23</sub> IN <sub>2</sub> Quinaldine red..... 1398	C <sub>23</sub> H <sub>26</sub> N <sub>2</sub> O <sub>4</sub> (-)-Brucine ..... 521	C <sub>26</sub> H <sub>18</sub> 9,10-Diphenylanthracene..... 816	C <sub>30</sub> H <sub>50</sub> Squalene..... 1467
C <sub>21</sub> H <sub>26</sub> N <sub>7</sub> Na <sub>4</sub> O <sub>17</sub> P <sub>3</sub> Dihydronicotinamide adenine dinucleotide phosphate tetrasodium salt..... 760	C <sub>23</sub> H <sub>26</sub> N <sub>2</sub> O <sub>4</sub> (-)-Brucine ..... 521	C <sub>26</sub> H <sub>18</sub> N <sub>2</sub> Na <sub>2</sub> O <sub>6</sub> S <sub>2</sub> Bathocuproinedisulfonic acid disodium salt ..... 436	C <sub>30</sub> H <sub>62</sub> Squalene ..... 1467
C <sub>21</sub> H <sub>27</sub> N <sub>7</sub> Na <sub>2</sub> O <sub>14</sub> P <sub>2</sub> Dihydronicotinamide adenine dinucleotide disodium salt ..... 760	C <sub>23</sub> H <sub>32</sub> O <sub>2</sub> 2,2'-Methylenebis(4-methyl- 6-tert-butylphenol) ..... 1151	C <sub>26</sub> H <sub>20</sub> O 2,2,2-Triphenylacetophenone... 1612	C <sub>31</sub> H <sub>28</sub> N <sub>2</sub> Na <sub>4</sub> O <sub>13</sub> S Xylenol orange tetrasodium salt ..... 1639
C <sub>21</sub> H <sub>27</sub> N <sub>7</sub> Na <sub>2</sub> O <sub>17</sub> P <sub>3</sub> Nicotinamide adenine dinucleotide phosphate disodium salt ..... 1210	C <sub>23</sub> H <sub>42</sub> BRNO (-)-N-Dodecyl-N- methylphedrinium bromide... 831	C <sub>26</sub> H <sub>21</sub> CINP 4-Cyanobenzyltriphenylpho- sphonium chloride ..... 667	C <sub>31</sub> H <sub>30</sub> O <sub>4</sub> (2R,3R)-(-)-4,5-Bis(diphenyl- hydroxymethyl)-2,2-dimethyl- 1,3-dioxolane ..... 470
	C <sub>23</sub> H <sub>48</sub> n-Tricosane ..... 1584	C <sub>26</sub> H <sub>22</sub> BRP Phenacyltriphenylphosphonium bromide ..... 1288	
		C <sub>26</sub> H <sub>22</sub> O <sub>2</sub> Tetraphenyl-1,2-ethanediol .. 1548	
		C <sub>26</sub> H <sub>24</sub> CIP 4-Methoxybenzyltriphenylpho- sphonium chloride ..... 1120	

<b>C<sub>31</sub>H<sub>32</sub>O<sub>2</sub>P<sub>2</sub></b> (4R,5R)-(-)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane ..... 471 (4S,5S)-(+)-4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyl-1,3-dioxolane ..... 471	<b>C<sub>60</sub>H<sub>108</sub>O<sub>8</sub></b> Span® 85 ..... 1463	<b>Cl<sub>2</sub>H<sub>6</sub>N<sub>2</sub>Pt</b> cis-Platinum (65% Pt) ..... 1336	<b>Cl<sub>4</sub>Si</b> Silicon tetrachloride ..... 1422
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<b>C<sub>32</sub>H<sub>58</sub>N<sub>2</sub>O<sub>7</sub>S</b> CHAPS (3-[[3-(Cholamidopropyl)-dimethylammonio]-propane-sulfonate]) ..... 592	<b>C<sub>7</sub>F<sub>14</sub></b> Perfluoromethylcyclohexane... 1279	<b>Cl<sub>2</sub>Mg</b> Magnesium chloride ..... 1088	<b>Cl<sub>5</sub>Nb</b> Niobium(V) chloride ..... 1211
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<b>C<sub>32</sub>H<sub>68</sub>BrP</b> Tetraoctylphosphonium bromide ..... 1547	<b>CaCl<sub>2</sub></b> Calcium chloride ..... 564	<b>Cl<sub>2</sub>Mn</b> Manganese(II) chloride ..... 1097	<b>Cl<sub>6</sub>K<sub>2</sub>Pt</b> Potassium hexachloroplatinate(IV) ..... 1353
<b>C<sub>32</sub>H<sub>68</sub>Sn</b> Tetraoctyltin ..... 1548	<b>CaCl<sub>2</sub>O<sub>2</sub></b> Calcium hypochlorite ..... 565	<b>Cl<sub>2</sub>Ni</b> Nickel(II) chloride ..... 1208	<b>Co</b> Cobalt powder ..... 651
<b>C<sub>33</sub>H<sub>47</sub>NO<sub>13</sub></b> Pimaricin ..... 1329	<b>CaCl<sub>2</sub> * 2 H<sub>2</sub>O</b> Calcium chloride dihydrate ..... 564	<b>Cl<sub>2</sub>Ni * 6 H<sub>2</sub>O</b> Nickel(II) chloride hexahydrate ..... 1208	<b>CoC<sub>4</sub>H<sub>8</sub>O<sub>4</sub> * 4 H<sub>2</sub>O</b> Cobalt(II) acetate tetrahydrate ..... 649
<b>C<sub>34</sub>H<sub>26</sub>O<sub>9</sub></b> (-)-Tetra-O-benzoyl-2-hydroxy-D-glucal ..... 1524	<b>CaCl<sub>2</sub> * 4 H<sub>2</sub>O</b> Calcium chloride tetrahydrate .. 564	<b>Cl<sub>2</sub>Ni</b> Nickel(II) chloride ..... 1208	<b>CoN<sub>2</sub>O<sub>6</sub> * 6 H<sub>2</sub>O</b> Cobalt(II) nitrate hexahydrate ..... 651
<b>C<sub>34</sub>H<sub>37</sub>NO<sub>2</sub>P<sub>2</sub></b> (2S,4S)-(-)-N-BOC-4-Diphenylphosphino-2-diphenyl phosphino methyl-pyrrolidine ..... 481	<b>CaN<sub>2</sub>O<sub>6</sub> * 4 H<sub>2</sub>O</b> Calcium nitrate tetrahydrate ..... 566	<b>Cl<sub>2</sub>OS</b> Thionyl chloride ..... 1553	<b>CoN<sub>6</sub>Na<sub>3</sub>O<sub>12</sub></b> Sodium hexanitrocobaltate(III) ..... 1438
<b>C<sub>36</sub>H<sub>30</sub>Cl<sub>2</sub>NiP<sub>2</sub></b> Bis(triphenylphosphine)nickel(II) chloride ..... 480	<b>CaO</b> Calcium oxide from marble ..... 566	<b>Cl<sub>2</sub>OZr * 8 H<sub>2</sub>O</b> Zirconium(IV) oxide chloride octahydrate ..... 1645	<b>CoO<sub>4</sub>S * 7 H<sub>2</sub>O</b> Cobalt(II) sulfate heptahydrate ..... 652
<b>C<sub>36</sub>H<sub>30</sub>Cl<sub>2</sub>P<sub>2</sub>Pd</b> Bis(triphenylphosphine) palladium(II) chloride (15.2% Pd) ..... 480	<b>CaO<sub>4</sub>S * 2 H<sub>2</sub>O</b> Calcium sulfate dihydrate ..... 567	<b>Cl<sub>2</sub>O<sub>2</sub>S</b> Sulfuryl chloride ..... 1518	<b>Cr</b> Chromium ..... 642
<b>C<sub>36</sub>H<sub>34</sub>BCuP<sub>2</sub></b> Bis(triphenylphosphine)copper(I) borohydride ..... 479	<b>Cd</b> Cadmium ..... 561	<b>Cl<sub>2</sub>Pb</b> Lead(II) chloride ..... 1076	<b>CrK<sub>2</sub>O<sub>4</sub></b> Potassium chromate ..... 1349
<b>C<sub>36</sub>H<sub>60</sub>O<sub>30</sub></b> α-Cyclodextrine ..... 669	<b>CdO</b> Cadmium oxide ..... 562	<b>Cl<sub>2</sub>Pd</b> Palladium(II) chloride (59% Pd) ..... 1261	<b>CrN<sub>3</sub>O<sub>9</sub> * 9 H<sub>2</sub>O</b> Chromium(III) nitrate nonahydrate ..... 643
<b>C<sub>36</sub>H<sub>75</sub>N</b> Tridodecylamine ..... 1585	<b>Cd<sub>3</sub>O<sub>12</sub>S<sub>3</sub> * 8 H<sub>2</sub>O</b> Cadmium sulfate hydrate ..... 562	<b>Cl<sub>2</sub>S<sub>2</sub></b> Disulfur dichloride ..... 826	<b>CrO<sub>3</sub></b> Chromium(VI) oxide ..... 643
<b>C<sub>37</sub>H<sub>29</sub>N<sub>3</sub>O<sub>5</sub>S</b> Alkali blue (C.I. 42765) ..... 364	<b>CeH<sub>16</sub>Na<sub>4</sub>O<sub>16</sub>S<sub>4</sub> * 2 H<sub>2</sub>O</b> Ammonium cerium(IV) sulfate dihydrate ..... 411	<b>Cl<sub>2</sub>Sn * 2 H<sub>2</sub>O</b> Tin(II) chloride dihydrate ..... 1559	<b>CrO<sub>4</sub>Pb</b> Lead(II) chromate ..... 1076
<b>C<sub>37</sub>H<sub>30</sub>ClOP<sub>2</sub>Rh</b> Bis(triphenylphosphine) carbonylrhodium(I) chloride ..... 479	<b>CeN<sub>3</sub>O<sub>9</sub> * 6 H<sub>2</sub>O</b> Cerium(III) nitrate hexahydrate ..... 588	<b>Cl<sub>2</sub>Sn</b> Tin(II) chloride ..... 1559	<b>Cr<sub>2</sub>K<sub>2</sub>O<sub>7</sub></b> Potassium dichromate ..... 1350
<b>C<sub>37</sub>H<sub>40</sub>N<sub>2</sub>Na<sub>4</sub>O<sub>13</sub>S</b> Methylthymol blue sodium salt ..... 1185	<b>CeO<sub>2</sub></b> Cerium(IV) oxide ..... 588	<b>Cl<sub>2</sub>Sr * 6 H<sub>2</sub>O</b> Strontium chloride hexahydrate ..... 1504	<b>Cr<sub>2</sub>Na<sub>2</sub>O<sub>7</sub>*2H<sub>2</sub>O</b> Sodium dichromate dihydrate ..... 1434
<b>C<sub>38</sub>H<sub>32</sub>Br<sub>2</sub>P<sub>2</sub></b> 1,2-Vinylenebis(triphenylphosphonium) dibromide ..... 1631	<b>CeO<sub>8</sub>S<sub>2</sub> * 4 H<sub>2</sub>O</b> Cerium(IV) sulfate tetrahydrate ..... 589	<b>Cl<sub>2</sub>Zn</b> Zinc chloride ..... 1643	<b>CSnO<sub>3</sub></b> Cesium nitrate ..... 590
<b>C<sub>38</sub>H<sub>76</sub>N<sub>2</sub>O<sub>2</sub></b> Hoechst wax C micropowder... 962	<b>ClCs</b> Cesium chloride ..... 590	<b>Cl<sub>3</sub>Cr</b> Chromium(III) chloride ..... 642	<b>Cu</b> Copper ..... 654
<b>C<sub>44</sub>H<sub>32</sub>P<sub>2</sub></b> (R)-(+)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl .... 471 (S)-(-)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl..... 470	<b>ClCu</b> Copper(I) chloride ..... 655	<b>Cl<sub>3</sub>Fe * 6 H<sub>2</sub>O</b> Iron(III) chloride hexahydrate ..... 1040	<b>CuI</b> Copper(I) iodide ..... 656
<b>C<sub>44</sub>H<sub>56</sub>O<sub>4</sub></b> p-tert-Butylcalix[4]arene ..... 545	<b>ClI</b> Iodine monochloride ..... 1008	<b>Cl<sub>3</sub>Fe</b> Iron(III) chloride ..... 1040	<b>CuO</b> Copper oxide ..... 657
<b>C<sub>47</sub>H<sub>48</sub>N<sub>3</sub>NaO<sub>7</sub>S<sub>2</sub></b> Coomassie® Brilliant blue ..... 653	<b>ClK</b> Potassium chloride ..... 1348	<b>Cl<sub>3</sub>Fe</b> Iron(III) chloride ..... 1040	<b>CuO<sub>4</sub>S * 5 H<sub>2</sub>O</b> Copper(II) sulfate pentahydrate ..... 658
<b>C<sub>52</sub>H<sub>54</sub>N<sub>4</sub>O<sub>12</sub></b> Malachite green oxalate (C.I. 42000) ..... 1092	<b>ClK<sub>3</sub></b> Potassium chlorate ..... 1348	<b>Cl<sub>3</sub>I</b> Iodine trichloride ..... 1009	<b>CuO<sub>4</sub>S</b> Copper(II) sulfate anhydrous... 658
<b>C<sub>54</sub>H<sub>45</sub>ClP<sub>3</sub>Rh</b> Tris(triphenylphosphine)rhodium(I) chloride (11% Rh) ..... 1619	<b>ClLi * H<sub>2</sub>O</b> Lithium chloride monohydrate ..... 1084	<b>Cl<sub>3</sub>Ir*xH<sub>2</sub>O</b> Iridium(III)chloride hydrate... 1039	
<b>C<sub>54</sub>H<sub>45</sub>Cl<sub>2</sub>P<sub>3</sub>Ru</b> Tris(triphenylphosphine) ruthenium(II) chloride (10.5% Ru) ..... 1619	<b>ClLi</b> Lithium chloride ..... 1083	<b>Cl<sub>3</sub>La * 7 H<sub>2</sub>O</b> Lanthanum(III) chloride heptahydrate 98% ..... 1073	
<b>C<sub>58</sub>H<sub>114</sub>O<sub>26</sub></b> Tween® 20 ..... 1623	<b>ClNa</b> Sodium chloride ..... 1432	<b>Cl<sub>3</sub>OP</b> Phosphoryl chloride ..... 1326	
<b>C<sub>60</sub>H<sub>72</sub>O<sub>6</sub></b> p-Isopropylcalix-6-arene ..... 1055	<b>ClNaO<sub>3</sub></b> Sodium chlorate ..... 1432	<b>Cl<sub>3</sub>P</b> Phosphorus trichloride ..... 1325	
	<b>ClNaO<sub>4</sub> * H<sub>2</sub>O</b> Sodium perchlorate monohydrate ..... 1451	<b>Cl<sub>3</sub>Rh * 3 H<sub>2</sub>O</b> Rhodium(III) chloride trihydrate (38% Rh) ..... 1408	
	<b>ClRb</b> Rubidium chloride ..... 1410	<b>Cl<sub>3</sub>Ru*xH<sub>2</sub>O</b> Ruthenium(III) chloride hydrate ..... 1410	
	<b>Cl<sub>2</sub>Co * 6 H<sub>2</sub>O</b> Cobalt(II) chloride hexahydrate ..... 650	<b>Cl<sub>3</sub>Sb</b> Antimony(III) chloride ..... 424	
	<b>Cl<sub>2</sub>Co</b> Cobalt(II) chloride anhydrous... 650	<b>Cl<sub>3</sub>V</b> Vanadium(III) chloride ..... 1629	
	<b>Cl<sub>2</sub>Cr</b> Chromium(II) chloride ..... 642	<b>Cl<sub>4</sub>Ge</b> Germanium(IV) chloride ..... 923	
	<b>Cl<sub>2</sub>Cu * 2 H<sub>2</sub>O</b> Copper(II) chloride dihydrate... 655	<b>Cl<sub>4</sub>K<sub>2</sub>Pt</b> Potassium tetrachloroplatinate(II) ..... 1367	
	<b>Cl<sub>2</sub>Cu</b> Copper(II) chloride ..... 655	<b>Cl<sub>4</sub>Pt</b> Platinum(IV) chloride (57.5% Pt) ..... 1337	
	<b>Cl<sub>2</sub>Fe * 4 H<sub>2</sub>O</b> Iron(II) chloride tetrahydrate... 1040		

# Empirical formulae

## F

<b>FH<sub>4</sub>N</b>	Ammonium fluoride.....	413
<b>FK</b>	Potassium fluoride.....	1353
<b>FLi</b>	Lithium fluoride.....	1084
<b>FNa</b>	Sodium fluoride.....	1437
<b>F<sub>3</sub>Sb</b>	Antimony(III) fluoride.....	424
<b>F<sub>5</sub>Sb</b>	Antimony(V) fluoride.....	425
<b>F<sub>2</sub>Xe</b>	Xenon difluoride.....	1637
<b>Fe</b>	Iron.....	1039

<b>FeH<sub>8</sub>N<sub>2</sub>O<sub>8</sub>S<sub>2</sub> * 6 H<sub>2</sub>O</b>	Ammonium iron(II) sulfate hexahydrate.....	414
<b>FeN<sub>3</sub>O<sub>9</sub> * 9 H<sub>2</sub>O</b>	Iron(III) nitrate nonahydrate...	1041
<b>FeO<sub>4</sub>P</b>	Iron(III) phosphate.....	1041
<b>FeO<sub>4</sub>S * 7H<sub>2</sub>O</b>	Iron(II) sulfate heptahydrate....	1041
<b>FeS</b>	Iron(II) sulfide.....	1041

## G

<b>Ga</b>	Gallium.....	922
<b>GaN<sub>3</sub>O<sub>9</sub>*xH<sub>2</sub>O</b>	Gallium(III) nitrate hydrate 98+ .....	922
<b>Gd<sub>2</sub>O<sub>3</sub></b>	Gadolinium(III) oxide.....	922
<b>GeO<sub>2</sub></b>	Germanium(IV) oxide.....	923

## H

<b>HClO<sub>3</sub>S</b>	Chlorosulfonic acid.....	637
<b>Hl<sub>2</sub>KO<sub>6</sub></b>	Potassium hydrogen diiodate...	1354
<b>HK</b>	Potassium hydride.....	1354
<b>HKO * H<sub>2</sub>O</b>	Potassium hydroxide hydrate.....	1357
<b>HKO</b>	Potassium hydroxide .....	1356
	Potassium hydroxide (powder).....	1357
<b>HKO<sub>4</sub>S</b>	Potassium hydrogen sulfate.....	1356
<b>HK<sub>2</sub>O<sub>4</sub>P * 3 H<sub>2</sub>O</b>	di-Potassium hydrogen phosphate trihydrate .....	1355
<b>HK<sub>2</sub>O<sub>4</sub>P</b>	di-Potassium hydrogen phosphate.....	1355
<b>HLi</b>	Lithium hydride.....	1084
<b>HLiO</b>	Lithium hydroxide.....	1084
<b>HNO<sub>3</sub></b>	Nitric acid fuming 100%.....	1214
<b>HNa</b>	Sodium hydride suspension...1438	
<b>HN<sub>2</sub>O * H<sub>2</sub>O</b>	Sodium hydroxide monohydrate .....	1442
<b>HNaO</b>	Sodium hydroxide.....	1441
<b>HN<sub>2</sub>O<sub>4</sub>S * H<sub>2</sub>O</b>	Sodium hydrogen sulfate monohydrate .....	1440
<b>HN<sub>2</sub>O<sub>4</sub>P * 12 H<sub>2</sub>O</b>	di-Sodium hydrogen phosphate dodecahydrate.....	1440
<b>HN<sub>2</sub>O<sub>4</sub>P * 2 H<sub>2</sub>O</b>	di-Sodium hydrogen phosphate dihydrate.....	1439
<b>HN<sub>2</sub>O<sub>4</sub>P * 7 H<sub>2</sub>O</b>	di-Sodium hydrogen phosphate heptahydrate.....	1440

<b>HN<sub>2</sub>O<sub>4</sub>P</b>	di-Sodium hydrogen phosphate anhydrous .....	1439
<b>HO(C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>H</b>	Polyethylene glycol 1000.....	1339
	Polyethylene glycol 10000.....	1340
	Polyethylene glycol 1500.....	1339
	Polyethylene glycol 200.....	1338
	Polyethylene glycol 2000.....	1340
	Polyethylene glycol 20000 .....	1341
	Polyethylene glycol 300.....	1338
	Polyethylene glycol 3000.....	1340
	Polyethylene glycol 35000 .....	1341
	Polyethylene glycol 400.....	1339
	Polyethylene glycol 4000.....	1340
	Polyethylene glycol 600.....	1339
	Polyethylene glycol 6000.....	1340

<b>H<sub>2</sub>Ca</b>	Calcium hydride .....	565
<b>H<sub>2</sub>CaO<sub>2</sub></b>	Calcium hydroxide .....	565
<b>H<sub>2</sub>Cl<sub>6</sub>Pt*6H<sub>2</sub>O</b>	Hexachloroplatinic(IV) acid hexahydrate (~40% Pt).....	947
<b>H<sub>2</sub>KO<sub>4</sub>P</b>	Potassium dihydrogen phosphate .....	1351
<b>H<sub>2</sub>LiN</b>	Lithium amide .....	1082
<b>H<sub>2</sub>Mg</b>	Magnesium hydride .....	1089
<b>H<sub>2</sub>MoO<sub>4</sub></b>	Molybdic acid about 85% MoO <sub>3</sub> .....	1193
<b>H<sub>2</sub>NNa</b>	Sodium amide crystalline .....	1427
<b>H<sub>2</sub>NaO<sub>4</sub>P * 2 H<sub>2</sub>O</b>	Sodium dihydrogen phosphate dihydrate.....	1435
<b>H<sub>2</sub>NaO<sub>4</sub>P * H<sub>2</sub>O</b>	Sodium dihydrogen phosphate monohydrate .....	1435
<b>H<sub>2</sub>NaO<sub>4</sub>P</b>	Sodium dihydrogen phosphate .....	1435
<b>H<sub>2</sub>O</b>	Conductivity water (nominal 0 mS/cm) .....	1496
	Water.....	1634, 1635
<b>H<sub>2</sub>O<sub>4</sub>S*SO<sub>3</sub> (1:2)</b>	Sulfuric acid fuming 65% SO <sub>3</sub> .....	1516
<b>H<sub>2</sub>O<sub>4</sub>S</b>	Sulfuric acid 100%.....	1516
	Sulfuric acid 95 - 97% for COD determination.....	1514
	Sulfuric acid 95-97%.....	1514
	Sulfuric acid 96%.....	1515
	Sulfuric acid 98%.....	1516

<b>H<sub>2</sub>Ti</b>	Titanium hydride.....	1562
<b>H<sub>3</sub>K<sub>5</sub>O<sub>18</sub>S<sub>4</sub></b>	Potassium hydrogen monopersulfate .....	1354
<b>H<sub>3</sub>Mo<sub>12</sub>O<sub>40</sub>P * x H<sub>2</sub>O</b>	Molybdatophosphoric acid hydrate .....	1192
<b>H<sub>3</sub>NO<sub>3</sub>S</b>	Amidosulfuric acid.....	374
<b>H<sub>3</sub>NO<sub>4</sub>S</b>	Hydroxylamine-O-sulfonic acid .....	986
<b>H<sub>3</sub>O<sub>4</sub>P</b>	ortho-Phosphoric acid 99%...1324	
<b>H<sub>3</sub>O<sub>40</sub>PW<sub>12</sub> * x H<sub>2</sub>O</b>	Tungstophosphoric acid hydrate .....	1622
<b>H<sub>4</sub>AlLi</b>	Lithium aluminium hydride...1081	
<b>H<sub>4</sub>BF<sub>4</sub>N</b>	Ammonium tetrafluoroborate...417	
<b>H<sub>4</sub>BK</b>	Potassium borohydride.....	1346
<b>H<sub>4</sub>BNa</b>	Sodium borohydride .....	1429
<b>H<sub>4</sub>BrN</b>	Ammonium bromide.....	410
<b>H<sub>4</sub>CIN</b>	Ammonium chloride.....	412
<b>H<sub>4</sub>CINO</b>	Hydroxylammonium chloride..986	

<b>H<sub>4</sub>NFeO<sub>8</sub>S<sub>2</sub> * 12 H<sub>2</sub>O</b>	Ammonium iron(III) sulfate dodecahydrate.....	414
<b>H<sub>4</sub>NO<sub>3</sub>V</b>	Ammonium monovanadate.....	414
<b>H<sub>4</sub>N<sub>2</sub>O<sub>3</sub></b>	Ammonium nitrate .....	415
<b>H<sub>4</sub>O<sub>40</sub>Si W<sub>12</sub> * x H<sub>2</sub>O</b>	Tungstosilicic acid hydrate....	1623
<b>H<sub>5</sub>BrN<sub>2</sub></b>	Hydrazinium monobromide.....	965
<b>H<sub>5</sub>IO<sub>6</sub></b>	Periodic acid .....	1280
<b>H<sub>5</sub>NN<sub>2</sub>O<sub>4</sub>P * 4 H<sub>2</sub>O</b>	Sodium ammonium hydrogen phosphate tetrahydrate .....	1428
<b>H<sub>6</sub>Cl<sub>2</sub>N<sub>2</sub></b>	Hydrazinium dichloride.....	965
<b>H<sub>6</sub>KO<sub>6</sub>Sb</b>	Potassium hexahydroxoantimonate(V).....	1354
<b>H<sub>6</sub>NO<sub>4</sub>P</b>	Ammonium dihydrogen phosphate .....	412
<b>H<sub>6</sub>N<sub>2</sub>O</b>	Hydrazinium hydroxide.....	965
<b>H<sub>6</sub>N<sub>2</sub>O<sub>3</sub>S</b>	Ammonium amidosulfonate....	410
<b>H<sub>6</sub>N<sub>2</sub>O<sub>4</sub>S</b>	Hydrazinium sulfate .....	965
<b>H<sub>8</sub>CeN<sub>8</sub>O<sub>18</sub></b>	Ammonium cerium(IV) nitrate.....	411
<b>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>S<sub>2</sub></b>	Ammonium thiosulfate .....	418
<b>H<sub>8</sub>N<sub>2</sub>O<sub>4</sub>S</b>	Ammonium sulfate .....	416
<b>H<sub>8</sub>N<sub>2</sub>O<sub>6</sub>S</b>	Hydroxylammonium sulfate....	987
<b>H<sub>8</sub>N<sub>2</sub>O<sub>8</sub>S<sub>2</sub></b>	Ammonium peroxodisulfate....	416
<b>H<sub>9</sub>N<sub>2</sub>O<sub>4</sub>P</b>	di-Ammonium hydrogen phosphate.....	414
<b>H<sub>24</sub>Mo<sub>7</sub>N<sub>6</sub>O<sub>24</sub> * 4 H<sub>2</sub>O</b>	Ammonium heptamolybdate tetrahydrate.....	413
<b>Hg</b>	Mercury.....	1105
<b>HgI<sub>2</sub></b>	Mercury(II) iodide .....	1106
<b>HgN<sub>2</sub>O<sub>6</sub> * H<sub>2</sub>O</b>	Mercury(II) nitrate monohydrate...1107	
<b>HgO</b>	Mercury(II) oxide.....	1107
<b>HgO<sub>4</sub>S</b>	Mercury(II) sulfate.....	1108
<b>Hg<sub>2</sub>N<sub>2</sub>O<sub>6</sub> * 2 H<sub>2</sub>O</b>	Mercury(I) nitrate dihydrate...1107	
<b>Ho<sub>2</sub>O<sub>3</sub></b>	Holmium(III) oxide .....	962

## I

<b>IK</b>	Potassium iodide.....	1361
<b>IKO<sub>3</sub></b>	Potassium iodate.....	1360
<b>ILi</b>	Lithium iodide .....	1085
<b>INa</b>	Sodium iodide.....	1447
<b>INaO<sub>3</sub></b>	Sodium iodate .....	1447
<b>INaO<sub>4</sub></b>	Sodium metaperiodate.....	1448
<b>I<sub>2</sub></b>	Iodine.....	1007
<b>I<sub>2</sub>O<sub>5</sub></b>	di-Iodine pentoxide.....	1008
<b>I<sub>2</sub>Zn</b>	Zinc iodide .....	1643
<b>In</b>	Indium .....	1004
<b>In<sub>2</sub>O<sub>3</sub></b>	Indium(III) oxide.....	1004
<b>In<sub>2</sub>O<sub>12</sub>S<sub>3</sub></b>	Indium(III)-sulfate, anhydrous .....	1004

## K

<b>K</b>	Potassium.....	1345
<b>KMnO<sub>4</sub></b>	Potassium permanganate .....	1363
<b>KNO<sub>2</sub></b>	Potassium nitrite.....	1362
<b>KNO<sub>3</sub></b>	Potassium nitrate.....	1362
<b>KO<sub>2</sub></b>	Potassium superoxide.....	1366
<b>K<sub>2</sub>O<sub>4</sub>O<sub>8</sub> * 2 H<sub>2</sub>O</b>	Potassium osmate dihydrate...	1363
<b>K<sub>2</sub>O<sub>4</sub>S</b>	Potassium sulfate.....	1366
<b>K<sub>2</sub>O<sub>5</sub>S<sub>2</sub></b>	Potassium disulfite .....	1352
<b>K<sub>2</sub>O<sub>7</sub>S<sub>2</sub></b>	Potassium disulfate (Potassium pyrosulfate) .....	1352
<b>K<sub>2</sub>O<sub>8</sub>S<sub>2</sub></b>	Potassium peroxodisulfate ....	1365

## L

<b>LaN<sub>3</sub>O<sub>9</sub> * 6 H<sub>2</sub>O</b>	Lanthanum nitrate hexahydrate.....	1073
<b>La<sub>2</sub>O<sub>3</sub></b>	Lanthanum(III) oxide.....	1074
<b>Li</b>	Lithium .....	1081
<b>LiNO<sub>3</sub></b>	Lithium nitrate .....	1085
<b>Li<sub>2</sub>O<sub>4</sub>S * H<sub>2</sub>O</b>	Lithium sulfate monohydrate .....	1086

## M

<b>Mg</b>	Magnesium .....	1088
<b>MgN<sub>2</sub>O<sub>6</sub> * 6 H<sub>2</sub>O</b>	Magnesium nitrate hexahydrate.....	1090
<b>MgO</b>	Magnesium oxide.....	1090
<b>MgO<sub>4</sub>S * 7 H<sub>2</sub>O</b>	Magnesium sulfate heptahydrate .....	1091
<b>MgO<sub>4</sub>S</b>	Magnesium sulfate anhydrous .....	1091
<b>Mn</b>	Manganese .....	1096
<b>MnN<sub>2</sub>O<sub>6</sub> * 4 H<sub>2</sub>O</b>	Manganese(II) nitrate tetrahydrate.....	1098
<b>MnO<sub>2</sub></b>	Manganese(IV) oxide.....	1098
<b>MnO<sub>4</sub>S * 4 H<sub>2</sub>O</b>	Manganese(II) sulfate tetrahydrate.....	1099
<b>MnO<sub>4</sub>S * H<sub>2</sub>O</b>	Manganese(II) sulfate monohydrate .....	1098
<b>Mo</b>	Molybdenum powder .....	1192
<b>MoO<sub>3</sub></b>	Molybdenum(VI) oxide .....	1192
<b>MoS<sub>2</sub></b>	Molybdenum(IV) sulfide.....	1193

## N

<b>NNaO<sub>2</sub></b>	Sodium nitrite .....	1450
<b>NNaO<sub>3</sub></b>	Sodium nitrate .....	1449
<b>N<sub>2</sub>NiO<sub>6</sub> * 6 H<sub>2</sub>O</b>	Nickel(II) nitrate hexahydrate.....	1208
<b>N<sub>2</sub>O<sub>6</sub>Pb</b>	Lead(II) nitrate.....	1077
<b>N<sub>2</sub>O<sub>6</sub>Pd * 2 H<sub>2</sub>O</b>	Palladium(II) nitrate dihydrate (40% Pd) .....	1261
<b>N<sub>2</sub>O<sub>6</sub>Sr</b>	Strontium nitrate.....	1504
<b>N<sub>2</sub>O<sub>6</sub>Zn * 4 H<sub>2</sub>O</b>	Zinc nitrate tetrahydrate .....	1643



$N_3Na$ Sodium azide.....	1428	$O_3Y_2$ Yttrium oxide.....	1640
$N_3O_3Y \cdot 6 H_2O$ Yttrium(III) nitrate hexahydrate.....	1640	$O_3Yb_2$ Ytterbium oxide.....	1640
<b>Na</b> Sodium.....	1426	$O_4SSn$ Tin(II) sulfate.....	1560
$Na_2MoO_4 \cdot 2 H_2O$ Sodium molybdate dihydrate.....	1449	$O_4SZn \cdot 7 H_2O$ Zinc sulfate heptahydrate.....	1644
$Na_2O_2$ Sodium peroxide.....	1451	$O_5P_2$ di-Phosphorus pentoxide.....	1325
$Na_2O_3S$ Sodium sulfite.....	1454	$O_5V_2$ Vanadium(V) oxide.....	1630
$Na_2O_3S_2$ Sodium thiosulfate.....	1457	$O_7Re_2$ Rhenium(VII) oxide (77% Re).....	1408
$Na_2O_3S_2 \cdot 5 H_2O$ Sodium thiosulfate pentahydrate..	1457	<b>P</b>	
$Na_2O_4S \cdot 10 H_2O$ Sodium sulfate decahydrate.....	1454	<b>P</b> Phosphorus (red).....	1325
$Na_2O_4S$ Sodium sulfate.....	1453, 1454	$P_2S_5$ di-Phosphorus pentasulfide...	1324
$Na_2O_4S_2$ Sodium dithionite.....	1436	<b>Pb</b> Lead.....	1075
$Na_2O_4W \cdot 2 H_2O$ Sodium tungstate dihydrate.....	1458	<b>Pd</b> Palladium.....	1260
$Na_2O_5S_2$ Sodium disulfite.....	1436	<b>Pt</b> Platinum.....	1336
$Na_2O_5S_2$ Sodium peroxodisulfate.....	1451	<b>S</b>	
$Na_3O_4P \cdot 12 H_2O$ tri-Sodium phosphate dodecahydrate.....	1452	$S_2Se$ Selenium disulfide.....	1417
$Na_3S_4Sb \cdot 9 H_2O$ Sodium thioantimonate(V) nonahydrate.....	1456	<b>Sb</b> Antimony.....	424
$Na_4O_7P_2 \cdot 10 H_2O$ tetra-Sodium diphosphate decahydrate.....	1435	<b>Se</b> Selenium.....	1416
$Na_5O_{10}P_3$ penta-Sodium triphosphate.....	1458	<b>Sm</b> Samarium.....	1414
$Nb_2O_5$ Niobium(V) oxide.....	1211	<b>Sn</b> Tin.....	1559
$Nd_2O_3$ Neodymium(III) oxide.....	1205	<b>T</b>	
<b>Ni</b> Nickel.....	1207	<b>Ta</b> Tantalum powder.....	1520
$NiO_4S \cdot 6 H_2O$ Nickel(II) sulfate hexahydrate.....	1209	<b>Ti</b> Titanium.....	1561
<b>O</b>		<b>V</b>	
<b>OPb</b> Lead(II) oxide.....	1077	<b>V</b> Vanadium.....	1629
<b>OPd</b> Palladium(II) oxide (85% Pd).....	1261	<b>W</b>	
<b>OZn</b> Zinc oxide.....	1644	<b>W</b> Tungsten.....	1622
$O_2Pb$ Lead(IV) oxide.....	1078	<b>Z</b>	
$O_2Pt \cdot x H_2O$ Platinum(IV) oxide hydrate (80% Pt).....	1337	<b>Zn</b> Zinc.....	1641, 1642
$O_2Ru \cdot xH_2O$ Ruthenium(IV) oxide hydrate (60% Ru).....	1410		
$O_2Se$ Selenium dioxide.....	1416		
$O_2Si \cdot x H_2O$ Silicic acid.....	1421		
$O_2Si$ QUARTZ FINE GRANULAR,.....	1398		
	Sea sand.....		
	Silica gel.....		
$O_2Sn$ Tin(IV) oxide.....	1560		
$O_2Te$ Tellurium dioxide.....	1522		
$O_2Ti$ Titanium(IV) oxide.....	1562		
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$O_3Sm_2$ Samarium(III) oxide.....	1414		



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98-86-2	800028	343	100-70-9	802657	1386	104-82-5	820347	1136	107-15-3	800947	861
98-88-4	801804	444	100-71-0	800230	882	104-84-7	841614	1135	107-15-3	845018	861



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107-18-6	800974	364	108-88-3	108388	1566	110-26-9	805968	1149	111-47-7	841603	822
107-19-7	807050	1377	108-89-4	807049	1176	110-26-9	110897	1150	111-49-9	804307	951
107-21-1	100949	864	108-90-7	801791	599	110-27-0	822102	1055	111-50-2	843951	355
107-21-1	109621	864	108-90-7	814506	599	110-30-5	109014	960	111-51-3	841843	467
107-29-9	841085	331	108-91-8	802885	674	110-38-3	802180	858	111-55-7	800950	864
107-31-3	800889	1151	108-93-0	822328	672	110-40-7	800757	749	111-61-5	814352	884
107-35-7	808616	1519	108-93-0	109667	673	110-42-9	843846	1141	111-64-8	800199	1243
107-41-5	820819	1167	108-94-1	102888	673	110-42-9	109637	1146	111-65-9	806910	1240
107-46-0	814051	950	108-94-1	107061	673	110-43-0	818711	939	111-65-9	109716	1240
107-59-5	841606	543	108-95-2	822296	1289	110-46-3	101245	1050	111-66-0	820928	1243
107-68-6	820835	1180	108-95-2	100206	1289	110-49-6	806061	1119	111-69-3	800092	355
107-80-2	841622	703	108-96-3	822140	759	110-52-1	803275	703	111-70-6	820624	938
107-81-3	814783	509	108-98-5	808159	1553	110-53-2	801604	509	111-71-7	806918	936
107-82-4	800427	506	108-99-6	807048	1175	110-54-3	104368	952	111-75-1	814843	540
107-83-5	820818	1166	109-00-2	807036	1389	110-54-3	107023	952	111-76-2	801554	865
107-87-9	814536	1174	109-01-3	805859	1171	110-54-3	104367	952	111-77-3	8003128	743
107-87-9	805965	1174	109-02-4	805894	1161	110-54-3	104374	953	111-81-9	840019	1185
107-88-0	845154	532	109-04-6	801933	514	110-54-3	104373	953	111-82-0	109693	1159
107-88-0	801964	533	109-05-7	841020	1172	110-54-3	104371	953	111-83-1	801969	509
107-91-5	802866	663	109-06-8	809722	1175	110-54-3	100795	953	111-84-2	806838	1233
107-92-6	800457	557	109-07-9	842002	1172	110-54-3	104372	953	111-85-3	806903	626
107-93-7	802650	659	109-08-0	814629	1174	110-54-3	104391	953	111-86-4	806917	1244
107-94-8	820330	631	109-09-1	820336	633	110-54-3	104394	953	111-87-5	820931	1241
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107-96-0	805967	1102	109-21-7	814903	543	110-54-3	109687	954	111-88-6	821861	1241
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107-98-2	818886	1125	109-52-4	800821	1270	110-56-5	803227	719	111-92-2	803222	707
107-98-2	116738	1125	109-55-7	803503	807	110-58-7	807333	1273	111-95-5	841887	473
108-00-9	803779	787	109-57-9	808158	367	110-59-8	808514	1271	111-96-6	802934	742
108-01-0	803237	777	109-59-1	807480	866	110-60-1	808279	693	112-00-5	816142	831
108-03-2	806851	1229	109-60-4	803183	1374	110-61-2	822143	1504	112-04-9	822170	1580
108-05-4	803184	1629	109-63-7	801647	483	110-62-3	808504	1267	112-05-0	8007167	1233
108-10-1	820820	1044	109-64-8	803279	705	110-63-4	801532	533	112-07-2	801395	538
108-10-1	106146	1044	109-65-9	801602	493	110-65-6	801537	556	112-12-9	8008469	1624
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108-13-4	806190	1092	109-66-0	820957	1268	110-67-8	805891	1126	112-15-2	814635	846
108-16-7	803247	778	109-66-0	107177	1268	110-68-9	818639	1140	112-16-3	805336	1072
108-18-9	803646	766	109-66-0	107179	1268	110-70-3	841792	788	112-20-9	806845	1235
108-18-9	845036	766	109-66-0	107288	1268	110-71-4	800856	865	112-24-3	814392	1587
108-20-3	800866	767	109-66-0	109719	1268	110-73-6	801392	851	112-26-5	814554	464
108-20-3	100867	767	109-66-0	107054	1269	110-74-7	800884	1376	112-27-6	808245	1586
108-20-3	845123	767	109-66-0	100882	1269	110-77-0	840111	874	112-29-8	801676	497
108-21-4	820560	1052	109-69-3	801640	604	110-80-5	800857	846	112-30-1	803463	686
108-22-5	803138	1051	109-69-3	101692	604	110-81-6	843957	742	112-31-2	803211	685
108-24-7	822278	337	109-70-6	845147	496	110-82-7	102832	668	112-34-5	8003129	743
108-24-7	100042	337	109-70-6	801627	496	110-82-7	109666	669	112-35-6	814587	1586
108-29-2	808516	1271	109-73-9	801539	539	110-82-7	102817	669	112-36-7	802932	742
108-30-5	800683	1504	109-73-9	845021	539	110-82-7	100667	669	112-37-8	818568	1623
108-30-5	845010	1504	109-74-0	821718	558	110-82-7	102822	669	112-38-9	800813	1624
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108-31-6	845122	1091	109-76-2	808272	697	110-82-7	102830	669	112-40-3	820543	827
108-32-7	807051	1375	109-77-3	806189	1093	110-83-8	802824	673	112-40-3	109658	827
108-36-1	841738	702	109-78-4	818084	994	110-85-0	807325	1329	112-40-3	845097	827
108-37-2	801674	495	109-79-5	801587	534	110-85-0	845120	1329	112-41-4	822048	828
108-38-3	822337	1635	109-80-8	821042	1367	110-86-1	107462	1384	112-42-5	808468	1623
108-38-3	109797	1636	109-81-9	841791	1151	110-86-1	109728	1384	112-44-7	841015	1623
108-39-4	809691	658	109-83-1	805802	1131	110-86-1	107463	1384	112-47-0	803561	685
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108-42-9	802612	597	109-86-4	100859	866	110-88-3	821189	1610	112-52-7	805340	609
108-43-0	820321	627	109-86-4	115118	866	110-89-4	822299	1330	112-53-8	803462	828
108-44-1	808314	1568	109-87-5	820493	910	110-89-4	109724	1330	112-54-9	818677	1072
108-45-2	820991	1301	109-87-5	806017	910	110-89-4	845111	1330	112-55-0	820544	828
108-46-3	822303	1405	109-89-7	803010	738	110-91-8	806127	1192	112-57-2	814713	1530
108-46-3	107593	1405	109-89-7	845028	738	110-93-0	818626	1154	112-59-4	818382	743
108-47-4	805734	800	109-90-0	818854	872	110-94-1	800295	926	112-60-7	808619	1530
108-48-5	805650	801	109-92-2	801391	888	110-95-2	843567	1544	112-61-8	109660	1179
108-50-9	814618	800	109-97-7	807492	1393	110-97-4	803264	1000	112-62-9	109743	1165
108-52-1	814580	395	109-97-7	845055	1393	110-99-6	841626	755	112-67-4	800510	1260
108-55-4	820604	926	109-99-9	108114	1532	111-01-3	814605	1465	112-71-0	818896	515
108-59-8	800899	794	109-99-9	107025	1532	111-02-4	821068	1465	112-72-1	808146	1528
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108-68-9	821221	797	109-99-9	108110	1533	111-13-7	820926	1242	112-88-9	822112	1238
108-73-6	818887	1320	109-99-9	108101	1533	111-14-8	807582	938	112-89-0	814432	509
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108-75-8	822267	1606	110-01-0	821095	1536	111-16-0	800668	1327	112-95-8	820547	834
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108-78-1	808614	1573	110-03-2	822036	791	111-19-3	818899	1414	114-83-0	820561	1296
108-80-5	820358	666	110-05-4	820248	709	111-20-6	800753	1413	115-18-4	841089	1139
108-83-8	818831	765	110-06-5	820243	708	111-24-0	803278	705	115-19-5	820781	1140
108-85-0	802296	497	110-12-3	822093	1155	111-25-1	801603	502	115-20-8	808610	1578
108-86-1	801786	490	110-13-4	800105	954	111-26-2	804326	957	115-21-9	821667	1579
108-87-2	806147	1144	110-14-5	807990	1503	111-27-3	804393	955	115-39-9	108122	510
108-88-3	108323	1564	110-15-6	822260	1503	111-29-5	807061	1269	115-40-2	103025	497
108-88-3	107019	1565	110-15-6	100682	1504	111-34-2	801847	556	115-46-8	814973	819
108-88-3	108325	1565	110-16-7	800380	1091	111-36-4	840099	548	115-69-5	801464	394
108-88-3	108326	1565	110-16-7	845002	1091	111-40-0	803274	744	115-77-5	807331	1264
108-88-3	108389	1565	110-17-8	800269	916	111-41-1	800360	387	115-80-0	820935	1587
108-88-3	100849	1565	110-18-9	808742	1541	111-42-2	803116	736	115-86-6	822197	1611
108-88-3	108331	1565	110-18-9	110732	1541	111-42-2	116205	736	115-95-7	814988	1078
108-88-3	108327	1565	110-19-0	820557	1042	111-42-2	845159	736	116-02-9	814442	1603
108-88-3											

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117-34-0.....	800486	813	122-31-6.....	805797	1092	126-33-0.....	807993	1507	141-28-6.....	800086	737
117-80-6.....	841608	726	122-39-4.....	820528	814	126-58-9.....	814810	813	141-30-0.....	842712	731
117-81-7.....	821874	471	122-52-1.....	800549	1588	126-71-6.....	818606	1597	141-32-2.....	800832	539
117-91-0.....	102282	1396	122-57-6.....	801516	451	126-73-8.....	818604	1575	141-43-5.....	800849	842
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118-00-3.....	841609	933	122-60-1.....	820553	837	126-84-1.....	820391	736	141-43-5.....	845014	842
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118-61-6.....	841018	884	122-84-9.....	818558	1123	127-20-8.....	819100	731	141-78-6.....	110972	848
118-69-4.....	841827	733	122-85-0.....	800106	332	127-63-9.....	821872	820	141-78-6.....	100789	848
118-71-8.....	814201	989	122-88-3.....	841619	628	127-68-4.....	806548	1218	141-78-6.....	100863	848
118-75-2.....	802361	593	122-97-4.....	807014	1311	128-08-5.....	801949	515	141-78-6.....	100868	849
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118-92-3.....	820112	421	123-00-2.....	801303	1193	128-39-2.....	818623	709	141-84-4.....	821063	1555
118-93-4.....	804310	976	123-01-3.....	820990	1300	128-69-8.....	820970	1278	141-86-6.....	803575	698
118-97-8.....	816145	608	123-05-7.....	842513	888	128-95-0.....	824128	692	141-90-2.....	821120	1554
119-30-2.....	841340	1013	123-07-9.....	821290	880	129-00-0.....	821051	1383	141-97-9.....	809622	849
119-32-4.....	843049	1163	123-08-0.....	804536	977	129-17-9.....	112144	824	142-04-1.....	820099	418
119-47-1.....	818447	1149	123-11-5.....	822314	1115	130-13-2.....	821949	396	142-08-5.....	8007035	994
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119-53-9.....	801776	441	123-25-1.....	800680	749	130-16-5.....	821994	634	142-31-4.....	112268	1244
119-56-2.....	818501	599	123-25-1.....	845009	750	130-22-3.....	106278	362	142-45-0.....	800147	347
119-60-8.....	814015	734	123-29-5.....	820916	878	130-95-0.....	802304	1397	142-61-0.....	800191	956
119-61-9.....	801801	442	123-30-8.....	800421	398	131-08-8.....	841031	421	142-62-1.....	800198	955
119-64-2.....	809733	1535	123-30-8.....	845129	399	131-11-3.....	800918	798	142-68-7.....	843950	1536
119-65-3.....	802406	1056	123-31-9.....	822333	975	131-17-9.....	803289	692	142-73-4.....	814165	999
119-67-5.....	821028	1324	123-32-0.....	814569	800	131-56-6.....	818652	761	142-82-5.....	822332	936
119-68-6.....	841325	1130	123-33-1.....	820471	1383	132-60-5.....	841883	1314	142-82-5.....	104365	937
119-84-6.....	818454	756	123-34-2.....	818415	366	132-64-9.....	820408	700	142-82-5.....	104379	937
119-91-5.....	102955	462	123-35-3.....	814593	1195	132-65-0.....	820409	700	142-82-5.....	104366	937
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120-20-7.....	818438	772	123-51-3.....	100979	1041	133-37-9.....	843377	1519	142-91-6.....	843880	1055
120-21-8.....	842985	738	123-54-6.....	800023	344	133-91-5.....	841653	764	142-92-7.....	820555	957
120-23-0.....	841023	1201	123-54-6.....	109600	344	134-20-3.....	800466	1130	142-96-1.....	802892	708
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120-32-1.....	840016	449	123-62-6.....	800608	1373	134-81-6.....	801632	439	143-08-8.....	806866	1233
120-43-4.....	814652	845	123-63-7.....	818255	1262	134-83-8.....	820286	599	143-15-7.....	803268	499
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120-51-4.....	818701	447	123-68-2.....	814990	365	134-96-3.....	818353	772	143-24-8.....	820959	1530
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120-72-9.....	822281	1002	123-75-1.....	807494	1393	135-19-3.....	822290	1200	143-28-2.....	820923	1238
120-75-2.....	841709	1134	123-76-2.....	814254	1077	135-20-6.....	105227	663	143-33-9.....	106437	1431
120-78-5.....	814598	824	123-77-3.....	800184	428	135-73-9.....	841256	511	143-66-8.....	106669	1454
120-80-9.....	822261	1391	123-81-9.....	814145	865	135-77-3.....	821174	1599	143-74-8.....	159375	1290
120-82-1.....	821152	1578	123-82-0.....	841027	389	135-98-8.....	821717	541	143-74-8.....	107241	1290
120-83-2.....	803774	728	123-86-4.....	101974	538	136-35-6.....	818057	821	144-48-9.....	804744	1007
120-92-3.....	802670	678	123-86-4.....	109652	538	136-60-7.....	801755	541	144-55-8.....	106329	1436
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535-80-8	800473	600	554-95-0	801299	438	589-59-3	814987	1044	609-67-6	820731	1009
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536-45-8	814622	1116	555-21-5	820897	1226	589-98-0	821859	1242	610-27-5	800650	1228
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536-74-3	807044	1297	556-08-1	814572	332	590-28-3	804957	1347	610-78-6	814581	625
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